



**TECHNICAL SUPPORT DOCUMENT**

**Air Discharge Permit / Nonroad Engine Permit 25-3684  
Air Discharge Permit / Nonroad Engine Permit Application CO-1108**

**Issued: February 10, 2025**

**Harold Sorensen Trucking**

**SWCAA ID - 1189**

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## ABBREVIATIONS

### *List of Acronyms*

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

### *List of Units and Measures*

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

*List of Chemical Symbols, Formulas, and Pollutants*

C <sub>3</sub> H <sub>8</sub> .....	Propane	O <sub>3</sub> .....	Ozone
CH <sub>4</sub> .....	Methane	PM .....	Particulate Matter with an aerodynamic diameter 100 µm or less
CO .....	Carbon monoxide	PM <sub>10</sub> .....	PM with an aerodynamic diameter 10 µm or less
CO <sub>2</sub> .....	Carbon dioxide	PM <sub>2.5</sub> .....	PM with an aerodynamic diameter 2.5 µm or less
CO <sub>2</sub> e.....	Carbon dioxide equivalent	SO <sub>2</sub> .....	Sulfur dioxide
H <sub>2</sub> S .....	Hydrogen sulfide	SO <sub>x</sub> .....	Sulfur oxides
HAP .....	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	TAP.....	Toxic air pollutant pursuant to Chapter 173-460 WAC
HCl.....	Hydrochloric acid	TGOC .....	Total Gaseous Organic Carbon
Hg.....	Mercury	TOC .....	Total Organic Carbon
N <sub>2</sub> O .....	Nitrous oxide	TSP .....	Total Suspended Particulate
NH <sub>3</sub> .....	Ammonia	VOC.....	Volatile organic compound
NO <sub>2</sub> .....	Nitrogen dioxide		
NO <sub>x</sub> .....	Nitrogen oxides		
O <sub>2</sub> .....	Oxygen		

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: Harold Sorensen Trucking, Inc  
Applicant Address: 112 Plomondon Road, Toledo, WA 98591

Facility Name: Harold Sorensen Trucking  
Facility Address: 460 Kalama River Road, Kalama, WA 98625

SWCAA Identification: 1189

Contact Person: Donny Sorensen, Vice President

Primary Process: Aggregate Crushing (including asphalt and concrete)  
SIC/NAICS Code: 1429: Quarrying of non-metallic minerals  
212319: Other crushed and broken stone mining and quarrying

Facility Latitude and Longitude: 46° 2' 47.67" N  
122° 50' 24.92" W

Facility Classification: Natural Minor

## 2. FACILITY DESCRIPTION

Harold Sorensen Trucking, Inc. (Harold Sorensen Trucking) operates a portable rock crushing plant.

## 3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit / Nonroad Engine Permit application number CO-1108 (ADP/NEP application CO-1108) received January 22, 2025. Harold Sorensen Trucking submitted ADP/NEP application CO-1108 requesting approval of the following:

- Installation of a portable rock crushing plant that consists of a diesel engine driven generator, a jaw crusher, three cone crushers, and two screening plants.
- The existing Isuzu diesel engine driven generator will remain.
- The following equipment has been removed from the facility.
  - Powerscreen cone crusher / 1000SR
  - Scania nonroad engine / DC13 085A
  - Powerscreen cone crusher / 1300 Maxtrak
  - Scania nonroad engine / DC13 084A
  - Powerscreen jaw crusher / Premiertrak 600
  - Scania nonroad engine / DC13 084A
  - Powerscreen aggregate screen / Chieftain 2100X
  - Caterpillar nonroad engine / C4.4

ADP/NEP 25-3684 will supersede ADP/NEP 23-3592 in its entirety.

#### 4. PROCESS DESCRIPTION

- 4.a. Rock Crushing. The proposed rock crushing equipment will be used to crush raw and reclaimed aggregate. Aggregate will be fed into the crushing equipment using front-end loaders and excavators. Crushed aggregate will be transferred via conveyor belt and loader to storage piles. High pressure water sprayers will be used to control fugitive dust emissions at the entrance of each crusher and screen. Other emission points will be watered as necessary to control fugitive dust emissions. Wet suppression systems will be used to control fugitive emissions from associated haul roads and storage piles.

