



April 12, 2019

David Vorse
Public Works Director
City of Castle Rock
PO Box 370
Castle Rock, WA 98611

Subject: Notification of Emergency Generator Installation – (SUN – 201)

Dear Mr. Vorse:

The Southwest Clean Air Agency (SWCAA) received your Small Unit Notification (SUN) on March 1, 2019 for installation and operation of a portable emergency generator engine. For administrative and tracking purposes SWCAA has assigned tracking number SUN-201 to this notification. This notification was filed in accordance with SWCAA 400-072 and applies to the installation of one emergency generator engine. The new unit was identified as:

- (1) 98 brake horsepower diesel-fired Isuzu model BJ-4JJ1X engine to drive a 56 kW (prime) MultiQuip generator set. The engine is EPA Interim Tier 3 certified for stationary emergency use.

SWCAA has completed a review of your notification and the associated support information and has determined that the notification meets the requirements of SWCAA 400-072(2). Once installed, affected equipment must maintain compliance with the requirements of SWCAA 400-072(5)(c) "**Emergency service internal combustion engines**". A copy of the relevant SWCAA 400-072 section is attached for your information.

Be advised that emission units installed pursuant to SWCAA 400-072 are subject to source registration and periodic inspection. Registration fees for this equipment will be invoiced consistent with SWCAA 400-100.

If you need further assistance or have any questions regarding these matters, please contact me at (360) 574-3058 extension 130.

Sincerely,

Paul T. Mairose
Chief Engineer



SWCAA 400-072 Emission Standards for Selected Small Source Categories

[Statutory Authority: Chapter 70.94.141 RCW. Original adoption 09-21-056 filed 10/15/09, effective 11/15/09, 16-19-009 filed 9/8/16, effective 10/9/16; 17-11-078 filed 5/18/17, effective 6/18/17]

(5) Source categories.

(c) Emergency service internal combustion engines.

- (i) **Applicability.** The provisions of this section apply to emergency service internal combustion engines with a rating of 50 or more, but less than 1,000 horsepower (e.g., emergency generators, fire pumps, sewer lift stations, etc.).
- (ii) **Emission limits and standards.**
 - (A) Visible emissions from diesel fired engine exhaust stacks shall not exceed ten percent opacity for more than 3 minutes in any one hour period as determined in accordance with SWCAA Method 9 (See SWCAA 400, Appendix A). This limitation shall not apply during periods of cold start-up.
- (iii) **General requirements.**
 - (A) Liquid fueled engines shall only be fired on #2 diesel or biodiesel. Fuel sulfur content of liquid fuels shall not exceed 0.0015% by weight (15 ppmw). A fuel certification from the fuel supplier may be used to demonstrate compliance with this requirement.
 - (B) Gaseous fueled engines shall only be fired on natural gas or propane.
 - (C) Each compression ignition engine shall be EPA Tier certified and manufactured no earlier than January 1, 2008.
 - (D) Engine operation shall be limited to maintenance checks, readiness testing, and actual emergency use.
 - (E) Engine operation for maintenance checks and readiness testing shall not exceed 100 hours per year. Actual emergency use is unrestricted.
 - (F) Each engine shall be equipped with a nonresettable hourmeter for the purpose of documenting hours of operation.
 - (G) Engine exhaust shall be discharged vertically. Any device that obstructs or prevents vertical discharge is prohibited.
- (iv) **Monitoring and recordkeeping requirements.** The information listed below shall be recorded at the specified intervals, and maintained in a readily accessible form for a minimum of 3 years. With the exception of data logged by a computerized data acquisition system, each required record shall include the date and the name of the person making the record entry.
 - (A) Total hours of operation for each engine shall be recorded annually;
 - (B) Hours of emergency use for each engine shall be recorded annually;
 - (C) Fuel sulfur certifications shall be recorded for each shipment of liquid fuel;
 - (D) Maintenance activities shall be recorded for each occurrence consistent with the provisions of 40 CFR 60.4214;
 - (E) Upset conditions that cause excess emissions shall be recorded for each occurrence; and
 - (F) All air quality related complaints received by the permittee and the results of any subsequent investigation or corrective action shall be recorded promptly after each occurrence.
- (v) **Testing requirements.** None.

- (vi) **Reporting requirements.**
 - (A) The owner or operator of an affected emission unit shall provide written notification of initial operation to SWCAA within 10 days of occurrence.
 - (B) All air quality related complaints received by the owner or operator shall be reported to SWCAA within three calendar days of receipt.
 - (C) The owner or operator of an affected emergency engine shall report the following information to the Agency no later than March 15th for the preceding calendar year:
 - (I) Hours of engine operation; and
 - (II) Air emissions of criteria air pollutants, VOCs, and toxic air pollutants (TAPs).

**Summary Information (by SWCAA) for SUN-201
City of Castle Rock – Wastewater Treatment Plant
Portable MultiQuip/Isuzu Emergency Generator Engine**

A 56 kW trailer-mounted diesel-fired emergency generator set will be used by the public works department as necessary in Castle Rock. The following equipment details were available:

Location:	Portable – currently stored at the Public Works Facility 360 A Street SW, Castle Rock, WA 98611
Engine Make / Model:	Isuzu / BJ-4JJ1X
Engine ID Number:	4JJ1-I24722
Engine Family:	BSZXL03.0JXB
Fuel:	Diesel
Fuel Consumption:	4.1 gallons per hour (MultiQuip Specification Sheet) Based on full load with this generator
Engine Horsepower Rating:	73 kW (98 bhp)
Installation Date:	Purchased used in July 2018
Engine Built (Date):	2011 Model Year
Engine Certification:	EPA Interim Tier 3
Generator Set Make / Model:	MultiQuip / DCA-70SSIU2
Generator Set Output:	62 kW (standby), 56 kW (prime)
Stack Description:	Not provided. Stack flow 332 acfm at 932°F
Applicable Federal Regulations:	40 CFR 60 Subpart IIII 40 CFR 63 Subpart ZZZZ

City of Castle Rock – Portable MultiQuip/Isuzu Generator Engine. 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.

City of Castle Rock - Portable MultiQuip/Isuzu Generator Set						
Hours of Operation =	200 hours					
Power Output =	97.9 horsepower					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	4.10 gal/hr (from MultiQuip Specification Sheet)					
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	2.16	0.47	0.047	EPA Certification Level		
CO	0.87	0.19	0.019	EPA Certification Level		
VOC	0.00247	0.00053	0.000053	AP-42 Table 3.3-1 (10/96)		
SO _x as SO ₂		0.00089	0.000089	Mass Balance		
PM	0.12	0.027	0.0027	EPA Certification Level		
PM ₁₀	0.12	0.027	0.0027	EPA Certification Level		
PM _{2.5}	0.12	0.027	0.0027	EPA Certification Level		
			CO ₂ e	CO ₂ e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	9	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.01	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.02	40 CFR 98
Total GHG - CO ₂ e	74.0		163.6	23	9	