



TECHNICAL SUPPORT DOCUMENT

**Air Discharge Permit / Nonroad Engine Permit 25-3717
Air Discharge Permit / Nonroad Engine Permit Application CO-1117**

Issued: July 9, 2025

Knife River Corporation – Kalama Quarry

SWCAA ID – 2828

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ABBREVIATIONS

List of Acronyms

ADP	Air Discharge Permit	NOV	Notice of Violation/
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA	NSPS	New Source Performance Standard
ASIL.....	Acceptable Source Impact Level	PSD	Prevention of Significant Deterioration
BACT.....	Best available control technology	RACT.....	Reasonably Available Control Technology
BART	Best Available Retrofit Technology	RCW	Revised Code of Washington
CAM	Compliance Assurance Monitoring	SQER	Small Quantity Emission Rate listed in WAC 173-460
CFR.....	Code of Federal Regulations	Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
EPA.....	U.S. Environmental Protection Agency	SWCAA	Southwest Clean Air Agency
EU	Emission Unit	T-BACT	Best Available Control Technology for toxic air pollutants
LAER.....	Lowest achievable emission rate	WAC	Washington Administrative Code
NESHAP	National Emission Standards for Hazardous Air Pollutants		

List of Units and Measures

µg/m ³	Micrograms per cubic meter	ppm	Parts per million
µm	Micrometer (10 ⁻⁶ meter)	ppmv	Parts per million by volume
acfm	Actual cubic foot per minute	ppmvd	Parts per million by volume, dry
dscfm.....	Dry Standard cubic foot per minute	ppmw	Parts per million by weight
g/dscm.....	Grams per dry Standard cubic meter	psig	Pounds per square inch, gauge
gr/dscf	Grain per dry standard cubic foot	rpm.....	Revolution per minute
hp	Horsepower	scfm	Standard cubic foot per minute
MMBtu.....	Million British thermal unit	tph.....	Ton per hour
MMcf	Million cubic feet	tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

C ₃ H ₈	Propane	PM	Particulate Matter with an aerodynamic diameter 100 µm or less
CH ₄	Methane	PM ₁₀	PM with an aerodynamic diameter 10 µm or less
CO	Carbon monoxide	PM _{2.5}	PM with an aerodynamic diameter 2.5 µm or less
CO ₂	Carbon dioxide	SO ₂	Sulfur dioxide
CO ₂ e.....	Carbon dioxide equivalent	SO _x	Sulfur oxides
H ₂ S	Hydrogen sulfide	TAP.....	Toxic air pollutant pursuant to Chapter 173-460 WAC
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	TSP	Total Suspended Particulate
NO ₂	Nitrogen dioxide	VOC.....	Volatile organic compound
NO _x	Nitrogen oxides		
O ₂	Oxygen		
O ₃	Ozone		

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name: Knife River Corporation - Northwest
Applicant Address: 32260 Old Hwy 34, Tangent, OR 97389

Facility Name: Knife River Corporation – Kalama Quarry
Facility Address: 460 Kalama River Road, Kalama, WA, 98625

SWCAA Identification: 2828

Contact Person: Jeff Steyaert

Primary Process: Rock Crushing and Screening Operations
SIC/NAICS Code: 1429 / Crushed and Broken Stone
212319 / Other Crushed and Broken Stone Mining and Quarrying

Facility Latitude and Longitude: 46° 2'55.01"N
122° 50'30.74"W

Facility Classification: Natural Minor; Nonroad Engine

2. FACILITY DESCRIPTION

Knife River Corporation – Kalama Quarry operates a portable track-mounted rock crushing plant. The plant is primarily used to crush rock mined from the Kalama Quarry. The plant consists of one jaw crusher and one scalper screen each powered by a nonroad diesel engine.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit / Nonroad Engine Permit (ADP/NEP) application number CO-1117 dated May 20, 2025. Knife River Corporation – Kalama Quarry submitted ADP/NEP application CO-1117 requesting the following:

- Operation of a Terex Powerscreen Jaw Crusher and associated nonroad diesel engine
- Operation of a Terex Finlay Scalper Screen and associated nonroad diesel engine

This is the initial permitting action for this facility.