#### 5. EQUIPMENT/ACTIVITY IDENTIFICATION

##### *New Equipment*

- 5.a. Terex Jaw Crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and, as necessary, at the finished product delivery belt.

Make / Model:	Terex / CRJ3255HD (s/n TRX3255JJOKNB1575)
Year Built:	2022
Capacity:	255-760 tons per hour
NSPS:	40 CFR 60 Subpart OOO

- 5.b. Terex Cone Crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and, as necessary, at the finished product delivery belt.

Make / Model:	Terex / CRC380X (s/n TRX380XPAOKMII506)
Year Built:	2021
Capacity:	170-560 tons per hour
NSPS:	40 CFR 60 Subpart OOO

- 5.c. Patriot Cone Crusher. Wet suppression is used to control dust emissions at the inlet of the crusher and, as necessary, at the finished product delivery belt.

Make / Model:	Patriot / P400 (s/n 2240085)
Year Built:	2023
Capacity:	140-640 tons per hour
NSPS:	40 CFR 60 Subpart OOO

- 5.d. Terex Screen Plant. Wet suppression is used to control dust emissions at the inlet of the crusher and, as necessary, at the finished product delivery belt.

Make / Model:	Terex / CRS820H (s/n TRX820HSCOKPA1688)
Year Built:	2023
Capacity:	350 tons per hour
NSPS:	40 CFR 60 Subpart OOO

- 5.e. Terex Screen Plant. Wet suppression is used to control dust emissions at the inlet of the crusher and, as necessary, at the finished product delivery belt.

Make / Model:	Terex / CRS620H (s/n TRX620HSLOKPM1843)
Year Built:	2023
Capacity:	250 tons per hour
NSPS:	40 CFR 60 Subpart OOO

- 5.f. Diesel Engine Generator – Detroit Diesel. This unit is a nonroad diesel engine driven generator. The generator powers the entire crushing plant. This engine will need to be moved frequently between locations (more than once every 12 months).

Generator Make/Model:	Kohler / 1500ROZD-4N (s/n GS4647)
Generator Rating:	1500 kW
Engine Make / Model:	Detroit Diesel / T1237K36 (s/n 5262000354) (12V4000)
Engine Power Rating:	2200 bhp
Fuel:	Diesel
Fuel Usage:	100 gallons per hour max / 30 gallons per hour typical
Year Built:	1999 (engine) / 2000 (generator)
Engine Certification:	EPA Tier 1
Stack Description:	2 at 12" diameter at ~16' above ground
NSPS/MACT:	No

#### *Existing Equipment*

- 5.g. Diesel Engine Generator – Isuzu. This unit is a diesel engine driven generator. The engine powers the stacker conveyor. This engine will need to be moved frequently between locations (more than once every 12 months).

Generator Make/Model:	Whisperwatt / DCA-125SSIU4F (s/n 7512507)
Generator Rating:	100 kW
Engine Make / Model:	Isuzu / BR-4HK1X (s/n 7512507)
Engine Power Rating:	174 bhp
Fuel:	Diesel
Fuel Usage:	7.1 gallons per hour
Year Built:	2019
Engine Certification:	EPA Tier 4
Stack Description:	3" diameter at ~8' above grade
NSPS/MACT:	40 CFR 60 Subpart IIII 40 CFR 63 Subpart ZZZZ

#### *Other Equipment*

- One Telestak Aggstak Ts-36-140 stacking conveyor (s/n 10-0221-0417) manufactured in 2017 with an 800 tons per hour capacity.
- Five 36" aggregate conveyors.
- Two 42" aggregate conveyors. One is a Protech Kolberg series 2, the other is unknown.

- 4000-gallon water truck.

5.h. Equipment/Activity Summary.

