TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit 25-3707
Air Discharge Permit Application CL-3293

Issued: May 5, 2025

Clark Regional Wastewater District

SWCAA ID – 1808

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Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

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

List of Units and Measures

µg/m³..... Micrograms per cubic meter
µm..... Micrometer (10^{-6} meter)
acfm ..... Actual cubic foot per minute
bhp ..... Brake horsepower
dscfm..... Dry Standard cubic foot per minute
g/dscm..... Grams per dry Standard cubic meter
gr/dscf ..... Grain per dry standard cubic foot
hp ..... Horsepower
kW .....Kilowatt
MMBtu .....Million British thermal unit
MMcf.....Million cubic feet
ppm.....Parts per million
ppmv.....Parts per million by volume
ppmvd.....Parts per million by volume, dry
ppmw.....Parts per million by weight
scfm .....Standard cubic foot per minute
tpy.....Tons per year

List of Chemical Symbols, Formulas, and Pollutants

C_3H_8 ..... Propane
CH_4..... Methane
CO..... Carbon monoxide
CO_2..... Carbon dioxide
CO_2e..... Carbon dioxide equivalent
H_2S ..... Hydrogen sulfide
HAP ..... Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
Hg..... Mercury
N_2O ..... Nitrous oxide
NO_2 ..... Nitrogen dioxide
NO_x ..... Nitrogen oxides
O_2 ..... Oxygen
O_3 .....Ozone
PM .....Particulate Matter with an aerodynamic diameter 100 µm or less
PM_{10}.....PM with an aerodynamic diameter 10 µm or less
$PM_{2.5}$ .....PM with an aerodynamic diameter 2.5 µm or less
SO_2.....Sulfur dioxide
SO_x.....Sulfur oxides
TAP.....Toxic air pollutant pursuant to Chapter 173-460 WAC
TSP .....Total Suspended Particulate
VOC.....Volatile organic compound

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:	Clark Regional Wastewater District
Applicant Address:	8000 NE 52nd Court, Vancouver, WA 98668
Facility Name:	Clark Regional Wastewater District
Facility Address:	Various – see Section 5 for specific equipment locations
SWCAA Identification:	1808
Contact Person:	Dustin Harris
Primary Process:	Wastewater Collections
SIC/NAICS Code:	4952: Sewerage Systems 221111: Hydroelectric Power Generation
Facility Classification:	Natural Minor

2. FACILITY DESCRIPTION

The Clark Regional Wastewater District provides sanitary sewer service to areas of Clark County. The equipment affected by this Air Discharge Permit (ADP) includes 45 emergency generator sets that support the operation of sewer pump stations, seven portable generator sets that can be moved to pump stations as necessary, two emergency generator sets for the district office, and six odor control stations.

3. CURRENT PERMITTING ACTION

This permitting action is in response to ADP application number CL-3293 dated March 4, 2025. Clark Regional Wastewater District submitted ADP application CL-3293 requesting the following:

- Operate a portable emergency generator at various pump stations throughout the district
- Install and operate an emergency generator at the Whipple Creek East Pump Station
- Install and operate an emergency generator at the McCormick Creek Pump Station
- Install and operate an emergency generator at the Silver Star Pump Station

ADP 25-3707 will supersede Order of Approval/ADP 19-3321, SUN-213, SUN-214, SUN-215, SUN-253, SUN-261, SUN-270, SUN-276, SUN-277, SUN-302, and SUN-313 in their entirety.

4. PROCESS DESCRIPTION

The emergency generator engines are used to power equipment at sewer pump stations or the district office in the event of an electrical power interruption. Odor control equipment is used to treat air discharged from sewers, pumps stations, or force mains. An odor control station may not be operated

if operation is not necessary to control nuisance odors. This could prevent unnecessary noise impacts, energy usage, and equipment wear.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Waters Edge Emergency Generator Engine N-53 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	13311 NE Salmon Creek Avenue, Vancouver, WA
Engine Make / Model:	Ford / WSG1068
Engine Serial Number:	04US29203
Engine Output Rating:	112.5 hp
Manufacture Date:	June 2004
Certification:	None
Fuel Type:	Natural Gas
Fuel Consumption:	7.3 gal/hr at full standby load
Generator Make / Model:	Olympian / G80F3
Generator Rating:	75 kW
Exhaust Flow Rate:	618 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Latitude / Longitude:	45°43'5.55"N, 122°38'18.14"W
Stack Height:	5′ from ground
Stack Diameter:	4.5″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.b. Osprey Pointe Emergency Generator Engine R-65 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	2215 South 13th Circle, Ridgefield, WA
Engine Make / Model:	General Motors / 8.1 L, 4-Cycle, naturally aspirated
Engine Serial Number:	116009-1005
Engine Output Rating:	162 hp
Manufacture Date:	2005
Certification:	None
Fuel Type:	Natural Gas
Fuel Consumption:	9.44 gal/hr at full standby load
Generator Make / Model:	Katolight / SENL100FRG4
Generator Rating:	100 kW
Exhaust Flow Rate:	871 acfm @ 3% O_2
Exhaust Temperature:	950°F
Stack Latitude / Longitude:	45°48'22.44"N, 122°43'32.18"W
Stack Height:	7.5′ from ground
Stack Diameter:	3.5″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.c. Cassini View Emergency Generator Engine R-59 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	1511 South 24th Court, Ridgefield, WA
Engine Make / Model:	Ford / WSG-1068
Engine Serial Number:	04PS36824
Engine Output Rating:	115 hp
Manufacture Date:	2005
Certification:	None
Fuel Type:	Natural Gas
Fuel Consumption:	6.3 gal/hr at full standby load
Generator Make / Model:	Cummins / 60 GGHE
Generator Rating:	60 kW
Exhaust Flow Rate:	618 acfm @ 3% O_2
Exhaust Temperature:	950°F
Stack Latitude / Longitude:	45°48'17.45"N, 122°43'27.63"W
Stack Height:	6′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.d. Heron Ridge Emergency Generator Engine R-62 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	404 N Heron Drive, Ridgefield, WA
Engine Make / Model:	General Motors / 5.7L, 4 cycle
Engine Serial Number:	LM378863
Engine Output Rating:	88 hp
Manufacture Date:	December 2002
Certification:	None
Fuel Type:	Natural Gas
Fuel Consumption:	6.0 gal/hr at full standby load
Generator Make / Model:	Katolight / SENL60FRG4
Generator Rating:	60 kW
Exhaust Flow Rate:	625 acfm @ 3% O_2
Exhaust Temperature:	1403°F
Stack Latitude / Longitude:	45°49'21.68"N, 122°44'32.72"W
Stack Height:	4.5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.e. Taverner Ridge Emergency Generator Engine R-67 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	1202 South Great Blue Road, Ridgefield, WA
Engine Make / Model:	General Motors / 8.1L, 4 cycle
Engine Serial Number:	106298-1204
Engine Output Rating:	162 hp
Manufacture Date:	2005
Certification:	None
Fuel Type:	Natural Gas
Fuel Consumption:	9.4 gal/hr at full standby load
Generator Make / Model:	Katolight / SENL100FRG4
Generator Rating:	100 kW
Exhaust Flow Rate:	871 acfm @ 3% O_2
Exhaust Temperature:	950°F
Stack Latitude / Longitude:	45°48'15.93"N, 122°44'14.00"W
Stack Height:	6′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.f. Portable Emergency Generator Engine One PG-1 (*Existing).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	Hercules / DT-2300
Engine Serial Number:	JZ3473577 DT2300X004
Engine Output Rating:	79 hp
Manufacture Date:	1994
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.0 gal/hr at full standby load
Generator Make / Model:	Katolight / D50FJH4
Generator Rating:	50 kW
Exhaust Flow Rate:	416 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Height:	8′ from ground
Stack Diameter:	2″
Regulations of Note:	40 CFR 1039

5.g. Portable Emergency Generator Engine Two PG-2 (*Existing).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA

Engine Make / Model:	Hercules / DT-2300
Engine Serial Number:	KA3473619 D2300X004
Engine Output Rating:	79 hp
Manufacture Date:	1994
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.0 gal/hr at full standby load
Generator Make / Model:	Katolight / D50FJH4
Generator Rating:	50 kW
Exhaust Flow Rate:	416 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Height:	8′ from ground
Stack Diameter:	2″
Regulations of Note:	40 CFR 1039

5.h. Portable Emergency Generator Engine Three PG-3 (*Existing).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	Perkins / T4.236
Engine Serial Number:	U719497A on tag (serial number portion is "719497")
Engine Output Rating:	82 hp
Manufacture Date:	1995
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.2 gal/hr at full standby load
Generator Make / Model:	Katolight / D50FRP4
Generator Rating:	50 kW
Exhaust Flow Rate:	432 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Height:	8′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 1039

5.h. Portable Emergency Generator Engine Four PG-4 (*Existing).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	Hercules / D-2000
Engine Serial Number:	KA3473623 D2000 X130
Engine Output Rating:	27 hp
Manufacture Date:	1994
Certification:	None
Fuel Type:	Diesel

Fuel Consumption:	1.4 gal/hr at full standby load
Generator Make / Model:	Katolight / D18FJH4
Generator Rating:	18 kW
Exhaust Flow Rate:	142 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Height:	8′ from ground
Stack Diameter:	2″
Regulations of Note:	40 CFR 1039

5.j. Portable Emergency Generator Engine Five PG-5 (*Existing).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	John Deere / 4219DF 01
Engine Serial Number:	316289T
Engine Output Rating:	52.5 hp
Manufacture Date:	1974
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	2.7 gal/hr at full standby load
Generator Make / Model:	Onan / 30DDA
Generator Rating:	35 kW
Exhaust Flow Rate:	276 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Height:	5.5′ from ground
Stack Diameter:	2″
Regulations of Note:	40 CFR 1039

5.k. Portable Emergency Generator Engine Six PG-6 (*Existing).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	Caterpillar / 3054
Engine Serial Number:	K2K04363
Engine Output Rating:	95 hp
Manufacture Date:	1995
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.8 gal/hr at full standby load
Generator Make / Model:	Olympian / CT-60
Generator Rating:	60 kW
Exhaust Flow Rate:	500 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Height:	6′ from ground

Stack Diameter:	3″
Regulations of Note:	40 CFR 1039

5.l. District Office Admin Emergency Generator Engine DOG-1 (*Existing).* The generator set is used to power the district office in the event of a power outage. Equipment details are provided below:

Location:	8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	John Deere / 6068TF275F
Engine Serial Number:	PE6068T569903
Engine Output Rating:	165 hp
Manufacture Date:	April 11, 2006
Certification:	EPA Tier 2
Fuel Type:	Diesel
Fuel Consumption:	8.4 gal/hr at full standby load
Generator Make / Model:	Katolight / D105FPJ4T2
Generator Rating:	105 kW
Exhaust Flow Rate:	664 acfm @ 3% O_2
Exhaust Temperature:	640°F
Stack Latitude / Longitude:	45°40'48.85"N, 122°37'11.72"W
Stack Height:	7′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.m. Schuller Estates Emergency Generator Engine E-42 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	NW of 8616 NE 99th St. Vancouver, WA
Engine Make / Model:	Perkins / 1004.4T
Engine Serial Number:	AH51042*U575819K on tag (serial number portion is "575819")
Engine Output Rating:	90 hp
Manufacture Date:	2003
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.6 gal/hr at full standby load
Generator Make / Model:	Caterpillar Olympian / D60P3
Generator Rating:	60 kW
Exhaust Flow Rate:	474 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Latitude / Longitude:	45°41'37.76"N, 122°35'4.04"W
Stack Height:	6.5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.n. Glenwood Emergency Generator Engine E-44 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	9115 NE 90th Street, Vancouver, WA.
Engine Make / Model:	Caterpillar / 3412
Engine Serial Number:	81Z20126
Engine Output Rating:	749 hp
Manufacture Date:	1996
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	38 gal/hr at full standby load
Generator Make / Model:	Caterpillar / SR4
Generator Rating:	500 kW
Exhaust Flow Rate:	3,944 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Latitude / Longitude:	45°41'13.60"N, 122°34'45.78"W
Stack Height:	15′ from ground
Stack Diameter:	10″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.o. Green Meadows Emergency Generator Engine E-32 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	7910 NE 72nd Ave, Vancouver, WA
Engine Make / Model:	Caterpillar / 3054
Engine Serial Number:	4ZK03188
Engine Output Rating:	112.5 hp
Manufacture Date:	June 8, 1995
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	5.7 gal/hr at full standby load
Generator Make / Model:	Olympian/Generac / CD075
Generator Rating:	75 kW
Exhaust Flow Rate:	1,107 acfm @ 3% O_2
Exhaust Temperature:	1076°F
Stack Latitude / Longitude:	45°44'50.40"N, 122°39'1.67"W
Stack Height:	5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.p. Bowyers Market Place Emergency Generator Engine E-54 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	11119 NE 119th Street, Vancouver, WA.
Engine Make / Model:	Cummins / 4BT3.3-G6NR
Engine Serial Number:	68090831
Engine Output Rating:	55 hp
Manufacture Date:	September 5, 2007
Certification:	EPA Tier 2
Fuel Type:	Diesel
Fuel Consumption:	2.8 gal/hr at full standby load
Generator Make / Model:	Cummins / DGGD-1458139
Generator Rating:	35 kW
Exhaust Flow Rate:	290 acfm @ 3% O_2
Exhaust Temperature:	844°F
Stack Latitude / Longitude:	45°42'26.75"N, 122°33'28.64"W
Stack Height:	8′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.q. Whipple Creek Place Emergency Generator Engine N-12 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	812 NW 151st Street, Vancouver, WA
Engine Make / Model:	John Deere / 4045TF150
Engine Serial Number:	PE4045T167402
Engine Output Rating:	75 hp
Manufacture Date:	August 6, 2001
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.9 gal/hr at full standby load
Generator Make / Model:	Katolight / D50FJJ4
Generator Rating:	50 kW
Exhaust Flow Rate:	395 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Latitude / Longitude:	45°43'49.54"N, 122°40'45.93"W
Stack Height:	6′ from ground
Stack Diameter:	2.5″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.r. NW 149th Street Emergency Generator Engine N-13 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	1301 NW 149th Street, Vancouver, WA
Engine Make / Model:	Perkins / T4.236
Engine Serial Number:	LJ50418*U913237G on tag (serial number portion is "913237")

