Encogen Generating Station
915 Cornwall Ave
Bellingham, WA 98225
pse.com

August 14, 2025

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

SUBJECT: **Title V Air Operating Permit Renewal Application**
Air Operating Permit 004R4M1
PSE Encogen Generating Station

Dear Ms. Crooks,

Please find enclosed the Title V Air Operating Permit (AOP) renewal application package for the Puget Sound Energy Encogen Generating Station. This comprehensive submittal includes the Title V Air Operating Permit Renewal Application, 2024 Annual Emission Inventory (Appendix A), and revised 2024 annual compliance certification (Appendix B).

Should you have any questions or concerns regarding this application, please do not hesitate to contact myself at (425) 591-2741.

Sincerely,

Lauren Parker
Senior Environmental Scientist

northwest Clean Air agency
1600 South Second Street
Mount Vernon, WA 98273-5202
ph 360.428.1617
fax 360.428.1620
www.nwcleanair.org

Title V Air Operating Permit

Renewal Application

The information requested in this document must be provided for a complete application. The application may be submitted either electronically (as a signed pdf) or in paper.

If submitting electronically, email to: facilityreports@nwcleanairwa.gov.

If submitting in paper, mail to: 1600 South 2nd St, Mount Vernon, WA, 98273.

The certification at the end of this document applies to the entire submittal. It must be signed.

If additional room to reply is needed on any question, please attach pages.

In some cases, a prior submittal to the NWCAA (e.g., the annual emissions inventory) may include information requested below. If you'd like to refer to that information instead of providing it here, please note this below. Any submittal to which the NWCAA is referred will become part of your renewal application. It is also acceptable to attach relevant portions of your current Air Operating Permit if the information therein provides an adequate response to a question below.

Part 1: General Information

1) Company name and address [or plant name and address if different from the company name]

Encogen Generating Station
915 Cornwall Avenue
Bellingham, WA 98225

2) Current Air Operating Permit number and expiration date

ID: 004R4M1
Expiration Date: August 31, 2026

3) Owner's name and agent

Puget Sound Energy
355 110th Ave NE
Bellevue, WA 98004

4) Responsible Official name and address

Mark Carlson - Director of Generation and Natural Gas Storage
1200 Prudential Blvd
Longview, WA 98632

5) Telephone number and name of plant site manager/contact

Steve Nims - Encogen Plant Manager
(360) 988-2477

6) Were there any changes to the facility impacting air emissions since receiving the current Air Operating Permit? [if yes, please describe changes]

No changes occurred

Part 2: Process and Emissions Information

7) Will there be any changes to the operating scenario(s) identified in the current AOP?

No changes requested

8) Provide a description of process and products by Standard Industrial Classification (SIC) Code. Please list the applicable SIC Code. Please repeat the list of processes and products for each alternative operating scenario.
SIC Code: 4911 Electric Services
Establishments engaged in generation, transmission, and/or distribution of electric energy for sale

9) Please list any and all pollutants that would cause the facility to be classified as a "major source" as defined in WAC 173-401.
Nitrogen Oxides (NOx)
Carbon Monoxide (CO)

10) Please identify and describe all points of emissions at the facility except those that qualify as insignificant emission units or activities as defined in WAC 173-401-530. Are these emissions units correctly identified and defined in the current AOP? If not, please note the requested changes below.
Emission units are currently identified accurately within the current AOP
Combustion Turbines 1, 2, and 3, each equipped with an exhaust stack, which are capable of combusting natural gas and #2 diesel oil
Aboveground distillate fuel oil storage tanks B and C that have a nominal storage capacity of 470,000 gallons. Tank A is retired in place.

11) Please list and quantify all emissions of regulated air pollutants from the emission points identified in item 10 above. Please include calculations. If the most recent annual emissions inventory accurately describes these emissions, it is not necessary to repeat the same information here. Please refer the NWAPA to the most recent annual emissions inventory.
Please refer to the most recent annual emissions inventory (reporting year 2024), which was submitted via the Ecology WEIRS program on March 4, 2025. This report is included as an attachment.

12) List the fuels used and their respective usage rates at design capacity for the emission points identified in item 10 above.
Combustion Turbine natural gas combustion: 440 mmBtu/hr
Combustion Turbine #2 diesel combustion: 470 mmBtu/hr

13) List the raw materials used and their respective usage rates at design capacity for the emission points identified in item 10 above.

Not applicable

14) List the production rate at design capacity for the emission points identified in item 10 above.

Combustion Turbine natural gas combustion: 41.5 MW

Combustion Turbine #2 diesel combustion: 39.9 MW

15) Identify the facility operating schedule (anticipated operating hours per day, days per week, weeks per year)
Estimation of 24 hours per day, 7 days per week, and 52 weeks per year to illustrate the availability of the facility for dispatch. However, the facility will experience non-operational times due to scheduled maintenance outages and due to demand. The facility will operate to ensure compliance with the current daily/annual emission limitations

16) Please identify all air pollution control equipment at the facility. Is this air pollution control equipment correctly identified and defined in the current AOP? If not, please provide information necessary to correct.
Add-on control equipment: Steam injection and selective catalytic reduction (SCR) for NOx
Fuel sulfur content: Reducing fuel sulfur content to less than 0.05% by weight for SO2
Good combustion practices: Particulate Matter, VOCs, and CO

17) Please identify and describe all compliance monitoring devices or activities at the facility.
Continuous Emissions Monitoring Systems: NOx and O2 analyzers for each turbine
Annual Source Testing: Ammonia and CO for each turbine.
Fuel Sampling: Routine sulfur sampling for natural gas and fuel oil
Visual Observations: Completed site-wide

18) Identify any limitations on source operation that affect emissions of a regulated pollutant. Similarly, list any work practice standards that affect emissions of a regulated pollutant at this facility.

