

State of Washington Department of Ecology
Notice of Construction Approval Order

In the matter of approving updates to) **Approval Order No.** Preliminary Determination
an existing air source for **Burnham SEV**) **AQPID No.** A0210192

Project Summary

Burnham SEV, herein referred to as the Permittee, is a renewable natural gas facility located at 981 E. Foster Wells Rd, Pasco, Washington, in Franklin County. The Permittee is classified as a natural minor. The updated project consists of increasing the potential usage for the Flare in Scenario 2 (Approval Condition 1(a)(x)) for emergency purposes, from what was previously permitted in the Approval Order.

Equipment List

ID No.	Equipment	Size	Model / Serial Number
1	Anaerobic Digester No. 1	34.5 MGD	BVF Reactor
2	Anaerobic Digester No. 2	34.5 MGD	BVF Reactor
3	Biogas Flare No. 1	2,140 scfm	BGBF 001-3001
4	Biogas Flare No. 2	2,140 scfm	BGBF 001-3001
5	Pilot Flare No. 1	50 scfh on N.G.	BGBI 001-3002-1
6	Pilot Flare No. 2	50 scfh on N.G.	BGBI 001-3002-1
7	Pilot Flare No. 3	50 scfh on N.G.	BGBI 001-3002-1
8	Pilot Flare No. 4	50 scfh on N.G.	BGBI 001-3002-1
9	Natural Gas Boiler No. 1	27 MMBtu/hour	CBLE-4D-800
10	Natural Gas Boiler No. 2	27 MMBtu/hour	CBLE-4D-800
11	Natural Gas Emergency Generator	1,000 kW	Generac MG1000
12	Natural Gas Heaters (16 units)	250,000 Btu/hour	PTP250A-01[85/30]
13	Natural Gas Heaters (2 units)	150,000 Btu/hour	PTP150A-01[85/30]
14	Natural Gas HVAC (1 unit)	2,500 SCFH	DG270/O/MV
15	H2S Removal System	4,280 scfm	Sulfcat

Legal Authority

The emissions from the proposed project have been reviewed under the legal authority of RCW 70A.15.2210 and the applicable rules and regulations adopted thereunder. The proposed project, if operated as specified, will be in accordance with applicable rules and regulations, as set forth in Chapters 173-400 WAC and 173-460 WAC and the operation thereof, at the location proposed, will not result in ambient air quality standards being exceeded.

This Notice of Construction (NOC) Approval Order rescinds and replaces NOC Approval Order No. 23AQ-E035. NOC Approval Order No. 23AQ-E035 is no longer in effect.

Therefore, it is ordered that the project as described in the Notice of Construction (NOC) application and more specifically detailed in plans, specifications, and other information submitted to the Washington State Department of Ecology (Ecology) is approved for construction and operation, provided the following conditions are satisfied:

Approval Conditions

1. Operational Limitations

- a. Production Limits
 - i. Usage of natural gas is limited to a combined 470.79 MMscf (Million standard cubic feet) for the whole facility, per year, on a 12-month rolling average.
 - ii. Boilers No. 1 and No. 2 approved under this order must combust only pipeline quality natural gas
 - iii. The annual natural gas usage for both Boilers is limited to 431.0 MMscf per year, on a 12-month rolling average.
 - iv. Maximum biogas production must not exceed 4,280 scfm (standard cubic feet per minute) per year, on a 12-month rolling average.
 - v. The natural gas usage for the Emergency Generator is limited to 1,125,000 scf (standard cubic feet) per year, on a 12-month rolling average.
 - vi. The natural gas usage for the Flares is limited to 1,752,000 scf per year, on a 12-month rolling average.
 - vii. The natural gas usage for all 18 Heater units is limited to a total of 15,013,000 scf per year, on a 12-month rolling average.
 - viii. The natural gas usage for the HVAC system is limited to 21.9 MMscf per year, on a 12-month rolling average.
 - ix. Collected biogas must be processed thorough the hydrogen sulfide (H₂S) removal system or sent to the flare if the biogas cannot fit in the H₂S removal system.
 - x. The Flare will only operate in one of two scenarios. Scenario 1 occurs when the maximum biogas produced is greater than the gas upgrading system is capable of

handling and the excess gas must be flared. Scenario 2 occurs when the gas upgrading system is down and 100 percent of the biogas produced must be flared. Scenario 2 is limited to 4,108 hours per year, on a 12-month rolling basis.