4. PROCESS DESCRIPTION

- 4.a. Aggregate Crushing and Handling. This facility crushes, screens, and stores rock. Material is handled in bulk using trucks, front-end loaders, and excavators. High pressure water sprays are used to control fugitive dust at the infeed of the crushers and screens. General wet suppression is used as necessary to control fugitive dust from conveyor transfer points,

storage piles and haul roads. Screens may be used to screen soil. Screened soil may be stacked with a separate stacker conveyor.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a. Jaw Crusher (New): The Terex-Powerscreen Premiertrak 400X jaw crusher is a track mounted unit. The single unit has a self-contained Scania engine to provide direct power to the unit.

Make:	Terex-Powerscreen
Model:	400X
Type:	Jaw
Serial Number:	PIDPT40XCOMIB8560
Date Built:	2018
Capacity:	400 tph
NSPS Applicable:	Subpart OOO applicable

- 5.b. Scalper Screen (New): The Terex Scalper Screen is a separate, standalone screen from Terex-Powerscreen. The screen has a self-contained Caterpillar engine to provide direct power to the unit.

Make:	Terex
Model:	Finlay 893
Serial Number:	TRX893STHDGG72687
Date Built:	04-2016
Capacity:	800 tph
NSPS Applicable:	Subpart OOO applicable if operated in conjunction with an affected crusher

- 5.c. Nonroad Scania DC09 084A Diesel Engine (New): The Terex-Powerscreen Premiertrak 400X jaw crusher is powered by a nonroad diesel fired Scania DC09 084A engine.

Engine Make:	Scania
Engine Model:	DC09 084A
Engine Serial Number:	Unknown
Part Number:	2369755
Engine Output Rating:	275 hp at 2100 rpm
Manufacture Date:	09-2018
Installation Date:	Unknown
Certification:	EPA Tier 4 Final
Fuel Consumption:	14.05 gal/hr at full standby load
Exhaust Flow Rate:	38.7 dscfm @ 3% O ₂
Stack Latitude:	46° 2'55.45"N
Stack Longitude:	122° 50'30.67"W
Stack Height:	11' from ground
Stack Diameter:	5"

Stack Temperature: 850°F (always convert to °F)
 Regulations of Note: 40 CFR 1039

- 5.d. Nonroad Caterpillar C4.4 Diesel Engine (New): The Terex Scalper Screen is powered by a nonroad diesel fired Caterpillar C4.4 engine.

Engine Make: Caterpillar
 Engine Model: C4.4
 Engine Serial Number: JKT02186
 Engine Output Rating: 200 hp at 2200 rpm
 Manufacture Date: 04-2016
 Installation Date: Unknown
 Certification: EPA Tier 4
 Fuel Consumption: 8.45 gal/hr at full standby load
 Exhaust Flow Rate: 621 dscfm @ 3% O₂
 Stack Latitude: 46° 2'55.49"N
 Stack Longitude: 122° 50'30.61"W
 Stack Height: 7' from ground
 Stack Diameter: 4"
 Stack Temperature: 1,166°F (always convert to °F)
 Regulations of Note: 40 CFR 1039

- 5.e. Haul Roads (New). Haul road length will depend on the location of the equipment. A total round-trip haul distance of 0.5 mile of unpaved road per trip was assumed for emission calculation purposes and is believed to be conservative for most locations.