Not applicable

Part 3: Applicable Requirements

19) Cite and describe all applicable requirements. An updated copy of the applicable requirements in the current AOP for the facility may be sufficient.

Refer to the applicable requirements in the current AOP

20) Please list any applicable test method(s) for determining compliance with each applicable requirement listed in item 19 above. An updated copy of the current AOP for the facility may be sufficient.

Refer to the applicable requirements in the current AOP, with the exception of the annual source test for ammonia - Encogen Generating Station plans to utilize FTIR methods in lieu of BAAQMD ST1B as outlined within our current AOP Condition 5.1.15.

21) Does the applicant propose any exemptions from an otherwise applicable requirement? If so, please explain.

No

22) Does the CAM rule (40 CFR part 64) apply to any of the emissions units?

No

23) Does the accidental release prevention regulation (40 CFR part 68) apply to the facility?

No

24) Do the federal Acid Rain rules (40 CFR parts 72-78) apply to any of the emissions units?

Yes, the federal Acid Rain rules apply to the three combustion turbines at Encogen Generating Station

25) Are there any requested changes to any condition in the current Air Operating Permit? [if yes, identify the condition, the requested change, and the reason]

No

26) If the applicant would like to request that the permit shield be extended to cover certain requirements that the applicant believes are inapplicable, please list those requirements, below. Please include a brief narrative description of each requirement and the basis for the belief that each is inapplicable.

Not applicable

Part 4: Compliance Status and Certification

27) Describe the compliance status of the facility with regard to all applicable requirements. Compliance status for each applicable requirement shall be described as "continuous" or "intermittent". Please include the method used for determining compliance. If an annual compliance certification has been recently submitted to the NWCAA, the applicant may reference this report. However, if the applicable requirements or compliance status have changed since that submittal, an updated submittal is required.

Please see the updated reporting year 2024 annual compliance certification attached to this application. The annual compliance certification was updated to reflect NWCAA's evaluation of Encogen's 2024 compliance status as outlined within the issued NOV No. 4777 dated April 18, 2025. The original reporting year 2024 annual compliance certification was submitted to NWCAA on February 14, 2025. The updated report will also be submitted to NWCAA under separate cover.
In February 2025, Encogen Generating Station had intermittent compliance with Conditions 2.1.10 and 5.1.14 due to a monitoring availability event - a deviation report was incorporated within the February 2025 monthly report submitted March 19, 2025.

28) Provide the following:

a) For applicable requirements with which the source is in compliance, provide a statement that the source will continue to comply with such requirements;
Encogen Generating Station will continue to comply with all applicable requirements.

b) For applicable requirements that become effective during the permit term, provide a statement that the source will meet such requirements on a timely basis;
Encogen Generating Station will comply with all applicable requirements that become effective during the permit term.

c) For applicable requirements with which the source is not in compliance at the time of permit issuance, provide a narrative description and provide a schedule of compliance. Such a schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the source will be in noncompliance at the time of permit issuance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based;
Not applicable, Encogen Generating Station is in compliance with all applicable requirements.

d) For sources required to have a schedule of compliance to remedy a violation, provide a schedule for submission of certified progress reports every six months or at a more frequent period if specified in an applicable requirement; and

Not applicable for Encogen Generating Station.

Statement of Certification: *Based on information and belief formed after reasonable inquiry, the statements and information in this document and any attachments are true, accurate and complete.*

Mark Carlson	Director of Generation and Natural Gas Storage
Name of responsible official	Title of responsible official
	08/13/2025
Signature of responsible official	Date

Appendix A: 2024 Annual Emission Inventory

Facility Summary eFORM

Northwest Clean Air Agency

D-073-00032 **PSE ENCOGEN GENERATING STATION** **2024**

FACILITY OPERATIONS	
Facility Category:	CAP Major
NAICS Code:	221112
Facility Comments:	
Operating Status:	Operating

FACILITY LOCATION	
Coordinates:	Latitude: 48.74556 Longitude: -122.48333
Reference Point:	Entrance Point
Comments:	
Facility Address:	915 CORNWALL AVE Bellingham, WA 98225-5030 Whatcom County
Contact:	Lauren Parker, Senior Environmental Scientist P.O. Box 97034, BEL10W Bellevue, WA 98009 (425) 591-2741 lauren.parker@pse.com

RESPONSIBLE OFFICIAL CERTIFICATION OF DATA ACCURACY

I do hereby certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Release Point for Unit 01 - GE FRAME 6 GAS TURBINE UNIT 1		
Release Point Type	**Status**	
Vertical	Operating	
Stack	**Fugitive**	**Comments**
Height: 84 ft Diameter: 11 ft Temperature: 250°F Flow Rate: 6,600 ACFS Velocity: 69.4 FPS Water Vapor: 10.4000 % Oxygen: 15.3000 %	Height: not provided Length: not provided Width: not provided Angle: not provided	
Stack and Fugitive		**Release Point Coordinates**
Fence Line Distance: not provided EPA Release Point ID: not provided		Reference Point: Substance Release Point Latitude: 48.74513 Longitude: -122.48709

Release Point for Unit 02 - GE FRAME 6 GAS TURBINE UNIT 2		
Release Point Type	**Status**	
Vertical	Operating	
Stack	**Fugitive**	**Comments**
Height: 84 ft Diameter: 11 ft Temperature: 250°F Flow Rate: 6,600 ACFS Velocity: 69.4 FPS Water Vapor: 10.4000 % Oxygen: 15.4000 %	Height: not provided Length: not provided Width: not provided Angle: not provided	
Stack and Fugitive		**Release Point Coordinates**
Fence Line Distance: not provided EPA Release Point ID: not provided		Reference Point: Substance Release Point Latitude: 48.74540 Longitude: -122.48668

