APPENDIX 8.1D

Modeling Analysis

Table 8.1D-1
Building Dimensions - MEGS

Building	Length (ft)	Width (ft)	Height (ft)
Gas Turbines			
Tier 1	115.9	19.5	26.7
Tier 2a	57.0	19.5	42.9
Tier 2b	30.1	19.5	31.7
Admin./Electrical Control	112.1	68.1	26.3
Warehouse/Water Treatment	209.1	70.9	26.3
Ammonia Tank	26.9	15.8	13.0
Chiller Cooling Towers	48.2	14.8	40.9

Tanks	Diameter (ft)	Height (ft)
DI Water Tank	33.5	24.8
Filtered Water Tank	47.6	24.8

Table 8.1D-2

Screening Modeling Inputs - MEGS

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
1. Hot Base - w/ chiller, w/ dilution air	102	85	25.91	12	3.66	658,260	311	97.00	29.57	750	672.04
2. Hot Base - w/ chiller, w/o dilution air	102	85	25.91	12	3.66	619,322	292	91.27	27.82	828	715.37
3. Hot Base - w/o chiller, w/ dilution air	102	85	25.91	12	3.66	557,111	263	82.10	25.02	750	672.04
4. Hot Base - w/o chiller, w/o dilution air	102	85	25.91	12	3.66	515,901	244	76.03	23.17	851	728.15
5. Hot Low - w/ chiller, w/o dilution air	102	85	25.91	12	3.66	296,666	140	43.72	13.33	684	635.37
6. Hot Low - w/o chiller, w/ dilution air	102	85	25.91	12	3.66	297,465	140	43.84	13.36	750	672.04
7. Hot Low - w/o chiller, w/o dilution air	102	85	25.91	12	3.66	289,654	137	42.69	13.01	783	690.37
8. Avg Base - w/ chiller, w/ dilution air	67	85	25.91	12	3.66	638,643	301	94.11	28.69	750	672.04
9. Avg Base - w/ chiller, w/o dilution air	67	85	25.91	12	3.66	604,652	285	89.10	27.16	828	715.37
10. Avg Base - w/o chiller, w/ dilution air	67	85	25.91	12	3.66	615,731	291	90.74	27.66	750	672.04
11. Avg Base - w/o chiller, w/o dilution air	67	85	25.91	12	3.66	579,907	274	85.46	26.05	836	719.82
12. Avg Low - w/ chiller, w/o dilution air	67	85	25.91	12	3.66	289,362	137	42.64	13.00	684	635.37
13. Avg Low - w/o chiller, w/o dilution air	67	85	25.91	12	3.66	287,894	136	42.43	12.93	719	654.82
14. Cold Base - w/ heater, w/ dilution air	15	85	25.91	12	3.66	630,047	297	92.85	28.30	750	672.04
15. Cold Base - w/ heater, w/o dilution air	15	85	25.91	12	3.66	604,566	285	89.09	27.16	821	711.48
16. Cold Low - w/ heater, w/o dilution air	15	85	25.91	12	3.66	286,917	135	42.28	12.89	669	627.04

	NOx lb/hr	CO lb/hr	PM10 lb/hr	SOx lb/hr	NOx g/sec	CO g/sec	PM10 g/sec	SOx g/sec
1. Hot Base - w/ chiller, w/ dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
2. Hot Base - w/ chiller, w/o dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
3. Hot Base - w/o chiller, w/ dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
4. Hot Base - w/o chiller, w/o dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
5. Hot Low - w/ chiller, w/o dilution air	1.42	2.08	3.00	0.16	0.1794	0.2622	0.3780	0.0200
6. Hot Low - w/o chiller, w/ dilution air	1.43	2.09	3.00	0.16	0.1802	0.2633	0.3780	0.0201
7. Hot Low - w/o chiller, w/o dilution air	1.43	2.09	3.00	0.16	0.1802	0.2633	0.3780	0.0201
8. Avg Base - w/ chiller, w/ dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
9. Avg Base - w/ chiller, w/o dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
10. Avg Base - w/o chiller, w/ dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
11. Avg Base - w/o chiller, w/o dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
12. Avg Low - w/ chiller, w/o dilution air	1.42	2.08	3.00	0.16	0.1794	0.2622	0.3780	0.0200
13. Avg Low - w/o chiller, w/o dilution air	1.42	2.08	3.00	0.16	0.1793	0.2620	0.3780	0.0200
14. Cold Base - w/ heater, w/ dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
15. Cold Base - w/ heater, w/o dilution air	4.53	6.62	3.00	0.51	0.5707	0.8339	0.3780	0.0638
16. Cold Low - w/ heater, w/o dilution air	1.43	2.09	3.00	0.16	0.1801	0.2631	0.3780	0.0201