b. Equipment Limits

- i. The total hours of operation of the Emergency Generator must not exceed 100 hours per year, calculated on a rolling monthly basis.
- ii. The Emergency Generator must be equipped with a properly operated and maintained non-resettable hour meter.
- iii. The Emergency Generator must only use pipeline quality natural gas.
- iv. There must be no operation of emergency generator to produce power for demand-response arrangements, peak shaving arrangements, nor to provide power as part of a financial arrangement with another entity, or to supply power to the grid.
- v. The flare must be operated in a way to ensure:
 - A. The flare must have an adequate enclosure to prevent flame out at all times.
 - B. The flare must be operated with a flame present at all times.
 - C. The continuous presence of a flame must be ensured thorough use of a supplemental fuel source. Supplemental fuel is limited to natural gas.
 - D. The presence or absence of a pilot flame must be clearly indicated on an accessible control panel located at ground level or in a centralized control room. The presence of a pilot flame must be verified prior to sending biogas to the flare.
 - E. The flare must be operated to prevent flame-out following the manufacturer's instructions, including but not limited to the auto re-start features and alarm features.
 - F. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself must be installed and operated to indicate the continuous presence of a flame.
 - G. The flare operating temperature must be at least 1400°F to ensure maximum destruction efficiency.
- vi. The Anaerobic Digester must not be discharged to the ambient air:
 - A. Without combustion thorough the flare, when discharges are preventable by reasonable methods.
 - B. Without H₂S removal, when such discharges are preventable by reasonable methods.

- vii. The natural gas-fired Boilers are not permitted to be fired off biogas at this time. If the permittee would like to use Biogas as a fuel for the Boilers, a new NOC Application must be submitted for review.
 - viii. A non-resettable natural gas meter must be installed upstream of each natural gas-fired piece of equipment that displays the natural gas consumed. An exception may be made for the natural gas heaters where a single meter may be installed that displays for all 18 units.
 - ix. Odors emanating from the project must be minimized thorough the use of recognized good practice and procedures.
 - x. The H₂S system must be operational and connected to the digester to accept biogas whenever biogas is being generated.
- c. Emission Limits
- i. The Flare must only combust biogas from the Anaerobic Digester or natural gas. The exhaust must not exceed the following pollutant concentrations, mass emission limits, and visual emission limits:
 - A. NO_x: 119 pound/MMscf, 27.7 ton/year for scenario 1 or 62.9 ton/year for scenario 2, measured using EPA Reference Method 7E.
 - B. CO: 89 pound/MMscf, 20.8 ton/year for scenario 1 or 47.1 ton/year for scenario 2, measured using EPA Reference Method 10.
 - C. PM emissions must not exceed 0.010 grains per dry standard cubic foot corrected to seven percent O₂ or 1.07 pounds per hour for either scenario 1 or scenario 2.
 - D. VOCs from the burner must not exceed 0.773 pounds per hour for either scenario 1 or scenario 2.
 - E. Sulfur Oxide (SO_x) emissions from the burner must not exceed 1.71 pounds per hour for either scenario 1 or scenario 2.
 - ii. Each of the two 27 MMBTU/hour Cleaver Brooks boilers exhaust must not exceed the following pollutant concentrations, mass emission limits, and visual emission limits:
 - A. NO_x: 9 ppmvd at three percent O₂, 12 lb/MMscf, 2.6 ton/year measured using EPA Reference Method 7E.
 - B. Carbon Monoxide (CO): 30 ppmvd at three percent O₂, 44 lb/MMscf, 9.4 ton/year measured using EPA Reference Method 10.
 - C. PM emissions from the burner must not exceed 0.010 grains per dry standard cubic foot corrected to seven percent O₂ or 0.54 pounds per hour.
 - D. VOCs from the burner must not exceed 0.217 pounds per hour.
 - E. SO_x emissions from the burner must not exceed 0.054 pounds per hour.

- iii. Visible emissions from any equipment must not exceed five percent opacity, as determined by 40 C.F.R. Part 60, Appendix A, Test Method 9.
- iv. There must be no visible emissions from any equipment from the facility at the property boundary, as measured by 40 C.F.R. Part 60, Appendix A, Test Method 22.
- v. The inlet concentration of the H₂S into the Sulfcats system must not exceed 4000 ppm.
- vi. The H₂S removed from the biogas must not exceed 200 ppm at the outlet of the Sulfcats system.