Release Point for Unit 03 - GE FRAME 6 GAS TURBINE UNIT 3		
Release Point Type	**Status**	
Vertical	Operating	
Stack	**Fugitive**	**Comments**
Height: 84 ft Diameter: 11 ft Temperature: 250°F Flow Rate: 6,600 ACFS Velocity: 69.4 FPS Water Vapor: 10.4000 % Oxygen: 15.3000 %	Height: not provided Length: not provided Width: not provided Angle: not provided	
Stack and Fugitive		**Release Point Coordinates**
Fence Line Distance: not provided EPA Release Point ID: not provided		Reference Point: Substance Release Point Latitude: 48.74568 Longitude: -122.48628

Control Approach: Controlled
Release Point: 01 Release Point for Unit 01 - GE FRAME 6 GAS TURBINE UNIT 1

Control Effectiveness (%): 92.7	Capture Efficiency (%):

Pollutant	Control Efficiency
Nitrogen Oxides	92.70%

Measure Type	Measure
Device	139 - Selective Catalytic Reduction (SCR)
Device	212 - Steam Injection

Control Approach: Controlled
Release Point: 02 Release Point for Unit 02 - GE FRAME 6 GAS TURBINE UNIT 2

Control Effectiveness (%): 92.7	Capture Efficiency (%):

Pollutant	Control Efficiency
Nitrogen Oxides	92.70%

Measure Type	Measure
Device	139 - Selective Catalytic Reduction (SCR)
Device	212 - Steam Injection

Control Approach: Controlled
Release Point: 03 Release Point for Unit 03 - GE FRAME 6 GAS TURBINE UNIT 3

Control Effectiveness (%): 92.7	Capture Efficiency (%):

Pollutant	Control Efficiency
Nitrogen Oxides	92.70%

Measure Type	Measure
Device	139 - Selective Catalytic Reduction (SCR)
Device	212 - Steam Injection

PSE ENCOGEN GENERATING STATION UNITS

Unit ID: 01 GE FRAME 6 GAS TURBINE UNIT 1		
Unit Type	**Status**	**Capacity**
140 - Combined Cycle (Boiler/Gas Turbine)	Operating	440 Million BTU Per Hour

Unit ID: 02 GE FRAME 6 GAS TURBINE UNIT 2		
Unit Type	**Status**	**Capacity**
140 - Combined Cycle (Boiler/Gas Turbine)	Operating	440 Million BTU Per Hour

Unit ID: 03 GE FRAME 6 GAS TURBINE UNIT 3		
Unit Type	**Status**	**Capacity**
140 - Combined Cycle (Boiler/Gas Turbine)	Operating	440 Million BTU Per Hour

PSE ENCOGEN GENERATING STATION PROCESSES
Unit ID: 01 **Process ID:** 01 **Process Description:** Natural Gas
SCC CODE: 20100201 - Int Comb /Electric Gen /Natural Gas /Turbine

Insignificant Emissions Unit? No Status:Operating

ANNUAL THROUGHPUT

Operating Type:	
Routine	
Material:	**Material State:**
209 - Natural Gas	Input
Throughput and Units:	
1956.66 MILLION STANDARD CUBIC FEET	

FUEL PARAMETERS

Fuel Parameter Content	
Sulfur:	0%
Ash:	no entry
Heat:	no entry

OPERATING SCHEDULE

Winter %	39.2 %	Hours/Day	24.0
Spring %	7.1 %	Days/Week	7.0
Summer %	23.6 %	Weeks/Year	46
Fall %	30.2 %	Hours/Year	5,133

Comments: The turbine had a total of 5,149 operating hours during 2024 with 5,133 hours on natural gas fuel.

sum of quarters must be 100%

RELEASE POINT APPORTIONMENT

RP ID	Description	Ave Emissions (%)
01	Release Point for Unit 01 - GE FRAME 6 GAS TURBINE UNIT 1	100%

EMISSIONS

PSE ENCOGEN GENERATING STATION D-073-00032
Unit ID: 01 Process ID: 01

NH3 - Ammonia 9.80 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
SO2 - Sulfur Dioxide 2.24 TON	
Calculation Method: Material Balance	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM-PRI - PM Primary (Filt + Cond) 8.54 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM10-PRI - PM10 Primary (Filt + Cond) 8.54 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO - Carbon Monoxide 2.75 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
NOX - Nitrogen Oxides 27.91 TON	
Calculation Method: Continuous Emission Monitoring System	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
VOC - Volatile Organic Compounds **VOC Expression: Sum of Volatile Organic Compounds 0.37 TON**	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM25-PRI - PM2.5 Primary (Filt + Cond) 8.54 TON	
Calculation Method: Engineering Judgment	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

CO2 - Carbon Dioxide 118929.70 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
N2O - Nitrous Oxide 3.24 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CH4 - Methane 9.30 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
91203 - Naphthalene 2.81 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
106990 - 1,3-Butadiene 0.93 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
107028 - Acrolein 13.84 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
130498292 - PAH, Total 4.76 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
71432 - Benzene 25.95 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
50000 - Formaldehyde 300.84 LB	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

108883 - Toluene 281.11 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
1330207 - Xylenes (Mixed Isomers) 138.39 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
75070 - Acetaldehyde 86.49 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
100414 - Ethylbenzene 69.20 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
75569 - Propylene Oxide 62.71 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

PSE ENCOGEN GENERATING STATION PROCESSES
Unit ID: 01 **Process ID:** 02 **Process Description:** Diesel Fuel
SCC CODE: 20100101 - Int Comb /Electric Gen /Distillate Oil (Diesel) /Turbine

Insignificant Emissions Unit? No Status:Operating

ANNUAL THROUGHPUT

Operating Type:	
Routine	
Material:	**Material State:**
057 - Distillate Oil (Diesel)	Input
Throughput and Units:	
40.10 1000 GALLONS	

FUEL PARAMETERS

Fuel Parameter Content	
Sulfur:	0.04%
Ash:	no entry
Heat:	no entry

OPERATING SCHEDULE

Winter %	94 %	Hours/Day	16.0
Spring %	6 %	Days/Week	1.0
Summer %	%	Weeks/Year	1
Fall %	%	Hours/Year	16

sum of quarters must be 100%

Comments: The turbine had a total of 5,149 operating hours during 2024 with 16 hours on diesel fuel.

