ATTACHMENT

REVISED AIR QUALITY TABLES

TABLE 5.1-27 (REVISED 5/11/08)

NORMAL OPERATION AIR QUALITY MODELING RESULTS FOR NEW EQUIPMENT

Pollutant	Averaging Time	Modeled Maximum Concentrations ($\mu g/m^3$) Normal Operations AERMOD	Startup/Shutdown AERMOD	Fumigation SCREEN3	Shoreline Fumigation SCREEN3
		Combined Impacts Both CTGs			
NO_2	1-hour	~~13.8~~ **13.3**	~~87.4~~ **80.4**	~~2.8~~ **2.6**	~~19.4~~ **18.5**
	Annual	~~0.2~~ **0.1**	a	c	c
SO_2	1-hour	~~4.5~~ **4.3**	b	0.8	~~5.6~~ **5.4**
	3-hour	~~2.5~~ **2.0**	b	~~0.7~~ **0.6**	~~2.8~~ **4.8**
	24-hour	~~0.7~~ **0.4**	b	0.3	~~0.4~~ **0.5**
	Annual	0.0	b	c	c
CO	1-hour	~~9.4~~ **9.0**	~~1127.2~~ **1133.8**	~~1.7~~ 1.6	~~11.8~~ **11.3**
	8-hour	~~3.7~~ **1.9**	~~470.5~~ **236.0**	1.0	~~2.3~~ **3.5**
$PM_{2.5}/PM_{10}$	24-hour	~~2.2~~ **1.2**	b	~~0.6~~ **0.9**	~~0.9~~ **1.7**
	Annual	0.1	b	c	c
		Firepump Engine			
NO_2	1-hour	~~83.8~~ **108.0**	d	e	e
	Annual	~~0.0~~ **0.1**	d	e	e
SO_2	1-hour	0.2	d	e	e
	3-hour	0.0	d	e	e
	24-hour	0.0	d	e	e
	Annual	0.0	d	e	e
CO	1-hour	~~17.5~~ **18.2**	d	e	e
	8-hour	~~4.6~~ **1.0**	d	e	e
$PM_{2.5}/PM_{10}$	24-hour	0.0	d	e	e
	Annual	0.0	d	e	e
		Combined Impacts New Equipment			
NO_2	1-hour	~~83.8~~ **108.0**	f	f	f
	Annual	~~0.2~~ **0.1**	f	f	f
SO_2	1-hour	~~4.5~~ **4.3**	f	f	f
	3-hour	~~2.5~~ **2.0**	f	f	f
	24-hour	~~0.7~~ **0.4**	f	f	f
	Annual	0.0	f	f	f
CO	1-hour	~~17.5~~ **18.2**	f	f	f
	8-hour	~~4.6~~ **1.9**	f	f	f
$PM_{2.5}/PM_{10}$	24-hour	~~2.2~~ **1.2**	f	f	f
	Annual	0.1	f	f	f

a. Not applicable, because startup/shutdown emissions are included in the modeling for annual average.

b. Not applicable, because emissions are not elevated above normal operation levels during startups/shutdowns.

c. Not applicable, because inversion breakup is a short-term phenomenon and as such is evaluated only for short-term averaging periods.

d. Not applicable, because engine will not operate during CTG startups/shutdowns.

e. Not applicable, this type of modeling is not performed for small combustion sources with relatively short stacks.

f. Impacts are the same as shown for CTGs.

TABLE 5.1-28 (REVISED 5/11/08)

MODELED IMPACTS DURING COMMISSIONING (COMBINED IMPACTS BOTH CTGS)

Pollutant/Averaging Period	Modeled Concentration, µg/m^3
NO_2 – 1-hour	~~129.2~~ **127.5**
CO – 1-hour	~~3321.7~~ **3228.0**
CO - 8-hour	~~1363.6~~ **675.9**

TABLE 5.1-29 (REVISED 5/11/08)

MAXIMUM BACKGROUND CONCENTRATIONS[a], PROJECT AREA, 2004-2006 (µg/m^3)

Pollutant	Averaging Time	2004	2005	2006
NO_2 (Camp Pendleton)	1-hour	**185.9**	144.6	152.1
	Annual	**22.5**	22.5	20.7
SO_2 (San Diego)	1-hour	**110.0**	94.3	89.1
	3-hour	52.4	68.1	**78.6**
	24-hour	**23.6**	23.6	23.5
	Annual	**10.5**	7.9	10.5
CO (Escondido)	1-hour	**6,300**	5,900	5,700
	8-hour	**3,800**	3,100	3,600
PM_{10} (Escondido)	24-hour	~~**57**~~ **58**	42	~~51~~ 52
	Annual	~~**28**~~ **27**	24	24
$PM_{2.5}$ (Escondido)	24-hour[b]	37	32	28
	Annual	**14.1**	12.3	11.5

Source: California Air Quality Data, California Air Resources Board website; EPA AIRData website. Reported values have been rounded to the nearest tenth of a µg/m^3 except for PM_{10} which were already rounded to the nearest integer.