<b>ID No.</b>	<b>Equipment/Activity</b>	<b>Control Equipment/Measure</b>
1	Terex / CRJ3255HD jaw crusher	High Pressure Wet Suppression
2	Terex / CRC380X cone crusher	High Pressure Wet Suppression
3	Patriot / P400 cone crusher	High Pressure Wet Suppression
4	Terex / CRS820H screen plant	High Pressure Wet Suppression
5	Terex / CRS620H screen plant	High Pressure Wet Suppression
6	Haul Roads and Conveyors	Wet Suppression
7	Nonroad Engine Diesel Engine Generator – 2200 bhp Detroit Diesel	Ultra-low Sulfur Diesel, EPA Tier 1 Certification
8	Diesel Engine Generator – 174 bhp Isuzu	Ultra-low Sulfur Diesel, EPA Tier 4 Certification

## 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:

- Continuous emissions monitoring system (CEMS) data;
- 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;
- Source emissions test data (other test method); and
- 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, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

- 6.a. Rock Crushing and Screening. PM emissions from rock crushing operations are calculated based on a maximum material throughput of 1,222,000 tpy, a wet suppression control efficiency of 80%, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using the same emission factors unless new emission factors are provided by the manufacturer or developed through source testing.

Except for primary crushing, all emission factors for rock crushing are ‘controlled’ factors from the 8/04 version of EPA AP-42, Table 11.19.2-2. Emission factors for tertiary crushing have been used as an upper limit for secondary crushing, as suggested in the 8/04 version of the table. Emission factors for primary crushing are derived from the 1/95 version of EPA AP-42, Table 11.19.2-2 which only provided an ‘uncontrolled’ PM factor for primary crushing. An ‘uncontrolled’ PM<sub>10</sub> factor was calculated using a PM to PM<sub>10</sub> ratio of 2.1:1 as specified in the 1/95 table footnotes. An ‘uncontrolled’ PM<sub>2.5</sub> factor was calculated using a PM to PM<sub>2.5</sub> ratio of 12:1 as cited for tertiary crushing in the 8/04 table.



Activity	Throughput (tpy)	Pollutant	Emission Factor - Controlled (lb/ton)	Turn Points	Emissions (tpy)
Primary crushing	1,000,000	PM	0.00014		0.070
		PM <sub>10</sub>	0.000067		0.034
		PM <sub>2.5</sub>	0.000012		0.006
Secondary crushing	1,000,000	PM	0.0012		0.600
		PM <sub>10</sub>	0.00054		0.270
		PM <sub>2.5</sub>	0.0001		0.050
Tertiary crushing	1,000,000	PM	0.0012		0.600
		PM <sub>10</sub>	0.00054		0.270
		PM <sub>2.5</sub>	0.0001		0.050
Screening	1,000,000	PM	0.0022		1.100
		PM <sub>10</sub>	0.00074		0.370
		PM <sub>2.5</sub>	0.00005		0.025
Loading/conveying	1,000,000	PM	0.00014	10	0.700
		PM <sub>10</sub>	0.000046		0.230
		PM <sub>2.5</sub>	0.000013		0.065
Blasting	500,000	PM	0.0015		0.375
		PM <sub>10</sub>	0.00079		0.198
		PM <sub>2.5</sub>	0.000046		0.012
Total		PM			3.445
		PM <sub>10</sub>			1.371
		PM <sub>2.5</sub>			0.208

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. Annual emissions will be calculated from actual hours of operation using the same emission factors unless new emission factors are provided by the manufacturer or developed through source testing.

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

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 <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>30</sub> (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.

<b>Haul Road Emissions</b>				
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 Miles Traveled =	25,000 miles			
Assumed Silt Content =	4.8%			
Assumed Control (wet suppression) =	80%			
	Uncontrolled Emission Factor	Controlled Emission Factor	Emissions tpy	Emission Factor Source
Pollutant	lb/mile	lb/mile		
PM	6.94	1.39	17.34	AP-42 13.2.2 (11/06)
PM <sub>10</sub>	1.77	0.35	4.42	AP-42 13.2.2 (11/06)
PM <sub>2.5</sub>	0.27	0.054	0.68	AP-42 13.2.2 (11/06)

6.c. Nonroad Diesel Engine Generator – Detroit Diesel. Potential emissions from engine operation are calculated based on hours per year of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), a maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using the same emission factors unless new emission factors are provided by the manufacturer or developed through source testing.