RELEASE POINT APPORTIONMENT

RP ID	Description	Ave Emissions (%)
01	Release Point for Unit 01 - GE FRAME 6 GAS TURBINE UNIT 1	100%

EMISSIONS

PSE ENCOGEN GENERATING STATION D-073-00032
Unit ID: 01 Process ID: 02

NOX - Nitrogen Oxides 0.07 TON	
Calculation Method: Continuous Emission Monitoring System	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
SO2 - Sulfur Dioxide 0.01 TON	
Calculation Method: Material Balance	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM-PRI - PM Primary (Filt + Cond) 0.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM25-PRI - PM2.5 Primary (Filt + Cond) 0.03 TON	
Calculation Method: Engineering Judgment	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM10-PRI - PM10 Primary (Filt + Cond) 0.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
NH3 - Ammonia 0.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO - Carbon Monoxide 0.01 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
VOC - Volatile Organic Compounds **VOC Expression: Sum of Volatile Organic Compounds 0.01 TON**	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO2 - Carbon Dioxide 431.00 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

7439965 - Manganese 4.34 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
71432 - Benzene 0.30 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
50000 - Formaldehyde 2.18 LB	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

PSE ENCOGEN GENERATING STATION PROCESSES
Unit ID: 02 **Process ID:** 01 **Process Description:** Natural Gas
SCC CODE: 20100201 - Int Comb /Electric Gen /Natural Gas /Turbine

Insignificant Emissions Unit? No Status:Operating

ANNUAL THROUGHPUT

Operating Type:	
Routine	
Material:	**Material State:**
209 - Natural Gas	Input
Throughput and Units:	
2004.95 MILLION STANDARD CUBIC FEET	

FUEL PARAMETERS

Fuel Parameter Content	
Sulfur:	0%
Ash:	no entry
Heat:	no entry

OPERATING SCHEDULE

Winter %	38.4 %	Hours/Day	24.0
Spring %	6.9 %	Days/Week	7.0
Summer %	22.9 %	Weeks/Year	41
Fall %	31.7 %	Hours/Year	5,195

Comments: The turbine had a total of 5,210 operating hours during 2024 with 5,195 hours on natural gas fuel.

sum of quarters must be 100%

RELEASE POINT APPORTIONMENT

RP ID	Description	Ave Emissions (%)
02	Release Point for Unit 02 - GE FRAME 6 GAS TURBINE UNIT 2	100%

EMISSIONS

PSE ENCOGEN GENERATING STATION D-073-00032
Unit ID: 02 Process ID: 01

NOX - Nitrogen Oxides 28.52 TON	
Calculation Method: Continuous Emission Monitoring System	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO - Carbon Monoxide 3.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
VOC - Volatile Organic Compounds **VOC Expression: Sum of Volatile Organic Compounds 0.37 TON**	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM-PRI - PM Primary (Filt + Cond) 6.76 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM25-PRI - PM2.5 Primary (Filt + Cond) 6.76 TON	
Calculation Method: Engineering Judgment	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM10-PRI - PM10 Primary (Filt + Cond) 6.76 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
SO2 - Sulfur Dioxide 2.28 TON	
Calculation Method: Material Balance	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
NH3 - Ammonia 5.81 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

CO2 - Carbon Dioxide 121872.90 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
N2O - Nitrous Oxide 3.32 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CH4 - Methane 9.53 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
50000 - Formaldehyde 824.00 LB	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
91203 - Naphthalene 2.88 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
130498292 - PAH, Total 4.87 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
71432 - Benzene 26.59 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
107028 - Acrolein 14.18 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
1330207 - Xylenes (Mixed Isomers) 141.82 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

108883 - Toluene 288.06 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
75070 - Acetaldehyde 88.63 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
100414 - Ethylbenzene 70.91 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
75569 - Propylene Oxide 64.26 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

PSE ENCOGEN GENERATING STATION PROCESSES
Unit ID: 02 **Process ID:** 02 **Process Description:** Diesel Fuel
SCC CODE: 20100101 - Int Comb /Electric Gen /Distillate Oil (Diesel) /Turbine

Insignificant Emissions Unit? No Status:Operating

ANNUAL THROUGHPUT

Operating Type:	
Routine	
Material:	**Material State:**
057 - Distillate Oil (Diesel)	Input
Throughput and Units:	
36.60 1000 GALLONS	

FUEL PARAMETERS

Fuel Parameter Content	
Sulfur:	0.04%
Ash:	no entry
Heat:	no entry

OPERATING SCHEDULE

Winter %	99 %	Hours/Day	15.0
Spring %	%	Days/Week	1.0
Summer %	%	Weeks/Year	1
Fall %	1 %	Hours/Year	15

sum of quarters must be 100%

Comments: The turbine had a total of 5,210 operating hours during 2024 with 15 hours on diesel fuel.