- 5.f. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Terex Jaw Crusher, Powerscreen 400X, s/n: PIDPT40XCOMIB8560	High Pressure Wet Suppression
2	Terex Scalper Screen, Finlay 893, s/n: TRX893STHDGG72687	High Pressure Wet Suppression
3	Nonroad Scania Engine, DC9 84A, Part Number: 2369755	Ultra-low Sulfur Diesel
4	Nonroad Caterpillar Engine, C4.4, s/n: JKT02186	Ultra-low Sulfur Diesel
5	Haul Roads	Wet Suppression

6. EMISSIONS DETERMINATION

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

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

Nothing precludes the use, including the exclusive use of any credible evidence or information relevant to identifying or quantifying emissions if methods identified above, in the ADP/NEP, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

- 6.a. Crushing and Screening Operations. Potential emissions from crushing, screening, and material transfer are calculated from aggregate throughput and emission factors from EPA AP-42, Table 11.19.2-2 (8/04). Emission factors for all stages except primary crushing are "controlled" factors from the 8/04 version of the table. Emission factors for primary crushing are taken from the 1/95 version of the table which only provided an 'uncontrolled' PM factor for primary crushing. An 'uncontrolled' factor for PM₁₀ was calculated using the 2.1:1 ratio of PM to PM₁₀ specified in the table footnotes. An 'uncontrolled' factor for PM_{2.5} was calculated using a PM to PM_{2.5} ratio of 12:1 which is based on the tested PM to PM_{2.5} ratio for tertiary crushing in the 8/04 version of the table. A control efficiency of 80% was applied to the primary crushing factors to account for the use of wet suppression.

Activity	Throughput (tpy)	Pollutant	Emission Factor - Controlled (lb/ton)	Transfer Points	Emissions (lb/yr)
Primary crushing (3" - 12")	200,000	PM	0.00014	9	28
		PM ₁₀	0.000067		13
		PM _{2.5}	0.000012		2
Secondary crushing (1" - 4")	200,000	PM	0.0012		240
		PM ₁₀	0.00054		108
		PM _{2.5}	0.0001		20
Tertiary crushing (3/16" - 1")	200,000	PM	0.0012		240
		PM ₁₀	0.00054		108
		PM _{2.5}	0.0001		20
Screening	200,000	PM	0.0022		440
		PM ₁₀	0.00074		148
		PM _{2.5}	0.00005		10
Loading/conveying	200,000	PM	0.00014		252
		PM ₁₀	0.000046		83
		PM _{2.5}	0.000013		23
Blasting	200,000	PM	0.0015		304
		PM ₁₀	0.00079		158
		PM _{2.5}	0.000046		9

- 6.b. Haul Roads. Emissions from haul roads were calculated using default emission calculations from EPA AP-42, Section 13.2.2 (12/03), an average load weight of 20 tons, an average silt content of 4.8%, and an average round trip distance of 0.5 miles. This does not include in-pit activities by nonroad equipment. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions.

$$E = k \left(\frac{s}{12} \right)^a \left(\frac{w}{3} \right)^b$$

Where: w = average truck weight in tons;

s = road surface silt content (%); and

The constants k, a, and b are given in the table below:

Constant	PM _{2.5}	PM ₁₀	PM ₃₀ (assumed to represent PM)
k (lb/vehicle mile traveled)	0.23	1.5	4.9
a	0.9	0.9	0.7
b	0.45	0.45	0.45

Maximum haul road emissions are estimated in the table below.

Haul Road Emissions				
Average Truck Weight =	27 tons (assumes empty weight of 17 tons)			
Average Round Trip Distance =	0.50 miles			
Amount of Aggregate per Load =	20.0 tons			
Total # of Trips =	10,000 loads			
Total Miles Traveled =	5,000 miles			
Assumed Silt Content =	4.8%			
Assumed Control (wet suppression) =	80%			
Pollutant	Uncontrolled	Controlled	Emissions	
	EF lb/mile	EF lb/mile	tpy	EF Source
PM	6.94	1.39	3.47	AP-42 13.2.2 (11/06)
PM ₁₀	1.77	0.35	0.88	AP-42 13.2.2 (11/06)
PM _{2.5}	0.27	0.054	0.14	AP-42 13.2.2 (11/06)

- 6.c. Nonroad Scania DC09 084A Diesel Engine. Potential annual emissions from the combustion of diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 3,500 hours per year.