Table 8.1D-3
Screening Level Modeling Impacts - MEGS
(Combined Impacts for Two Gas Turbines)

Operating Mode	Conc. (ug/m3) NO2 1-hr	Conc. (ug/m3) CO 1-hr	Conc. (ug/m3) SO2 1-hr	Conc. (ug/m3) SO2 3-hr	Conc. (ug/m3) CO 8-hr	Conc. (ug/m3) PM10 24-hr	Conc. (ug/m3) SO2 24-hr	Conc. (ug/m3) NO2 Annual	Conc. (ug/m3) PM10 Annual	Conc. (ug/m3) SO2 Annual
1. Hot Base - w/ chiller, w/ dilution air	0.59263	0.86598	0.06621	0.03797	0.31896	0.06242	0.01053	0.02118	0.01403	0.00237
2. Hot Base - w/ chiller, w/o dilution air	0.60064	0.87769	0.06710	0.03841	0.32377	0.06335	0.01068	0.02161	0.01431	0.00241
3. Hot Base - w/o chiller, w/ dilution air	0.67791	0.99058	0.07573	0.04208	0.38182	0.07163	0.01208	0.02512	0.01664	0.00281
4. Hot Base - w/o chiller, w/o dilution air	0.68862	1.00624	0.07693	0.04265	0.38873	0.07267	**0.01226**	**0.02558**	0.01695	**0.00286**
5. Hot Low - w/ chiller, w/o dilution air	1.65761	2.42217	0.18519	0.06173	0.40353	0.19390	0.01028	0.01641	0.03457	0.00183
6. Hot Low - w/o chiller, w/ dilution air	1.59998	2.33796	0.17875	0.05958	0.38802	0.18566	0.00989	0.01562	0.03277	0.00175
7. Hot Low - w/o chiller, w/o dilution air	1.65219	2.41425	0.18458	0.06153	0.40285	0.19276	0.01027	0.01576	0.03306	0.00176
8. Avg Base - w/ chiller, w/ dilution air	0.60759	0.88783	0.06788	0.03870	0.32971	0.06400	0.01079	0.02193	0.01453	0.00245
9. Avg Base - w/ chiller, w/o dilution air	0.61261	0.89516	0.06844	0.03900	0.33236	0.06460	0.01090	0.02211	0.01464	0.00247
10. Avg Base - w/o chiller, w/ dilution air	0.62597	0.91469	0.06993	0.03960	0.34294	0.06592	0.01112	0.02275	0.01507	0.00254
11. Avg Base - w/o chiller, w/o dilution air	0.63157	0.92287	0.07056	0.03992	0.34592	0.06659	0.01123	0.02295	0.01520	0.00256
12. Avg Low - w/ chiller, w/o dilution air	**1.73361**	**2.53322**	**0.19368**	**0.06456**	**0.42479**	**0.20412**	0.01083	0.01684	**0.03548**	0.00188
13. Avg Low - w/o chiller, w/o dilution air	1.71571	2.50706	0.19168	0.06389	0.42022	0.20207	0.01071	0.01649	0.03476	0.00184
14. Cold Base - w/ heater, w/ dilution air	0.61444	0.89784	0.06864	0.03904	0.33463	0.06471	0.01091	0.02226	0.01474	0.00249
15. Cold Base - w/ heater, w/o dilution air	0.61447	0.89789	0.06865	0.03908	0.33378	0.06479	0.01093	0.02219	0.01470	0.00248
16. Cold Low - w/ heater, w/o dilution air	1.70523	2.49176	0.19051	0.06350	0.41737	0.19985	0.01064	0.01626	0.03413	0.00182