Engine Output Rating:	90 hp
Manufacture Date:	2000
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	4.6 gal/hr at full standby load
Generator Make / Model:	Olympian / D60P1
Generator Rating:	60 kW
Exhaust Flow Rate:	474 acfm @ 3% O_2
Exhaust Temperature:	844°F
Stack Latitude / Longitude:	45°43'43.40"N, 122°41'3.82"W
Stack Height:	6′ from ground
Stack Diameter:	2.5″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.s. NE 16th Ave. Emergency Generator Engine N-55 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	13819 NE 16th Avenue, Vancouver, WA
Engine Make / Model:	Cummins / QSB5-G3 NR3
Engine Serial Number:	73225621
Engine Output Rating:	73 hp
Manufacture Date:	April 8, 2011
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	4.5 gal/hr at full standby load
Generator Make / Model:	Cummins / DSFAB-7104801
Generator Rating:	40 kW
Exhaust Flow Rate:	584 acfm @ 3% O_2
Exhaust Temperature:	718°F
Stack Latitude / Longitude:	45°43'18.76"N, 122°39'19.96"W
Stack Height:	7′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.t. Legacy Emergency Generator Engine N-52 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	13611 NE 20th Avenue, Vancouver, WA
Engine Make / Model:	John Deere / 6081AF001
Engine Serial Number:	RG6081A169834
Engine Output Rating:	345 hp
Manufacture Date:	September 2, 2004
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	17.5 gal/hr at full standby load

Generator Make / Model:	Katolight / D230FRJ4
Generator Rating:	230 kW
Exhaust Flow Rate:	1,486 acfm @ 3% O_2
Exhaust Temperature:	718°F
Stack Latitude / Longitude:	45°43'17.90"N 122°39'0.64"W
Stack Height:	11′ from ground
Stack Diameter:	5″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.u. Wishing Wells Estates Emergency Generator Engine R-68 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	2215 S 13th Circle, Ridgefield, WA.
Engine Make / Model:	Perkins / 4.236
Engine Serial Number:	LD33626*U507407W*
Engine Output Rating:	60 hp
Manufacture Date:	1992
Certification:	None
Fuel Type:	Diesel
Fuel Consumption:	3.0 gal/hr at full standby load
Generator Make / Model:	Katolight / D35FPP4
Generator Rating:	35 kW
Exhaust Flow Rate:	618 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Latitude / Longitude:	45°48'2.52"N, 122°43'13.92"W
Stack Height:	7.5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 63 Subpart ZZZZ

5.v. Teal Crest Emergency Generator Engine R-91 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	916 South Sevier Road, Ridgefield, WA.
Engine Make / Model:	Cummins / QSB5-G3
Engine Serial Number:	21814604
Engine Output Rating:	130 bhp
Manufacture Date:	November 16, 2007
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	6.9 gal/hr at full standby load
Generator Make / Model:	Cummins / DSFAE
Generator Rating:	80 kW
Exhaust Flow Rate:	620 acfm @ 3% O_2
Exhaust Temperature:	844°F

Stack Latitude / Longitude:	45°47'52.26"N, 122°44'16.75"W
Stack Height:	8.5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.w. Pioneer Canyon Emergency Generator Engine R-66 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	451 N 45th Avenue, Ridgefield, WA
Engine Make / Model:	Caterpillar / C6.6
Engine Serial Number:	E6M00069
Engine Output Rating:	217 hp
Manufacture Date:	2006
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	11.8 gal/hr at full standby load
Generator Make / Model:	Caterpillar / D150-8
Generator Rating:	150 kW
Exhaust Flow Rate:	1,283 acfm @ 3% O_2
Exhaust Temperature:	1,157°F
Stack Latitude / Longitude:	45°49'9.12"N, 122°42'11.23"W
Stack Height:	8.5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.x. Dunning Meadows Emergency Generator Engine E-70 (*Existing*). The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	10701 NE 152nd Avenue, Vancouver, WA
Engine Make / Model:	Cummins / 4BT3.3G5
Engine Serial Number:	72011086
Engine Output Rating:	69 hp nameplate, 61 hp at full standby
Manufacture Date:	April 11, 2013
Installed Date:	2014
Certification:	EPA Tier 4
Fuel Type:	Diesel
Fuel Consumption:	3.5 gal/hr at full standby load
Generator Make / Model:	Cummins / 40DGHCC
Generator Rating:	40 kW
Exhaust Flow Rate:	339 acfm @ 3% O_2
Exhaust Temperature:	930°F
Stack Latitude / Longitude:	45°41'57.02"N, 122°30'58.47"W
Stack Height:	8′ from ground
Stack Diameter:	3″

Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.y. Marina 2 Emergency Generator Engine R-73 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	5 West Mill Street, Ridgefield, WA 98642
Engine Make / Model:	John Deere / 4024TF281D
Engine Serial Number:	PE4024R144865
Engine Output Rating:	66 hp, ~45 hp this application
Manufacture Date:	December 19, 2013
Installation Date:	December 2014
Certification:	EPA Tier 4
Fuel Type:	Diesel
Fuel Consumption:	2.8 gal/hr at full standby load
Generator Make / Model:	Kohler / 30REOZJC
Generator Rating:	30 kW
Exhaust Flow Rate:	283 acfm @ 3% O_2
Exhaust Temperature:	1,026°F
Stack Latitude / Longitude:	45°48'59.87"N, 122°44'56.37"W
Stack Height:	6′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.z. Fieldstone Emergency Generator Engine E-75 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	11204 NE 152nd Avenue, Vancouver, WA
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72014992
Engine Output Rating:	67 hp
Manufacture Date:	February 5, 2015
Installation Date:	May 2015
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	4.0 gal/hr at full standby load
Generator Make / Model:	Cummins / C40 D6
Generator Rating:	40 kW
Exhaust Flow Rate:	339 acfm @ 3% O_2
Exhaust Temperature:	930°F
Stack Latitude / Longitude:	45°42'10.79"N, 122°31'35.94"W
Stack Height:	5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.aa. Payne Emergency Generator Engine E-76 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	South of 169th Way at approximately NE 31st Ave Clark County Parcel 181677142
Engine Make / Model:	John Deere / 4045HF285
Engine Serial Number:	PE4045L270027
Engine Output Rating:	158 hp
Manufacture Date:	January 12, 2015
Installation Date:	February 2015
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	8.2 gal/hr at full standby load
Generator Make / Model:	Kohler / 100REOZJF
Generator Rating:	100 kW
Exhaust Flow Rate:	805 acfm @ 3% O_2
Exhaust Temperature:	1,076°F
Stack Latitude / Longitude:	45°44'38.73"N, 122°38'17.78"W
Stack Height:	6′ from ground
Stack Diameter:	4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.bb. Neil Kimsey Emergency Generator Engine N-78 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Gee Creek Northbound Rest Area, MP11 of Interstate 5
Engine Make / Model:	Cummins / QSX15-G9
Engine Serial Number:	79838479
Engine Output Rating:	755 (nameplate), 661 at full standby load for this genset
Manufacture Date:	May 2015
Installation Date:	2015
Certification:	EPA Tier 2
Fuel Type:	Diesel
Fuel Consumption:	30.3 gal/hr at full standby load
Generator Make / Model:	Cummins / 450DFEJ
Generator Rating:	450 kW
Exhaust Flow Rate:	3,110 acfm @ 3% O_2
Exhaust Temperature:	865°F
Stack Latitude / Longitude:	45°46'34.72"N, 122°40'5.92"W
Stack Height:	10′ from ground
Stack Diameter:	6″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.cc. Hawks Landing Emergency Generator Engine R-80 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Clark County Parcel 986038263 West side of parcel on northwest corner of S. Hillhurst Road and 35th Place. Access to station on plot map will be north of 2730 S. Red Tail Loop, Ridgefield, WA
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72020125
Engine Output Rating:	69 hp (nameplate), 41.9 bhp at full standby load for this generator set
Manufacture Date:	March 10, 2015
Installation Date:	2016
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	2.4 gal/hr at full standby load
Generator Make / Model:	Cummins / C25 D6
Generator Rating:	25 kW
Exhaust Flow Rate:	262 acfm @ 3% O_2
Exhaust Temperature:	753.3°F
Stack Latitude / Longitude:	45°47.68.30"N, 122°43.03.90"W
Stack Height:	6′ from ground
Stack Diameter:	2″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.dd. Jessie Hollow Emergency Generator Engine E-79 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	5715 NE 127th Street, Vancouver, WA Immediately south of NE 127th Street, approximately 75 meters west of corner of 127th Street and NE 59th Street.
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72019972
Engine Output Rating:	69 hp (nameplate), 41.9 bhp at full standby load for this generator set
Manufacture Date:	March 2, 2015
Installation Date:	2016
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	2.4 gal/hr at full standby load
Generator Make / Model:	Cummins / C25 D6
Generator Rating:	25 kW
Exhaust Flow Rate:	262 acfm @ 3% O_2
Exhaust Temperature:	753.3°F

Stack Latitude / Longitude:	45°47.68.30"N, 122°43.03.90"W
Stack Height:	5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ee. Pioneer Place Emergency Generator Engine R-81 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	700' north of 844 N. 35th Avenue, Ridgefield, WA
Engine Make / Model:	Cummins / QSB5-G3 NR3
Engine Serial Number:	74065514
Engine Output Rating:	145 hp (nameplate), 103 bhp at full standby load for this generator set
Manufacture Date:	November 16, 2016
Installation Date:	2017
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	5.7 gal/hr at full standby load
Generator Make / Model:	Cummins / 60DSFAD
Generator Rating:	60 kW
Exhaust Flow Rate:	665 acfm @ 3% O_2
Exhaust Temperature:	778°F
Stack Latitude / Longitude:	45°49'26.39"N, 122°42'43.59"W
Stack Height:	8′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ff. Frasier Downs Emergency Generator Engine E-82 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	9500 NE 107th Street, Vancouver, WA (NE corner of 107th Street & NE 96th Avenue)
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72021374
Engine Output Rating:	69 hp (nameplate)
Manufacture Date:	June 18, 2015
Installation Date:	2017
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	3.66 gal/hr at full standby load
Generator Make / Model:	Cummins / C40 D6
Generator Rating:	40 kW
Exhaust Flow Rate:	359 acfm @ 3% O_2
Exhaust Temperature:	973°F

Stack Latitude / Longitude:	45°41'58.29"N, 122°34'22.69"W
Stack Height:	8′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.gg. 72nd Avenue Emergency Generator Engine E-84 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	7114 NE 134th Street, Vancouver, WA
Engine Make / Model:	Cummins / 4BTAA3.3-G7
Engine Serial Number:	72030791
Engine Output Rating:	99 bhp (nameplate), 82.5 bhp at full standby load for this generator set
Manufacture Date:	December 30, 2016
Installation Date:	2017
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	4.25 gal/hr at full standby load
Generator Make / Model:	Cummins / C50 D6
Generator Rating:	50 kW
Exhaust Flow Rate:	531.5 acfm @ 3% O_2
Exhaust Temperature:	913.7°F
Stack Latitude / Longitude:	45°43'9.09"N, 122°35'58.89"W
Stack Height:	8′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.hh. Royle Road Emergency Generator Engine R-83 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	2067 S. Royle Road, Ridgefield, WA
Engine Make / Model:	Cummins / QSB7-G5 NR3
Engine Serial Number:	74061730
Engine Output Rating:	324 bhp
Manufacture Date:	November 9, 2016
Installation Date:	2017
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	14.5 gal/hr at full standby load
Generator Make / Model:	Cummins / 200DSGAE
Generator Rating:	200 kW
Exhaust Flow Rate:	1,428 acfm @ 3% O_2
Exhaust Temperature:	949°F
Stack Latitude / Longitude:	45°48'0.73"N, 122°42'21.28"W

Stack Height:	8′ from ground
Stack Diameter:	5″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ii. Taverner Ridge 2 Emergency Generator Engine R-85 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Accessed from the southwest end of South Harrier Circle West of 1461 South Harrier Circle, Ridgefield, WA
Engine Make / Model:	Cummins / QSB5-G5 NR3
Engine Serial Number:	74149699
Engine Output Rating:	176 bhp (nameplate), 109 bhp at full standby load for this generator set
Manufacture Date:	May 25, 2017
Installation Date:	February 2018
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	6.1 gal/hr at full standby load
Generator Make / Model:	Cummins / C60D6C
Generator Rating:	60 kW
Exhaust Flow Rate:	706 acfm @ 3% O_2
Exhaust Temperature:	697°F
Stack Latitude / Longitude:	45°47'52.23"N, 122°44'0.75"W
Stack Height:	8′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.jj. St. Johns Woods Emergency Generator Engine E-94 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	5200 NE 85th Circle, Vancouver, WA
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72041035
Engine Output Rating:	69 bhp (nameplate), 58.6 bhp at full standby load for this generator set
Manufacture Date:	June 8, 2018
Installation Date:	June 2018
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	3.44 gal/hr at full standby load
Generator Make / Model:	Cummins / C35 D6
Generator Rating:	35 kW
Exhaust Flow Rate:	331 acfm @ 3% O_2
Exhaust Temperature:	917°F