2. Operation and Maintenance

- a. The Permittee must follow all recommended installation, configuration, operation, and maintenance provisions supplied by emission unit and component manufacturers.
- b. An operations and maintenance (O&M) manual must be developed by the Permittee for each emission unit. The manufacturer's instructions may be referenced in the O&M manual.
 - i. The O&M manual must include the following, at a minimum:
 - A. Normal operating parameters for emissions units.
 - B. A maintenance schedule for each emissions unit.
 - C. A description of the monitoring procedures.
 - D. Monitoring and record keeping requirements.
 - E. Actions for abnormal control system operation.
 - F. Additional project-specific information, as needed.
 - ii. The O&M manuals must be developed within 30 days of commencing operation of each emission unit.
- c. Emission units must be operated and maintained in accordance with the O&M manual.
- d. The Permittee must assess all valid air-emission related complaints received. The Permittee must initiate corrective action in response to a complaint within three calendar days of receipt of the complaint.

3. Monitoring & Recordkeeping

- a. The O&M manual and any other relevant operating plan or fugitive dust control program (FDCP) must be reviewed annually.
 - i. The date of each review and the person performing each review must be documented in the O&M manual.
 - ii. The O&M manual and FDCP/other relevant operating plan must be updated to reflect any modifications to emission units or operating procedures.
- b. O&M records must be kept on premises in hard copy or readily available on-site electronically.
- c. For all air-quality related complaints, the following records must be kept:
 - i. A written record of the complaint received by the Permittee or forwarded to the Permittee.
 - ii. The Permittee's action to investigate the validity of the complaint, any corrective action that was taken in response to the complaint, and the effectiveness of the remedial action.
- d. The date, time, duration, and cause of any periods where control technology equipment is out of service must be documented and maintained.
- e. All data required by this NOC Approval Order must be maintained in a readily retrievable manner for a period of five years and must be made available to authorized representatives of Ecology upon request.
- f. The Permittee must complete any additional monitoring or recordkeeping necessary to determine compliance with the requirements of this NOC Approval Order, as determined by Ecology.
- g. Operation tracking using annual hours of operation must be compiled monthly, on a rolling 12-month basis.
- h. Records of natural gas usage must be kept for five years.
- i. Hours for scenario 1 and 2 for the Flare must be tracked and recorded on a rolling 12-month basis.

4. Testing

- a. Initial performance testing of the Emergency Generator is not required currently. Future testing may be required if Ecology determines it is necessary (WAC 173-400-105(4)).
- b. Initial performance testing of the Biogas flare to show compliance with the proposed destruction efficiency. Future testing may be required if Ecology determines it is necessary (WAC 173-400-105(4)).

- c. Once every six months, a representative sample of the biogas produced by the anaerobic digesters must be collected and analyzed for its heat content and total sulfur species content. The sample must be collected following the hydrogen sulfide removal equipment, prior to the flare or injection into the pipeline. The analytical methods to determine total sulfur and heat content must be proposed in a test protocol to be approved by Ecology prior to testing.
- d. One of the two boilers must have an initial performance test conducted and analyzed for NO_x, CO, and opacity to demonstrate compliance with emission limits within 180 days of the Commercial Operation Date.
- e. Each boiler must have an annual “tune-up” performed at all fire rates to maintain and show compliance and operational efficiency of each boiler. NO_x and CO combustion analysis measurements, and operational rate in percentage during measurement, must be submitted whenever Ecology requests information for emission inventory. Ecology may require additional source testing under Washington Administration Code (WAC) 173-400-105(4) to verify boiler emission rates.
- f. The Permittee must submit a test plan to Ecology for review and approval at least 30 days prior to source testing. Ecology may require a new protocol for re-test events conducted after a failed source test, when required, and Ecology may approve a shorter timeframe for submission for the re-test protocol. The test plan must include the following information, at a minimum:
 - i. Identification of each emission unit to be tested.
 - ii. The operating parameters to be monitored during the test.
 - iii. A description of the emission unit to be tested.
 - iv. The time and date of the proposed source test.
 - v. Identification and qualifications of the source test personnel.
 - vi. A description of the test methods and procedures to be used.
- g. Test reports must be submitted to Ecology within 60 days of completion of the source testing. Test reports must include the following information, at a minimum:
 - i. The information described under Approval Conditions 4(f).
 - ii. The information described in the test plan and any subsequent test plan approval letters.
 - iii. Field and analytical laboratory data.
 - iv. Quality assurance/quality control procedures and documentation.
 - v. Analyzer data recorded during the test.
 - vi. A summary of results, reported in units and averaging periods consistent with the applicable emission limit.

