

Emergency Generator Emissions
Arglass Yamamura, LLC.
Valdosta Georgia

Two (2) 1250 kVa (1,000 eKW) Emergency Generators ⁽¹⁾ = 2x 1838 bhp engine capacity

Firing Rate and Fuel Use:		
Firing Rate at Full Load (Gal/hr)	87	
Heating value of Fuel (Btu/Gal)	140,000	
Firing Rate (MMBtu/hr)	12.354	
Rated Horsepower (bhp)	1,838	
Total Annual Operating Hours (hr/yr)	500	
Number of Generators	2	
Emission Factors (g/bhp-hr) or (lb/MMBtu) ^{(2),(3)}		
CO (g/bhp-hr) ⁽²⁾	0.15	
NOx (g/bhp-hr) ⁽²⁾	4.77	
SO2 (lb/MMBtu) ⁽³⁾	0.001515	
PM/PM-10/PM-2.5 (g/bhp-hr) ⁽²⁾	0.010	
VOC (as HC) (g/bhp-hr) ⁽²⁾	1.431	
Total HAP (lb/MMBtu) ⁽³⁾	0.0017	
Emission Factors (ton/MMBtu) ⁽⁴⁾		
CO ₂	8.15E-02	
CH ₄	3.31E-06	
N ₂ O	6.61E-07	
Hourly Emissions Per Generator (lb/hr)		Total Generator Hourly Emissions (lb/hr)
CO	0.61	1.22
NOx	19.3	38.66
SO2	0.019	0.04
PM/PM-10/PM-2.5	0.04	0.08
VOC	5.80	11.6
Total HAP	0.01	0.01
Annual Emissions Per Generator (TPY)		Total Generator Annual Emissions (ton/yr)
CO	0.15	0.3
NOx	4.83	9.66
SO2	0.005	0.01
PM/PM-10/PM-2.5	0.010	0.02
VOC (as HC)	1.45	2.9
Total HAPs	0.0017	0.003
CO ₂ e	505	1011

Notes:

- (1) Specifications sheet for Rolls Royce (MTU) 1000 ekW 1250 kVA 60 Hz 1800 rpm 480 Volts generator for the purposes of calculating PTE.
- (2) Nominal emission rates as provided on the representative Rolls Royce Specification Sheet. NOx emission emission factor was assumed to be the equal to the NOx+NMHC emission factor. Assumes VOC is 30% of the NOx emission factor which analogous to information in AP-42 Section 3.4. In this case, NMHC+NOx emission factor is assumed to represent NOx as a conservative measure.
- (3) HAP emission factor was assumed to be the sum of HAP emissions in Table 3.4-3 of AP-42. The SO2 emissoin Factor was provided in Table 3.4-1 of AP-42 with the sulfur content of 15 ppm (or 0.0015%) as provided in 40 CFR §60.4207 and 40 CFR §1090.305(b).
- (4) Calculated based on emission factors in 40 CFR 98 Subpart C, Tables C-1 & C-2