- 6.d. Diesel Engine Generator – Isuzu. Potential emissions from engine operation are calculated based on hours per year of operation, use of ultra-low sulfur diesel (<0.0015% sulfur by weight), a maximum engine rating, and applicable emission factors. Annual emissions will be calculated from actual hours of operation using the same emission factors unless new emission factors are provided by the manufacturer or developed through source testing.

<b>Disel Engine - (Isuzu - BR-4HK1X)</b>						
Annual Operation =	2,800	hours				
Power Output =	174	horsepower				
Fuel Type =		Ultra-low Sulfur Diesel				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	7.1	gal/hr (estimated assuming 7,000 Btu/hp-hr)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
		Emission				
		Factor	Emissions	Emissions		
Pollutant	lb/bhp*hr	lb/hr	tpy	Emission Factor Source		
NO <sub>x</sub>	0.00066	0.11	0.16	Tier 4		
CO	0.0082	1.43	2.00	Tier 4		
VOC	0.00031	0.054	0.076	Tier 4		
SO <sub>x</sub> as SO <sub>2</sub>		0.0015	0.0021	Mass Balance		
PM	2.20E-05	0.004	0.0054	Tier 4		
PM <sub>10</sub>	2.20E-05	0.004	0.0054	Tier 4		
PM <sub>2.5</sub>	2.20E-05	0.004	0.0054	Tier 4		
			CO <sub>2</sub> e	CO <sub>2</sub> e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO <sub>2</sub> e	Source
CO <sub>2</sub>	73.96	1	163.05	22.501	223.66	40 CFR 98
CH <sub>4</sub>	0.003	25	0.165	0.023	0.23	40 CFR 98
N <sub>2</sub> O	0.0006	298	0.394	0.054	0.54	40 CFR 98
Total GHG - CO <sub>2</sub> e			163.6	22.579	224.43	

- 6.e. Emissions Summary

<b>Air Pollutant</b>	<b>Potential to Emit (tpy)</b>	<b>Nonroad Engine Potential to Emit (tpy)</b>	<b>Project Impact (tpy)</b>
NO <sub>x</sub>	16.90	16.74	15.98
CO	22.12	20.19	17.03
VOC	2.50	2.42	2.17
SO <sub>2</sub>	0.01	0.01	-0.01
PM	21.76	0.97	-4.15
PM <sub>10</sub>	6.77	0.97	-0.61

<b>Air Pollutant</b>	<b>Potential to Emit (tpy)</b>	<b>Nonroad Engine Potential to Emit (tpy)</b>	<b>Project Impact (tpy)</b>
PM <sub>2.5</sub>	1.86	0.97	0.71
CO <sub>2</sub> /CO <sub>2</sub> e	1,353	1,129	-641

## 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. Title 40 Code of Federal Regulations Chapter 60 (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 tons per hour and portable plants greater than 150 tons per hour that were constructed, reconstructed or modified after August 31, 1983. This regulation is applicable to the new equipment. This regulation is applicable to accessory equipment (e.g., screens or conveyors) whenever they are operated in conjunction with an affected crushing unit.
- 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 2200 bhp Detroit Diesel generator engine is not subject to this regulation because it is a nonroad engine. The 174 bhp Isuzu diesel generator engine is subject to this subpart.
- 7.c. 40 CFR 63 Subpart ZZZZ (63.6580 et seq.) "National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines" establishes national emission limitations and operating limitations for HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. The 174 bhp Isuzu diesel generator engine is subject to this subpart.
- 7.d. 40 CFR 1039 "Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines" includes requirements for all nonroad engines. In accordance with Appendix A to Subpart A of Part 1074, states are precluded from requiring retrofitting of nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act. States may enforce regulations such as hours of usage, daily mass emission limits, and sulfur limits on fuel.

The definition of nonroad engines in 40 CFR 1068.30 includes any internal combustion engine in (1)(iii) "That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another..." "An internal combustion engine is not a nonroad engine if:... (iii) the engine otherwise included in Paragraph 1(iii) of this definition

remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source...A location is any single site at a building, structure, facility or installation."