- vii. A summary of control system and equipment operating conditions.
 - viii. Copies of all field data.
 - ix. Chain of custody information.
 - x. Calibration documentation.
 - xi. Discussion of any abnormalities associated with the results.
 - xii. A statement signed by the senior management official of the testing firm certifying the validity of the source test report.
 - xiii. Emission calculations.
- h. The Permittee must provide adequate sampling ports, safe sampling platforms, and access to platforms and utilities for sampling and testing, in accordance with 40 C.F.R. 60.8, 40 C.F.R. 63.7(d), and WAC 173-400-105(4).
 - i. When information obtained by Ecology indicates the need to quantify emissions, Ecology may require the Permittee to conduct material analysis or air emission testing under WAC 173-400-105. This testing requirement is in addition to any testing required by Ecology in this NOC Approval Order, other permits, or other state or federal requirements.
 - j. During any required or requested performance/source test, the tested equipment must be operated at 90 percent or greater of the maximum operation rate of the previous 12 months.
 - k. Alternate test methods and procedures may be proposed by the Permittee for Ecology review; a justification for the change must be included. Proposed alternates must not be utilized unless an approval is issued by Ecology, in writing, prior to the test.

5. Reporting

- a. All notifications, plans, reports, and other submittals must be submitted in a manner approved by Ecology.
 - Washington State Department of Ecology
 - Air Quality Program
 - 4601 N. Monroe Street
 - Spokane, WA 99205-1295

 - Reports may also be submitted electronically to: ecyaqciero@ecy.wa.gov
 - OR AS DIRECTED.*
- b. The Permittee must notify Ecology within two business days of any of the following events occurring:
 - i. The receipt of any valid air-emission related complaint.

- ii. Equipment fire, Control failures, etc.
- c. The Permittee must notify Ecology of commissioning of emission units within one week of initiating such activities, unless otherwise specified by Ecology. The notice must include:
 - i. Make, model, serial number, etc.
- d. The Permittee must submit results of all required monitoring to Ecology on an annual basis. Results must be submitted to Ecology by January 31.
- e. The Permittee must notify Ecology within thirty days of the following events:
 - i. Commencement of construction of the project.
 - ii. Completion of the construction of the project.
 - iii. If construction or operation has been discontinued for more than 18 months.

6. General Conditions

- a. **Activities Inconsistent with this Order** - Any activity undertaken by the Permittee, or others, in a manner that is inconsistent with the data and specifications submitted as part of the NOC application or this NOC Approval Order, must be subject to Ecology enforcement under applicable regulations.
- b. **Availability of Order** - Legible copies of this NOC Approval Order and any O&M manual(s) must be available to employees in direct operation of the equipment described in the NOC application and must be available for review upon request by Ecology.
- c. **Compliance Assurance Access** - Access to the source by representatives of Ecology or the United States Environmental Protection Agency (EPA) must be permitted upon request. Failure to allow access is grounds for enforcement action under the federal Clean Air Act or the Washington State Clean Air Act and may result in revocation of this NOC Approval Order.
- d. **Discontinuing Construction or Operation** – This NOC Approval Order will become invalid if construction of the equipment described in the NOC application and this NOC Approval Order does not commence within 18 months after receipt of this NOC Approval Order.

If construction or operation is discontinued for 18 months or longer on a portion or all of the equipment described in the NOC application and this NOC Approval Order, the portion of the NOC Approval Order regulating the inactive equipment will become invalid. Ecology may extend the 18-month period upon request by the Permittee and a satisfactory showing that an extension is justified.

- e. **Equipment Operation** - Operation of the facility must be conducted in compliance with all data and specifications submitted as part of the NOC application and in accordance with O&M manuals, unless otherwise approved in writing by Ecology.

