

Appendix A

Turbine Performance Emissions Data

Applicant Provided Turbine Performance Data

		Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
Ambient Data							
Dry Bulb	deg F	30.0	30.0	30.0	30.0	39.4	39.4
Relative Humidity	%	30.0	30.0	30.0	30.0	30.0	30.0
Elevation	feet	185.0	185.0	185.0	185.0	185.0	185.0
Fuel		Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Gas Turbine Load	%	100	75	50	25	100	75
Number of Gas Turbines		5	5	5	5	5	5
Net Plant Output	KW	281,125	209,848	138,477	67,024	278,746	208,046
Plant Heat Input	MMBtu/h HHV	2,831	2,201	1,633	1,102	2,815	2,192
Net Plant Heat Rate	Btu/kWh HHV	10,069	10,486	11,796	16,449	10,098	10,534
Stack Characteristics							
Number of CTGs		1	1	1	1	1	1
Stack Temperature	deg F	867	837	808	757	868	846
Stack Flow	lb/hr	1,197,006	1,013,213	842,286	683,703	1,198,275	1,007,085
Stack Volumetric Flow	ACFM	693,778	571,410	462,029	358,002	695,543	572,146
Stack Diameter	feet	12	12	12	12	12	12
Stack Velocity	feet/s	102.6	84.5	68.3	53.0	102.9	84.6
Stack Emissions (Total of 1 CTG)							
NOx	ppmvd@15%O2	2.5	2.5	2.5	2.5	2.5	2.5
	lb/h	5.10	3.96	2.93	1.98	5.07	3.94
	lb/MMBtu HHV	0.00901	0.00899	0.00898	0.00896	0.00900	0.00899
CO	ppmvd@15%O2	4.0	4.0	4.0	4.0	4.0	4.0
	lb/h	4.97	3.85	2.86	1.92	4.94	3.84
	lb/MMBtu HHV	0.00877	0.00876	0.00874	0.00873	0.00877	0.00876
VOC	ppmvd@15%O2	1.0	1.0	1.0	1.0	1.0	1.0
	lb/h	0.71	0.55	0.41	0.31	0.71	0.55
	lb/MMBtu HHV	0.00126	0.00125	0.00125	0.00139	0.00126	0.00125
NH3	ppmvd@15%O2	5.0	5.0	5.0	5.0	5.0	5.0
	lb/h	3.77	2.93	2.17	1.46	3.75	2.92
	lb/MMBtu HHV	0.00667	0.00665	0.00665	0.00663	0.00667	0.00665
PM10	lb/h	4.0	4.0	4.0	4.0	4.0	4.0
SOx	lb/hr	0.594					
	lb/MMBtu HHV	0.0010					

Run 29	Run 30	Run 31	Run 32	Run 33
96.0	96.0	96.0	96.0	96.0
30.0	30.0	30.0	30.0	30.0
185.0	185.0	185.0	185.0	185.0
Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
100	100	75	50	25
5	5	5	5	5
272,083	226,391	168,723	111,010	53,297
2,802	2,350	1,884	1,443	1,004
10,300	10,378	11,166	13,000	18,846
1	1	1	1	1
869	853	869	868	858
1,225,031	1,094,899	921,411	766,082	600,434
711,444	630,000	534,197	441,997	342,493
12	12	12	12	12
105.2	93.2	79.0	65.4	50.7
2.5	2.5	2.5	2.5	2.5
5.05	4.23	3.39	2.59	1.80
0.00900	0.00900	0.00899	0.00898	0.00896
4.0	4.0	4.0	4.0	4.0
4.92	4.12	3.30	2.52	1.75
0.00877	0.00877	0.00876	0.00874	0.00873
1.0	1.0	1.0	1.0	1.0
0.70	0.59	0.47	0.36	0.28
0.00126	0.00126	0.00125	0.00125	0.00139
5.0	5.0	5.0	5.0	5.0
3.74	3.13	2.51	1.92	1.33
0.00667	0.00667	0.00666	0.00665	0.00663
4.0	4.0	4.0	4.0	4.0