Notes:

a. With the exception of 24-hr $PM_{2.5}$, bolded values are the highest during the three years and are used to represent background concentrations.

b. 24-hour average $PM_{2.5}$ concentrations shown are 98th percentile values rather than highest values because compliance with the ambient air quality standards is based on 98th percentile readings. Since the ambient standard is based on a 3-year average of the 98th percentile readings, the 3-year average of the 2004 to 2006 98th percentile readings was used to represent the background concentration.

TABLE 5.1-30 (REVISED 5/11/08)

MODELED MAXIMUM PROPOSED PROJECT IMPACTS

Pollutant	Averaging Time	Maximum Project Impact (µg/m^3)	Background (µg/m^3)	Total Impact (µg/m^3)	State Standard (µg/m^3)	Federal Standard (µg/m^3)
NO_2	1-hour	~~83.8~~ **127.5**[a]	185.9	~~270~~ **313**	338	-
	Annual	~~0.2~~ **0.1**	22.5	23	56	100
SO_2	1-hour	~~4.5~~ **4.3**	110.0	~~115~~ **114**	650	-
	3-hour	~~2.5~~ **2.0**	78.6	81	-	1300
	24-hour	~~0.7~~ **0.4**	23.6	24	109	365
	Annual	0.0	10.5	11	-	80
CO	1-hour	~~3,321.7~~ **3,228.0**[a]	6,300	~~9,622~~ **9,528**	23,000	40,000
	8-hour	~~1,363.6~~ **675.9**[a]	3,800	~~5,164~~ **4,476**	10,000	10,000
PM_{10}	24-hour	~~2.2~~ **1.2**	~~57~~ **58**	59	50	150
	Annual	0.1	~~28~~ **27**	~~28~~ **27**	20	--
$PM_{2.5}$	24-hour	~~2.2~~ **1.2**	~~32.2~~ **32.3**	34	--	35
	Annual	0.1	14.1	14	12	15

Notes:

a. Impacts during gas turbine commissioning.

TABLE 5.1-31 (REVISED 5/11/08)

COMPARISON OF MAXIMUM MODELED IMPACTS DURING NORMAL OPERATION AND PSD SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Significant Impact Level, µg/m^3	Maximum Modeled Impact for CECP, µg/m^3	Exceed Significant Impact Level?
NO_2	Annual	1	~~0.2~~ **0.1**	No
SO_2	3-hour	25	~~2.5~~ **2.0**	No
	24-Hour	5	~~0.7~~ **0.4**	
	Annual	1	0.0	
CO	1-Hour	2000	~~1127~~ **1134**	No
	8-Hour	500	~~471~~ **236**	
PM_{10}	24-Hour	5	~~2.2~~ **1.2**	No
	Annual	1	0.1	

Table 5.1D-2 (Revised 5/11/08)