- f. **Violation Duration** - If the Permittee violates an approval condition in this NOC Approval Order, testing, recordkeeping, monitoring, or credible evidence will be used to establish the starting date of the violation. The violation will be presumed to continue until testing, recordkeeping, monitoring, or other credible evidence indicates compliance. A violation of an approval condition includes, but is not limited to, failure of air pollution control equipment, failure of other equipment resulting in increased emissions, or a failed source test indicating an exceedance of an emission limit.
- g. **Odor** - The Permittee must not cause or allow the generation of any odor which unreasonably interferes with any other property owner's use and enjoyment of their property. The Permittee must use recognized good practice and procedures to reduce odors to a reasonable minimum.
- h. **Outdoor Burning** - There must be no outdoor burning.
- i. **Obligations Under Other Laws or Regulations** - Nothing in this NOC Approval Order must be construed so as to relieve the Permittee of its obligations under any state, local, or federal laws or regulations.
- j. **Maintaining Compliance** - It must not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the operations in order to maintain compliance with the conditions of this NOC Approval Order.
- k. **Visible Emissions** - No visible emissions from the source are allowed beyond the property line, as determined by 40 C.F.R. Part 60, Appendix A, Test Method 22.
- l. **Changes in Operations** - Any changes in operation contrary to information submitted in the NOC application must be reported to Ecology at least 60 days before the changes are implemented. Such changes in operation may require a new or amended NOC Approval Order.

Authorization may be modified, suspended, or revoked in whole or part for cause, including, but not limited to, the following:

- Violation of any terms or conditions of this authorization.
- Obtaining this authorization by misrepresentation or failure to disclose full all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization or application of any provision to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this authorization, must not be affected thereby.

Your right to appeal

You have a right to appeal this Notice of Construction Approval Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt. The appeal process is governed by RCW 43.21B and WAC 371-08. "Date of receipt" is defined in Chapter 43.21B.001(2) RCW.

To appeal, you must do all of the following within 30 days of the date of receipt of this Notice of Construction Approval Order:

- File your notice of appeal and a copy of this Notice of Construction Approval Order with the PCHB (see filing information below). "Filing" means actual receipt by the PCHB during regular business hours as defined in Chapter 371-08-305 WAC and -335. "Notice of appeal" is defined in Chapter 371-08-340 WAC.
- Serve a copy of your notice of appeal and this Notice of Construction Approval Order on the Department of Ecology by mail, in person, or by email (see addresses below).

You must also comply with other applicable requirements in Chapter 43.21B RCW and 371-08 WAC.

Address and Location Information

Filing with the PCHB

For the most current information regarding filing with the PCHB, visit: <https://eluhwa.gov/> or call: 360-664-9160.

Service on Ecology

Street Addresses:

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Mailing Addresses:

Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

E-Mail Address:

ecologyappeals@ecy.wa.gov

Americans with Disabilities Act Information

Accommodation Requests

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Dated on this XXth Day of MONTH, 2024.

Prepared by:

Approved by:

Andrew Kruse, PE
Air Quality Program
Department of Ecology
State of Washington

Karin Baldwin, Section Manager
Air Quality Program
Department of Ecology
State of Washington

Technical Support Document

Notice of Construction Approval Order No. Preliminary Determination
Burnham SEV
AQPID No. A0210192
Pasco, WA

Prepared by: Andy Kruse, PE

1. Project Summary

Burnham SEV is a new renewable natural gas facility located at 981 E. Foster Wells Rd, Pasco, Washington, in Franklin County. The Permittee is classified as a natural minor. The project consists of installation and operation of biogas flares, natural gas boilers, and a natural gas emergency generator to process biogas generated from two anaerobic digesters supplied by reclaimed wastewater from local industrial food processors.

An initial Notice of Construction (NOC) application dated May 4th, 2023 was submitted by Burnham SEV for the Pasco Resource Recovery Center (PRRC) project. The Washington State Department of Ecology (Ecology) reviewed the initial application and found it complete per WAC 173-400-111 on June 2nd, 2023. An amended NOC application was received by Ecology on June 26th, 2023, and found to be complete on June 26th, 2023.

