



July 31, 2018

Bob Essex  
Cowlitz Public Utility District No. 1  
PO Box 3007  
Longview, WA 98632

Subject: Notification of Emergency Generator Installation at Swift No. 2 (SUN – 180)

Dear Mr. Essex:

The Southwest Clean Air Agency (SWCAA) received your Small Unit Notification (SUN) on July 13, 2018 for installation and operation of an emergency generator engine at 18000 Lewis River Road, Cougar, WA. For administrative and tracking purposes SWCAA has assigned tracking number SUN-180 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) 100.3 bhp propane-fired Cummins model QSJ5.9G-G2 engine to drive a 60 kW Cummins generator set. The engine is EPA certified and meets the standards for stationary emergency engines.

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

cc: Alice Dietz  
Cowlitz Public Utility District No. 1  
PO Box 3007  
Longview, WA 98632



## 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 15<sup>th</sup> 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-180

### Cowlitz Public Utility District No. 1

A new emergency generator set will be installed at the Swift No. 2 hydroelectric facility for station service during a power outage.

### New Emergency Generator Information – SUN-180

Location:	Swift No. 2 Hydroelectric Project 18000 Lewis River Road, Cougar, WA ~ 46° 3'34.70"N, 122°15'40.88"W
Generator Set Make / Model:	Cummins / C60 N6
Engine Make / Model:	QSJ5.9G-G2
Engine Serial Number:	to be determined
Fuel:	Propane
Fuel Consumption:	370.2 scfh @ full standby load (propane)
Horsepower Rating:	100.3 hp
Installation Date:	2018
Engine Built (Date):	to be determined
Engine Certification:	EPA certified for spark ignition
Generator Set Output:	60 kW
Stack Description:	Dimensions to be determined. 437.8 acfm, 1,262°F
Applicable Federal Regulations:	40 CFR 60 Subpart JJJJ 40 CFR 63 Subpart ZZZZ

Emergency Generator Engine. Potential annual emissions were calculated with the assumption that the equipment will operate at full load for up to 200 hours per year.

<b>Emergency Generator Engine</b>					
Rated horsepower =			100.3 bhp		
Max fuel consumption =			370.2 scfh		
Propane heat content =			92.0 MMBtu/1,000 gallons (for 40 CFR 98 emission factors)		
Max fuel consumption =			42.3 lb/hr (assumes pure C <sub>3</sub> H <sub>8</sub> )		
Propane sulfur content =			185 ppmw		
Max hours per year =			200 hours		
Propane density =			4.24 lbs/gallon		
Annual fuel consumption =			1,994 gallons per year		
Pollutant	Emission Factor g/hp-hr	lb/hr	tons per year	Emission Factor Source	
NO <sub>x</sub>	5.35	1.18	0.12	Cummins	
CO	85.09	18.82	1.88	Cummins	
VOC	0.80	0.18	0.018	Cummins	
SO <sub>x</sub> as SO <sub>2</sub>	0.0707	0.016	0.0016	Mass Balance	
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.0194	0.0043	0.00043	AP-42 Sec 3.2 (7/00)	
Benzene	0.00158	0.00035	3.5E-05	AP-42 Sec 3.2 (7/00)	
Formaldehyde	0.0205	0.00453	4.5E-04	AP-42 Sec 3.2 (7/00)	
Toluene	0.000558	0.00012	1.2E-05	AP-42 Sec 3.2 (7/00)	
Xylene	0.000195	0.00004	4.3E-06	AP-42 Sec 3.2 (7/00)	
Greenhouse Gases	kg/MMBtu	Warming Potential	CO <sub>2</sub> e lb/gallon	CO <sub>2</sub> e tpy	Emission Factor Source
CO <sub>2</sub>	61.71	1	12.52	12.5	40 CFR 98
CH <sub>4</sub>	0.003	25	0.02	0.015	40 CFR 98
N <sub>2</sub> O	0.0006	298	0.04	0.036	40 CFR 98
<b>Total GHG - CO<sub>2</sub>e</b>	<b>61.7136</b>		<b>12.568</b>	<b>12.5</b>	