Screening Modeling Inputs

Data For Each Turbine

Case	Amb Temp deg F	Stack height feet	Stack Height meters	Stack Diam feet	Stack Diam meters	Stack flow wacfm	Stack flow m3/sec	Stack Vel ft/sec	Stack Vel m/sec	Stack Temp deg F	Stack Temp deg K
Avg. Peak	73.6	139.0	42.37	21.3	6.49	1,458,766	688.55	68.23	20.80	361.0	455.93
Avg. Base (cooler)	73.6	139.0	42.37	21.3	6.49	1,379,693	651.23	64.53	19.67	358.0	454.26
Avg. Base	73.6	139.0	42.37	21.3	6.49	1,351,217	637.79	63.20	19.26	356.0	453.15
Avg. Mid.	73.6	139.0	42.37	21.3	6.49	1,112,102	524.92	52.02	15.85	345.0	447.04
Avg. Low (60%)	73.6	139.0	42.37	21.3	6.49	981,319	463.19	45.90	13.99	340.0	444.26
Hot Peak	104	139.0	42.37	21.3	6.49	1,434,498	677.10	67.10	20.45	359.0	454.82
Hot Base (cooler)	104	139.0	42.37	21.3	6.49	1,373,686	648.39	64.25	19.58	366.0	458.71
Hot Base	104	139.0	42.37	21.3	6.49	1,244,127	587.24	58.19	17.74	352.0	450.93
Hot Mid.	104	139.0	42.37	21.3	6.49	1,025,286	483.95	47.96	14.62	336.0	442.04
Hot Low (60%)	104	139.0	42.37	21.3	6.49	912,246	430.59	42.67	13.01	331.0	439.26
Mild Base (cooler)	61	139.0	42.37	21.3	6.49	1,421,303	670.87	66.48	20.26	363.0	457.04
Mild Base	61	139.0	42.37	21.3	6.49	1,405,943	663.62	65.76	20.04	362.0	456.48
Mild Mid.	61	139.0	42.37	21.3	6.49	1,153,041	544.25	53.93	16.44	351.0	450.37
Mild Low (60%)	61	139.0	42.37	21.3	6.49	1,014,615	478.91	47.46	14.46	344.0	446.48
Cold Base	37.4	139.0	42.37	21.3	6.49	1,487,415	702.07	69.57	21.21	371.0	461.48
Cold Mid.	37.4	139.0	42.37	21.3	6.49	1,212,624	572.37	56.72	17.29	359.0	454.82
Cold Low (60%)	37.4	139.0	42.37	21.3	6.49	1,064,636	502.52	49.80	15.18	352.0	450.93

	NOx lb/hr	CO lb/hr	PM10 lb/hr	SOx lb/hr	NOx g/sec	CO g/sec	PM10 g/sec	SOx g/sec
Avg. Peak	15.02	9.15	9.50	4.37	1.893	1.153	1.197	0.550
Avg. Base (cooler)	14.13	8.60	9.50	4.11	1.780	1.084	1.197	0.517
Avg. Base	13.81	8.41	9.50	4.01	1.740	1.060	1.197	0.506
Avg. Mid.	11.22	6.83	9.50	3.26	1.414	0.861	1.197	0.411
Avg. Low (60%)	9.79	5.96	9.50	2.84	1.233	0.751	1.197	0.358
Hot Peak	14.76	8.99	9.50	4.29	1.860	1.132	1.197	0.540
Hot Base (cooler)	13.88	8.45	9.50	4.03	1.749	1.065	1.197	0.508
Hot Base	12.50	7.61	9.50	3.63	1.575	0.959	1.197	0.458
Hot Mid.	10.22	6.22	9.50	2.97	1.288	0.784	1.197	0.374
Hot Low (60%)	8.97	5.46	9.50	2.61	1.130	0.688	1.197	0.328
Mild Base (cooler)	14.51	8.84	9.50	4.22	1.828	1.113	1.197	0.531
Mild Base	14.34	8.73	9.50	4.17	1.807	1.100	1.197	0.525
Mild Mid.	11.63	7.08	9.50	3.38	1.465	0.892	1.197	0.426
Mild Low (60%)	10.12	6.16	9.50	2.94	1.275	0.777	1.197	0.371
Cold Base	15.13	9.21	9.50	4.40	1.907	1.161	1.197	0.554
Cold Mid.	12.23	7.45	9.50	3.55	1.541	0.938	1.197	0.448
Cold Low (60%)	10.63	6.47	9.50	3.09	1.339	0.815	1.197	0.389

Table 5.1D-3 (Revised 5/11/08)
Screening Level Modeling Impacts
(Combined Impacts for Two Gas Turbines)