Stack Latitude / Longitude:	45°41'2.23"N, 122°37'5.76"W
Stack Height:	4′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.kk. Kennedy Farm Emergency Generator Engine R-86 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	3700 NW 229th Street, Ridgefield, WA
Engine Make / Model:	Cummins / QSB5
Engine Serial Number:	74292709
Engine Output Rating:	176 bhp (nameplate), 140 bhp at full standby load for this generator set
Manufacture Date:	March 16, 2018
Installation Date:	June 2018
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	7.3 gal/hr at full standby load
Generator Make / Model:	Cummins / C80D6C
Generator Rating:	80 kW
Exhaust Flow Rate:	764 acfm @ 3% O_2
Exhaust Temperature:	769°F
Stack Latitude / Longitude:	45°47'13.23"N, 122°42'35.14"W
Stack Height:	6′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ll. 10th Avenue Emergency Generator Engine N-87 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	NE 10th Avenue, Ridgefield, WA
Engine Make / Model:	Cummins / QSB5-G13
Engine Serial Number:	74373904
Engine Output Rating:	176 bhp (nameplate), 109 bhp at full standby load for this generator set
Manufacture Date:	September 14, 2018
Installation Date:	2018
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	6.1 gal/hr at full standby load
Generator Make / Model:	Cummins / C60D6C
Generator Rating:	60 kW
Exhaust Flow Rate:	706 acfm @ 3% O_2
Exhaust Temperature:	697°F

Stack Latitude / Longitude:	45°44'9.45"N, 122°39'42.37"W
Stack Height:	5′ from ground
Stack Diameter:	3.5″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.mm. Curtin Creek Emergency Generator Engine E-88 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	7810 NE 119th Street, Vancouver, WA
Engine Make / Model:	Cummins / QSB5-G5
Engine Serial Number:	74384382
Engine Output Rating:	176 bhp (nameplate), 140 bhp at full standby load for this generator set
Manufacture Date:	September 9, 2018
Installation Date:	2018
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	7.3 gal/hr at full standby load
Generator Make / Model:	Cummins / C80D6C
Generator Rating:	80 kW
Exhaust Flow Rate:	764 acfm @ 3% O_2
Exhaust Temperature:	769°F
Stack Latitude / Longitude:	45°42'27.21"N, 122°35'47.64"W
Stack Height:	6′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.nn. UNFI Emergency Generator Engine R-90 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	7909 S Union Ridge Parkway, Ridgefield, WA
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72045822
Engine Output Rating:	69 bhp (nameplate), 58.6 bhp at full standby load for this generator set
Manufacture Date:	January 10, 2019
Installation Date:	2019
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	3.44 gal/hr at full standby load
Generator Make / Model:	Cummins / C35 D6
Generator Rating:	35 kW
Exhaust Flow Rate:	331 acfm @ 3% O_2
Exhaust Temperature:	917°F
Stack Latitude / Longitude:	45°48'18.77"N, 122°39'52.72"W

Stack Height:	5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.oo. North Junction Emergency Generator Engine R-92 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	5297 North 10th Street, Ridgefield, WA
Engine Make / Model:	John Deere / 4045HF285H
Engine Serial Number:	PE4045N022101
Engine Output Rating:	144 hp
Manufacture Date:	April 2019
Installation Date:	August 2019
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	6.1 gal/hr at full standby load
Generator Make / Model:	MTU Onsite Energy / 4R0113 DS80
Generator Rating:	107 kW
Exhaust Flow Rate:	750 acfm @ 3% O_2
Exhaust Temperature:	1,040°F
Stack Latitude / Longitude:	45°49'21.92"N, 122°41'46.30"W
Stack Height:	7′ from ground
Stack Diameter:	3.5″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.pp. Union Road Emergency Generator Engine N-25 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	15901 NE Union Road, Ridgefield, WA
Engine Make / Model:	John Deere / 4045HF285H
Engine Serial Number:	PE4045N023910
Engine Output Rating:	133 hp
Manufacture Date:	August 2019
Installation Date:	October 2019
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	6.9 gal/hr at full standby load
Generator Make / Model:	Kohler / 80REOZJF
Generator Rating:	99 kW
Exhaust Flow Rate:	679 acfm @ 3% O_2
Exhaust Temperature:	1,074°F
Stack Latitude / Longitude:	45°44'10.53"N, 122°39'17.41"W
Stack Height:	8′ from ground
Stack Diameter:	4″

Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.qq. Pleasant Valley North Emergency Generator Engine E-89 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	SW of NE 50th Avenue and NE 159th Street, Vancouver, WA
Engine Make / Model:	Cummins / QSB5-G13
Engine Serial Number:	KCEXL0275AAK
Engine Output Rating:	173 bhp (nameplate), 93 bhp at full standby load for this generator set
Manufacture Date:	August 29, 2019
Installation Date:	October 2019
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	5.3 gal/hr at full standby load
Generator Make / Model:	Cummins / C50D6C
Generator Rating:	50 kW
Exhaust Flow Rate:	609 acfm @ 3% O_2
Exhaust Temperature:	622°F
Stack Latitude / Longitude:	45°44'10.80"N, 122°37'14.80"W
Stack Height:	5′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.rr. District Office Ops Emergency Generator Engine DOG-2 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	8000 NE 52nd Court, Vancouver, WA 98665 Outside the western wall of the northern most building (covered storage building)
Engine Make / Model:	John Deere / 6090HFG85A
Engine Serial Number:	PE6068N016526
Engine Output Rating:	315 bhp
Manufacture Date:	October 10, 2020
Installation Date:	2021
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	15.3 gal/hr at full standby load
Generator Make / Model:	Kohler / 200REOZJF
Generator Rating:	200 kW
Exhaust Flow Rate:	1,510 acfm @ 3% O_2
Exhaust Temperature:	980°F
Stack Latitude / Longitude:	45°40'48.98"N, 122°37'11.77"W

Stack Height:	4′ from ground
Stack Diameter:	3.86″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ss. Ridgefield Heights Emergency Generator Engine R-94 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Tax Lot 213745-000 26315 NW 51st Avenue, Ridgefield, WA 98642
Engine Make / Model:	Cummins / 4BT3.3-G5
Engine Serial Number:	72061037
Engine Output Rating:	69 hp (nameplate), 50.3 bhp at full standby with this genset
Manufacture Date:	August 24, 2021
Installation Date:	2021
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	2.88 gal/hr at full standby load
Generator Make / Model:	Cummins / C30 D6
Generator Rating:	30 kW
Exhaust Flow Rate:	303.2 acfm @ 3% O_2
Exhaust Temperature:	861.3°F
Stack Latitude / Longitude:	45°48'36.63"N, 122°43'12.35"W
Stack Height:	4′ from ground
Stack Diameter:	3″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.tt. North Haven Emergency Generator Engine N-88 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	NW 11th Avenue, Ridgefield, WA 98642
Engine Make / Model:	John Deere / 4045HF285H
Engine Serial Number:	PE4045N030211
Engine Output Rating:	133 hp
Manufacture Date:	February 2021
Installation Date:	2021
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	6.9 gal/hr at full standby load
Generator Make / Model:	Kohler / 80REOZJF
Generator Rating:	80 kW
Exhaust Flow Rate:	746 acfm @ 3% O_2
Exhaust Temperature:	1074°F
Stack Latitude / Longitude:	45°43'57.00"N, 122°40'55.19"W
Stack Height:	5′ from ground

Stack Diameter:	4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.uu. Seton Emergency Generator Engine R-96 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Near 1001 N Fairhope Place, Ridgefield, WA 98642
Engine Make / Model:	Cummins / QSB5-G6
Engine Serial Number:	74614224
Engine Output Rating:	208 bhp
Manufacture Date:	January 7, 2020
Installation Date:	2020
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	10.3 gal/hr at full standby load
Generator Make / Model:	Cummins / C125D6C
Generator Rating:	125 kW
Exhaust Flow Rate:	903 acfm @ 3% O_2
Exhaust Temperature:	982°F
Stack Latitude / Longitude:	45°49'23.81"N, 122°40'43.69"W
Stack Height:	4.5′ from ground
Stack Diameter:	2.5″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.vv. Woodbrook Emergency Generator Engine E-97 (*Existing).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Near 18008 NE 48th Court, Vancouver, WA 98686
Engine Make / Model:	John Deere / 4045HF285K
Engine Serial Number:	PE4045N039169
Engine Output Rating:	197 bhp
Manufacture Date:	July 2022
Installation Date:	2022
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	9.9 gal/hr at full standby load
Generator Make / Model:	Kohler / 125REOZJG
Generator Rating:	128 kW
Exhaust Flow Rate:	953 acfm @ 3% O_2
Exhaust Temperature:	1076°F
Stack Latitude / Longitude:	45°49'23.81"N, 122°40'43.69"W
Stack Height:	5′ from ground
Stack Diameter:	4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ww. Whipple Creek North Emergency Generator Engine E-101 (*Existing)*. The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Near 17307 NE 19th Drive, Ridgefield, WA 98642
Engine Make / Model:	John Deere / 4045HF285K
Engine Serial Number:	PE4045N044294
Engine Output Rating:	197 bhp
Manufacture Date:	September 1, 2023
Installation Date:	2023
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	9.9 gal/hr at full standby load
Generator Make / Model:	MTU / 4R0113 DS125
Generator Rating:	125 kW
Exhaust Flow Rate:	953 acfm @ 3% O_2
Exhaust Temperature:	1076°F
Stack Latitude / Longitude:	45°44'50.51"N, 122°39'01.98"W
Stack Height:	5′ from ground
Stack Diameter:	4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.xx. Whipple Creek West Emergency Generator Engine N-98 (*Existing)*. The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	1014 NW 149th Street, Vancouver, WA 98685
Engine Make / Model:	Cummins / QSB5-G6
Engine Serial Number:	22679699
Engine Output Rating:	208 bhp
Manufacture Date:	July 17, 2024
Installation Date:	August 2024
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	10.3 gal/hr at full standby load
Generator Make / Model:	Cummins / 125D6C
Generator Rating:	125 kW
Exhaust Flow Rate:	903 acfm @ 3% O_2
Exhaust Temperature:	982°F
Stack Latitude / Longitude:	45°43'44.51"N, 122°40'53.57"W
Stack Height:	5′ from ground
Stack Diameter:	4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.yy. Portable Emergency Generator Engine Eight PG-8 (*New).* The generator set is trailer-mounted to be used at any pump station as necessary. Equipment details are provided below:

Location:	Portable - stored at 8000 NE 52nd Court, Vancouver, WA
Engine Make / Model:	Cummins / QSB7-G5
Engine Serial Number:	73630321
Engine Output Rating:	324 bhp
Manufacture Date:	2010
Installation Date:	2025
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	15.5 gal/hr at full standby load
Generator Make / Model:	Cummins / C200D6R
Generator Rating:	200 kW
Exhaust Flow Rate:	1,162 acfm @ 3% O_2
Exhaust Temperature:	836°F
Stack Height:	5′ from ground
Stack Diameter:	4″
Regulations of Note:	40 CFR 1039

5.zz. Whipple Creek East Station F Emergency Generator Engine E-103 (*New).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	3516 NE 179th Street, Ridgedield, WA 98642
Engine Make / Model:	Cummins / QSB7-G5
Engine Serial Number:	TBD
Engine Output Rating:	324 bhp
Manufacture Date:	TBD
Installation Date:	TBD
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	11.7 gal/hr at full standby load
Generator Make / Model:	Cummins / 150D6D
Generator Rating:	150 kW
Exhaust Flow Rate:	1,258 acfm @ 3% O_2
Exhaust Temperature:	872°F
Stack Latitude / Longitude:	45°45'4.00"N, 122°38'3.26"W
Stack Height:	~6′ from ground
Stack Diameter:	~4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.aaa. McCormick Creek Emergency Generator Engine R-102 (*New).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	Parcel #986059796 Near 215 N 89th Loop, Ridgefield, WA
Engine Make / Model:	Cummins / QSB7-G5
Engine Serial Number:	22701231
Engine Output Rating:	324 bhp
Manufacture Date:	December 17, 2024
Installation Date:	March 2025
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	11.7 gal/hr at full standby load
Generator Make / Model:	Cummins / 150D6D
Generator Rating:	150 kW
Exhaust Flow Rate:	1,258 acfm @ 3% O_2
Exhaust Temperature:	872°F
Stack Latitude / Longitude:	TBD
Stack Height:	~6′ from ground
Stack Diameter:	~4″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.bbb. Silver Star Emergency Generator Engine E-41 (*New).* The generator set is used to power the pump station in the event of a power outage. Equipment details are provided below:

