



## Southwest Clean Air Agency

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February 20, 2015

Mr. Richard Hamilton  
Campus Services Department  
Lower Columbia College  
1600 Maple Street  
PO Box 3010  
Longview, Washington 98632

Subject: Notification of Emergency Generator Engine Installation (SUN-077)

Dear Mr. Hamilton:

The Southwest Clean Air Agency (SWCAA) received your Small Unit Notification (SUN) on January 29, 2015 for installation and operation of an emergency generator engine at the Health and Science Building at Lower Columbia College's campus at 1600 Maple Street, Longview, WA. For administrative and tracking purposes SWCAA has assigned tracking number SUN-077 to this notification. This notification was filed in accordance with SWCAA 400-072 and applies to the installation of one emergency generator engine. The emergency generator engine was identified as:

- (1) 197 bhp diesel-fired Cummins model QSB7-G3 NR3 engine to drive a 125 kW (standby) Cummins model 125DSGAB generator set. The engine is EPA Tier 3 certified.

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(4)(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: Ken Noble  
Lower Columbia College  
1600 Maple Street  
PO Box 3010  
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.]

### (4) 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 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. Total engine operation shall not exceed 200 hours per year.
  - (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) Fuel sulfur certifications shall be recorded for each shipment of liquid fuel;
  - (C) Maintenance activities shall be recorded for each occurrence consistent with the provisions of 40 CFR 60.4214;
  - (D) Upset conditions that cause excess emissions shall be recorded for each occurrence; and
  - (E) All air quality related complaints received by the permittee and the results of any subsequent investigation or corrective action shall be recorded for each occurrence.
- (v) **Testing requirements.** None.

(vi) **Reporting requirements.**

- (A) All air quality related complaints received by the owner or operator shall be reported to SWCAA within three calendar days of receipt.
- (B) 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-077  
Lower Columbia College  
Health and Science Building Emergency Generator**

A 125 kW diesel-fired emergency generator set was installed at the new Health and Science Building to provide emergency power to the facility when utility power is interrupted. The following equipment details were available:

Location:	Lower Columbia College, outside the northwest corner of the Health and Science Building 1600 Maple Street, Longview, WA 98632
Engine Make / Model:	Cummins / QSB7-G3 NR3
Engine Serial Number:	To be determined
Fuel:	Diesel
Fuel Consumption:	10.1 gallons per hour at full standby load
Horsepower Rating:	197 horsepower at full standby load
Installation Date:	2014
Engine Built (Date):	2014
Engine Certification:	EPA Tier 3
Generator Set Make / Model:	Cummins / 125DSGAB
Generator Set Serial Number:	F130525791
Generator Set Output:	125 kW
Stack Description:	1,161 acfm at 835°F, ~ 46° 8'31.35"N, 122°56'20.37"W
Applicable Federal Regulations:	40 CFR 60 Subpart III 40 CFR 63 Subpart ZZZZ

Health and Science Building Emergency 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.

<b>Health and Science Building Emergency Generator Engine</b>						
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 =	10.1 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)					
Pollutant	Emission Factor	Emissions	Emissions	Emission Factor Source		
	g/(hp-hr)	lb/hr	tpy			
NO <sub>x</sub>	2.38	1.03	0.10	Cummins Emissions Data Sheet		
CO	0.58	0.25	0.025	Cummins Emissions Data Sheet		
VOC	0.07	0.03	0.0030	Cummins Emissions Data Sheet		
SO <sub>x</sub> as SO <sub>2</sub>		0.0022	0.00022	Mass Balance		
PM	0.08	0.03	0.0035	Cummins Emissions Data Sheet		
PM <sub>10</sub>	0.08	0.03	0.0035	Cummins Emissions Data Sheet		
PM <sub>2.5</sub>	0.08	0.03	0.0035	Cummins Emissions Data Sheet		
Greenhouse Gases	kg/MMBtu	GWP	CO <sub>2</sub> e lb/MMBtu	CO <sub>2</sub> e lb/gallon	tpy, CO <sub>2</sub> e	Emission Factor Source
CO <sub>2</sub>	73.96	1	163.05	23	23	40 CFR 98
CH <sub>4</sub>	0.003	25	0.165	0.023	0.02	40 CFR 98
N <sub>2</sub> O	0.0006	298	0.394	0.054	0.05	40 CFR 98
<b>Total GHG - CO<sub>2</sub>e</b>	<b>74.0</b>		<b>163.6</b>	<b>23</b>	<b>23</b>	