

Technical Support Document
Notice of Construction Approval Order No. 26AQ-C293
PUD No. 1 of Chelan County – Rocky Reach Emergency Generator
AQPID No. B0070111
Wenatchee, WA

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1. Project Summary

Chelan County Public Utility District No.1 (CCPUD1) currently operates a hydroelectric dam that generates power within the boundaries of Wenatchee, WA. CCPUD1 plans to install a new diesel power emergency generator to provide emergency backup power to Station Service Bus 2 at the existing Rocky Reach Dam site (Facility). The site currently has one existing 300 kW Cummins diesel emergency generator that provides backup power for Station Service Bus 5 at the Facility and is exempt from Notice of Construction (NOC) permitting. The source is classified as a “natural minor” with respect to Title V of the federal Clean Air Act.

An initial Notice of Construction (NOC) application from the source was received on June 24, 2026 for the Rocky Reach emergency generator project. The Washington State Department of Ecology (Ecology) reviewed the initial application and found it incomplete per WAC 173-400-111 on July 21, 2026. Additional information were received by Ecology on August 10, 2026. The application was determined to be complete on September 1, 2026.

2. Application Processing

a. Public Notice

This project is subject to a mandatory 30-day public comment period per WAC 173-400-171(3)(b), due to the project having an increase in emissions of eleven toxic air pollutants above their respective acceptable source impact level (ASIL) under Chapter 173-460 WAC. The comment period is scheduled for September 18th through October 5th. If any comments are received, responses will be issued as a separate document.

b. State Environmental Policy Act

The Chelan County Public Utility District issued a determination of nonsignificance (DNS) for the project on April 1, 2026.

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 diesel-fired emergency generator is being constructed by this project and therefore is subject to minor new source review (NSR).

A. Potential to Emit (Potential Emissions)

The potential emissions from the project are estimated based on 110 hr/year operation and shown below in Tables 1 and 2.

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

Pollutant	New Unit (tons/year)	Minor NSR Exemption (tons/year)	Exceeds Threshold?
Nitrogen Oxides (NO _x)	0.79	2.0	no
Carbon Monoxide (CO)	0.26	5.0	no
Sulfur Dioxide (SO ₂)	0.001	2.0	no
Volatile Organic Compounds, total (VOC)	0.11	2.0	no
Total Suspended Particulates (TSP)	0.12	1.25	no
PM ₁₀	0.12	0.75	no
PM _{2.5}	0.12	0.5	no

Table 2. Potential TAP emissions and de minimis emission values

Pollutant	Potential Emissions from Project (lb/AP)	De Minimis Emission Values (lb/AP)	Averaging Period (AP)	Emissions>De Minimis?
Benzene	1.95E+00	1	year	yes
Toluene	3.13E-02	19	24-hr	no
Xylene	1.20E-02	0.82	24-hr	no
1,3-Butadiene	1.28E+00	0.27	year	yes
Formaldehyde	1.02E+01	1.4	year	yes
Acetaldehyde	4.62E+00	3	year	yes

Pollutant	Potential Emissions from Project (lb/AP)	De Minimis Emission Values (lb/AP)	Averaging Period (AP)	Emissions>De Minimis?
Acrolein	9.59E-03	0.0013	24-hr	yes
Naphthalene	1.88E-01	0.24	year	no
Propylene	1.32E-01	11	24-hr	no
Benzo(a)anthracene	1.65E-03	0.045	year	no
Chrysene	1.65E-03	0.45	year	no
Benzo(b)fluoranthene	1.65E-03	0.045	year	no
Benzo(k)fluoranthene	1.65E-03	0.045	year	no
Benzo(a)pyrene	1.65E-03	0.0082	year	no
Diesel engine exhaust, particulate	1.62E+01	0.027	year	yes
Indeno(1,2,3-cd)pyrene	1.65E-03	0.045	year	no
Dibenz(a,h)anthracene	1.65E-03	0.0041	year	no
Nitrogen dioxide ^a	3.16E+00	0.46	1-hr	yes
Lead	4.89E-02	1.00E+01	year	no
Total Chromium	1.70E-04	1.90E-02	24-hr	no
Hexavalent Chromium	5.90E-04	3.30E-05	year	yes
Arsenic	9.43E-03	2.50E-03	year	yes
Cadmium	8.84E-03	1.90E-03	year	yes
Copper	4.83E-05	9.30E-03	1-hr	no
Manganese	8.77E-04	1.10E-03	24-hr	no
Mercury	5.66E-04	1.10E-04	24-hr	yes
Nickel	2.30E-02	3.10E-02	year	no
Selenium	6.23E-04	7.40E-02	24-hr	no

^a NO₂ emissions are assumed to be the same as NO_x.

ii. Prevention of Significant Deterioration

Prevention of Significant Deterioration does not apply for the source, based on uncontrolled 110 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. General Standards for Maximum Emissions

WAC 173-400-040(2) limits visible emissions from all sources to no more than three minutes of 20 percent opacity, in any one hour, of an air contaminant

from any emissions unit. This standard applies to the proposed emergency generator. The limit is included under Approval Condition 2.c.iv.