Location:	10004 NE 86th Street, Vancouver, WA
Engine Make / Model:	Kohler / KDI3404TM
Engine Serial Number:	S127202060
Engine Output Rating:	67 bhp
Manufacture Date:	2021
Installation Date:	TBD
Certification:	EPA Tier 3
Fuel Type:	Diesel
Fuel Consumption:	11.7 gal/hr at full standby load
Generator Make / Model:	Kohler / 40RE02K
Generator Rating:	42 kW
Exhaust Flow Rate:	286 acfm @ 3% O_2
Exhaust Temperature:	872°F
Stack Latitude / Longitude:	TBD
Stack Height:	~6′ from ground
Stack Diameter:	~2.5″
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.ccc. Odor Control Stations. Odor control equipment is located at the following sites where air is withdrawn or vented from sewers or lift stations:

Odor Control Stations

Identification	Location	Foul Air Source	Description / Features
Regional Biofilter BIO-3	45°42'35.25"N, 122°38'5.35"W Clark County Property ID: 186421000	Treats air from two gravity sewers	Biorem Biosorbens engineered media, 3,400 scfm, 24' x 16' x 6' deep media. For inlet H_2S > 10 ppm, 99% removal For inlet H_2S < 10 ppm, < 100 ppb outlet Pre-humidified air stream and surface irrigation. Inlet H_2S monitor.
20th Avenue Biofilter BIO-2	45°43'58.51"N, 122°39'5.05"W NE corner of Union Rd. and 154th St.	Treats air from force main discharge structure	Biorem Biosorbens engineered media, 1,800 scfm, 20' x 13' 6" x 5' 6" deep media. Pre-humidified air stream and surface irrigation. Inlet H_2S monitor.
Legacy Biofilter BIO-5	45°43'17.88"N, 122°38'59.90"W SW corner of 139th St. and NW entrance to Legacy Hospital	Treats air drawn from the Legacy Pump Station	Biorem XLD engineered media, 600 scfm, 8' diameter tank with 6' deep media. Discharges through top of tank. Irrigation in upper and lower end of tank.
Neil Kimsey Biofilter BIO-4	45°46'34.82"N, 122°40'5.68"W Gee Creek Northbound Rest Area, MP11 of Interstate 5	Treats air drawn from the Neil Kimsey Pump Station	Biorem Biosorbens engineered media, 1,200 scfm, 16' x 16' x 3' 11" deep media. Pre-humidified air stream and surface irrigation.
Fairground Biofilter BIO-6	45°45'2.42"N, 122°39'52.07"W NE corner of NE Delfel Rd. and 179th St.	Treats air drawn from the Fairgrounds Pump Station	Discharged from wet well directly into the ground with a ½ horsepower blower. Transferred from WDOT to Clark Regional Wastewater. No other details are available.
Southbound Rest Area Carbon Canister BIO-7	Gee Creek Southbound Rest Area, MP12 of Interstate 5	Treats air drawn from the Southbound Rest Area Pump Station	Up to 150 cfm, 150 lbs of granulated activated carbon in 55-gallon drum. Discharging through capped exhaust.

5.dddd. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Waters Edge Emergency Generator Engine N-53, Ford WSG1068, 04US29203	Low sulfur fuel (natural gas)
2	Osprey Pointe Emergency Generator Engine R-65, General Motors 8.1 L, 4-Cycle, naturally aspirated, s/n: 116009-1005	Low sulfur fuel (natural gas)
3	Cassini View Emergency Generator Engine R-59, Ford WSG-1068, 04PS36824	Low sulfur fuel (natural gas)
4	Heron Ridge Emergency Generator Engine R-62, General Motors 5.7L, 4 cycle, LM378863	Low sulfur fuel (natural gas)
5	Taverner Ridge Emergency Generator Engine R-67, General Motors 8.1L, 4 cycle, 106298-1204	Low sulfur fuel (natural gas)
6	Portable Emergency Generator Engine One PG-1, Hercules DT-2300, JZ3473577 DT2300X004	Ultra-low sulfur diesel
7	Portable Emergency Generator Engine Two PG-2, Hercules DT-2300, KA3473619 D2300X004	Ultra-low sulfur diesel
8	Portable Emergency Generator Engine Three PG-3, Perkins T4.236, U719497A on tag (serial number portion is "719497")	Ultra-low sulfur diesel
9	Portable Emergency Generator Engine Four PG-4, Hercules D-2000, KA3473623 D2000 X130	Ultra-low sulfur diesel
10	Portable Emergency Generator Engine Five PG-5, John Deere 4219DF 01, 316289T	Ultra-low sulfur diesel
11	Portable Emergency Generator Engine Six PG-6, Caterpillar 3054, K2K04363	Ultra-low sulfur diesel
12	District Office Admin Emergency Generator Engine DOG-1, John Deere 6068TF275F, PE6068T569903	Ultra-low sulfur diesel
13	Schuller Estates Emergency Generator Engine E-42, Perkins 1004.4T, AH51042*U575819K on tag (serial number portion is "575819")	Ultra-low sulfur diesel
14	Glenwood Emergency Generator Engine E-44, Caterpillar 3412, 81Z20126	Ultra-low sulfur diesel
15	Green Meadows Emergency Generator Engine E-32, Caterpillar 3054, 4ZK03188	Ultra-low sulfur diesel
16	Bowyers Marketplace Emergency Generator Engine E-54, Cummins 4BT3.3-G6NR, 68090831	Ultra-low sulfur diesel
17	Whipple Creek Place Emergency Generator Engine N-12, John Deere 4045TF150, PE4045T167402	Ultra-low sulfur diesel

ID No.	Equipment/Activity	Control Equipment/Measure
18	NW 149th Street Emergency Generator Engine N-13, Perkins T4.236, LJ50418*U913237G on tag (serial number portion is "913237")	Ultra-low sulfur diesel
19	NE 16th Ave. Emergency Generator Engine N-55, Cummins QSB5-G3 NR3, 73225621	Ultra-low sulfur diesel
20	Legacy Emergency Generator Engine N-52, John Deere 6081AF001, RG6081A169834	Ultra-low sulfur diesel
21	Wishing Wells Estates Emergency Generator Engine R-68, Perkins 4.236, LD33626*U507407W*	Ultra-low sulfur diesel
22	Teal Crest Emergency Generator Engine R-91, Cummins QSB5-G3, 21814604	Ultra-low sulfur diesel
23	Pioneer Canyon Emergency Generator Engine R-66, Caterpillar C6.6, E6M00069	Ultra-low sulfur diesel
24	Dunning Meadows Emergency Generator Engine E-70, Cummins 4BT3.3G5, 72011086	Ultra-low sulfur diesel
25	Marina Emergency Generator Engine R-73, John Deere 4024TF281D, PE4024R144865	Ultra-low sulfur diesel
26	Fieldstone Emergency Generator Engine E-75, Cummins 4BT3.3-G5, 72014992	Ultra-low sulfur diesel
27	Payne Emergency Generator Engine E-76, John Deere 4045HF285, PE4045L270027	Ultra-low sulfur diesel
28	Neil Kimsey Emergency Generator Engine N-78, Cummins QSX15-G9, 79838479	Ultra-low sulfur diesel
29	Hawks Landing Emergency Generator Engine R-80, Cummins 4BT3.3-G5, 72020125	Ultra-low sulfur diesel
30	Jessie Hollow Emergency Generator Engine E-79, Cummins 4BT3.3-G5, 72019972	Ultra-low sulfur diesel
31	Pioneer Place Emergency Generator Engine R-81, Cummins QSB5-G3 NR3, 74065514	Ultra-low sulfur diesel
32	Frasier Downs Emergency Generator Engine E-82, Cummins 4BT3.3-G5, 72021374	Ultra-low sulfur diesel
33	72nd Avenue Emergency Generator Engine E-84, Cummins 4BTAA3.3-G7, 72030791	Ultra-low sulfur diesel
34	Royle Road Emergency Generator Engine R-83, Cummins QSB7-G5 NR, 74061730	Ultra-low sulfur diesel
35	Taverner Ridge Emergency Generator Engine R-85, Cummins QSB5-G5 NR3, 74149699	Ultra-low sulfur diesel
36	St. Johns Woods Emergency Generator Engine E-94, Cummins 4BT3.3-G5, 72041035	Ultra-low sulfur diesel

ID No.	Equipment/Activity	Control Equipment/Measure
37	Kennedy Farm Emergency Generator Engine R-86, Cummins QSB5, 74292709	Ultra-low sulfur diesel
38	10th Avenue Emergency Generator Engine R-87, Cummins QSB5-G13, 74373904	Ultra-low sulfur diesel
39	Curtin Creek Emergency Generator Engine E-88, Cummins QSB5-G5, 74384382	Ultra-low sulfur diesel
40	UNFI Emergency Generator Engine R-90, Cummins 4BT3.3-G5, 72045822	Ultra-low sulfur diesel
41	North Junction Emergency Generator Engine R-92, John Deere 4045HF285H, PE4045N022101	Ultra-low sulfur diesel
42	Union Road Emergency Generator Engine N-25, John Deere 4045HF285H, PE4045N023910	Ultra-low sulfur diesel
43	Pleasant Valley North Emergency Generator Engine E-89, Cummins QSB5-G13, KCEXL0275AAK	Ultra-low sulfur diesel
44	District Office Ops Emergency Generator DOG-2, John Deere 6090HFG85A, PE6068N016526	Ultra-low sulfur diesel
45	Ridgefield Heights Emergency Generator Engine, R-94, Cummins 4BT3.3-G5, 72061037	Ultra-low sulfur diesel
46	North Haven Emergency Generator Engine N-88, John Deere 4045HF285H, PE4045N030211	Ultra-low sulfur diesel
47	Seton Emergency Generator Engine R-96, Cummins QSB5-G6, 74614224	Ultra-low sulfur diesel
48	Woodbrook Emergency Generator Engine E-97, John Deere 4045HF285K, PE4045N039169	Ultra-low sulfur diesel
49	Whipple Creek North Emergency Generator Engine E-101, John Deere 4045HF285K, PE4045N044294	Ultra-low sulfur diesel
50	Whipple Creek West Emergency Generator Engine N-98, Cummins QSB5-G6, 22679699	Ultra-low sulfur diesel
51	Portable Emergency Generator Engine Eight PG-8, Cummins QSB7-G5, 73630321	Ultra-low sulfur diesel
52	Whipple Creek East Station F Emergency Generator Engine E-103, Cummins QSB7-G5, TBD	Ultra-low sulfur diesel
53	McCormick Creek Emergency Generator Engine R-102, Cummins QSB7-G5, 22701231	Ultra-low sulfur diesel
54	Silver Star Emergency Generator Engine E-41, Kohler KDI3404TM, S127202060	Ultra-low sulfur diesel
55	Six Odor Control Stations	5 biofilters, 1 carbon canister

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, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

6.a. Waters Edge Emergency Generator Engine N-53. Potential annual emissions from the combustion of natural gas were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Waters Edge Emergency Generator Engine				**Lean-burn**		
Hours of Operation =	200	hours				
Power Output =	112.4	bhp				
Fuel Consumption Rate =	0.912	MMBtu/hr natural gas				
Natural Gas Heat Value =	1,026	Btu/scf for 40 CFR 98 GHG emission factors				
	Emission Factor	Emission Factor				
Pollutant	lb/MMBtu	g/bhp-hr	lb/hr	tpy	Emission Factor Source	
NO_X		11.6	2.87	0.29	Similar - Cummins 85GGHG	
CO		7.2	1.78	0.18	Similar - Cummins 85GGHG	
VOC		0.9	0.22	0.022	Similar - Cummins 85GGHG	
SO_X as SO_2	0.00059		0.00054	0.00005	AP-42 Sec 3.2 (7/00)	
PM	0.00999		0.00911	0.00091	AP-42 Sec 3.2 (7/00)	
PM_{10}	0.00999		0.00911	0.00091	AP-42 Sec 3.2 (7/00)	
$PM_{2.5}$	0.00999		0.00911	0.00091	AP-42 Sec 3.2 (7/00)	
Acetaldehyde	0.00836		0.0076	7.6E-04	AP-42 Sec 3.2 (7/00)	
Acrolein	0.00514		0.0047	4.7E-04	AP-42 Sec 3.2 (7/00)	
Benzene	0.00044		0.00040	4.0E-05	AP-42 Sec 3.2 (7/00)	
Ethylbenzene	0.000040		0.000036	3.6E-06	AP-42 Sec 3.2 (7/00)	
Methanol	0.0025		0.0023	2.3E-04	AP-42 Sec 3.2 (7/00)	
Toluene	0.00041		0.00037	3.7E-05	AP-42 Sec 3.2 (7/00)	
Xylene	0.00018		0.00017	1.7E-05	AP-42 Sec 3.2 (7/00)	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/MMscf	tpy, CO_2e	
CO_2	53.06	1	116.98	120,019	11	40 CFR 98
CH_4	0.001	25	0.055	57	5.0E-03	40 CFR 98
N_2O	0.0001	298	0.066	67	6.0E-03	40 CFR 98
Total GHG - CO_2e	61.4611		117.098	120,143	11	