On March 18th, 2024, a NOC App was submitted to update the natural gas consumption for the pilot lights on the flares, and the n.g. usage for the HVAC unit. There are two pilot lights for each Flare, the original n.g. numbers were based off one light. The HVAC unit is roughly twice as large as what was originally proposed, therefore the n.g. usage is higher. The emissions numbers presented in this TSD reflect the updated usage, not the usage proposed in the original NOC app.

On July 3rd, 2024, a NOC App was submitted to update the potential usage of the Flare when normal production operations were down, and the biogas must be flared. The proposed increased usage is meant for emergency scenarios (specifically Scenario 2 referenced in the NOC App and in the Approval Order) and not for normal facility operations. The proposed change would update the previously approved Scenario 2 hours from 438 per year to 4,108 per year. This increase in emergency use puts the potential NOx emissions for the facility at 94.48 tpy, well below the Title V threshold. Due to the extreme nature of using the Flare for that many hours, it is not predicted the NOx for the facility will ever get that close. Tables 1, 2, 7, and 9 were updated in this TSD to reflect the proposed Flare usage. No other changes or new equipment was proposed for this latest NOC Application.

2. Application Processing

a. Public Notice

Receipt of the application was posted on Ecology’s Public Involvement Calendar from June 2nd, 2023, through July 6th, 2023. Due to the potential to emit (PTE) of NOx (predicted to be 59 tons per year), a 30-day public comment period is mandatory.

For 2024 NOC app, the change in emissions only triggered the required 15-day web notice. No requests for a 30-day Public Comment Period were received.

For the second 2024 NOC App (July 2024), the proposed changes trigger the 30-day public comment period due to the potential increase in emissions for NOx and CO from the Flare.

b. State Environmental Policy Act

Franklin County issued a mitigated determination of nonsignificance (MDNS) on 8/25/2022.

3. Applicable Regulations

a. State Regulations

i. Minor New Source Review Applicability

Per WAC 173-400-110, an NOC application and an order of approval must be issued by the permitting authority prior to the establishment of a new source or modification.

As stated in the NOC application and consistent with Ecology’s review, the PRRC project is being constructed and therefore are subject to minor new source review (NSR).

A. Potential to Emit (Potential Emissions)

The potential emissions from the project are greater than the exemption levels listed under WAC 173-400-110(5) as shown below in Tables 1 and 2 (in bold).

Table 1. Potential emissions for pollutants listed under WAC 173-400-110(5), NSR Exemption Levels

Pollutant	New Units (tons/year)	Minor NSR Exemption (tons/year)
Carbon Monoxide (CO)	79.61	5.0
Lead (Pb)	0.000325	0.005
Nitrogen Oxides (NOX)	94.48	2.0
PM10	5.65	0.75
PM2.5	5.65	0.5

Pollutant	New Units (tons/year)	Minor NSR Exemption (tons/year)
Total Suspended Particulates (TSP)	5.65	1.25
Sulfur Dioxide (SO ₂)	3.83	2.0
Volatile Organic Compounds, total (VOC)	3.49	2.0

Table 2. Potential TAP emissions and de minimis emission values

Pollutant	Potential Emissions from Project	De Minimis Emission Values	Averaging Period
Acetaldehyde	10.8	3	year
Arsenic & inorganic arsenic compounds, NOS	0.00	2.50E-03	year
Benz[a]anthracene	1.2E-03	4.50E-02	year
Benzene	3.3	1	year
Benzo[a]pyrene	7.8E-04	0.0082	year
Benzo[b]fluoranthene	1.4E-03	0.045	year
Benzo[k]fluoranthene	1.2E-03	0.045	year
Beryllium & compounds, NOS	0	0.0034	year
1,3-Butadiene	0.35	0.27	year
Cadmium & compounds, NOS	0	1.90E-03	year
Carbon tetrachloride	2.4E-02	1.4	year
Chloroform	1.8E-02	0.35	year
Chrysene	2.1E-03	0.45	year
Dibenz[a,h]anthracene	7.8E-04	0.0041	year
1,1-Dichloroethane (ethylidene dichloride)	1.5E-02	5.1	year
Dichloromethane	2.6E-02	490	year
1,2-Dichloropropane (propylene dichloride)	1.7E-02	0.81	year
1,3-Dichloropropene	1.7E-02	2	year
7,12-Dimethylbenz[a]anthracene	1.0E-02	0.000069	year
Ethyl benzene	5.1E-02	3.2	year
Ethylene dibromide (EDB, 1,2-dibromoethane)	2.9E-02	0.014	year
Ethylene dichloride (EDC, 1,2-dichloroethane)	1.5E-02	0.31	year
Formaldehyde	166	1.4	year