B. Emission Standards for Combustion and Incineration Units

WAC 173-400-050(1) limits emissions of particulate matter from combustion units to 0.23 gram per dry cubic meter at standard conditions (0.10 grains per dry standard cubic foot) of exhaust gas. This standard applies to the proposed emergency generator. The standard is included under Approval Condition 2.c.ii.

C. Standards of Performance for New Sources

WAC 173-400-115(1)(a) adopts by reference 40 C.F.R. Part 60, Subpart IIII as the regulation existed on February 12, 2025. Subpart IIII was revised on August 13, 2026. The revision added electronic reporting requirements. Therefore, requirements of the state-adopted version are equivalent to the current federal version. Subpart IIII applies to the proposed emergency generator (discussed below).

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

The internal combustion engines (ICE) NSPS (40 C.F.R. Part 60, Subpart IIII) applies to the proposed engine. The regulation specifies:

- Criteria for classification as an emergency engine.
- Tier-2 emission standards for the engine.
- Fuel, monitoring, compliance, and notification requirements for the Permittee.

The Tier-2 emission standards specified by the regulation were the basis of the emission limits listed under Approval Condition 2.c.i.

ii. National Emission Standards for Hazardous Air Pollutants for Source Categories

The reciprocating internal combustion engines (RICE) NESHAP (40 C.F.R. Part 63, Subpart ZZZZ) applies to the emergency generator. However, the engine is also subject to the ICE NSPS (see above). At 40 C.F.R. 63.6590(c), the NESHAP specifies that compliance shall be met by meeting the requirements of the NSPS; therefore, no further requirements apply to the engine.

4. Emissions

a. Emission Factors

Emission factors for criteria pollutants were calculated using potential site variation data for the Caterpillar C18 750 kW emergency generator. TAP emission rates were calculated from the maximum emission rate provided amongst AP-42 Chapter 3.3, Ventura County AB 2588 Combustion Emission Factors, and the California Air Resources Board Toxics Emission Factor database. The emission data was treated in the following manner:

- Non-methane hydrocarbons (NMHCs) were assumed to be equivalent to VOC.
- PM₁₀ and PM_{2.5} emission factors were assumed to be equivalent to PM emission factors.
- The calculated PM emission factor was a sum of filterable PM and VOC emission factors.
- Diesel engine exhaust particulate (DEEP) is a TAP and was assumed to have the filterable PM emission factor.

The emission factor for SO₂ was calculated by the consultant, based on the sulfur content of ultra-low-sulfur diesel and fuel density, assuming complete conversion of sulfur to SO₂.

Potential site variation data was reviewed to estimate maximum emissions at varying loading rates. Fuel consumption data was provided for 100 percent, 75 percent, 50 percent, 25 percent, and 10 percent loads.

The annual emissions were based on 110 hours of annual operation.

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

The definition of best available control technology (BACT) states that application of the BACT shall not “result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard under 40 C.F.R. Part 60, Part 61 and Part 63”. BACT is required for sources of criteria pollutants and tBACT is required for sources of Washington State TAPs. None of the criteria pollutants triggered BACT review. Eleven TAPs triggered tBACT analysis. Majority of the TAPs from the proposed engine are VOCs, thus VOC controls were reviewed for tBACT determinations.

The consultant reviewed EPA’s RACT/BACT/LAER Clearinghouse (RBLC) for emergency generators with engine ratings ranging from 840 kW to 2500 kW. The review indicated that compliance with 40 CFR Part 60, Subpart IIII was an applicable control for TAPs. For emergency stationary ICEs, Subpart IIII requires Tier 2 certified nonroad emission standards under 40 CFR Part 1039, Appendix I. Furthermore, good combustion and operating practices, usage of low sulfur diesel fuel and limited hours of non-emergency

operation were appropriate control measures for TAPs. The proposed new emergency generator has an engine rating of 750 kW, lower than those found in EPA's RBLC.

Therefore, using a Tier 2 certified engine and operating according to manufacturer specifications constitutes the tBACT for the proposed emergency generator. The proposed emergency generator will also comply with requirements of 40 CFR Part 60 Subpart IIII.

c. Allowable Emissions

The allowable emissions from the project are equivalent to the potential to emit.

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)

Since the allowable emissions of the source, as limited by the NOC Approval Order, are below each of the Table 110(5) exemption levels listed under WAC 173-400-110, modeling was not required for criteria pollutants. This is in keeping with prior practice within this section, where it is assumed that the exemption levels were based on concentrations which would not cause or contribute to violations of the National Ambient Air Quality Standards (NAAQS) or Washington Ambient Air Quality Standards (WAAQS).

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 the proposed generator. As such, the project is subject to the WAC 173-460-070 (ambient impact requirement). Compliance may be demonstrated 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. The table below includes the estimated emissions increases associated with the emergency generator and the applicable SQER.