Operating Mode	NO2 1-hr	CO 1-hr	SO2 1-hr	SO2 3-hr	CO 8-hr	PM10 24-hr	SO2 24-hr	NO2 Annual	PM10 Annual	SO2 Annual
Avg. Peak	14.667	8.930	4.262	1.944	1.871	0.888	0.408	0.122	0.077	0.035
Avg. Base (cooler)	14.231	8.665	4.135	1.888	1.795	0.922	0.398	0.124	0.083	0.036
Avg. Base	13.268	8.078	3.855	1.872	1.775	0.935	0.395	0.125	0.086	0.036
Avg. Mid.	13.963	8.502	4.057	1.719	1.674	1.084	0.372	0.129	0.109	0.038
Avg. Low (60%)	13.265	8.077	3.854	1.780	1.604	1.175	0.352	0.129	0.125	0.037
Hot Peak	14.483	8.818	4.208	1.921	1.847	0.899	0.406	0.123	0.079	0.036
Hot Base (cooler)	14.032	8.543	4.077	1.839	1.758	0.917	0.389	0.120	0.082	0.035
Hot Base	13.527	8.236	3.930	1.788	1.685	0.996	0.381	0.127	0.096	0.037
Hot Mid.	13.046	7.943	3.791	1.731	1.633	1.151	0.360	0.130	0.121	0.038
Hot Low (60%)	12.062	7.344	3.505	1.797	1.566	1.238	0.340	0.129	0.137	0.038
Mild Base (cooler)	14.216	8.655	4.130	1.889	1.818	0.901	0.400	0.121	0.079	0.035
Mild Base	13.960	8.500	4.056	1.883	1.804	0.908	0.398	0.122	0.081	0.035
Mild Mid.	12.765	7.772	3.709	1.740	1.654	1.051	0.374	0.128	0.104	0.037
Mild Low (60%)	12.673	7.716	3.682	1.661	1.610	1.148	0.355	0.128	0.120	0.037
Cold Base	13.159	8.012	3.823	1.932	1.866	0.869	0.402	0.118	0.074	0.034
Cold Mid.	13.163	8.014	3.824	1.759	1.662	1.005	0.376	0.126	0.098	0.037
Cold Low (60%)	13.071	7.958	3.798	1.648	1.621	1.104	0.359	0.126	0.113	0.037

Table 5.1D-4A (Revised 5/11/08)
Emission Rates and Stack Parameters for Refined Modeling

						Emission Rates, g/s									Emission Rates, lb/hr			
	Stack Diam, m	Stack Height, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10	Stack Diam, ft	Stack Height, ft	Exh Temp, Deg F	Exh Flow Rate, ft3/m	Exhaust Velocity, ft/s	NOx	SO2	CO	PM10
Averaging Period: One hour NOx																		
Unit 6	6.5	42.4	456	688.5	20.8	1.8931	n/a	n/a	n/a	21.3	139	361	1,458,766	68	15.02	n/a	n/a	n/a
Unit 7	6.5	42.4	456	688.5	20.8	1.8931	n/a	n/a	n/a	21.3	139	361	1,458,766	68	15.02	n/a	n/a	n/a
Firepump Engine	0.1	9.1	776	0.6	77.3	0.2620	n/a	n/a	n/a	0.33	30	938	1,328	254	2.08	n/a	n/a	n/a
Averaging Period: One hour CO and SOx																		
Unit 6	6.5	42.4	456	688.5	20.8	n/a	0.5500	1.1526	n/a	21.3	139	361	1,458,766	68	n/a	4.37	9.15	n/a
Unit 7	6.5	42.4	456	688.5	20.8	n/a	0.5500	1.1526	n/a	21.3	139	361	1,458,766	68	n/a	4.37	9.15	n/a
Firepump Engine	0.1	9.1	776	0.6	77.3	n/a	0.0003	0.0305	n/a	0.33	30	938	1,328	254	n/a	0.00	0.24	n/a
Averaging Period: Three hours SOx																		
Unit 6	6.5	42.4	456	688.5	20.8	n/a	0.5500	n/a	n/a	21.3	139	361	1,458,766	68	n/a	4.37	n/a	n/a
Unit 7	6.5	42.4	456	688.5	20.8	n/a	0.5500	n/a	n/a	21.3	139	361	1,458,766	68	n/a	4.37	n/a	n/a
Firepump Engine	0.1	9.1	776	0.6	77.3	n/a	0.0001	n/a	n/a	0.33	30	938	1,328	254	n/a	0.00	n/a	n/a

Table 5.1D-4B (Revised 5/11/08)
Emission Rates and Stack Parameters for Refined Modeling (cont.)