RELEASE POINT APPORTIONMENT

RP ID	Description	Ave Emissions (%)
02	Release Point for Unit 02 - GE FRAME 6 GAS TURBINE UNIT 2	100%

EMISSIONS

PSE ENCOGEN GENERATING STATION D-073-00032
Unit ID: 02 Process ID: 02

NH3 - Ammonia 0.01 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
VOC - Volatile Organic Compounds **VOC Expression: Sum of Volatile Organic Compounds 0.01 TON**	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
SO2 - Sulfur Dioxide 0.01 TON	
Calculation Method: Material Balance	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM-PRI - PM Primary (Filt + Cond) 0.02 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM25-PRI - PM2.5 Primary (Filt + Cond) 0.02 TON	
Calculation Method: Engineering Judgment	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
NOX - Nitrogen Oxides 0.06 TON	
Calculation Method: Continuous Emission Monitoring System	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO - Carbon Monoxide 0.01 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM10-PRI - PM10 Primary (Filt + Cond) 0.02 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO2 - Carbon Dioxide 392.80 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

7439965 - Manganese 3.95 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
50000 - Formaldehyde 1.99 LB	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
106990 - 1,3-Butadiene 0.08 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

PSE ENCOGEN GENERATING STATION PROCESSES
Unit ID: 03 **Process ID:** 01 **Process Description:** Natural Gas
SCC CODE: 20100201 - Int Comb /Electric Gen /Natural Gas /Turbine

Insignificant Emissions Unit? No Status:Operating

ANNUAL THROUGHPUT

Operating Type:	
Routine	
Material:	**Material State:**
209 - Natural Gas	Input
Throughput and Units:	
2129.66 MILLION STANDARD CUBIC FEET	

FUEL PARAMETERS

Fuel Parameter Content	
Sulfur:	0%
Ash:	no entry
Heat:	no entry

OPERATING SCHEDULE

Winter %	36.7 %	Hours/Day	24.0
Spring %	11.2 %	Days/Week	7.0
Summer %	21.5 %	Weeks/Year	44
Fall %	30.6 %	Hours/Year	5,433

Comments: The turbine had a total of 5,448 operating hours during 2024 with 5,433 hours on natural gas fuel.

sum of quarters must be 100%

RELEASE POINT APPORTIONMENT

RP ID	Description	Ave Emissions (%)
03	Release Point for Unit 03 - GE FRAME 6 GAS TURBINE UNIT 3	100%

EMISSIONS

PSE ENCOGEN GENERATING STATION D-073-00032
Unit ID: 03 Process ID: 01

NH3 - Ammonia 5.28 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
NOX - Nitrogen Oxides 30.30 TON	
Calculation Method: Continuous Emission Monitoring System	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
VOC - Volatile Organic Compounds **VOC Expression: Sum of Volatile Organic Compounds 0.39 TON**	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
SO2 - Sulfur Dioxide 2.44 TON	
Calculation Method: Material Balance	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM-PRI - PM Primary (Filt + Cond) 7.77 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM25-PRI - PM2.5 Primary (Filt + Cond) 7.77 TON	
Calculation Method: Engineering Judgment	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM10-PRI - PM10 Primary (Filt + Cond) 7.77 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO - Carbon Monoxide 4.64 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

CO2 - Carbon Dioxide 129431.80 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
N2O - Nitrous Oxide 3.53 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CH4 - Methane 10.12 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
91203 - Naphthalene 3.06 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
106990 - 1,3-Butadiene 1.01 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
75070 - Acetaldehyde 94.13 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
71432 - Benzene 28.24 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
107028 - Acrolein 15.06 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
130498292 - PAH, Total 5.18 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

50000 - Formaldehyde 227.19 LB	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
1330207 - Xylenes (Mixed Isomers) 150.61 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
108883 - Toluene 305.93 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
100414 - Ethylbenzene 75.31 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
75569 - Propylene Oxide 68.25 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

PSE ENCOGEN GENERATING STATION PROCESSES
Unit ID: 03 **Process ID:** 02 **Process Description:** Diesel Fuel
SCC CODE: 20100101 - Int Comb /Electric Gen /Distillate Oil (Diesel) /Turbine

Insignificant Emissions Unit? No Status:Operating

ANNUAL THROUGHPUT

Operating Type:	
Routine	
Material:	**Material State:**
057 - Distillate Oil (Diesel)	Input
Throughput and Units:	
37.10 1000 GALLONS	

FUEL PARAMETERS

Fuel Parameter Content	
Sulfur:	0.04%
Ash:	no entry
Heat:	no entry

OPERATING SCHEDULE

Winter %	100 %	Hours/Day	15.0
Spring %	%	Days/Week	1.0
Summer %	%	Weeks/Year	1
Fall %	%	Hours/Year	15

sum of quarters must be 100%

Comments: The turbine had a total of 5,448 operating hours during 2024 with 15 hours on diesel fuel.

RELEASE POINT APPORTIONMENT

RP ID	Description	Ave Emissions (%)
03	Release Point for Unit 03 - GE FRAME 6 GAS TURBINE UNIT 3	100%

EMISSIONS

PSE ENCOGEN GENERATING STATION D-073-00032
Unit ID: 03 Process ID: 02

NOX - Nitrogen Oxides 0.07 TON	
Calculation Method: Continuous Emission Monitoring System	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
VOC - Volatile Organic Compounds **VOC Expression: Sum of Volatile Organic Compounds 0.01 TON**	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
SO2 - Sulfur Dioxide 0.01 TON	
Calculation Method: Material Balance	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM-PRI - PM Primary (Filt + Cond) 0.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM10-PRI - PM10 Primary (Filt + Cond) 0.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
NH3 - Ammonia 0.03 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO - Carbon Monoxide 0.01 TON	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
PM25-PRI - PM2.5 Primary (Filt + Cond) 0.03 TON	
Calculation Method: Engineering Judgment	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
CO2 - Carbon Dioxide 398.90 TON	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

7439965 - Manganese 4.01 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
71432 - Benzene 0.28 LB	
Calculation Method: USEPA Emission Factor (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	
50000 - Formaldehyde 1.47 LB	
Calculation Method: Stack Test (no Control Efficiency used)	
Emission Factor:	Emission Factor Desc: none entered
Comments: none entered	

END

Appendix B: Revised 2024 Annual Compliance Certification

Washington Annual Compliance Certification Statement

		Permit Number:
Name of Permittee / Source:	Puget Sound Energy (PSE) Encogen Generating Station	004R4M1, issued February 28, 2023
Permitting Agency:	Northwest Clean Air Agency (NWCAA)	

Based upon the specific test methods, monitoring recordkeeping and/or reporting required under the permittee's Air Operating Permit and any other information reasonably available, I, the undersigned certify to the following for the reporting period beginning, January 1, 2024, and ending December 31, 2024:

The permittee has been in continuous compliance with all terms and conditions of the permittee's Air Operating Permit, except to the extent that Column 4 of Table 1 states that the compliance status is "Intermittent" for the identified permit term or condition.