Table 3. TAP Analysis

Pollutant	Potential Emissions from Project (lb/AP)	SQER (lb/AP)	Modeling Required?
Benzene	1.95E+00	21	no
Toluene	3.13E-02	370	no
Xylene	1.20E-02	16	no
1,3-Butadiene	1.28E+00	5.4	no
Formaldehyde	1.02E+01	27	no
Acetaldehyde	4.62E+00	60	no
Acrolein	9.59E-03	0.026	no
Naphthalene	1.88E-01	4.8	no
Propylene	1.32E-01	220	no
Benzo(a)anthracene	1.65E-03	0.89	no
Chrysene	1.65E-03	8.9	no
Benzo(b)fluoranthene	1.65E-03	0.89	no
Benzo(k)fluoranthene	1.65E-03	0.89	no
Benzo(a)pyrene	1.65E-03	0.16	no
Diesel engine exhaust, particulate	1.62E+01	0.54	yes
Indeno(1,2,3-cd)pyrene	1.65E-03	0.89	no
Dibenz(a,h)anthracene	1.65E-03	0.082	no
Nitrogen dioxide	3.16E+00	0.87	yes
Lead	4.89E-02	1.40E+01	no
Total Chromium	1.70E-04	3.70E-01	no
Hexavalent Chromium	5.90E-04	6.50E-04	no
Arsenic	9.43E-03	4.90E-02	no
Cadmium	8.84E-03	3.90E-02	no
Copper	4.83E-05	1.90E-01	no
Manganese	8.77E-04	2.20E-02	no
Mercury	5.66E-04	2.20E-03	no
Nickel	2.30E-02	6.20E-01	no
Selenium	6.23E-04	1.50E+00	no

AERSCREEN was used to compare DEEP and NO₂'s impact to ASILs. As shown in the table below, only DEEP was above the associated ASIL.

Table 4. TAP Modeling Results

TAP	Averaging Period	Maximum Modeled Concentration (µg/m³)	ASIL (µg/m³)	Percent of ASIL
DEEP	year	0.081	3.3E-03	2,454%
Nitrogen dioxide	1-hr	233.4	4.7E+02	49.7%

Therefore, the streamlined Health Impacts Assessment (HIA) was conducted for DEEP. Ecology's HIA indicated that the increased emissions of DEEP from the engine could result in an increased cancer risk of up to nine in one million (9×10^{-6}) at the maximally impacted residential location, which occurs about 500 meters southwest of the engine's exhaust. Ecology found that PUD's project-related health risks are permissible under WAC 173-460-090 because

- The increase in emissions of TAPs is not likely to increase cancer risk by more than one in one hundred thousand (10 in one million) which is the maximum risk allowed by a second tier review.
- The non-cancer hazard is acceptable.

Ecology's analysis and recommendations are included in the document titled, "Second Tier Review Recommendation for: Chelan PUD Rocky Reach Dam Emergency Generator, Chelan County, Washington", 09/18/26.

Appendix A – Federal Rule Applicability

1. 40 C.F.R. Part 60, Subpart IIII

Example: The ICE NSPS (40 C.F.R. Part 60, Subpart IIII) applies to each engine. The applicable portions the rule appear to be:

Citation	Subject	Notes
§ 60.4202(a)(2)	Manufacturer emission standards	Specifies that 2007 model year and later emergency stationary CI ICE with a maximum engine power ≥ 37 kW and $\leq 2,237$ kW be certified to the emission standards specified in 40C.F.R. Part 1039, Appendix I.
§ 60.4205(b)	Owner/Operator emission standards	Directs owners and operators of 2007 model year and later emergency stationary CI ICE to comply with the emission standards for new nonroad CI engines in § 60.4202.
§ 60.4206	Timing for compliance with standards	Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4204 over the entire life of the engine.
§ 60.4207(b)	Fuel requirements	Owners and operators of stationary CI ICE must use diesel fuel that meets the requirements of 40C.F.R. Part 1090.305 for nonroad diesel fuel: • Sulfur standard. Maximum sulfur content of 15 ppm. • Cetane index or aromatic content. Diesel fuel must meet one of the following standards: ○ Minimum cetane index of 40. ○ Maximum aromatic content of 35 volume percent.
§ 60.4209(a)	Owner/Operator monitoring requirements	Requires installation of a non-resettable hour meter prior to startup of each engine, since the engine does not meet the standards applicable to non-emergency engines.

Citation	Subject	Notes
§ 60.4211	Compliance requirements for owners or operators	Owner and operators must do all of the following, except as permitted under paragraph § 60.4211(g): • Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; • Change only those emission-related settings that are permitted by the manufacturer; • Meet the requirements of 40 C.F.R. Part 1068, as applicable.
§ 60.4214(b)	Notification, reporting, and recordkeeping requirements	The owner or operator is not required to submit an initial notification. The owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.
Table 8 to Subpart IIII of Part 60	Applicability of General Provisions to Subpart IIII	The table lists what portions of 40 C.F.R. Part 60 are applicable to Subpart IIII.