						Emission Rates, g/s									Emission Rates, lb/hr			
	Stack Diam, m	Stack Height, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10	Stack Diam, ft	Stack Height, ft	Exh Temp, Deg F	Exh Flow Rate, ft3/m	Exhaust Velocity, ft/s	NOx	SO2	CO	PM10
Averaging Period: Eight hours CO																		
Unit 6	6.5	42.4	456	688.5	20.8	n/a	n/a	1.1526	n/a	21.3	139	361	1,458,766	68	n/a	n/a	9.15	n/a
Unit 7	6.5	42.4	456	688.5	20.8	n/a	n/a	1.1526	n/a	21.3	139	361	1,458,766	68	n/a	n/a	9.15	n/a
Firepump Engine	0.1	9.1	776	0.6	77.3	n/a	n/a	0.0038	n/a	0.33	30	938	1328	254	n/a	n/a	0.03	n/a
Averaging Period: 24-hour SOx																		
Unit 6	6.5	42.4	456	688.5	20.8	n/a	0.5500	n/a	n/a	21.3	139	361	1,458,766	68	n/a	4.37	n/a	n/a
Unit 7	6.5	42.4	456	688.5	20.8	n/a	0.5500	n/a	n/a	21.3	139	361	1,458,766	68	n/a	4.37	n/a	n/a
Firepump Engine	0.1	9.1	776	0.6	77.3	n/a	0.0000	n/a	n/a	0.33	30	938	1,328	254	n/a	0.00	n/a	n/a
Averaging Period: 24-hour PM10																		
Unit 6	6.5	42.4	439	430.5	13.0	n/a	n/a	n/a	1.1970	21.3	139	331	912,246	43	n/a	n/a	n/a	9.50
Unit 7	6.5	42.4	439	430.5	13.0	n/a	n/a	n/a	1.1970	21.3	139	331	912,246	43	n/a	n/a	n/a	9.50
Firepump Engine	0.1	9.1	776	0.6	77.3	n/a	n/a	n/a	0.0002	0.33	30	938	1,328	254	n/a	n/a	n/a	0.00

Table 5.1D-4C (Revised 5/11/08)
Emission Rates and Stack Parameters for Refined Modeling (cont.)

						Emission Rates, g/s									Emission Rates, lb/hr			
	Stack Diam, m	Stack Height, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10	Stack Diam, ft	Stack Height, ft	Exh Temp, Deg F	Exh Flow Rate, ft3/m	Exhaust Velocity, ft/s	NOx	SO2	CO	PM10
Averaging Period: Annual NOx and SOx																		
Unit 6	6.5	42.4	442	483.9	14.6	1.0865	0.0807	n/a	n/a	21.3	139	336	1,025,286	48	8.62	0.64	n/a	n/a
Unit 7	6.5	42.4	442	483.9	14.6	1.0865	0.0807	n/a	n/a	21.3	139	336	1,025,286	48	8.62	0.64	n/a	n/a
Firepump Engine	0.1	9.1	776	0.6	77.3	0.0015	0.0000	n/a	n/a	0.33	30	938	1,328	254	0.01	0.00	n/a	n/a
Averaging Period: Annual PM10																		
Unit 6	6.5	42.4	439	430.5	13.0	n/a	n/a	n/a	0.5602	21.3	139	331	912,246	43	n/a	n/a	n/a	4.45
Unit 7	6.5	42.4	439	430.5	13.0	n/a	n/a	n/a	0.5602	21.3	139	331	912,246	43	n/a	n/a	n/a	4.45
Firepump Engine	0.1	9.1	776	0.6	77.3	n/a	n/a	n/a	0.0000	0.33	30	938	1,328	254	n/a	n/a	n/a	0.00

Table 5.1D-6 (Revised 5/11/08)

Startup/Shutdown and Commissioning Modeling Inputs

Operating Case	Amb Temp deg F	Stack height feet	Stack Height meters	Stack Diam feet	Stack Diam meters	Stack flow wacfm	Stack flow m3/sec	Stack Vel ft/sec	Stack Vel m/sec	Stack Temp deg F	Stack Temp deg K
Startup/Shutdown											
Unit 6 - Startup/Shutdown	104	139	42.37	21.3	6.49	858,818	405.37	40.17	12.24	346.00	447.59
Unit 7 - Startup/Shutdown	104	139	42.37	21.3	6.49	858,818	405.37	40.17	12.24	346.00	447.59
Commissioning											
One Unit In Commissioning	104	139	42.37	21.3	6.49	858,818	405.37	40.17	12.24	346.00	447.59
One Unit in Startup/Shutdown	104	139	42.37	21.3	6.49	858,818	405.37	40.17	12.24	346.00	447.59

	NOx lb/hr	CO lb/hr	NOx g/sec	CO g/sec
Startup/Shutdown				
Unit 6 - Startup/Shutdown	85.64	813.52	10.79	102.50
Unit 7 - Startup/Shutdown	85.64	813.52	10.79	102.50
Commissioning				
One Unit in Commissioning	200.13	3812.63	25.22	480.39
One Unit in Startup/Shutdown	85.64	813.52	10.79	102.50