- 7.e. 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.f. 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.g. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety.
- 7.h. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM<sub>10</sub>, PM<sub>2.5</sub>, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.
- 7.i. 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, sulfur dioxide, concealment and masking, and fugitive dust.
- 7.j. SWCAA 400-040(1) "Visible Emissions" requires that no emission of an air contaminant from any emissions unit shall 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.
- 7.k. SWCAA 400-040(2) "Fallout" requires that no emission of particulate matter from any source shall 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.
- 7.l. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere.
- 7.m. SWCAA 400-040(4) "Odors" requires that any person who shall cause or allow the generation of any odor from any source, which may unreasonably interfere with any other property owner's use and enjoyment of the property, use recognized good practices and procedures to reduce these odors to a reasonable minimum.

- 7.n. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person shall emit a gas containing in excess of 1,000 ppm of sulfur dioxide on a dry basis, corrected to 7% O<sub>2</sub> or 12% CO<sub>2</sub> as required by the applicable emission standard for combustion sources.
- 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 1068.30. 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 shall cause or permit the emission of particulate matter from any combustion or incineration unit in excess of 0.23 grams per dry cubic meter (0.1 grains per dry standard cubic foot) of exhaust gas at standard conditions.
- 7.r. SWCAA 400-060 "Emission Standards for General Process Units" prohibits particulate matter emissions from all new and existing process units in excess of 0.1 grains per dry standard cubic foot of exhaust gas.
- 7.s. SWCAA 400-109 "Air Discharge Permit Applications" requires that an Air Discharge Permit 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 Air Discharge Permit application to request such changes. An Air Discharge Permit 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.
- 7.t. SWCAA 400-110 "New Source Review" requires that SWCAA issue an Air Discharge Permit in response to an Air Discharge Permit application prior to establishment of the new source, emission unit, or modification.
- 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 shall 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) Best Available Control Technology 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.

## 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:

### *BACT Determination(s)*

- 8.a. BACT Determination – Rock Crushing/Screening. The use of high-pressure wet suppression systems, including spray or fog nozzles operating at a minimum pressure of 80 psig and a visual emission limit of 0% opacity, 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.b. 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. For sources other than roadways, these controls must maintain visual emissions at 0% opacity as measured by SWCAA Method 9. For haul roads, these controls must maintain visual emissions at or below 10% opacity as measured by SWCAA Method 9.
- 8.c. BACT Determination – Diesel Engines. The use of modern engine design (EPA Tier certified), limited hours of operation ( $\leq 2,800$  hrs/yr for the 174 bhp Isuzu), and ultra-low sulfur diesel fuel ( $\leq 15$  ppmw) has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted from the existing 174 bhp Isuzu stationary diesel engine driven generator.

40 CFR 60 Subpart IIII requires the use of diesel containing 15 ppmw sulfur or less. In addition, because diesel containing no more than 15 ppmw sulfur is now widely available, the use of diesel meeting this specification is required as implementation of BACT.

### *Other Determinations*

- 8.d. Prevention of Significant Deterioration (PSD) Applicability Determination. 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 (Title V) permit.

## 9. AMBIENT IMPACT ANALYSIS

- 9.a. Criteria Air Pollutant Review. Emissions of NO<sub>x</sub>, CO, PM, VOC (as a precursor to O<sub>3</sub>), and SO<sub>2</sub> 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 new rock crushing equipment as proposed in ADP/NEP application CO-1108, 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 new rock crushing equipment, as proposed in ADP/NEP application CO-1108, 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 new rock crushing equipment as proposed in ADP/NEP application CO-1108, 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 25-3684 in response to ADP/NEP application CO-1108. ADP/NEP 25-3684 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. Supersession of Previous Permits. ADP/NEP 25-3684 supersedes ADP/NEP 23-3592 in its entirety. Compliance will be determined under this ADP/NEP, not previously superseded ADP/NEPs. Existing approval conditions for units not affected by this project have been carried forward unchanged.
- 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. Based on the information provided in the application, emission limits based on the throughput provided will not constrain operations. As discussed in Section 8, these emission limits meet the requirements of BACT.