6.b. Osprey Pointe Emergency Generator Engine R-65. Potential annual emissions from the combustion of natural gas were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Osprey Pointe Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	162	bhp				
Fuel Consumption Rate =	1.18	MMBtu/hr natural gas				
Natural Gas Heat Value =	1,026	Btu/scf for 40 CFR 98 GHG emission factors				
	Emission Factor	Emission Factor				
Pollutant	lb/MMBtu	g/bhp-hr	lb/hr	tpy	Emission Factor Source	
NO_X		4.66	1.66	0.17	Katolight	
CO		34.7	12.39	1.24	Katolight	
VOC		0.94	0.34	0.034	Katolight	
SO_X as SO_2	0.00059		0.00069	0.000069	AP-42 Sec 3.2 (7/00)	
PM	0.00999		0.012	0.0012	AP-42 Sec 3.2 (7/00)	
PM_{10}	0.00999		0.012	0.0012	AP-42 Sec 3.2 (7/00)	
$PM_{2.5}$	0.00999		0.012	0.0012	AP-42 Sec 3.2 (7/00)	
Acetaldehyde	0.00836		0.0099	9.9E-04	AP-42 Sec 3.2 (7/00)	
Acrolein	0.00514		0.0061	6.1E-04	AP-42 Sec 3.2 (7/00)	
Benzene	0.00044		0.00052	5.2E-05	AP-42 Sec 3.2 (7/00)	
Ethylbenzene	0.000040		0.000047	4.7E-06	AP-42 Sec 3.2 (7/00)	
Methanol	0.0025		0.0030	3.0E-04	AP-42 Sec 3.2 (7/00)	
Toluene	0.00041		0.00048	4.8E-05	AP-42 Sec 3.2 (7/00)	
Xylene	0.00018		0.00022	2.2E-05	AP-42 Sec 3.2 (7/00)	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/MMscf	tpy, CO_2e	
CO_2	53.06	1	116.98	120,019	14	40 CFR 98
CH_4	0.001	25	0.055	57	6.5E-03	40 CFR 98
N_2O	0.0001	298	0.066	67	7.8E-03	40 CFR 98
Total GHG - CO_2e	61.4611		117.098	120,143	14	

6.c. Cassini View Emergency Generator Engine R-59. Potential annual emissions from the combustion of natural gas were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Casini View Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	115	bhp				
Fuel Consumption Rate =	0.789	MMBtu/hr natural gas				
Natural Gas Heat Value =	1,026	Btu/scf for 40 CFR 98 GHG emission factors				
	Emission Factor	Emission Factor				
Pollutant	lb/MMBtu	g/bhp-hr	lb/hr	tpy	Emission Factor Source	
NO_X		11.7	2.97	0.30	Cummins	
CO		8.1	2.05	0.21	Cummins	
VOC		1.1	0.28	0.028	Cummins	
SO_X as SO_2	0.00059		0.00046	0.000046	AP-42 Sec 3.2 (7/00)	
PM	0.00999		0.0079	0.00079	AP-42 Sec 3.2 (7/00)	
PM_{10}	0.00999		0.0079	0.00079	AP-42 Sec 3.2 (7/00)	
$PM_{2.5}$	0.00999		0.0079	0.00079	AP-42 Sec 3.2 (7/00)	
Acetaldehyde	0.00836		0.0066	6.6E-04	AP-42 Sec 3.2 (7/00)	
Acrolein	0.00514		0.0041	4.1E-04	AP-42 Sec 3.2 (7/00)	
Benzene	0.00044		0.00035	3.5E-05	AP-42 Sec 3.2 (7/00)	
Ethylbenzene	0.000040		0.000031	3.1E-06	AP-42 Sec 3.2 (7/00)	
Methanol	0.0025		0.0020	2.0E-04	AP-42 Sec 3.2 (7/00)	
Toluene	0.00041		0.00032	3.2E-05	AP-42 Sec 3.2 (7/00)	
Xylene	0.00018		0.00015	1.5E-05	AP-42 Sec 3.2 (7/00)	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/MMscf	tpy, CO_2e	
CO_2	53.06	1	116.98	120,019	9	40 CFR 98
CH_4	0.001	25	0.055	57	4.3E-03	40 CFR 98
N_2O	0.0001	298	0.066	67	5.2E-03	40 CFR 98
Total GHG - CO_2e	61.4611		117.098	120,143	9	

6.d. Heron Ridge Emergency Generator Engine R-62. Potential annual emissions from the combustion of natural gas were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Heron Ridge Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	88	bhp				
Fuel Consumption Rate =	0.748	MMBtu/hr natural gas				
Natural Gas Heat Value =	1,026	Btu/scf for 40 CFR 98 GHG emission factors				
	Emission Factor	Emission Factor				
Pollutant	lb/MMBtu	g/bhp-hr	lb/hr	tpy	Emission Factor Source	
NO_X		5.92	1.15	0.11	Katolight	
CO		32.4	6.29	0.63	Katolight	
VOC		1.43	0.28	0.028	Katolight	
SO_X as SO_2	0.00059		0.00044	0.000044	AP-42 Sec 3.2 (7/00)	
PM	0.00999		0.0075	0.00075	AP-42 Sec 3.2 (7/00)	
PM_{10}	0.00999		0.0075	0.00075	AP-42 Sec 3.2 (7/00)	
$PM_{2.5}$	0.00999		0.0075	0.00075	AP-42 Sec 3.2 (7/00)	
Acetaldehyde	0.00836		0.0063	6.3E-04	AP-42 Sec 3.2 (7/00)	
Acrolein	0.00514		0.0038	3.8E-04	AP-42 Sec 3.2 (7/00)	
Benzene	0.00044		0.00033	3.3E-05	AP-42 Sec 3.2 (7/00)	
Ethylbenzene	0.000040		0.000030	3.0E-06	AP-42 Sec 3.2 (7/00)	
Methanol	0.0025		0.0019	1.9E-04	AP-42 Sec 3.2 (7/00)	
Toluene	0.00041		0.00031	3.1E-05	AP-42 Sec 3.2 (7/00)	
Xylene	0.00018		0.00014	1.4E-05	AP-42 Sec 3.2 (7/00)	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/MMscf	tpy, CO_2e	
CO_2	53.06	1	116.98	120,019	9	40 CFR 98
CH_4	0.001	25	0.055	57	4.1E-03	40 CFR 98
N_2O	0.0001	298	0.066	67	4.9E-03	40 CFR 98
Total GHG - CO_2e	61.4611		117.098	120,143	9	

6.e. Taverner Ridge Emergency Generator Engine R-67. Potential annual emissions from the combustion of natural gas were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Taverner Ridge Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	162	bhp				
Fuel Consumption Rate =	1.18	MMBtu/hr natural gas				
Natural Gas Heat Value =	1,026	Btu/scf for 40 CFR 98 GHG emission factors				
	Emission Factor	Emission Factor				
Pollutant	lb/MMBtu	g/bhp-hr	lb/hr	tpy	Emission Factor Source	
NO_X		4.66	1.66	0.17	Katolight	
CO		34.7	12.39	1.24	Katolight	
VOC		0.94	0.34	0.034	Katolight	
SO_X as SO_2	0.00059		0.00069	0.000069	AP-42 Sec 3.2 (7/00)	
PM	0.00999		0.012	0.0012	AP-42 Sec 3.2 (7/00)	
PM_{10}	0.00999		0.012	0.0012	AP-42 Sec 3.2 (7/00)	
$PM_{2.5}$	0.00999		0.012	0.0012	AP-42 Sec 3.2 (7/00)	
Acetaldehyde	0.00836		0.0099	9.9E-04	AP-42 Sec 3.2 (7/00)	
Acrolein	0.00514		0.0061	6.1E-04	AP-42 Sec 3.2 (7/00)	
Benzene	0.00044		0.00052	5.2E-05	AP-42 Sec 3.2 (7/00)	
Ethylbenzene	0.000040		0.000047	4.7E-06	AP-42 Sec 3.2 (7/00)	
Methanol	0.0025		0.0030	3.0E-04	AP-42 Sec 3.2 (7/00)	
Toluene	0.00041		0.00048	4.8E-05	AP-42 Sec 3.2 (7/00)	
Xylene	0.00018		0.00022	2.2E-05	AP-42 Sec 3.2 (7/00)	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/MMscf	tpy, CO_2e	
CO_2	53.06	1	116.98	120,019	14	40 CFR 98
CH_4	0.001	25	0.055	57	6.5E-03	40 CFR 98
N_2O	0.0001	298	0.066	67	7.8E-03	40 CFR 98
Total GHG - CO_2e	61.4611		117.098	120,143	14	

6.f. Portable Emergency Generator Engine 1 (PG-1). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine 1						
Hours of Operation =	200	hours				
Power Output =	79	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.0	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission					
	Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	2.45	0.24	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.53	0.053	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00087	0.000087	Mass Balance		
PM	0.0022	0.17	0.017	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.17	0.017	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.17	0.017	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	9	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.01	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.02	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	9	

6.g. Portable Emergency Generator Engine 2 (PG-2). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine 2						
Hours of Operation =	200	hours				
Power Output =	79	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.0	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission					
	Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	2.45	0.24	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.53	0.053	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00087	0.000087	Mass Balance		
PM	0.0022	0.17	0.017	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.17	0.017	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.17	0.017	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	9	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.0091	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.022	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	9	

6.h. Portable Emergency Generator Engine 3 (PG-3). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine 3						
Hours of Operation =	200	hours				
Power Output =	82	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.2	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission					
	Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	2.54	0.25	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.55	0.055	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.21	0.021	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00090	0.000090	Mass Balance		
PM	0.0022	0.18	0.018	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.18	0.018	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.18	0.018	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	9	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.0095	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.023	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	9	

6.i. Portable Emergency Generator Engine 4 (PG-4). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine 4						
Hours of Operation =	200	hours				
Power Output =	27	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	1.4	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission					
	Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	0.84	0.084	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.18	0.018	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.068	0.0068	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00030	0.000030	Mass Balance		
PM	0.0022	0.059	0.0059	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.059	0.0059	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.059	0.0059	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	3	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.0031	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.0075	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	3	

6.j. Portable Emergency Generator Engine 5 (PG-5). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine 5						
Hours of Operation =	200	hours				
Power Output =	53	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	2.7	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission					
	Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	1.63	0.16	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.35	0.035	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.13	0.013	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00058	0.000058	Mass Balance		
PM	0.0022	0.12	0.012	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.12	0.012	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.12	0.012	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	6	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.0061	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.014	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	6	

6.k. Portable Emergency Generator Engine 6 (PG-6). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine 6						
Hours of Operation =	200	hours				
Power Output =	95	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.8	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	2.95	0.29	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.63	0.063	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.24	0.024	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.0010	0.00010	Mass Balance		
PM	0.0022	0.21	0.021	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.21	0.021	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.21	0.021	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	11	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.011	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.026	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	11	

6.l. District Office Admin Emergency Generator Engine (DOG-1). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

District Office Admin Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	165	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	8.4	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	g/kW-hr	lb/hr	tpy	Source		
NO_X	5.6	1.52	0.15	CARB Certificate		
CO	1.2	0.33	0.033	CARB Certificate		
VOC	1.53	0.41	0.041	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.0018	0.00018	Mass Balance		
PM	0.29	0.079	0.0079	CARB Certificate		
PM_{10}	0.29	0.079	0.0079	CARB Certificate		
$PM_{2.5}$	0.29	0.079	0.0079	CARB Certificate		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	19	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.019	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.046	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	19	

6.m. Schuller Estates Emergency Generator Engine (E-42). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Schuller Estates Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	90	horsepower (estimated)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.6	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission					
	Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.0118	1.07	0.11	CARB Certificate		
CO	0.00668	0.60	0.060	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.23	0.023	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00099	0.000099	Mass Balance		
PM	0.0022	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	10	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.010	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.025	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	10	

6.n. Glenwood Emergency Generator Engine (E-44). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Glenwood Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	749	horsepower (estimated)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	38.0	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	lb/hp-hr	lb/hr	tpy	Emission Factor Source		
NO_X	0.024	17.98	1.80	AP-42 Table 3.4-1 (10/96)		
CO	0.0055	4.12	0.41	AP-42 Table 3.4-1 (10/96)		
VOC	0.000705	0.53	0.053	AP-42 Table 3.4-1 (10/96)		
SO_X as SO_2		0.0082	0.00082	Mass Balance		
PM	0.0007	0.52	0.052	AP-42 Table 3.4-1 (10/96)		
PM_{10}	0.0007	0.52	0.052	AP-42 Table 3.4-1 (10/96)		
$PM_{2.5}$	0.0007	0.52	0.052	AP-42 Table 3.4-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	85	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.087	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.21	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	86	

6.o. Green Meadows Emergency Generator Engine (E-32). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Green Meadows Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	113	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	5.7	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.0118	1.33	0.13	CARB Certificate		
CO	0.00668	0.75	0.075	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.28	0.028	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.0012	0.00012	Mass Balance		
PM	0.0022	0.25	0.025	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.25	0.025	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.25	0.025	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	13	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.013	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.031	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	13	

6.p. Bowyers Marketplace Emergency Generator Engine (E-54). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Bowyers Marketplace Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	55	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	2.8	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/hp-hr	lb/hr	tpy	Emission Factor Source		
NO_X	3.95	0.48	0.048	Cummins		
CO	0.38	0.05	0.0046	Cummins		
VOC	0.42	0.051	0.0051	Cummins		
SO_X as SO_2		0.00061	0.000061	Mass Balance		
PM	0.12	0.015	0.0015	Cummins		
PM_{10}	0.12	0.015	0.0015	Cummins		
$PM_{2.5}$	0.12	0.015	0.0015	Cummins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	6	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.0064	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.015	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	6	

6.q. Whipple Creek Place Emergency Generator Engine (N-12). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Whipple Creek Place Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	99	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.9	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.0118	1.17	0.12	CARB Certificate		
CO	0.00668	0.66	0.066	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.25	0.025	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.0011	0.00011	Mass Balance		
PM	0.0022	0.22	0.022	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.22	0.022	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.22	0.022	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	11	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.011	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.026	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	11	

6.r. NW 149th Street Emergency Generator Engine (N-13). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