Scania DC09 084A Engine						
Hours of Operation =		3,500 hours				
Power Output =		275 horsepower				
Diesel Density =		7.206 pounds per gallon				
Fuel Sulfur Content =		0.0015 % by weight				
Fuel Consumption Rate =		14.05 gallons per hour				
Fuel Heat Content =		0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =		49,175 gallons				
Pollutant	Emission Factor g/kW-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source		
NO _x	0.39	0.18	0.31	California Air Resources Board		
CO	0.20	0.090	0.158	California Air Resources Board		
VOC	0.02	0.0090	0.0158	California Air Resources Board		
SO _x as SO ₂	1.1E-05	4.99E-06	8.74E-06	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.02	0.0090	0.0158	California Air Resources Board		
Greenhouse Gases		kg/MMBtu	GWP	CO ₂ e lb/MMBtu	CO ₂ e lb/gallon	Emission Factor tpy, CO ₂ e Source
CO ₂		73.96	1	163.05	23	553 40 CFR 98
CH ₄		0.003	25	0.165	0.023	0.56 40 CFR 98
N ₂ O		0.0006	298	0.394	0.054	1.34 40 CFR 98
Total GHG - CO ₂ e				163.613	23	555

- 6.d. Nonroad Caterpillar C4.4 Diesel Engine. Potential annual emissions from the combustion of diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 3,500 hours per year.

Nonroad Caterpillar C4.4 Engine						
Hours of Operation =	3,500 hours					
Power Output =	200 hp					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	6.98 gallons per hour					
Fuel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Annual Fuel Consumption =	24,430 gallons					
	Emission	Emission				
	Factor	Factor	Emissions	Emission Factor		
Pollutant	g/kW-hr	lb/hr	tpy	Source		
NO _x	0.28	0.092	0.161	California Air Resources Board		
CO	0.03	0.0099	0.0173	California Air Resources Board		
VOC	0.010	0.0033	0.0058	California Air Resources Board		
SO _x as SO ₂	7.54E-06	2.48E-06	4.34E-06	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.020	0.0066	0.0115	California Air Resources Board		
			CO ₂ e	CO ₂ e	Emission Factor	
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	275	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.28	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.66	40 CFR 98
Total GHG - CO ₂ e			163.613	23	276	

- 6.e. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO _x	0.47	+0.47
CO	0.18	+0.18
VOC	0.022	+0.022
SO ₂	1.31E-05	+1.31E-05
PM	4.25	+4.25
PM ₁₀	1.22	+1.22
PM _{2.5}	0.21	+0.21
CO ₂ /CO ₂ e	831	+831

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this Permit consistent with implementation of Best Available Control Technology (BACT):

- 7.a. 40 CFR 60 Subpart OOO [§60.670 et seq] "Standards of Performance for Nonmetallic Mineral Processing Plants" establishes opacity and particulate matter emission limits for stationary (fixed) plants with capacities greater than 25 tph and portable plants greater than 150 tph that were constructed, reconstructed or modified after August 31, 1983. The Terex-Powerscreen Jaw Crusher was manufactured after August 31, 1983, and has a throughput of greater than 150 tph; therefore, Subpart OOO applies to the crusher.
- 7.b. 40 CFR 60 Subpart IIII [§60.4200 et seq] "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to each compression ignition (CI) internal combustion engine (ICE) that commences construction after July 11, 2005, and is manufactured after April 1, 2006, or that is modified or reconstructed after July 11, 2005. The diesel engines powering the rock crushing equipment are not subject to this regulation because they are nonroad engines.
- 7.c. 40 CFR 1039 "Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines" establishes federal standards for nonroad engines and generally pre-empts the establishment of retrofit requirements for new nonroad engines. The Caterpillar engine is a nonroad engine. The Scania and Caterpillar engines are nonroad engines; therefore, the Subpart applies to both engines. SWCAA has established hour restrictions and fuel sulfur requirements that do not conflict with 40 CFR 89 and the annual emissions limits are equivalent to the hour restriction.
- 7.d. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess. This law applies to the facility.
- 7.e. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an ADP for installation and establishment of an air contaminant source. This law applies to the facility.
- 7.f. WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air

pollutants, and demonstration of protection of human health and safety. The only sources of TAPs at this facility are the nonroad engines, however nonroad engines are not subject to WAC 173-460.

