

T09 - TURBINE, NATURAL GAS FIRED, ALL SIZES, WITH WATER INJECTION

CALCULATION METHODS

$E_a = U_a \times EF$ (lbs/mmft³)

$E_h = U_h$ (scfm) \times (60/1000000) \times EF (lbs/mmft³)

NOTES:

- Emission factors are based on a natural gas BTU content of 1020 BTU/scf.
- Trace organic emissions are based on detected AB 2588 compounds listed in Table 3.1-3.
- Propylene Oxide and Lead factors are not used since they were not detected.
- A USEPA memo (8/21/01) titled "Hazardous Air Pollutant (HAP) Emission Control Technology for New Stationary Combustion Turbines"

lists emission factors for Acetaldehyde, Benzene, and Formaldehyde that are not significantly different from AP-42.

Pollutant	District Emission Factor (lbs/million ft ³ fuel burned)	EPA Reference Document	EPA Factor	Units	Comments
NO _x	132.60	AP-42, Sect 3.1, 4/00, Table 3.1-1	1.30E-01	lbs/MMBTU	
CO	30.60	AP-42, Sect 3.1, 4/00, Table 3.1-1	3.00E-02	lbs/MMBTU	
SO _x	0.60	AP-42, Sect 3.1, 4/00, Table 3.1-2a	4.70E-04	lbs/MMBTU	Assumes an average sulfur content of 2000 grains MM ft ³ natural gas.
TOG	11.22	AP-42, Sect 3.1, 4/00, Table 3.1-2a	1.10E-02	lbs/MMBTU	
ROG	2.14	AP-42, Sect 3.1, 4/00, Table 3.1-2a	2.10E-03	lbs/MMBTU	
TSP	6.73	AP-42, Sect 3.1, 4/00, Table 3.1-2a	6.60E-03	lbs/MMBTU	TSP includes condensible PM (4.7 E-03) and filterable PM (1.9 E-03).
PM ₁₀	6.73	AP-42, Sect 3.1, 4/00, Table 3.1-2a	6.60E-03	lbs/MMBTU	PM ₁₀ includes condensible PM (4.7 E-03) and filterable PM (1.9 E-03).
1,3-Butadiene	0.0004	AP-42, Sect 3.1, 4/00, Table 3.1-3	4.30E-07	lbs/MMBTU	Based on half the detection limit as recommended by AP-42.
Acetaldehyde	0.0408	AP-42, Sect 3.1, 4/00, Table 3.1-3	4.00E-05	lbs/MMBTU	
Acrolein	0.0065	AP-42, Sect 3.1, 4/00, Table 3.1-3	6.40E-06	lbs/MMBTU	
Benzene	0.0122	AP-42, Sect 3.1, 4/00, Table 3.1-3	1.20E-05	lbs/MMBTU	
Ethylbenzene	0.0326	AP-42, Sect 3.1, 4/00, Table 3.1-3	3.20E-05	lbs/MMBTU	
Formaldehyde	0.7242	AP-42, Sect 3.1, 4/00, Table 3.1-3	7.10E-04	lbs/MMBTU	
Naphthalene	0.0013	AP-42, Sect 3.1, 4/00, Table 3.1-3	1.30E-06	lbs/MMBTU	
PAH	0.0022	AP-42, Sect 3.1, 4/00, Table 3.1-3	2.20E-06	lbs/MMBTU	
Toluene	0.1326	AP-42, Sect 3.1, 4/00, Table 3.1-3	1.30E-04	lbs/MMBTU	
Xylenes	0.0653	AP-42, Sect 3.1, 4/00, Table 3.1-3	6.40E-05	lbs/MMBTU	