Visible emissions from the engines were limited to 5% opacity. Visible emissions should not exceed this level if the engine is operating properly.

- 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 Detroit Diesel Generator Engine at the initial location (460 Kalama River Road) was prohibited after February 1, 2026, to clearly establish that it meets the definition of a nonroad engine (at any single location for less than 12 months). If this engine were "stationary" operation would be significantly curtailed to meet ambient air quality standards for diesel engine particulate matter and BACT. Operation of the engine will be unnecessary once sufficient electrical service is available. Electrical service is available nearby, and SWCAA understands that service will be available in this timeframe and will provide a reasonable return on investment.

- 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.

Diesel Engines. Visible emissions from diesel engines associated with rock crushing operations may exhibit excess opacity upon startup even when in proper working order. Accordingly, the visual emissions limits listed in the permit for these units are not applicable during the startup period defined in the permit. The general opacity standard from SWCAA 400-040 of 20% continues to apply during startup and shutdown.

- 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 and associated screening equipment and belt conveyors are required to perform one-time opacity observations as required by 40 CFR 60 Subpart OOO.

## 13. FACILITY HISTORY

- 13.a. Previous Permitting Actions. The following past permitting actions have been taken by SWCAA for this facility:

<u>Date</u>	<u>Application Number</u>	<u>ADP Number</u>	<u>Purpose</u>
7/20/2023	CO-1073	23-3592	Approval to install rock crushing equipment and an integrated engine. Superseded by ADP 25-3684.
4/3/2023	CO-1067	23-3573	Approval to install rock crushing equipment and an integrated engine. Superseded by ADP 23-3592.
12/15/2021	CO-1045	21-3499	Approval to install rock crushing equipment and a generator engine, to increase throughput, and to remove equipment no longer in service. Superseded by ADP 23-3573.
4/30/2019	CO-1010	19-3336	Approval to install rock crushing equipment. Superseded ADP 00-2289, SUN 044, SUN 045, SUN 114 and SUN 115 in their entirety. Superseded by ADP 21-3499.
4/14/2016	--	SUN 115	Small unit notification for a Terex Cedarapids model 54CT-D3748 cone crusher (54" diameter; s/n 2143-02). Unit removed from service in 2019.
4/14/2016	--	SUN 114	Small unit notification for a KPI-JCI model 6203LPPM 3-deck screen (6' x 20'; s/n P141800). Unit removed from service in 2019.
6/19/2013	--	SUN 045	Small unit notification for a Minyu / CEC 510 Cone Crusher. Unit removed from service in 2015.
6/19/2013	--	SUN 044	Small unit notification for a Terex Cedarapids cone crusher. This unit replaced the CEC / Minyu 400 cone crusher approved under ADP 00-2289. Unit removed from service in 2015.

<u>Date</u>	<u>Application Number</u>	<u>ADP Number</u>	<u>Purpose</u>
7/28/2000	CO-652	ADP 00-2289	Approval to install and operate a portable rock crushing plant at Barnes Drive Quarry, Castle Rock. All approved equipment removed from service by 2019.

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

#### **14. PUBLIC INVOLVEMENT OPPORTUNITY**

- 14.a. Public Notice for ADP/NEP Application CO-1108. Public notice for ADP/NEP application CO-1108 was published on the SWCAA website for a minimum of fifteen (15) days beginning on January 22, 2025.
- 14.b. Public/Applicant Comment for ADP/NEP Application CO-1108. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP/NEP application CO-1108. Therefore, no public comment period was provided for this permitting action.
- 14.c. State Environmental Policy Act. SWCAA has determined that this project is exempt from SEPA requirements pursuant to WAC 197-11-800(3) and has issued Determination of SEPA Exemption 25-005. This project only involves repair, remodeling, maintenance, or minor alteration of existing structures, equipment, or facilities, and will not involve material expansions or changes in use. There is no physical change proposed in the project that would have an adverse impact on the environment beyond that which has already been evaluated under previous SEPA reviews.