NW 149th Street Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	90	horsepower (estimated)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.6	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	2.79	0.28	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.60	0.060	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.23	0.023	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.0010	0.00010	Mass Balance		
PM	0.0022	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.20	0.020	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	10	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.010	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.025	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	10	

6.s. NE 16th Avenue Emergency Generator Engine (N-55). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

NE 16th Avenue Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	73	horsepower @ 50 kW generator output				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.5	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/hp-hr	lb/hr	tpy	Emission Factor Source		
NO_X	2.06	0.33	0.033	Cummins		
CO	0.65	0.10	0.010	Cummins		
VOC	0.07	0.011	0.0011	Cummins		
SO_X as SO_2		0.0010	0.00010	Mass Balance		
PM	0.05	0.0080	0.00080	Cummins		
PM_{10}	0.05	0.0080	0.00080	Cummins		
$PM_{2.5}$	0.05	0.0080	0.00080	Cummins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	10	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.010	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.024	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	10	

6.t. Legacy Emergency Generator Engine (N-52). Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Legacy Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	345	horsepower (estimated from 230 kW generator output)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	17.5	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	10.70	1.07	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	2.30	0.23	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.87	0.087	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.0038	0.00038	Mass Balance		
PM	0.0022	0.76	0.076	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.76	0.076	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.76	0.076	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	39	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.040	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.10	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	40	

6.u. Wishing Wells Estates Emergency Generator Engine R-68. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Wishing Wells Estates Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	60	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.0	gal/hr (estimated)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.031	1.86	0.19	AP-42 Table 3.3-1 (10/96)		
CO	0.00668	0.40	0.040	AP-42 Table 3.3-1 (10/96)		
VOC	0.0025141	0.15	0.015	AP-42 Table 3.3-1 (10/96)		
SO_X as SO_2		0.00066	0.000066	Mass Balance		
PM	0.0022	0.13	0.013	AP-42 Table 3.3-1 (10/96)		
PM_{10}	0.0022	0.13	0.013	AP-42 Table 3.3-1 (10/96)		
$PM_{2.5}$	0.0022	0.13	0.013	AP-42 Table 3.3-1 (10/96)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	7	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.0069	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.017	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	7	

6.v. Teal Crest Emergency Generator Engine R-58. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Teal Crest Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	130	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	6.9	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.0063	0.81	0.081	Cummins		
CO	0.00082	0.11	0.011	Cummins		
VOC	0.000044	0.0057	0.00057	Cummins		
SO_X as SO_2		0.0015	0.00015	Mass Balance		
PM	0.000088	0.011	0.0011	Cummins		
PM_{10}	0.000088	0.011	0.0011	Cummins		
$PM_{2.5}$	0.000088	0.011	0.0011	Cummins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	16	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.016	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.038	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	16	

6.w. Pioneer Canyon Emergency Generator Engine R-66. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Pioneer Canyon Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	217	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	11.8	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions	Emission Factor		
Pollutant	lb/hp-hr	lb/hr	tpy	Source		
NO_X	0.0054	1.17	0.12	Perkins		
CO	0.0013	0.28	0.028	Perkins		
VOC	0.00020	0.043	0.0043	Perkins		
SO_X as SO_2		0.0026	0.00026	Mass Balance		
PM	0.00025	0.054	0.0054	Perkins		
PM_{10}	0.00025	0.054	0.0054	Perkins		
$PM_{2.5}$	0.00025	0.054	0.0054	Perkins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	27	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.027	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.064	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	27	

6.x. Dunning Meadows Emergency Generator Engine E-70. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Dunning Meadows Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	61	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.5	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.81	0.38	0.038	Cummins		
CO	0.49	0.066	0.0066	Cummins		
VOC	0.04	0.0054	0.00054	Cummins		
SO_X as SO_2		0.00076	0.000076	Mass Balance		
PM	0.07	0.0094	0.00094	Cummins		
PM_{10}	0.07	0.0094	0.00094	Cummins		
$PM_{2.5}$	0.07	0.0094	0.00094	Cummins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	8	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.008	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.019	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	8	

6.y. Marina 2 Emergency Generator Engine R-73. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Marina 2 Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	45	horsepower (estimated for this application)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	2.61	gal/hr (estimated assuming 8,000 Btu/hp-hr)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.50	0.35	0.035	EPA Interim Tier 4 Standard (19 - 37 kW)		
CO	4.1	0.41	0.041	EPA Interim Tier 4 Standard (19 - 37 kW)		
VOC	1.14	0.11	0.011	EPA Interim Tier 4 Standard (19 - 37 kW)		
SO_X as SO_2		0.00056	0.000056	Mass Balance		
PM	0.022	0.0022	0.00022	EPA Interim Tier 4 Standard (19 - 37 kW)		
PM_{10}	0.022	0.0022	0.00022	EPA Interim Tier 4 Standard (19 - 37 kW)		
$PM_{2.5}$	0.022	0.0022	0.00022	EPA Interim Tier 4 Standard (19 - 37 kW)		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	6	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.006	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.014	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	6	

6.z. Fieldstone Emergency Generator Engine E-75. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Fieldstone Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	67	horsepower this genset, engine capable of 173 bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.0	gal/hr (manufacturer)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.97	0.44	0.044	Cummins		
CO	0.51	0.075	0.0075	Cummins		
VOC	0.02	0.0030	0.00030	Cummins		
SO_X as SO_2		0.00086	0.000086	Mass Balance		
PM	0.10	0.015	0.0015	Cummins		
PM_{10}	0.10	0.015	0.0015	Cummins		
$PM_{2.5}$	0.10	0.015	0.0015	Cummins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	9	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.009	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.022	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	9	

6.aa. Payne Emergency Generator Engine E-76. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Payne Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	158	horsepower this genset, engine capable of 173 bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	8.2	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.54	0.88	0.088	Cummins		
CO	0.97	0.34	0.034	Cummins		
VOC	0.15	0.052	0.0052	Cummins		
SO_X as SO_2		0.0018	0.00018	Mass Balance		
PM	0.13	0.044	0.0044	Cummins		
PM_{10}	0.13	0.044	0.0044	Cummins		
$PM_{2.5}$	0.13	0.044	0.0044	Cummins		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	18	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.019	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.045	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	19	

6.bb. Neil Kimsey Emergency Generator Engine N-78. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Neil Kimsey Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	661	horsepower this genset, engine capable of 775 bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	30.3	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	5.15	7.50	0.75	Cummins Emission Data Sheet		
CO	0.42	0.61	0.061	Cummins Emission Data Sheet		
VOC	0.08	0.12	0.012	Cummins Emission Data Sheet		
SO_X as SO_2		0.0066	0.00066	Mass Balance		
PM	0.03	0.044	0.0044	Cummins Emission Data Sheet		
PM_{10}	0.03	0.044	0.0044	Cummins Emission Data Sheet		
$PM_{2.5}$	0.03	0.044	0.0044	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	68	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.07	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.16	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	68	

6.cc. Hawk's Landing Emergency Generator Engine R-80. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Hawk's Landing Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	42	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	2.4	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.70	0.25	0.025	Cummins Emission Data Sheet		
CO	0.89	0.082	0.0082	Cummins Emission Data Sheet		
VOC	0.10	0.0092	0.00092	Cummins Emission Data Sheet		
SO_X as SO_2		0.00052	0.000052	Mass Balance		
PM	0.09	0.0083	0.00083	Cummins Emission Data Sheet		
PM_{10}	0.09	0.0083	0.00083	Cummins Emission Data Sheet		
$PM_{2.5}$	0.09	0.0083	0.00083	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	5	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.005	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.013	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	5	

6.dd. Jessie Hollow Emergency Generator Engine E-79. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Jessie Hollow Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	42	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	2.4	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.70	0.25	0.025	Cummins Emission Data Sheet		
CO	0.89	0.082	0.0082	Cummins Emission Data Sheet		
VOC	0.10	0.0092	0.00092	Cummins Emission Data Sheet		
SO_X as SO_2		0.00052	0.000052	Mass Balance		
PM	0.09	0.0083	0.00083	Cummins Emission Data Sheet		
PM_{10}	0.09	0.0083	0.00083	Cummins Emission Data Sheet		
$PM_{2.5}$	0.09	0.0083	0.00083	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	5	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.005	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.013	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	5	

6.ee. Pioneer Place Emergency Generator Engine R-81. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Pioneer Place Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	103	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	5.7	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.37	0.54	0.054	Cummins Emission Data Sheet		
CO	0.50	0.11	0.011	Cummins Emission Data Sheet		
VOC	0.04	0.0091	0.00091	Cummins Emission Data Sheet		
SO_X as SO_2		0.0012	0.00012	Mass Balance		
PM	0.06	0.014	0.0014	Cummins Emission Data Sheet		
PM_{10}	0.06	0.014	0.0014	Cummins Emission Data Sheet		
$PM_{2.5}$	0.06	0.014	0.0014	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	13	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.01	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.03	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	13	

6.ff. Frasier Downs Emergency Generator Engine E-82. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Frasier Downs Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	69	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.66	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.97	0.45	0.045	Cummins Emission Data Sheet		
CO	0.51	0.078	0.0078	Cummins Emission Data Sheet		
VOC	0.02	0.0030	0.00030	Cummins Emission Data Sheet		
SO_X as SO_2		0.00079	0.000079	Mass Balance		
PM	0.10	0.015	0.0015	Cummins Emission Data Sheet		
PM_{10}	0.10	0.015	0.0015	Cummins Emission Data Sheet		
$PM_{2.5}$	0.10	0.015	0.0015	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	8	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.008	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.020	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	8	

6.gg. 72nd Avenue Emergency Generator Engine E-84. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

72nd Avenue Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	82.5	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	4.25	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.2	0.58	0.058	Cummins Emission Data Sheet		
CO	0.3	0.055	0.0055	Cummins Emission Data Sheet		
VOC	0.1	0.018	0.0018	Cummins Emission Data Sheet		
SO_X as SO_2		0.00092	0.000092	Mass Balance		
PM	0.1	0.018	0.0018	Cummins Emission Data Sheet		
PM_{10}	0.1	0.018	0.0018	Cummins Emission Data Sheet		
$PM_{2.5}$	0.1	0.018	0.0018	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	10	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.010	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.023	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	10	

6.hh. Royle Road Emergency Generator Engine R-83. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Royle Road Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	324	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	14.50	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	4.58	3.27	0.327	Cummins Emission Data Sheet		
CO	0.19	0.14	0.014	Cummins Emission Data Sheet		
VOC	0.03	0.021	0.0021	Cummins Emission Data Sheet		
SO_X as SO_2		0.0031	0.00031	Mass Balance		
PM	0.02	0.014	0.0014	Cummins Emission Data Sheet		
PM_{10}	0.02	0.014	0.0014	Cummins Emission Data Sheet		
$PM_{2.5}$	0.02	0.014	0.0014	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	33	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.033	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.079	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	33	

6.ii. Taverner Ridge 2 Emergency Generator Engine R-85. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Taverner Ridge 8-9 Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	109	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	6.1	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.28	0.55	0.055	Cummins Emission Data Sheet		
CO	0.56	0.13	0.013	Cummins Emission Data Sheet		
VOC	0.06	0.014	0.0014	Cummins Emission Data Sheet		
SO_X as SO_2		0.0013	0.00013	Mass Balance		
PM	0.07	0.017	0.0017	Cummins Emission Data Sheet		
PM_{10}	0.07	0.017	0.0017	Cummins Emission Data Sheet		
$PM_{2.5}$	0.07	0.017	0.0017	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	14	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.014	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.033	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	14	

6.jj. St. Johns Woods Emergency Generator Engine E-94. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

St. Johns Woods Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	58.6	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.44	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.81	0.36	0.036	Cummins Emission Data Sheet		
CO	0.54	0.070	0.0070	Cummins Emission Data Sheet		
VOC	0.05	0.0065	0.00065	Cummins Emission Data Sheet		
SO_X as SO_2		0.00074	0.000074	Mass Balance		
PM	0.09	0.012	0.0012	Cummins Emission Data Sheet		
PM_{10}	0.09	0.012	0.0012	Cummins Emission Data Sheet		
$PM_{2.5}$	0.09	0.012	0.0012	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	8	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.008	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.019	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	8	

6.kk. Kennedy Farm Emergency Generator Engine R-86. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Kennedy Farm Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	140	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	7.30	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.18	0.98	0.098	Cummins Emission Data Sheet		
CO	0.30	0.093	0.0093	Cummins Emission Data Sheet		
VOC	0.02	0.0062	0.00062	Cummins Emission Data Sheet		
SO_X as SO_2		0.0016	0.00016	Mass Balance		
PM	0.04	0.012	0.0012	Cummins Emission Data Sheet		
PM_{10}	0.04	0.012	0.0012	Cummins Emission Data Sheet		
$PM_{2.5}$	0.04	0.012	0.0012	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	16	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.017	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.040	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	16	

6.ll. 10th Avenue Emergency Generator Engine N-87. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

10th Avenue Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	109	horsepower this genset, engine capable of 173 bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	6.1	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.28	0.55	0.055	Cummins Emission Data Sheet		
CO	0.56	0.13	0.013	Cummins Emission Data Sheet		
VOC	0.06	0.014	0.0014	Cummins Emission Data Sheet		
SO_X as SO_2		0.0013	0.00013	Mass Balance		
PM	0.10	0.024	0.0024	Cummins Emission Data Sheet		
PM_{10}	0.10	0.024	0.0024	Cummins Emission Data Sheet		
$PM_{2.5}$	0.10	0.024	0.0024	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	14	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.014	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.033	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	14	