Pollutant	Potential Emissions from Project	De Minimis Emission Values	Averaging Period
Indeno[1,2,3-cd]pyrene	1.2E-03	0.045	year
Lead & compounds, NOS	0.65	10	year
3-Methylcholanthrene	1.2E-03	0.00078	year
Naphthalene	0.89	0.24	year
Nickel & compounds, NOS	0.0	0.031	year
1,1,2,2-Tetrachloroethane	2.6E-02	1.40E-01	year
1,1,2-Trichloroethane (vinyl trichloride)	2.1E-02	5.10E-01	year
Vinyl chloride	1.9E-02	0.92	year
Acrolein	1.8E-02	1.30E-03	24-hr
Chlorobenzene	5.4E-05	3.7	24-hr
Chloroethane (ethyl chloride)	6.6E-06	110	24-hr
Chromium(III), insoluble particulates, NOS	0	0.019	24-hr
Cobalt and compounds, NOS	1.9E-04	3.70E-04	24-hr
n-Hexane	4.0	2.6	24-hr
Hydrogen Sulfide	1.3	0.0074	24-hr
Manganese & compounds	0.0E+00	1.10E-03	24-hr
Mercury, elemental	0.0E+00	1.10E-04	24-hr
Methyl alcohol (methanol)	8.9E-03	74	24-hr
Phenol	8.5E-05	0.74	24-hr
Styrene	4.2E-05	3.2	24-hr
Toluene	8.9E-03	19	24-hr
1,2,3-Trimethylbenzene	8.1E-05	0.22	24-hr
1,3,5-Trimethylbenzene	1.2E-04	0.22	24-hr
Vanadium (fume or dust)	5.1E-03	3.70E-04	24-hr
Selenium & selenium compounds (other than hydrogen selenide)	2.6E-05	7.40E-02	24-hr
Xylene (mixture), including m-xylene, o-xylene, p-xylene	6.5E-04	0.82	24-hr

ii. Prevention of Significant Deterioration

PSD does not apply, based on uncontrolled 8,760 hr/yr PTE.

iii. Other Applicable Requirements

In accordance with WAC 173-400-113, the proposed new source must comply with all applicable emission standards adopted under Chapter 70A.15 RCW. The following applicable emission standards are associated with the proposed project:

A. Applicable emission standards:

- WAC 173-400-040 (General standards for maximum emissions).
- WAC 173-400-050 (Emission standards for combustion and incineration units).
- WAC 173-400-075 (Emission standards for sources emitting hazardous air pollutants).
- WAC 173-400-115 (Standards of performance for new sources).

b. Federal Regulations

In accordance with WAC 173-400-113, the proposed new source must comply with all applicable new source performance standards (NSPS) included in 40 C.F.R. Part 60, national emission standards for hazardous air pollutants (NESHAPs) included in 40 C.F.R. Part 61, and NESHAPs for source categories included in 40 C.F.R. Part 63. The following applicable emission standards are associated with the proposed project:

i. Standards of Performance for New Stationary Sources

- A. 40 CFR Part 60 Subpart Dc – New source standards for performance for Small Industrial Steam Generating Units. The two 27MMBtu/hr natural gas boilers are subject to this regulation because of their manufacture date and size.
- B. 40 CFR Part 60 Subpart JJJJ – New source standards of performance for Stationary Spark Ignition Internal Combustion Engines. The emergency generator is subject to this regulation because of its manufacture date and size.

ii. National Emission Standards for Hazardous Air Pollutants

- A. 40 CFR Part 63, Subpart ZZZZ – National emissions standards for hazardous air pollutants for stationary reciprocating internal combustion engines. This regulation is not applicable as the facility is below the HAP applicability threshold.
- B. 40 CFR Part 63, Subpart JJJJJ – National emissions standards for hazardous air pollutants for industrial, commercial, and institutional boilers area sources. The regulation is not applicable as the two boilers at this facility are categorized as “gas-fired boilers” and meet the criteria to be exempt from this this NESHAP.

