

Appendix B

Emissions Data

**Table B-1 (Revised December 4, 2015)
Puente Power Project
Performance Runs for Gas Turbine**

Ambient Condition	Winter		ISO		Summer		Summer		Summer		Summer	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Ambient Temperature (deg. F)	38.9	38.9	59	59	77.8	77.8	77.8	77.8	82	82	82	82
Relative Humidity, %	26%	29%	60%	60%	50%	50%	50%	50%	3%	3%	3%	3%
Load	Off	Off	Off	Off	On	Off	Off	Off	On	Off	Off	Off
Exap Coding?	Off	Off	Off	Off	On	Off	Off	Off	On	Off	Off	Off
Output Summary												
Gross Output, MW	280	70	276	69	270	258	76	272	254	77		
HH Fuel Input, MM/Buhr	2,572.07	1,080.07	2,552.16	1,057.38	2,507.74	2,477.99	1,093.67	2,521.81	2,394.57	1,015.3		
Fuel Flow, scfh	2,523,252	1,059,298	2,502,903	1,057,111	2,459,944	2,371,766	1,072,608	2,473,510	2,337,851	1,080,256		
Stack Parameters												
Stack Exhaust Flow, 000s lb/hr	6,109.00	3,316.00	6,107.00	3,297.00	6,168.00	6,099.00	3,398.00	6,193.00	6,072.00	3,433.00		
Stack Exhaust Temperature, Deg.F	900	900	900	900	900	900	900	900	900	900		
Exhaust Composition, Vol %												
N2	75.50%	76.04%	74.94%	75.46%	74.37%	74.59%	75.02%	74.53%	74.99%	75.36%		
O2	14.03%	15.57%	14.04%	15.50%	13.95%	14.11%	15.38%	14.00%	14.26%	15.46%		
CO2	3.19%	2.48%	3.12%	2.44%	3.07%	3.02%	2.44%	3.07%	3.07%	2.44%		
H2O	6.38%	4.99%	7.00%	5.69%	7.77%	7.39%	6.27%	7.50%	6.97%	5.82%		
Ar	0.91%	0.91%	0.91%	0.90%	0.89%	0.89%	0.89%	0.89%	0.89%	0.91%		
Molecular Weight	28.56	28.64	28.48	28.56	28.39	28.43	28.5	28.42	28.48	28.55		
Stack Exhaust Flow, 000s ACFM	3,530.67	1,922.03	3,587.69	1,916.87	3,576.29	3,485.05	1,977.90	3,592.25	3,482.77	1,995.01		
Stack Emission Rates												
NOx, ppmvd@5% O2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		
CO, ppmvd@5% O2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
ROC as CH4, ppmvd@5% O2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
NOx, ppmvd@5% O2	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		
Particulates, lb/hr	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
NOx, lb/hr	23.1	9.7	22.9	9.5	22.5	21.7	9.8	22.6	21.4	9.9		
CO, lb/hr	22.5	9.4	22.3	9.2	21.9	21.2	9.5	22.1	20.9	9.6		
ROC as CH4, lb/hr	6.4	2.7	6.4	2.6	6.3	6.1	2.7	6.3	6.0	2.8		
NOx Slip, lb/hr	7.1	7.2	7.0	7.0	6.7	6.1	7.3	6.8	6.9	7.3		

Table B-2 (Revised December 4, 2015)
Puente Power Project
Gas Turbine Hourly Emissions - Startup/Shutdown Emissions

Gas Turbine - Hourly Startup Emissions											
	Time (minutes)	NOx Emissions (lbs/hr)	CO Emissions (lbs/hr)	ROC Emissions (lbs/hr)	PM10 Emissions (lbs/hr)	SOx Emissions (lbs/hr)	NOx Emissions (lbs)	CO Emissions (lbs)	ROC Emissions (lbs)	PM10 Emissions (lbs)	SOx Emissions (lbs)
Maximum Startup Emissions	30	N/A	N/A	N/A	N/A	5.4	87.0	167.0	17.0	3.7	2.7
Maximum Normal Operation Emissions	30	23.1	22.5	6.4	10.1	5.4	11.8	11.3	3.2	5.1	2.7
Total =	60						98.6	178.3	20.2	8.8	5.4

Gas Turbine - Hourly Shutdown Emissions											
	Time (minutes)	NOx Emissions (lbs/hr)	CO Emissions (lbs/hr)	ROC Emissions (lbs/hr)	PM10 Emissions (lbs/hr)	SOx Emissions (lbs/hr)	NOx Emissions (lbs)	CO Emissions (lbs)	ROC Emissions (lbs)	PM10 Emissions (lbs)	SOx Emissions (lbs)
Maximum Shutdown Emissions	12	N/A	N/A	N/A	N/A	5.4	4.0	145.0	25.0	1.5	1.1
Maximum Normal Operation Emissions	48	23.1	22.5	6.4	10.1	5.4	18.5	18.0	5.2	8.1	4.3
Total =	60						22.5	163.0	30.2	9.6	5.4

Gas Turbine - Hourly Startup/Shutdown/Restart Emissions											
	Time (minutes)	NOx Emissions (lbs/hr)	CO Emissions (lbs/hr)	ROC Emissions (lbs/hr)	PM10 Emissions (lbs/hr)	SOx Emissions (lbs/hr)	NOx Emissions (lbs)	CO Emissions (lbs)	ROC Emissions (lbs)	PM10 Emissions (lbs)	SOx Emissions (lbs)
Maximum Startup Emissions	30	N/A	N/A	N/A	N/A	5.4	87.0	167.0	17.0	3.7	2.7
Maximum Shutdown Emissions	12	N/A	N/A	N/A	N/A	5.4	4.0	145.0	25.0	1.5	1.1
Maximum Restart Emissions*	18	N/A	N/A	N/A	N/A	5.4	52.2	100.2	10.2	2.2	1.6
Total =	60						143.2	412.2	52.2	7.4	5.4

Note: * Calculated based on maximum startup emissions reduced for 18 minute period.



October 28, 2015

To: NRG Puente Power Team

Subject: NRG Puente Power
GE IPS: 976085
GE PM10 Emission Guarantee

The NRG Puente Power Plant, will utilize the 7HA.01 gas turbine technology installed in a simple cycle configuration equipped with an air attemperated simple cycle SCR and CO catalyst. For this installation, GE is offering a Particulate Matter emission guarantee of 10.1 lbs/hr as measured at the emission sampling ports located at the turbine stack exit. This guarantee shall apply for the entire load range from minimum emission compliant load (MECL) through base load operation and across the guarantee ambient temperature range of 38.9 to 82 deg F.

Regards,

A handwritten signature in black ink, appearing to read 'Andrew Dicke'.

Andrew Dicke
GE Power and Water
Emissions and Permitting Application Engineer