- 7.g. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, SO₂, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM₁₀, PM_{2.5}, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.
- 7.h. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO₂, concealment and masking, and fugitive dust. This regulation applies to the facility.
- 7.i. SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.
- 7.j. SWCAA 400-040(2) "Fallout" requires that emissions of PM from any source must not be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.
- 7.k. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.
- 7.l. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This source must be managed properly to maintain compliance with this regulation. This regulation applies to the facility.
- 7.m. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person is allowed to emit a gas containing in excess of 1,000 ppm of SO₂, corrected to 7% O₂ or 12% CO₂ as required by the applicable emission standard for combustion sources. The facility emits SO₂; therefore, this regulation applies to the facility.
- 7.n. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize emissions. This regulation applies to the facility.

- 7.o. SWCAA 400-045 "Permit Applications for Nonroad Engines" requires, with a few exceptions, submittal of a permit application for installation of nonroad engines as defined in 40 CFR 89. This regulation is applicable to the nonroad engines proposed for use by the permittee.
- 7.p. SWCAA 400-046 "Application Review Process for Nonroad Engines" requires that a nonroad engine permit be issued by the agency prior to the installation, replacement or alteration of any nonroad engine subject to the requirements of SWCAA 400-045. Each application must demonstrate that the installation will not cause an exceedance of any national or state ambient air quality standard.
- 7.q. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met, and that no person is allowed to cause or permit the emission of PM from any combustion or incineration unit in excess of 0.23 g/Nm³_{dry} (0.1 gr/dscf) of exhaust gas at standard conditions. The facility has combustion units; therefore, this regulation applies to the facility.
- 7.r. SWCAA 400-060 "Emission Standards for General Process Units" requires that all new and existing general process units do not emit PM in excess of 0.23 g/Nm³_{dry} (0.1 gr/dscf) of exhaust gas. The facility has general process units; therefore, this regulation applies to the facility.
- 7.s. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an ADP application to request such changes. An ADP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits. This regulation applies to the facility.
- 7.t. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.
- 7.u. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:
- (1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
 - (2) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
 - (3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and

- (4) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in an area that is in attainment for all pollutants therefore, this regulation applies to the facility.

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

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

New BACT Determination(s)

- 8.a. Nonroad Engine Tier Certification. The nonroad engines proposed in this permitting action comply with applicable EPA certification requirements, but are not subject to BACT.
- 8.b. BACT Determination – Aggregate Crushing and Screening. The proposed use of high-pressure wet suppression systems, including spray or fog nozzles operating at a minimum pressure of 80 psig, has been determined to meet the requirements of BACT for the proposed crushing and screening equipment. Because there are other wet suppression systems (e.g., sonic fogging systems) that utilize a lower water pressure but provide equivalent or superior levels of emission control, the permit will allow for wet suppression systems reviewed and approved by SWCAA that provide equivalent or superior control of particulate matter emissions.
- 8.c. BACT Determination – Fugitive Dust Emissions. The use of low-pressure wet suppression systems has been determined to meet the requirements of BACT for fugitive dust emissions from storage piles, material transfer points, and haul roads at this facility.

Other Determinations

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

9. AMBIENT IMPACT ANALYSIS

- 9.a. Criteria Air Pollutant Review. Emissions of NO_x, CO, PM, VOC (as a precursor to O₃), and SO₂ are emitted at levels where no adverse ambient air quality impact is anticipated.

- 9.b. Toxic Air Pollutant Review. This facility does not emit quantifiable amounts of TAPs. Toxic air pollutant impacts are presumed to be below regulatory significance.