4. Emissions

a. Emission Factors

- i. For the Flare, when burning natural gas, the AP-42 Section 1.4 emission factors were used. When the flare is burning the biogas, the factors used were provided by the manufacturer.
- ii. For the two Boilers, AP-42 Section 1.4 emission factors were used.
- iii. For the Emergency Generator, AP-42 Section 3.2, Table 3.2.2 emission factors were used.

b. Best Available Control Technology | Best Available Control Technology for Toxics

In the analysis, the consultant proposed and successfully demonstrated that Ultra-Low NO_x burners, good combustion controls, and using pipeline quality natural gas is BACT for the two boilers.

For the Emergency Generator, the consultant proposed and successfully demonstrated good combustion practices and complying with the NSPS is BACT.

For the Flare, the consultant proposed and successfully demonstrated good combustion practices and ensuring the burning temperature is BACT.

- c. For the Flare, specifically the PM, VOC, and SO₂ emissions, it was discussed and agreed with Burnham SEV that the emission rate for both Scenario 1 and Scenario 2 will be the same, with Scenario 2 being the more pollutive Scenario but also the least used (roughly 5 percent of the year). Burnham also mentioned it was in their interest to operate in Scenario 1 as much as possible as it was more profitable and more efficient to operate than in Scenario 2. The actual emission rate for Scenario 1 will be much lower than permitted. Before it was agreed to go this route, the estimated emission rate in Scenario 1 for PM was 0.388 lb/hr, VOC was 0.297 lb/hr, and SO₂ was 0.028 lb/hr. The 'flat' rate for either scenario will be PM = 1.07 lb/hr, VOC = 0.773 lb/hr, and SO₂ lb/hr = 1.71. The reasoning was to find a combined emission rate that would cover both scenarios without the need for extra monitoring and recordkeeping. With the proposed emission rates, Burnham will not be in violation of their permit, regardless of which scenario they are operating in.

5. Ambient Air Quality Standards

As specified in WAC 173-400-113, the proposed new source must not cause or contribute to a violation of any ambient air quality standard. This includes the ambient air quality standards for both criteria and toxic air pollutants.

a. Pollutants Listed Under WAC 173-400-110 (Except TAPs)

For the two Boilers, the Biogas Flare, and the Emergency Generator, modeling was performed to satisfy the requirements of Chapter 173-476 WAC. The modeling demonstrates that the emissions increases as a result of the project will not exceed the ambient air quality standards. The modeling results are included in the table below.

Table 7. Criteria Pollutant Modeling Results.

Criteria Pollutant	Averaging Period	Maximum Modeled Concentration	Ambient Air Quality Standard	Percent of Ambient Air Quality Standard
NO2	Annual	13	100	13%
NO2	1-hr	169	188	90%
PM2.5	Annual	8.5	12	71%
PM2.5	24-hr	27	35	77%
PM10	24-hr	97	150	65%

b. Toxic Air Pollutants

In accordance with WAC 173-460-040, new TAP sources must meet the requirements of Chapter 173-460 WAC, unless they are exempt by WAC 173-400-110(5).

As shown in Table 2, minor NSR is required for this project. As such, the new emission units must comply with WAC 173-460-070 (ambient impact requirement). The facility may demonstrate compliance with the ambient impact requirement by either showing that the emissions increase is less than the small quantity emissions rates (SQER) or through dispersion modeling.

For the TAPs that require modeling, modeling was performed to satisfy the requirements of Washington’s state toxics rule in Chapter 173-460 WAC. The modeling demonstrates that the emissions increases as a result of the project will not exceed the acceptable source impact level (ASIL) screening thresholds. The modeling results are included in the table below.

Table 9. TAP Modeling Results.

TAP	Averaging Period	Maximum Modeled Concentration (µg/m3)	ASIL (µg/m3)	Percent of ASIL
7,12-Dimethylbenz[a]anthracene	Annual	0.00000188	0.0000085	22%
Formaldehyde	Annual	0.0562	0.17	33%
Hydrogen Sulfide	24-hr	0.0129	2	1%

As shown in the table above, all TAPs are below the associated ASIL.

6. Appendix A – Response to Comments

July 2023, Public Comment Period – no comments were received by Ecology.

April 2024, 15-day Web Notice – no requests were received by Ecology for a Public Comment Period.

August 2024, Public Comment Period – Comments?