I am the responsible official as defined in WAC 173-401-200, for this source.

Based upon information and belief formed after reasonable inquiry, I certify that the statements and information in this document and all referenced documents and attachments are true, accurate and complete.

Responsible Official:

Name:	Mark Carlson	**Title:**	Director of Generation & Natural Gas Storage
Signature:		**Date:**	08/13/2025

Permit Number: 004R4M1
Name of Permittee: Puget Sound Energy
Name of Facility: Encogen Generating Station

Washington Air Operating Permit Terms and Conditions and Compliance Status - Table 1

Complete this table for all terms and conditions under the permittee's air operating permit.

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
Section 1 – Emission Unit Identification			
	No compliance statement necessary. Puget Sound Energy owned and operated the facility listed in this section during the specified period.	No action required	Continuous
Section 2 – Standard Terms and Conditions			
	The active compliance requirements under this section, during this period were 2.1.4, 2.1.6, 2.1.8, 2.1.9, & 2.1.10		

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
2.1 – Compliance Requirements	*2.1.4 – Duty to Provide Information*. All information and records requests were furnished to NWCAA. *2.1.6 – Inspection and Entry*. NWCAA was granted access for inspection on April 12, 2024 and for observation of Unit 1 NH_3 testing on November 8, 2024. *2.1.8 – Source Testing*. All source tests were performed by applicable methods in 40 CFR 60, Appendix A, using methods specified in the permit and as approved by the NWCAA regulation. All source test plans were submitted to NWCAA for approval at least 30-days prior to the scheduled testing. The results of all required source tests were submitted within 60 days of test completion. Any changes to the source test plans were approved prior to testing and all tests were completed according to the approved plan. *2.1.9 – Testing and Sampling*. All testing and sampling work was performed using appropriate procedures and maintained equipment, except for Unit 1. As noted in NOV 4777, NWCAA identified non-compliance with this permit condition due to the terminated November 8, 2024 NH_3 compliance test on Unit 1. *2.1.10 – Ambient Air and Continuous Emission Monitoring*. The CEMS QA Manual and station log book were kept onsite. The NO_X and O_2 CEMS were operated and maintained in accordance with NWCAA 367 and Appendix A, 40 CFR Part 60 Appendix B and F, 40 CFR 75, and the manufacturer's procedures. Records were retained for a period of at least 5 years and were available to NWCAA upon request. The required system data was submitted to NWCAA on a monthly basis. The CEMS maintained greater than 90% data availability on a monthly basis.	On October 22, 2024, PSE was informed that the August 13, 2024 Unit 1 NH_3 compliance test was rejected. As agreed to with NWCAA, a test plan was submitted less than 30-days prior to the scheduled testing due to the emergency turn around. Testing was completed on November 14, 2024.	Intermittent
2.1 – Compliance Requirements (contd.)	The inactive compliance requirements under this section, during this period were 2.1.1, 2.1.2, 2.1.3, 2.1.5, 2.1.7, & 2.1.11	No action required	Continuous
2.2 – Permit Terms	The active compliance requirements under this section, during this period were 2.2.14. All permit fees were paid in a timely manner.		Continuous
2.3 – Permit Shield	There were no active compliance requirements in this section for the compliance period.	No action required	Continuous
2.4 – Recordkeeping and Reporting	*2.4.1 – Compliance Certification.* The Compliance Certification for 2023 was submitted on February 27, 2024. The semi-annual certification of monitoring reports was submitted on January 24, 2024 and July 25, 2024. *2.4.2 – False and Misleading Oral Statement*. This is not an active compliance requirement.		Intermittent

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
	2.4.3 – Required Recordkeeping. All required records were maintained on-site for at least five years. *2.4.4 Pollutant Disclosure*. The annual emissions inventory for 2023 was submitted to NWCAA on April 15, 2024 as required. 2.4.5 – *Greenhouse Gas (GHG) Reporting.* GHG reporting for 2023 was submitted to EPA and Ecology as required. *2.4.6 – Reporting to Verify Emissions from Potential PSD Sources*. There were no applicable activities during this compliance period. *2.4.7 – Reporting of Deviations from Permit Conditions.* All deviations were reported as required. *2.4.8 - Report of Breakdown or Upset.* As noted in NOV 4777, NWCAA identified non-compliance with this permit condition for the delayed notification of the August 13, 2024 elevated NH_3 observed on Unit 1. *2.4.9 - Report of Shutdown or Startup*. All startups and shutdowns were reported to NWCAA as required. *2.4.10 – Operation and Maintenance.* As noted in NOV 4777, NWCAA identified non-compliance with this permit condition due to issues with the Unit 1 selective catalytic reduction system. During the October 2024 scheduled outage, corrosion, plugging, and failed valve internals were identified in the ammonia injection system.		
2.5 – Excess Emissions	*2.5.1 – Excess Emissions.* All excess emissions were reported as required. 2.5.2 – *Excess Emissions Due to Breakdowns, Upsets, Startup, or Shutdow*n. All excess emissions due to breakdowns, upsets, startup, or shutdown were reported as required during this period.		Continuous
2.6 – Duty to Supplement or Correct Information	There were no active compliance requirements in this section for the compliance period.	No action required	Continuous
2.7 – Prohibitions	There were no active compliance requirements in this section for the compliance period.	No action required	Continuous
2.8 – Notice of Construction and Application for	There were no active compliance requirements for this section for the compliance period.	No action required	Continuous