Conclusions

- 9.c. Operation of rock crushing equipment and nonroad engines, as proposed in ADP/NEP application CO-1117, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.d. Operation of rock crushing equipment and nonroad engines, as proposed in ADP/NEP application CO-1117, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.
- 9.e. Operation of rock crushing equipment and nonroad engines, as proposed in ADP/NEP application CO-1117, will not violate emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP/NEP 25-3717 in response to ADP/NEP application CO-1117. ADP/NEP 25-3717 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. Supersession of Previous Permits. This is the initial permitting action for the facility.
- 10.b. Emission Limits. Annual emission limitations for the equipment addressed in this permitting action were established equal to the potential to emit identified in Section 6. The potential to emit was based on a process throughput of 200,000 tons per year. Based on the information provided in the application, emission limits based on this throughput will not constrain operations. As discussed in Section 8, these emission limits meet the requirements of BACT. The nonroad engines that drive crushing operations are not subject to BACT or other emission limitations due to their status as nonroad engines.

Visible emissions from the nonroad engine were limited to 5% opacity. Visible emissions should not exceed this level if the engine is operating properly. For the nonroad engines, SWCAA uses this as a surrogate indicator that the engine is in good repair (rather than a tailpipe emission standard otherwise precluded by 40 CFR 1074). For the nonroad engines, this restriction is appropriate because if the engine is not maintained in good repair, emissions are likely to greatly exceed the expected emission level and could cause an exceedance of a state or federal ambient air quality standard.

- 10.c. Operational Limits and Requirements. Most of the requirements in this section are related to the use of wet suppression systems for the control of fugitive dust.

The permit allows the use of "#2 diesel or better" by the engines. In this case, "or better" includes road-grade diesel fuel with a lower sulfur content, biodiesel, and mixtures of biodiesel and road-grade diesel that meet the definition of "diesel" and contain no more than 0.0015% sulfur by weight.

Operation of the nonroad engines will not result in a violation of the ambient air quality standards when operated in accordance with the permit, therefore no additional operating limits (e.g., location or hours restrictions) were established for the nonroad engines.

- 10.d. Monitoring and Recordkeeping Requirements. Sufficient monitoring and recordkeeping were established to document compliance with the annual emission limits and provide for general requirements (e.g., excess emission reporting, annual emission inventory submission).
- 10.e. Emission Monitoring and Testing Requirements. See Section 12.
- 10.f. Reporting Requirements. The permit requires reporting of the annual air emissions inventory and reporting of the data necessary to develop the inventory. Excess emissions must be reported immediately in order to qualify for relief from monetary penalty in accordance with SWCAA 400-107. In addition, prompt reporting was required because it allows for accurate investigation into the cause of the event and prevention of similar future incidents.

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

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

To SWCAA's knowledge, this facility can comply with all applicable standards during start-up and shutdown.

Diesel Engines. Visible emissions from the diesel engine driven generator are limited to 5% opacity or less during normal operation. However, the engine is not capable of reliably limiting visible emissions to less than 5% opacity until the engine achieves normal operating temperature. Therefore, the 5% opacity limit does not apply to the engine exhaust during start-up periods.

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

12. EMISSION MONITORING AND TESTING

- 12.a. Emission Testing Requirements – Rock Crushing Equipment. Affected rock crushers, associated screening equipment, and belt conveyors are required to perform one-time opacity observations as required by 40 CFR 60 Subpart OOO. All of the crushing and screening equipment addressed by this permitting action is subject to the initial testing requirements of 40 CFR 60 Subpart OOO.

13. FACILITY HISTORY

- 13.a. General History. The facility has not been permitted in the past.
- 13.b. Previous Permitting Actions. There are no previously issued ADPs for this facility.
- 13.c. Compliance History. A search of source records on file at SWCAA did not identify any previous or outstanding compliance issues over the past five (5) years.

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a. Public Notice for ADP Application CO-1117. Public notice for ADP application CO-1117 was published on the SWCAA website for a minimum of fifteen (15) days beginning on June 10, 2025.
- 14.b. Public/Applicant Comment for ADP Application CO-1117. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application CO-1117. Therefore, no public comment period was provided for this permitting action.
- 14.c. State Environmental Policy Act. After review of the SEPA Checklist for this project, SWCAA has determined that the project does not have a probable significant impact on the environment and has issued Determination of Non-Significance 25-031. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c).