Table 8.1D-4
Emission Rates and Stack Parameters for Refined Modeling - MEGS

					Emission Rates, g/s			
	Stack Diam, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10
Averaging Period: One hour NOx								
Gas Turbine 1	3.658	635.22	136.56	13.00	0.179	n/a	n/a	n/a
Gas Turbine 2	3.658	635.22	136.56	13.00	0.179	n/a	n/a	n/a
Cooling Tower 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cooling Tower 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Averaging Period: One hour CO and SOx								
Gas Turbine 1	3.658	635.22	136.56	13.00	n/a	0.020	0.262	n/a
Gas Turbine 2	3.658	635.22	136.56	13.00	n/a	0.020	0.262	n/a
Cooling Tower 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cooling Tower 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Averaging Period: Three hours SOx								
Gas Turbine 1	3.658	635.22	136.56	13.00	n/a	0.020	n/a	n/a
Gas Turbine 2	3.658	635.22	136.56	13.00	n/a	0.020	n/a	n/a
Cooling Tower 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cooling Tower 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 8.1D-4
Emission Rates and Stack Parameters for Refined Modeling (cont.)

					Emission Rates, g/s			
	Stack Diam, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10
Averaging Period: Eight hours CO								
Gas Turbine 1	3.658	635.22	136.56	13.00	n/a	n/a	0.262	n/a
Gas Turbine 2	3.658	635.22	136.56	13.00	n/a	n/a	0.262	n/a
Cooling Tower 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cooling Tower 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Averaging Period: 24-hour SOx								
Gas Turbine 1	3.658	728.00	243.48	23.17	n/a	0.064	n/a	n/a
Gas Turbine 2	3.658	728.00	243.48	23.17	n/a	0.064	n/a	n/a
Cooling Tower 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cooling Tower 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Averaging Period: 24-hour PM10								
Gas Turbine 1	3.658	635.22	136.56	13.00	n/a	n/a	n/a	0.378
Gas Turbine 2	3.658	635.22	136.56	13.00	n/a	n/a	n/a	0.378
Cooling Tower 1	3.353	305.22	73.48	8.32	n/a	n/a	n/a	0.002
Cooling Tower 2	3.353	305.22	73.48	8.32	n/a	n/a	n/a	0.002

Table 8.1D-4
Emission Rates and Stack Parameters for Refined Modeling (cont.)

					Emission Rates, g/s			
	Stack Diam, m	Temp, deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	NOx	SO2	CO	PM10
Averaging Period: Annual NOx and SOx								
Gas Turbine 1	3.658	728.00	243.48	23.17	0.652	0.064	n/a	n/a
Gas Turbine 2	3.658	728.00	243.48	23.17	0.652	0.064	n/a	n/a
Cooling Tower 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Cooling Tower 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Averaging Period: Annual PM10								
Gas Turbine 1	3.658	635.22	136.56	13.00	n/a	n/a	n/a	0.378
Gas Turbine 2	3.658	635.22	136.56	13.00	n/a	n/a	n/a	0.378
Cooling Tower 1	3.353	305.22	73.48	8.32	n/a	n/a	n/a	0.002
Cooling Tower 2	3.353	305.22	73.48	8.32	n/a	n/a	n/a	0.002

Table 8.1D-5

Commissioning Modeling Inputs - MEGS

Data For Each Turbine

Case	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
12. Avg Low - w/ chiller, w/o dilution air	12	3.66	289,362	137	43	13	684	635

