

US EPA ARCHIVE DOCUMENT

Table B-3
GHG Startup Emission Calculations - GE 7FA.05 Simple Cycle Combustion Turbines
Guadalupe Power Partners LP

EPN	Input Per Startup Event ¹ (MMBtu/hr)	Pollutant	Emission Factor (lb/MMBtu) ²	GHG Mass Emissions ³ (tons/hr)	Global Warming Potential ⁴	CO ₂ e (tons/event)
CTG-7 (GE 7FA.05)	350	CO ₂	118.86	20.80	1	20.80
		CH ₄	2.2E-03	0.0004	25	0.01
		N ₂ O	2.2E-04	0.0000	298	0.01
Total:				20.80		20.82
CTG-8 (GE 7FA.05)	350	CO ₂	118.86	20.80	1	20.80
		CH ₄	2.2E-03	0.0004	25	0.01
		N ₂ O	2.2E-04	0.0000	298	0.01
Total:				20.80		20.82
Total for 2 Turbines:				41.60		41.64

Note

- Average heat input during a startup on a 12-month rolling average
- CH₄ and N₂O GHG factors based on Table C-2 of 40 CFR 98 Mandatory Greenhouse Gas Reporting.
- CO₂ emissions based on 40 CFR Part 75, Appendix G, Equation G-4
 $W_{CO_2} = (F_c \times H \times U_f \times MW_{CO_2})/2000$
 W_{CO_2} = CO₂ emitted from combustion, tons/yr
 F_c = Carbon based F-factor, 1040 scf/MMBtu
 H = Heat Input (MMBtu/yr)
 U_f = 1/385 scf CO₂/lbmole at 14.7 psia and 68 °F
 MW_{CO_2} = Molecule weight of CO₂, 44.0 lb/lb-mole
- Global Warming Potential factors based on Table A-1 of 40 CFR 98 Mandatory Greenhouse Gas Reporting.