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
Approval/New Source Review			
2.9 – Greenhouse Gas Regulation	GHG reporting for 2023 was submitted to EPA and Ecology as required.		Continuous
Section 3 – Standard Terms and Conditions for New Source Performance Standards			
3.1 - New Source Performance Standard Requirements	*3.1.1 Address for Reports, Notifications, and Submittals* - There were no active compliance requirements related to this term. *3.1.2 Notification* - There were no physical or operational changes made to the facility that could increase the emission rate of any air pollutant during this period. All initial notifications, startup, and testing were completed prior to this reporting period. *3.1.3 Startup, Shutdown, and Malfunction Records* - All startups and shutdowns were recorded and records maintained. Records were maintained for breakdowns/upsets. *3.1.4 Excess Emission Records* - Excess Emissions and Monitoring Performance reports were submitted to NWCAA on a monthly basis. *3.1.5 Maintenance of Records* - Records of all measurements were maintained on site for at least five years. *3.1.6 Performance Tests* – There were no active compliance requirements related to this term during this period. *3.1.7 Test Method Performance Audit* – There were no active compliance requirements related to this term during this period. *3.1.8 Compliance with Opacity Standards* - Compliance with opacity standards was demonstrated using the applicable methods. *3.1.9 Operation and Maintenance* - The Encogen Generating Station was maintained and operated in accordance with the facility procedures and good air pollution control practices for minimizing emissions. *3.1.10 Credible Evidence* - There were no active compliance requirements related to this term. *3.1.11 Circumvention* - There were no active compliance requirements related to this term. *3.1.12 Monitoring Requirements* – The Continuous Emissions Monitoring System was maintained according to the provisions of this term during this time period. *3.1.13 Modification* - There were no physical or operational changes made to the facility that could increase the emission rate of any air pollutant during this period. All initial notifications, startup, and testing were completed prior to this reporting period.		Continuous

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
Section 4– Generally Applicable Requirements			
4.1 - General	Required monitoring reports were submitted monthly within 30 days after the close of the monthly period that the report covered.		Continuous
4.2 - General	Except for as noted in NOV 4777, all maintenance and operations were performed in accordance with the facility schedule and procedures and records were kept of the activities. All facility equipment, including pollution control equipment, were maintained in good condition and operated in accordance with good operating procedures. As noted in NOV 4777, NWCAA identified non-compliance with this permit condition due to issues with the Unit 1 selective catalytic reduction system. During the October 2024 scheduled outage, corrosion, plugging, and failed valve internals were identified in the ammonia injection system.		Intermittent
4.3 and 4.4 - Nuisance 4.5 and 4.6 - Odor 4.7, 4.8, 4.9, 4.10 and 4.11 – Particulate Matter	A written Air Contaminant Complaint Response Action Plan was maintained onsite. No odor or air contaminant complaints were received during the compliance period. The plant took appropriate measures to prevent discharging quantities of air contaminants.		Continuous
4.12, 4.13 and 4.14 – Visible Emissions 4.15, 4.16 and 4.17 – Particulate Matter	There were no combustion problems that could have caused PM emissions to exceed the standard during the compliance period. The stack was observed for visible emissions at least monthly. No visible emissions were observed during this reporting period.		Continuous
4.18, 4.19, 4.20, 4.21, 4.21, 4.22 and 4.23 - SO_2	Records were maintained for type, quantity and sulfur content of all fuel combusted and were available for inspection upon request. Fuel specifications and purchase records were also retained. The sulfur content of all fuel combusted was less than the applicable limits during this period.		Continuous
Section 5 – Specifically Applicable Requirements			
Combustion Turbines 1, 2 and 3			
5.1.1 - General	Sampling ports and platforms were maintained as necessary and any maintenance was recorded with the plant maintenance records.		Continuous

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
5.1.2 and 5.1.3 – General	All required monitoring reports were submitted monthly within 30 days after the close of the monthly period that the report covered and included the information specified by the NWCAA in each of these terms.		Continuous
5.1.4 – General	Excess emissions events were submitted to NWCAA utilizing the provided Excess Emissions Report Part II form.		Continuous
5.1.5 – General	Operation and maintenance manuals were maintained and followed. Copies are available on-site for all personnel.		Continuous
5.1.6 and 5.1.7 – General	Equipment was operated and maintained in accordance with the appropriate manuals.		Continuous
5.1.8 - General	NWCAA was granted access for inspection on April 12, 2024 and for observation of Unit 1 NH_3 testing on November 8, 2024.		Continuous
5.1.9 – Opacity 5.1.10 – PM10	There were no combustion problems that could have caused PM emissions to exceed the standard during the compliance period. The combustion turbine stacks were observed for visible emissions at least monthly. No visible emissions were observed.		Continuous
5.1.11 – NO_X	The CEMS for all three turbines were operated in accordance with NWCAA section 367 and Appendix A, 40 CFR Part 60 Appendices B and F, and 40 CFR Part 75. Daily and 12-month rolling totals for NO_X mass emissions included startup and shutdown periods. The daily NO_X ppm limit for each unit was prorated for any hours that diesel fuel was combusted. The plant was within the NO_X emission limit totals for pounds per day and tons per year during the compliance period. All units were within limits for the daily average corrected NO_X ppm limit during this period with the exception of the unavoidable excess NO_X emissions from Unit 1 that occurred on January 12 and November 14. NWCAA was notified within 12-hours when each of these exceedances occurred or were discovered.	These exceedances were summarized in the Excess Emissions Report Form II and folded into the routine monthly reports submitted February 28, 2024 and December 18, 2024, respectively.	Intermittent
5.1.12 – NO_X	A CEMS with NO_X and O_2 analyzers were installed prior to this reporting period and operated for each turbine exhaust stack. The NO_X analyzers were replaced on all three units in July 2024 and recertified per 40 CFR 60 Appendix B and 40 CFR 75 requirements. All three units were in compliance with the requirements of this term during this time period.		Continuous
5.1.13 – NO_X	All three units were within the specified NSPS Subpart GG NO_X ppm limit during the compliance period. All three units were in compliance with the requirements of this term during this time period.		Continuous
5.1.14 - NO_X	The CEMS QA Manual was maintained and available for all on-site personnel. Quality assurance procedures were in accordance with NWCAA 367 and Appendix A, 40 CFR Part 60		Continuous