6.mm. Curtin Emergency Generator Engine E-88. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Curtin Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	140	horsepower this genset, engine capable of 176 bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	7.30	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.18	0.98	0.098	Cummins Emission Data Sheet		
CO	0.30	0.093	0.0093	Cummins Emission Data Sheet		
VOC	0.02	0.0062	0.00062	Cummins Emission Data Sheet		
SO_X as SO_2		0.0016	0.00016	Mass Balance		
PM	0.04	0.012	0.0012	Cummins Emission Data Sheet		
PM_{10}	0.04	0.012	0.0012	Cummins Emission Data Sheet		
$PM_{2.5}$	0.04	0.012	0.0012	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	16	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.017	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.040	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	16	

6.nn. UNFI Emergency Generator Engine R-90. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

UNFI						
Hours of Operation =	200	hours				
Power Output =	58.6	horsepower this genset, engine capable of 69 bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.44	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.71	0.35	0.035	Cummins Emission Data Sheet		
CO	0.84	0.11	0.011	Cummins Emission Data Sheet		
VOC	0.16	0.021	0.0021	Cummins Emission Data Sheet		
SO_X as SO_2		0.00074	0.000074	Mass Balance		
PM	0.10	0.013	0.0013	Cummins Emission Data Sheet		
PM_{10}	0.10	0.013	0.0013	Cummins Emission Data Sheet		
$PM_{2.5}$	0.10	0.013	0.0013	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	8	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.008	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.019	40 CFR 98
Total GHG - CO_2e	74.0		163.6	23	8	

6.oo. North Junction Emergency Generator Engine R-92. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

North Junction Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	144	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	6.10	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(hp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.97	1.26	0.126	MTU Spec Sheet		
CO	0.72	0.23	0.023	MTU Spec Sheet		
VOC	0.00247	0.00078	0.000078	AP-42 Table 3.3-1 (10/96) - Exhaust		
SO_X as SO_2		0.0013	0.00013	Mass Balance		
PM	0.08	0.025	0.0025	MTU Spec Sheet		
PM_{10}	0.08	0.025	0.0025	MTU Spec Sheet		
$PM_{2.5}$	0.08	0.025	0.0025	MTU Spec Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	14	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.01	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.03	40 CFR 98
Total GHG - CO_2e	74.0		163.6	22.579	14	

6.pp. Union Road Emergency Generator Engine N-25. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Union Road Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	133	horsepower				
Power Output =	99	kW				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	6.90	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(kW-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.4	0.74	0.074	Kohler Emission Data Sheet		
CO	1.3	0.28	0.028	Kohler Emission Data Sheet		
VOC	0.15	0.033	0.0033	Kohler Emission Data Sheet		
SO_X as SO_2		0.0015	0.00015	Mass Balance		
PM	0.17	0.037	0.0037	Kohler Emission Data Sheet		
PM_{10}	0.17	0.037	0.0037	Kohler Emission Data Sheet		
$PM_{2.5}$	0.17	0.037	0.0037	Kohler Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	16	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.02	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.04	40 CFR 98
Total GHG - CO_2e	74.0		163.6	22.579	16	

6.qq. Pleasant Valley North Emergency Generator Engine E-89. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Pleasant Valley North Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	93	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	5.3	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.23	0.46	0.046	Cummins Emission Data Sheet		
CO	0.53	0.11	0.011	Cummins Emission Data Sheet		
VOC	0.06	0.012	0.0012	Cummins Emission Data Sheet		
SO_X as SO_2		0.0011	0.00011	Mass Balance		
PM	0.20	0.041	0.0041	Cummins Emission Data Sheet		
PM_{10}	0.20	0.041	0.0041	Cummins Emission Data Sheet		
$PM_{2.5}$	0.20	0.041	0.0041	Cummins Emission Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	12	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.01	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.03	40 CFR 98
Total GHG - CO_2e	74.0		163.6	22.579	12	

6.rr. District Office Ops Emergency Generator Engine DOG-2. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

District Office Ops Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	235	kW				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	15.3	gal/hr (from Kohler data sheet)				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(kW-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	3.31	1.71	0.171	EPA Certification Data		
CO	0.60	0.31	0.031	EPA Certification Data		
VOC	0.11	0.057	0.0057	EPA Certification Data		
SO_X as SO_2		0.0033	0.00033	Mass Balance		
PM	0.10	0.052	0.0052	EPA Certification Data		
PM_{10}	0.10	0.052	0.0052	EPA Certification Data		
$PM_{2.5}$	0.10	0.052	0.0052	EPA Certification Data		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	34.4	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.03	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.08	40 CFR 98
Total GHG - CO_2e			163.6	23	35	

6.ss. Ridgefield Heights Emergency Generator Engine R-94. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Ridgefield Heights Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	50.3	bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	2.88	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.65	0.29	0.029	Cummins Emission Data Sheet - Standby		
CO	0.58	0.064	0.0064	Cummins Emission Data Sheet - Standby		
VOC	0.08	0.0089	0.00089	Cummins Emission Data Sheet - Standby		
SO_X as SO_2		0.00062	0.000062	Mass Balance		
PM	0.08	0.0089	0.00089	Cummins Emission Data Sheet - Standby		
PM_{10}	0.08	0.0089	0.00089	Cummins Emission Data Sheet - Standby		
$PM_{2.5}$	0.08	0.0089	0.00089	Cummins Emission Data Sheet - Standby		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	6.5	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.01	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.02	40 CFR 98
Total GHG - CO_2e			163.6	23	6.5	

6.tt. North Haven Emergency Generator Engine N-88. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

North Haven Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	133.0	bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	6.90	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.51	0.736	0.074	Kohler Data Sheet - Standby		
CO	0.97	0.284	0.028	Kohler Data Sheet - Standby		
VOC	0.11	0.032	0.0032	Kohler Data Sheet - Standby		
SO_X as SO_2		0.0015	0.00015	Mass Balance		
PM	0.13	0.037	0.0037	Kohler Data Sheet - Standby		
PM_{10}	0.13	0.037	0.0037	Kohler Data Sheet - Standby		
$PM_{2.5}$	0.13	0.037	0.0037	Kohler Data Sheet - Standby		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	15.5	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.02	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.04	40 CFR 98
Total GHG - CO_2e			163.6	23	15.6	

6.uu. Seton Emergency Generator Engine R-96. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Seton Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	208	bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	10.3	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.68	1.23	0.123	SCAQMD		
CO	0.66	0.303	0.0303	SCAQMD		
VOC	0.11	0.0504	0.00504	SCAQMD		
SO_X as SO_2		0.00223	0.000223	Mass Balance		
PM	0.10	0.0459	0.00459	SCAQMD		
PM_{10}	0.10	0.0459	0.00459	SCAQMD		
$PM_{2.5}$	0.10	0.0459	0.00459	SCAQMD		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	23.2	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.02	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.06	40 CFR 98
Total GHG - CO_2e			163.6	23	23.3	

6.vv. Woodbrook Emergency Generator Engine E-97. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Woodbrook Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	197.0	bhp				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	9.9	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.50	1.09	0.109	SCAQMD		
CO	1.00	0.434	0.0434	SCAQMD		
VOC	0.13	0.0565	0.00565	SCAQMD		
SO_X as SO_2		0.00214	0.000214	Mass Balance		
PM	0.13	0.0565	0.00565	SCAQMD		
PM_{10}	0.13	0.0565	0.00565	SCAQMD		
$PM_{2.5}$	0.13	0.0565	0.00565	SCAQMD		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	22.3	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.02	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.05	40 CFR 98
Total GHG - CO_2e			163.6	23	22.4	

6.ww. Whipple Creek North Emergency Generator Engine E-101. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Whipple Creek North Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	197	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	9.9	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.50	1.09	0.109	John Deere		
CO	1.00	0.43	0.043	John Deere		
VOC	0.13	0.056	0.0056	John Deere		
SO_X as SO_2		0.0021	0.00021	Mass Balance		
PM	0.13	0.056	0.0056	John Deere		
PM_{10}	0.13	0.056	0.0056	John Deere		
$PM_{2.5}$	0.12	0.052	0.0052	John Deere		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	22	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.02	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.05	40 CFR 98
Total GHG - CO_2e			163.6	23	22	

6.xx. Whipple Creek West Emergency Generator Engine N-98. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Whipple Creek West Regional Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	208	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	10.3	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.68	1.23	0.123	SCAQMD		
CO	0.66	0.30	0.030	SCAQMD		
VOC	0.11	0.050	0.0050	SCAQMD		
SO_X as SO_2		0.0022	0.00022	Mass Balance		
PM	0.10	0.046	0.0046	SCAQMD		
PM_{10}	0.10	0.046	0.0046	SCAQMD		
$PM_{2.5}$	0.10	0.046	0.0046	SCAQMD		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	23	23	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.02	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.06	40 CFR 98
Total GHG - CO_2e			163.6	23	23	

6.yy. Portable Emergency Generator Engine Eight PG-8. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Portable Emergency Generator Engine Eight PG-8						
Hours of Operation =	200	hours				
Power Output =	324.0	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	15.50	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.88	2.06	0.206	SCAQMD		
CO	0.75	0.536	0.0536	SCAQMD		
VOC	0.11	0.0786	0.00786	SCAQMD		
SO_X as SO_2		0.00335	0.00034	Mass Balance		
PM	0.08	0.0586	0.00586	SCAQMD		
PM_{10}	0.08	0.0586	0.00586	SCAQMD		
$PM_{2.5}$	0.08	0.0586	0.00586	SCAQMD		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	34.877	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.035	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.084	40 CFR 98
Total GHG - CO_2e	74.0		163.61	22.579	34.997	

6.zz. Whipple Creek East Station F Emergency Generator Engine E-103. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Whipple Creek East Station F Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	324.0	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	11.70	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.89	2.06	0.206	Cummins Data Sheet		
CO	0.68	0.486	0.0486	Cummins Data Sheet		
VOC	0.04	0.0286	0.00286	Cummins Data Sheet		
SO_X as SO_2		0.00253	0.00025	Mass Balance		
PM	0.08	0.0571	0.00571	Cummins Data Sheet		
PM_{10}	0.08	0.0571	0.00571	Cummins Data Sheet		
$PM_{2.5}$	0.08	0.0571	0.00571	Cummins Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	26.327	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.027	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.064	40 CFR 98
Total GHG - CO_2e	74.0		163.61	22.579	26.417	

6.aaa. McCormick Creek Emergency Generator Engine R-102. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

McCormick Creek Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	324.0	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	11.70	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.89	2.06	0.206	Cummins Data Sheet		
CO	0.68	0.486	0.0486	Cummins Data Sheet		
VOC	0.04	0.0286	0.00286	Cummins Data Sheet		
SO_X as SO_2		0.00253	0.00025	Mass Balance		
PM	0.08	0.0571	0.00571	Cummins Data Sheet		
PM_{10}	0.08	0.0571	0.00571	Cummins Data Sheet		
$PM_{2.5}$	0.08	0.0571	0.00571	Cummins Data Sheet		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	26.327	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.027	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.064	40 CFR 98
Total GHG - CO_2e	74.0		163.61	22.579	26.417	

6.bbb. Silver Star Emergency Generator Engine E-41. Potential annual emissions from the combustion of ultra-low sulfur diesel (≤0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

Silver Star Emergency Generator Engine						
Hours of Operation =	200	hours				
Power Output =	67.0	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	11.70	gal/hr				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
	Emission Factor	Emissions	Emissions			
Pollutant	g/(bhp-hr)	lb/hr	tpy	Emission Factor Source		
NO_X	2.19	0.32	0.032	SCAQMD		
CO	0.13	0.019	0.0019	SCAQMD		
VOC	0.02	0.0030	0.00030	SCAQMD		
SO_X as SO_2		0.00253	0.00025	Mass Balance		
PM	0.02	0.0025	0.00025	SCAQMD		
PM_{10}	0.02	0.0025	0.00025	SCAQMD		
$PM_{2.5}$	0.02	0.0025	0.00025	SCAQMD		
			CO_2e	CO_2e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	Source
CO_2	73.96	1	163.05	22.501	26.327	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.027	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.064	40 CFR 98
Total GHG - CO_2e	74.0		163.61	22.579	26.417	

6.ccc. Odor Control Stations. The odor control stations are not expected to be a significant source of quantifiable pollutants when properly operated.

6.ddd. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO_x	8.30	+0.62
CO	5.07	+0.15
VOC	0.60	+0.014
SO_2	0.01	+0.00084
PM	0.37	+0.017
PM_{10}	0.37	+0.017
$PM_{2.5}$	0.37	+0.017

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
CO_2/CO_2e	618	+87.8
TAPs	0.01	+0.00
HAPs	0.01	+0.00

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 Code of Federal Regulations (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.

Most engines are CI ICE configuration and were manufactured after April 1, 2006; therefore, this regulation is applicable to those engines.

7.b. 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 located at major and area sources of HAP emissions. The emergency generator engines are each located at an area source of HAP and used in emergency situations; therefore, this regulation applies to all existing engines.

