CALCULATION OF ANNUAL EMISSIONS FOR GWF HENRIETTA PEAKER PROJECT

A. Normal Operations: 100% load, 63F, 60% RH case, Evaporative Cooler On

Pollutant	Hourly Emissions (lb/hr)
NOx	5.9
CO	2.44
VOC	0.33
SO2	0.30
PM10	3.3

B. Start-Up/Shutdown Emissions (Emissions per Combined Startup and Shutdown Event)

Pollutant	Emissions (lb)
NOx	7.7
CO	7.7
VOC	0.68
SO2	0.33
PM10	3.14

C. Annual Average Emissions for Turbines

(Assume 2 turbines, each 8000 base hours, plus 300 startups and 300 shutdowns each)

Pollutant		Annual Emissions		Stack Concentration	
		lb/yr	tpy		
NOx	2*((A*8000) + (B*300))	99,020	**49.5**	3.60	ppmvd@15%O_2
CO	2*((A*8000) + (B*300))	43,660	**21.8**	2.40	ppmvd@15%O_2
VOC	2*((A*8000) + (B*300))	5,688	**2.8**	0.60	ppmvd@15%O_2
SO2	2*((A*8000) + (B*300))	4,998	**2.5**	0.14	ppmvd@15%O_2
PM10	2*((A*8000) + (B*300))	54,684	**27.3**	--	

D. Annual Maximum Emissions for Offsets Calculation

(Assume 2 turbines, each 8000 base hours, plus 300 startups and 300 shutdowns each;
prorate annual VOC emissions to permit limit of 2 ppm.)

Pollutant		Annual Emissions		Stack Concentration	
		lb/yr	tpy		
NOx	2*((A*8000) + (B*300))	99,020	**49.5**	3.6	ppmvd@15%O_2
CO	2*((A*8000) + (B*300))*(6ppm/2.4ppm)	109,150	**54.6**	6.0	ppmvd@15%O_3
VOC	2*((A*8000) + (B*300))*(2ppm/0.6ppm)	18,960	**9.5**	2.0	ppmvd@15%O_2
SO2	2*((A*8000) + (B*300))	4,998	**2.5**	0.14	ppmvd@15%O_2
PM10	2*((A*8000) + (B*300))	54,684	**27.3**	--	

E. Annual Maximum Emissions for Emergency Generator

(Assume 13 hours per year, and use 100% load emission values)

Pollutant		Annual Emissions	
		lb/yr	tpy
NOx	4.29 lb/hr*13	55.8	**0.028**
CO	0.95 lb/hr*13	12.4	**0.0062**
VOC	0.12 lb/hr*13	1.6	**0.00078**
SO2	Footnote	0.1	**0.000065**
PM10	0.11 lb/hr*13	1.4	**0.00072**

Footnote:
(18.9 gal/hr fuel*7.1 lb/gal*0.0005 lbS/lb fuel*2lbSO2/lbS)