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
	Appendix F and 40 CFR Part 75. All three units were in compliance with the requirements of this term during this time period.		
5.1.15 - NH_3	All source test plans were submitted to NWCAA for approval prior to the scheduled testing dates. The results of all required source tests were submitted within 60 days of test completion. The annual source test for NH_3 emissions was completed on August 14 and 15 for Units 2 and 3 respectively. A report summarizing the results of the NH_3 emission source test was submitted to the NWCAA on October 9, 2024. The annual source test was completed within an 11 to 13 month window from the previous test date. All units were within the limits for the one-hour average NH_3 ppm limit during this period with the exception of the excess NH_3 emissions from Unit 1 that occurred on August 13 and November 8 - 14. These exceedances were summarized in the Excess Emissions Report Form II and submitted October 25, 2024 and December 18, 2024, respectively.	Since NWCAA rejected the August 13, 2024 NH_3 source test on Unit 1, the annual source test for this unit was not completed within an 11 to 13 month window from the previous test date, and therefore a deviation report for this condition was submitted on November 20, 2024.	Intermittent
5.1.16, 5.1.17, 5.1.18 - SO_2	Only natural gas and diesel with a sulfur content of less than (<) 0.05% was burned in the turbines. Sulfur content data for natural gas was provided by its supplier and the records were maintained on-site. Receipts from diesel suppliers and records of diesel burned in the turbines were maintained. Diesel was combusted at Encogen for brief periods in January, May, and November only during testing or natural gas supply interruption. Encogen combusted 1,879 gallons of diesel for testing in 2024 and 113,879 gallons of diesel for testing and operation.		Continuous
5.1.19 - CO	All source test plans were submitted to NWCAA for approval prior to the scheduled testing dates. The results of all required source tests were submitted within 60 days of test completion. Any changes to the source test plans were approved prior to testing and all tests were completed according to the approved plan. The annual source test for CO emissions was completed on August 13, 14, and 15 for Units 1, 2 and 3, respectively and the reported results demonstrate that the emissions are within the limits specified by this term. A report summarizing the results of the CO emission source test was submitted to the NWCAA on October 9, 2024. The annual source test was completed within an 11 to 13 month window from the previous test date.		Continuous
Distillate Fuel Storage Tanks A, B and C			
5.2.1 - VOC	The tanks are inspected to ensure that they remained lighter than light grey.		Continuous
5.2.2 and 5.2.3 - VOC	Records of diesel fuel receipts and storage were maintained. Distillate fuel storage tank (A) remains empty and shut off.		Continuous
Section 6 – Acid Rain Permit For Combustion Turbines 1, 2 & 3			

Permit Term or Condition (# and/or Title)	Method Used for Determination of Compliance	Identify any other information reasonably available or otherwise known relating to the compliance status (Optional).	During the reporting period, was compliance continuous or intermittent?
6.1, 6.2 & 6.3	Encogen has been in compliance with this requirement and provisions set forth in the application and in WAC 173-406.		Continuous

Permit Number: 004R4M1
Name of Permittee: Puget Sound Energy
Name of Facility: Encogen Generating Station

Washington Air Operating Permit Deviation Report Summary - Table 2[1]

For each deviation from any term or condition, complete the following:

Permit Term or Condition (# and/or Title)	Date the report was submitted	Report description (Did the previously reported deviation come to the agency as a CEM report, NESHAP report, etc.?)	Additional information such as: Has the agency evaluated this deviation; Is the status still pending? Has the agency decided to pursue enforcement?
5.1.11	February 28, 2024	Excess Emission Summary Report was included with the monthly monitoring report. Unit 1 experienced an unavoidable NO_X exceedance due to freezing of the steam injection lines during a cold weather event.	Have not received feedback from NWCAA
2.4.8 & 5.1.15	October 25, 2024	Excess Emission Summary report was submitted separately from the monthly monitoring report as requested by NWCAA on October 22, 2024. Unit 1 experienced one run during the August 13, 2024 NH_3 compliance test that yielded recorded emissions above the NH_3 permit limit. This event was initially discussed with NWCAA via phone on October 8, 2024.	Incorporated in NOV 4777
5.1.15	November 20, 2024	Deviation Report was included with the monthly monitoring report. Upon rejection of the August 13, 2024 NH_3 compliance test for Unit 1, the unit no longer satisfied the requirement to complete testing within eleven to thirteen months of the anniversary date of the previous test.	Incorporated in NOV 4777
2.1.9, 2.4.10, 4.2 & 5.1.15	December 18, 2024	Excess Emission Summary Report was included with the monthly monitoring report. During the rescheduled November 8, 2024 NH_3 compliance test for Unit 1, elevated emissions caused the test to be aborted. A successful compliance test was completed November 14, 2024. The excess emission summary report included discussion of the corrosion identified within the Unit 1 ammonia injection grid.	Incorporated in NOV 4777
5.1.11	December 18, 2024	Excess Emission Summary Report was included with the monthly monitoring report. Unit 1 experienced an unavoidable NO_X exceedance due to a malfunction of the ammonia injection system.	Incorporated in NOV 4777

[1] Table 2 must be submitted with the compliance certification. If no deviations have occurred, write "Not Applicable" in the table.