	NOx lbs/hr	CO lbs/hr	NOx g/sec	CO g/sec
Commissioning Tests - Maximum Hourly Emissions	36.24	39.72	4.57	5.00

Table 8.1D-6
Startup Modeling Inputs - MEGS
Data For Each Turbine

Case	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
12. Avg Low - w/ chiller, w/o dilution air	12	3.66	289,362	136.6	42.6	13.0	684.0	635.4

	NOx lbs/hr	NOx g/sec
Startups - Maximum Hourly Emissions	20.00	2.52

Table 8.1D-7
SCREEN 3 Fumigation Modeling Results - MEGS

	NOx	CO	PM10	SO2
CASE 1	0.5707	0.8339	0.3780	0.0638
CASE 2	0.5707	0.8339	0.3780	0.0638
CASE 3	0.5707	0.8339	0.3780	0.0638
CASE 4	0.5707	0.8339	0.3780	0.0638
CASE 5	0.1794	0.2622	0.3780	0.0200
CASE 6	0.1802	0.2633	0.3780	0.0201
CASE 7	0.1802	0.2633	0.3780	0.0201
CASE 8	0.5707	0.8339	0.3780	0.0638
CASE 9	0.5707	0.8339	0.3780	0.0638
CASE 10	0.5707	0.8339	0.3780	0.0638
CASE 11	0.5707	0.8339	0.3780	0.0638
CASE 12	0.1794	0.2622	0.3780	0.0200
CASE 13	0.1793	0.2620	0.3780	0.0200
CASE 14	0.5707	0.8339	0.3780	0.0638
CASE 15	0.5707	0.8339	0.3780	0.0638
CASE 16	0.1801	0.2631	0.3780	0.0201

Inversion Breakup	Unit Impacts	NOx	CO	PM10	SO2	Distance to Maxima (m)
CASE 1	0.9755	0.5567	0.8135	0.3687	0.0622	19327
CASE 2	0.986	0.5627	0.8222	0.3727	0.0629	19176
CASE 3	1.097	0.6260	0.9148	0.4147	0.0699	17737
CASE 4	1.111	0.6340	0.9264	0.4200	0.0708	17566
CASE 5	1.77	0.3176	0.4641	0.6691	0.0355	12484
CASE 6	1.71	0.3082	0.4503	0.6464	0.0344	12805
CASE 7	1.718	0.3096	0.4524	0.6494	0.0346	12763
CASE 8	0.9964	0.1796	0.2624	0.3766	0.0201	19028
CASE 9	1.003	0.1807	0.2641	0.3791	0.0202	18940
CASE 10	1.022	0.1842	0.2691	0.3863	0.0206	18673
CASE 11	1.029	0.1854	0.2710	0.3890	0.0207	18578
CASE 12	1.802	0.3247	0.4745	0.6812	0.0363	12320
CASE 13	1.777	0.3202	0.4679	0.6717	0.0358	12449
CASE 14	1.006	0.1813	0.2649	0.3803	0.0203	18894
CASE 15	1.005	0.1811	0.2646	0.3799	0.0202	18903
CASE 16	1.829	0.3296	0.4816	0.6914	0.0368	12191

Table 8.1D-7
SCREEN 3 Fumigation Modeling Results - MEGS (cont.)