For existing emergency engines at an area source, the owner or operator is required to:

- Change oil and filter every 500 hours of operation or annually, whichever comes first except as allowed by 40 CFR 63.6625(i) [Table 2d(4)(a)];
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first [Table 2d(4)(b)];
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary [Table 2d(4)(c)];
- Install a non-resettable hour meter if one is not already installed. [§ 63.6625(f)]
- Report each instance in which the owner did not meet each operating limitation [§ 63.6640(b)];

- Limit operation of the engine to emergency use and maintenance checks and readiness testing. Operation for maintenance checks and readiness testing may be conducted only to the extent that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Operation for maintenance checks and readiness testing is limited to 100 hours per year [§ 63.6640(f)(2)(i)];
- Record the occurrence and duration of each malfunction of operation (i.e., process equipment) [§ 63.6655(a)(2)];
- Record maintenance conducted on the engine in order to demonstrate that the engine was operated and maintained according to the applicable maintenance plan [§ 63.6655(e)]; and
- Record the hours of operation of the engine by use of a non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation [§ 63.6655(f)].

There may be other requirements under the Subpart that apply to the facility that are not specified above. SWCAA has not yet taken delegation of this regulation; therefore, at this time, EPA is the Administrator of this regulation, and the facility must communicate directly with EPA regarding compliance demonstrations and/or reporting required by this rule.

For purposes of this Subpart, "diesel fuel" also includes any non-distillate fuel with comparable physical and chemical properties (e.g., biodiesel) that is suitable for use in compression ignition engines per §63.6675.

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 seven portable engines are nonroad engines; therefore, the Subpart applies to the portable engines.

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 173-401 "Operating Permit Regulation" requires all major sources and other sources as defined in WAC 173-401-300 to obtain an operating permit. This regulation is not

applicable because this source is not a potential major source and does not meet the applicability criteria set forth in WAC 173-401-300. The facility does not emit any criteria pollutants or HAP above major thresholds; therefore, this regulation does not apply to the facility.

7.g. 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 facility emits TAPs; therefore, this regulation applies to the facility.

7.h. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, SO_2, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM_{10}, $PM_{2.5}$, 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.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, SO_2, concealment and masking, and fugitive dust. This regulation applies to the facility.

7.j. 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.k. 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.l. 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.m. 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.n. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person is allowed to emit a gas containing in excess of 1,000 ppmd of SO_2, corrected to 7% O_2 or 12% CO_2 as required by the applicable emission standard for combustion sources. The facility emits SO_2; therefore, this regulation applies to the facility.

7.o. 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.p. 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 engine proposed for use by the permittee.

7.q. 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.r. 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/Nm^3_{dry} (0.1 gr/dscf) of exhaust gas at standard conditions. The facility has combustion units; therefore, this regulation applies to the facility.

7.s. 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/Nm^3_{dry} (0.1 gr/dscf) of exhaust gas. The facility has general process units; therefore, this regulation applies to the facility.

7.t. SWCAA 400-091 "Voluntary Limits on Emissions" allows sources to request voluntary limits on emissions and potential to emit by submittal of an ADP application as provided in SWCAA 400-109. Upon completing review of the application, SWCAA will issue a Regulatory Order that reduces the source's potential to emit to an amount agreed upon between SWCAA and the Permittee. The facility's PTE for criteria pollutants or HAP does not exceed major thresholds; therefore, this regulation does not apply to the facility.

7.u. 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.v. 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.w. SWCAA 400-111 "Requirements for Sources in a Maintenance Plan Area" 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) Emissions will be minimized to the extent that the new source will not exceed emission levels or other requirements provided in the maintenance plan;
(3) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
(4) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
(5) 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.

Certain engines are located in a maintenance plan area; therefore, this regulation applies to the facility.

7.x. 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.

Certain engines are 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. BACT Determination – Whipple Creek East Station F and Greely Farms Pump Station Emergency Engines. The use of modern diesel-fired engine design meeting EPA Tier Emission Standards, the use of ultra-low sulfur diesel fuel (≤15 ppmw), limitation of visible emissions to 5% opacity or less, and limitation of engine operation to less than 100 hr/yr for maintenance checks and readiness testing has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted from this engine.

8.b. Nonroad Engine Tier Certification - Portable Emergency Generator Engine Eight PG-8. The nonroad engine proposed in this permitting action complies with applicable EPA certification requirements, but is not subject to BACT.

Previous BACT Determination(s)

8.c. BACT Determination – 10th Avenue Emergency Generator Engine. Available control measures for new diesel engines include engine design, the use of ultra-low sulfur fuel and add-on control equipment such as selective catalytic reduction (SCR) units and oxidation catalysts. SWCAA believes that SCR is not feasible for this unit based on a combination of cost and practicality (most operation will be short-term and intermittent). SWCAA has found that an oxidation catalyst is not a cost-effective control for CO, VOC, and PM for relatively small emergency engines.

The use of modern diesel-fired engine design meeting the relevant EPA emission standard for the new engine as applicable, the use of ultra-low sulfur diesel fuel (≤ 0.0015% sulfur by weight), limitation of visible emissions to 5% opacity or less, and limitation of engine operation has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted. The use of ultra-low sulfur fuel is also required by 40 CFR 60 Subpart IIII for "new" engines.

8.d. BACT Determination – Existing Emergency Generator Engines (Permit 14-3088). Available control measures for internal combustion engines include the use of ultra-low sulfur fuel and add-on control equipment such as selective catalytic reduction (SCR) units and oxidation catalysts. SWCAA believes that SCR is not feasible for the emergency engines addressed by this permit based on a combination of cost and practicality (most operation is short-term and intermittent). In 2010 SWCAA received pricing for an oxidation catalyst for a Caterpillar 3412 at $3,500 per bank of cylinders. The relatively small engines at this facility would need only a single unit. Assuming a total installed cost of $5,000, a control efficiency of 40% for CO, 70% for VOCs, and 25% for PM (the guarantees), an 8% cost of capital and 5 year equipment life, the units would all have a multi-pollutant cost-effectiveness of over $7,000 per ton (CO, VOC, and PM), and over $15,000 per ton (VOC and PM only). Based on this analysis, SWCAA believes that an oxidation catalyst is not a cost-effective control device for any of the engines addressed by this Permit.

For the diesel engines, the use of use of ultra-low sulfur diesel fuel (≤ 0.0015% sulfur by weight), limitation of visible emissions to 5% opacity or less, and limitation of engine operation has been determined to meet the requirements of BACT for the types and

quantities of air contaminants emitted. For the natural gas-fired engines, limitation of visible emissions to 0% opacity and limitation of engine operation has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted.

Other BACT Determination(s)

8.e. 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.f. 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_x, CO, PM, VOC (as a precursor to O_3), and SO_2 are emitted at levels where no adverse ambient air quality impact is anticipated.

9.b. Toxic Air Pollutant Review.
Based on the emission calculations in accordance with Section 6 for the emission units and activities described in ADP application CL-3293, none of the estimated emission rates exceed the Small Quantity Emission Rate (SQER) specified in WAC 173-460 (July 1998), therefore, no adverse ambient air quality impact is anticipated.

9.c. Emergency Generator: The new emergency generators will operate no more than 200 hr/yr for testing, maintenance, and as necessary to supply power during an emergency, therefore, the ambient impact of this source is not likely to be significant.

Conclusions

9.d. Installation and operation of emergency generator engines, as proposed in ADP application CL-3293, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.e. Installation and operation of emergency generator engines, as proposed in ADP application CL-3293, 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.f. Installation and operation of emergency generator engines, as proposed in ADP application CL-3293, 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 25-3707 in response to ADP application CL-3293. ADP 25-3707 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

10.a. Supersession of Previous Permits. ADP 25-3707 supersedes ADP 19-3321, SUN-213, SUN-214, SUN-215, SUN-253, SUN-261, SUN-270, SUN-276, SUN-277, SUN-302, and SUN-313 in their entirety. Compliance will be determined under this ADP, not previously superseded ADPs. Existing approval conditions for units not affected by this project have been carried forward unchanged.

10.b. Emission Limits. Because these are emergency engines, only opacity limits representative of proper operation were imposed.

10.c. Operational Limits and Requirements. To minimize the local impact on ambient air quality and odor impacts, all exhaust stacks must be oriented vertically and may not utilize a rain-cap or other device that interferes with vertical dispersion.

Only road-grade diesel fuel was evaluated for use in the engines, therefore operation on other, potentially dirtier, fuels was prohibited. The use of ultra-low-sulfur ($\leq$ 0.0015% by weight) diesel by diesel engines is a reasonable control measure that reduces SO_X and PM emissions relative to diesel with a higher sulfur content. The permit allows the use of "#2 diesel or better." 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.

10.d. Monitoring and Recordkeeping Requirements. ADP 25-3707 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements.

10.e. Emission Monitoring and Testing Requirements. See Section 12.

10.f. Reporting Requirements. ADP 25-3707 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for coating consumption, fuel consumption, and material throughput. Reports are to be submitted on a semi-annual basis.

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.

The diesel engines may exhibit higher than normal opacity during startup. Accordingly, the 5% opacity limit for these engines is not applicable during the startup period defined in the permit. The general visible emission limit of 20% opacity found in SWCAA 400 applies at all times, including startup.

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

There are no emission monitoring or testing requirements established as part of this permitting action.

13. FACILITY HISTORY

13.a. General History. Small Unit notifications SUN-213, SUN-214, SUN-215, SUN-253, SUN-261, SUN-270, SUN-276, SUN-277, SUN-302, and SUN-313 have been submitted since ADP 19-3321 was issued. The new permit will supersede all mention SUN's and add four additional emergency generators. Seventeen of the emergency generator engines had not been addressed in an Air Discharge Permit until issuance of Air Discharge Permit 14-3088. Seven of the emergency generator engines (Osprey Pointe, Cassini View, Heron Ridge, Taverner Ridge, 26th Ave. (Wishing Wells Estate), Canyon's Ridge, and Pioneer Canyon) were previously addressed by Air Discharge Permit 08-2840 issued to the City of Ridgefield Public Works. Responsibility for these seven engines was transferred to the Clark Regional Wastewater District effective January 1, 2014.

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

Permit	Application	Date Issued	Description
SUN-313	SUN-313	2/22/2024	Approval of Whipple Creek West Pump Station Emergency Generator Engine

Permit	Application	Date Issued	Description
SUN-302	SUN-302	4/5/2023	Approval of Whipple Creek North Station Emergency Generator Engine
SUN-277	SUN-277	3/17/2022	Approval of Woodbrook Pump Station Emergency Generator Engine
SUN-276	SUN-276	3/17/2022	Approval of Seton Pump Station Emergency Generator Engine
SUN-270	SUN-270	10/15/2021	Approval of North Haven Lift Station Emergency Generator Engine
SUN-261	SUN-261	6/4/2021	Approval of Ridgefield Heights Pump Station Emergency Generator Engine
SUN-253	SUN-253	1/13/2021	Approval of District Campus Emergency Generator Engine
SUN-215	SUN-215	8/2/2019	Approval of Pleasant Valley North Pump Station Emergency Generator Engine
SUN-214	SUN-214	8/2/2019	Approval of Union Road Pump Station Emergency Generator Engine
SUN-213	SUN-214	8/14/2019	Approval of North Junction Pump Station Emergency Generator Engine
19-3321	CL-3057	1/24/2019	Install and operate 3 new emergency generators. Installation and operation of 6 new odor control biofilters.
14-3088	CL-2011	3/26/2014	Approval of 22 existing emergency generator engines, including seven approved by SWCAA 08-2840 and previously operated by the City or Ridgefield Public Works.
SUN-072	SUN-072	11/25/2014	Approval of Dunning Meadows Emergency Generator Engine
SUN-079	SUN-079	2/18/2015	Approval of Marina 2 Emergency Generator Engine
SUN-080	SUN-080	3/3/2015	Approval of Fieldstone Emergency Generator Engine
SUN-082	SUN-082	4/15/2015	Approval of Payne Emergency Generator Engine
SUN-101	SUN-101	8/13/2015	Approval of Kimsey Emergency Generator Engine
SUN-112	SUN-112	3/24/2016	Approval of Hawk's Landing Emergency Generator Engine
SUN-127	SUN-127	11/17/2016	Approval of Jessie Hollow Emergency Generator Engine

Permit	Application	Date Issued	Description
SUN-128	SUN-128	11/29/2016	Approval of Pioneer Place Emergency Generator Engine
SUN-153	SUN-153	12/19/2017	Approval of Frasier Downs Emergency Generator Engine
SUN-154	SUN-154	12/19/2017	Approval of 72nd Avenue Emergency Generator Engine
SUN-157	SUN-157	12/19/2017	Approval of Royle Road Emergency Generator Engine
SUN-164	SUN-164	2/27/2018	Approval of Taverner Ridge 8-9 Emergency Generator Engine
SUN-173	SUN-173	6/6/2018	Approval of St Johns Woods Emergency Generator Engine
SUN-174	SUN-174	6/6/2018	Approval of Kennedy Farm Emergency Generator Engine

Approvals in bold have been superseded or are no longer active with issuance of ADP 25-3707.

13.c. Compliance History. No compliance issues have been identified for this facility within the past five years.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP Application CL-3293. Public notice for ADP application CL-3293 was published on the SWCAA website for a minimum of fifteen (15) days beginning on March 20, 2025.

14.b. Public/Applicant Comment for ADP Application CL-3293. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application CL-3293. Therefore, no public comment period was provided for this permitting action.

14.c. State Environmental Policy Act (SEPA). The four engines proposed by the applicant have separate SEPA Determinations. Portable Emergency Generator Eight and Silver Star Emergency Generator Engine are SEPA exempt since the wastewater pipes are less than 12 inches in diameter. Clark County issued an optional SEPA Determination of Non-Significance for Whipple Creek East Station F revealing adverse impacts to the environment are unlikely. Clark County issued a SEPA Determination of Non-Significance for McCormick Creek (formerly Greely Farms) Emergency Generator Engine.