Flat Terrain	Unit Impacts	NOx	CO	PM10	SO2	Distance to Maxima (m)
CASE 1	0.6791	0.3875	0.5663	0.2567	0.0433	1210
CASE 2	0.6888	0.3931	0.5744	0.2604	0.0439	1205
CASE 3	0.7929	0.4525	0.6612	0.2997	0.0506	1155
CASE 4	0.8069	0.4605	0.6729	0.3050	0.0514	1149
CASE 5	1.224	0.2196	0.3210	0.4627	0.0245	1122
CASE 6	1.17	0.2108	0.3081	0.4423	0.0236	1138
CASE 7	1.177	0.2121	0.3099	0.4449	0.0237	1136
CASE 8	0.6984	0.1259	0.1839	0.2640	0.0141	1200
CASE 9	0.7043	0.1269	0.1855	0.2662	0.0142	1197
CASE 10	0.7226	0.1302	0.1903	0.2731	0.0145	1188
CASE 11	0.7293	0.1314	0.1920	0.2757	0.0147	1185
CASE 12	1.254	0.2260	0.3302	0.4740	0.0252	1114
CASE 13	1.231	0.2218	0.3242	0.4653	0.0248	1121
CASE 14	0.7074	0.1275	0.1863	0.2674	0.0142	1195
CASE 15	0.7068	0.1274	0.1861	0.2672	0.0142	1196
CASE 16	1.278	0.2303	0.3365	0.4831	0.0257	1108

Appropriate 1-hr unit impacts to use for longer averaging periods

	1-hr unit	3-hr unit	8-hr unit	24-hr unit
CASE 1	0.9755	0.8273	0.7347	0.6976
CASE 2	0.9860	0.8374	0.7445	0.7074
CASE 3	1.0970	0.9450	0.8499	0.8119
CASE 4	1.1110	0.9590	0.8639	0.8259
CASE 5	1.7700	1.4970	1.3264	1.2581
CASE 6	1.7100	1.4400	1.2713	1.2038
CASE 7	1.7180	1.4475	1.2784	1.2108
CASE 8	0.9964	0.8474	0.7543	0.7170
CASE 9	1.0030	0.8537	0.7603	0.7230
CASE 10	1.0220	0.8723	0.7787	0.7413
CASE 11	1.0290	0.8792	0.7855	0.7480
CASE 12	1.8020	1.5280	1.3568	1.2883
CASE 13	1.7770	1.5040	1.3334	1.2651
CASE 14	1.0060	0.8567	0.7634	0.7261
CASE 15	1.0050	0.8559	0.7627	0.7254
CASE 16	1.8290	1.5535	1.3813	1.3124

Table 8.1D-7
SCREEN 3 Fumigation Modeling Results - MEGS (cont.)

	1-hr average Unit Impacts	NOx	CO	PM10	SO2
Inversion Fumigation					
CASE 1	0.9755	0.5567	0.8135	-	0.0622
CASE 2	0.9860	0.5627	0.8222	-	0.0629
CASE 3	1.0970	0.6260	0.9148	-	0.0699
CASE 4	1.1110	0.6340	0.9264	-	0.0708
CASE 5	1.7700	0.3176	0.4641	-	0.0355
CASE 6	1.7100	0.3082	0.4503	-	0.0344
CASE 7	1.7100	0.3082	0.4503	-	0.0344
CASE 8	1.7100	0.9758	1.4259	-	0.1090
CASE 9	1.7100	0.9758	1.4259	-	0.1090
CASE 10	1.7100	0.9758	1.4259	-	0.1090
CASE 11	1.7100	0.9758	1.4259	-	0.1090
CASE 12	1.7100	0.3069	0.4484	-	0.0343
CASE 13	1.7100	0.3066	0.4481	-	0.0343
CASE 14	1.7100	0.9758	1.4259	-	0.1090
CASE 15	1.7100	0.9758	1.4259	-	0.1090
CASE 16	1.7100	0.3079	0.4500	-	0.0344
sum all units					
CASE 1		1.1134	1.6269	-	0.1244
CASE 2		1.1254	1.6444	-	0.1257
CASE 3		1.2520	1.8295	-	0.1399
CASE 4		1.2680	1.8529	-	0.1417
CASE 5		0.6353	0.9283	-	0.0710
CASE 6		0.6163	0.9006	-	0.0689
CASE 7		0.6163	0.9006	-	0.0689
CASE 8		1.9517	2.8519	-	0.2180
CASE 9		1.9517	2.8519	-	0.2180
CASE 10		1.9517	2.8519	-	0.2180
CASE 11		1.9517	2.8519	-	0.2180
CASE 12		0.6137	0.8968	-	0.0686
CASE 13		0.6133	0.8962	-	0.0685
CASE 14		1.9517	2.8519	-	0.2180
CASE 15		1.9517	2.8519	-	0.2180
CASE 16		0.6159	0.9000	-	0.0688

Table 8.1D-7
SCREEN 3 Fumigation Modeling Results - MEGS (cont.)

	3-hr average Unit Impacts	NOx	CO	PM10	SO2
Inversion Fumigation					
CASE 1	0.8273	-	-	-	0.0475
CASE 2	0.8374	-	-	-	0.0480
CASE 3	0.9450	-	-	-	0.0542
CASE 4	0.9590	-	-	-	0.0550
CASE 5	1.4970	-	-	-	0.0270
CASE 6	1.4400	-	-	-	0.0261
CASE 7	1.4475	-	-	-	0.0262
CASE 8	0.8474	-	-	-	0.0486
CASE 9	0.8537	-	-	-	0.0490
CASE 10	0.8723	-	-	-	0.0501
CASE 11	0.8792	-	-	-	0.0504
CASE 12	1.5280	-	-	-	0.0276
CASE 13	1.5040	-	-	-	0.0271
CASE 14	0.8567	-	-	-	0.0492
CASE 15	0.8559	-	-	-	0.0491
CASE 16	1.5535	-	-	-	0.0281
sum all units					
CASE 1		-	-	-	0.0949
CASE 2		-	-	-	0.0961
CASE 3		-	-	-	0.1084
CASE 4		-	-	-	0.1100
CASE 5		-	-	-	0.0540
CASE 6		-	-	-	0.0522
CASE 7		-	-	-	0.0525
CASE 8		-	-	-	0.0972
CASE 9		-	-	-	0.0980
CASE 10		-	-	-	0.1001
CASE 11		-	-	-	0.1009
CASE 12		-	-	-	0.0551
CASE 13		-	-	-	0.0542
CASE 14		-	-	-	0.0983
CASE 15		-	-	-	0.0982
CASE 16		-	-	-	0.0563

Table 8.1D-7
SCREEN 3 Fumigation Modeling Results - MEGS (cont.)

	8-hr average Unit Impacts	NOx	CO	PM10	SO2
Inversion Fumigation					
CASE 1	0.7347	-	0.4288	-	-
CASE 2	0.7445	-	0.4346	-	-
CASE 3	0.8499	-	0.4961	-	-
CASE 4	0.8639	-	0.5043	-	-
CASE 5	1.3264	-	0.2435	-	-
CASE 6	1.2713	-	0.2343	-	-
CASE 7	1.2784	-	0.2357	-	-
CASE 8	0.7543	-	0.4403	-	-
CASE 9	0.7603	-	0.4438	-	-
CASE 10	0.7787	-	0.4546	-	-
CASE 11	0.7855	-	0.4585	-	-
CASE 12	1.3568	-	0.2490	-	-
CASE 13	1.3334	-	0.2446	-	-
CASE 14	0.7634	-	0.4456	-	-
CASE 15	0.7627	-	0.4452	-	-
CASE 16	1.3813	-	0.2544	-	-
sum all units					
CASE 1		-	0.8577	-	-
CASE 2		-	0.8692	-	-
CASE 3		-	0.9922	-	-
CASE 4		-	1.0086	-	-
CASE 5		-	0.4869	-	-
CASE 6		-	0.4687	-	-
CASE 7		-	0.4713	-	-
CASE 8		-	0.8806	-	-
CASE 9		-	0.8876	-	-
CASE 10		-	0.9091	-	-
CASE 11		-	0.9170	-	-
CASE 12		-	0.4981	-	-
CASE 13		-	0.4891	-	-
CASE 14		-	0.8912	-	-
CASE 15		-	0.8904	-	-
CASE 16		-	0.5089	-	-