

Appendix A

**CECA Reference Case:
Detailed National and Regional Results,
2000, 2005, 2010, and 2015**

Table A1. National Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)

Sales, Generation, Consumption, Capability, Emissions, Prices, and Expenditures	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Sales								
Residential	1,135	1,148	1,229	1,236	1,325	1,327	1,434	1,439
Commercial	1,073	1,069	1,150	1,141	1,236	1,223	1,321	1,312
Industrial	1,037	1,039	1,104	1,101	1,189	1,182	1,255	1,251
Transportation	17	18	29	31	43	44	53	55
Total	3,261	3,274	3,512	3,508	3,794	3,776	4,065	4,057
Generation								
Electric Generator ¹								
Coal	1,841	1,992	1,960	2,037	2,034	2,056	2,207	2,192
Natural Gas	365	372	604	619	930	963	1,193	1,259
Petroleum	125	84	62	42	37	25	30	21
Hydro	310	324	311	325	312	325	312	325
Nuclear	678	664	659	640	580	560	427	413
Geothermal	16	14	16	16	18	18	19	20
Municipal Solid Waste	23	24	24	25	26	27	27	28
Biomass ²	10	9	11	11	11	11	11	11
Solar Thermal	1	1	1	1	1	1	1	1
Wind	6	6	7	7	8	8	8	8
Solar Photovoltaic	0	0	0	0	1	1	1	1
Total	3,375	3,489	3,655	3,724	3,957	3,994	4,237	4,278
Renewable Cogenerators ³	41	48	44	52	49	57	53	60
Electricity Imports (Firm)	56	24	28	20	11	20	3	19
Electric Generator Consumption by Fuel (Quadrillion Btu)								
Coal	18.90	20.83	20.19	21.39	20.89	21.55	22.48	22.74
Natural Gas	3.62	3.71	5.23	5.33	7.12	7.49	8.68	9.27
Petroleum	1.31	0.88	0.64	0.44	0.40	0.26	0.32	0.22
Total	23.83	25.42	26.06	27.16	28.41	29.30	31.48	32.22
Capability (Gigawatts)⁴								
Combined Cycle	34.47	35.28	70.15	74.34	132.83	122.34	190.18	169.62
Coal	310.27	310.32	300.08	303.10	301.49	297.96	314.50	306.65
Combustion Turbines	71.67	86.65	108.20	116.15	146.77	148.98	170.60	188.69
Fuel Cells	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Hydro	79.01	79.08	79.34	79.39	79.40	79.44	79.40	79.44
Nuclear	94.84	95.48	88.96	88.93	76.65	75.14	56.37	55.57
Other Fossil Fuel	138.83	138.88	98.52	105.64	50.59	94.25	45.65	91.60
Pumped Storage	21.52	21.52	21.52	21.52	21.52	21.52	21.52	21.52
Geothermal	3.06	3.06	2.81	3.09	2.98	3.20	3.19	3.27
Municipal Solid Waste	3.68	3.79	3.88	4.00	4.13	4.24	4.27	4.41
Biomass ²	2.09	2.09	2.02	2.30	2.00	2.37	2.00	2.37
Solar Thermal	0.37	0.37	0.42	0.42	0.44	0.44	0.48	0.48
Wind	2.80	2.80	3.24	3.24	3.40	3.39	3.49	3.39
Solar Photovoltaic	0.04	0.04	0.14	0.14	0.30	0.30	0.46	0.46
Total	762.66	779.37	779.28	802.27	822.51	853.59	892.11	927.48
Emissions								
Carbon (Million Metric Tons)	566	595	608	623	648	655	710	711
SO ₂ (Thousand Short Tons)	10,223	11,380	9,774	10,390	8,997	8,950	9,067	9,090
Average Electricity Price (1997 Mills per Kilowatthour)								
	66.5	65.6	65.8	65.6	63.3	63.6	60.0	59.1
Electricity Expenditures (Billion 1997 Dollars)								
	216.90	214.78	231.00	230.12	240.10	240.13	243.80	239.78

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Only includes renewable generation from traditional cogenerators.

⁴Includes nontraditional cogenerators.

Btu = British thermal unit. SO₂ = sulfur dioxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A2. East Central Area Reliability Coordination Agreement (ECAR) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	515	507	546	535	583	570	617	606
Generation¹								
Coal	471	491	491	504	476	500	506	511
Natural Gas	18	15	31	30	105	92	123	127
Petroleum	4	1	4	1	4	1	4	1
Hydro	3	3	3	3	3	3	3	3
Nuclear	52	50	54	51	29	29	16	16
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	1	1	1	1	1	1	1	1
Biomass ²	2	2	2	2	2	2	2	2
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	551	563	585	592	620	628	655	661
Capability (Gigawatts)³								
Combined Cycle	2.17	2.17	4.29	3.19	13.11	3.19	18.90	3.24
Coal	84.51	84.67	76.63	77.60	73.20	70.48	73.20	69.69
Combustion Turbines	7.76	10.84	17.25	15.86	25.83	32.72	28.92	42.44
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	1.47	1.50	1.47	1.50	1.47	1.50	1.47	1.50
Nuclear	7.59	7.59	7.59	7.59	4.09	4.09	1.99	1.99
Other Fossil Fuel	3.66	3.66	2.33	3.66	2.33	3.66	2.33	3.66
Pumped Storage	3.58	4.75	3.58	4.75	3.58	4.75	3.58	4.75
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.11	0.11	0.12	0.12	0.14	0.14	0.15	0.16
Biomass ²	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	111.10	115.54	113.51	114.51	124.00	120.77	130.79	127.67
Emissions								
NO _x (Thousand Short Tons)	1,051	1,104	811	859	784	874	831	914
Average Electricity Price (1997 Mills per Kilowatthour)	57.3	60.1	57.0	61.4	53.7	58.5	49.9	52.4

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A3. Electric Reliability Council of Texas (ERCOT) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	231	242	251	262	274	284	296	308
Generation¹								
Coal	114	114	117	115	117	115	118	116
Natural Gas	89	103	106	121	130	145	150	168
Petroleum	3	2	2	1	2	1	2	1
Hydro	1	1	1	1	1	1	1	1
Nuclear	35	34	36	36	36	36	36	36
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	0	0	1	1	1	1	1	1
Biomass ²	0	0	0	0	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	242	254	262	275	286	299	308	323
Capability (Gigawatts)³								
Combined Cycle	3.29	3.41	12.50	9.52	19.50	18.26	22.96	22.40
Coal	15.77	15.58	16.10	15.58	16.10	15.58	16.24	15.66
Combustion Turbines	4.55	7.09	7.05	8.88	8.32	10.07	11.81	13.60
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	0.52	0.51	0.52	0.51	0.52	0.51	0.52	0.51
Nuclear	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80
Other Fossil Fuel	29.77	29.82	22.52	21.66	14.97	17.29	12.34	15.91
Pumped Storage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Geothermal	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Municipal Solid Waste	0.06	0.06	0.08	0.08	0.11	0.11	0.13	0.13
Biomass ²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.19	0.19	0.19	0.19	0.12	0.19	0.12	0.19
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.03
Total	58.94	61.46	63.76	61.23	64.45	66.83	68.94	73.23
Emissions								
NO _x (Thousand Short Tons)	310	332	257	314	240	297	239	297
Average Electricity Price (1997 Mills per Kilowatthour)	60.9	61.9	61.5	60.2	59.3	58.5	55.1	53.0

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

Table A4. Mid-Atlantic Area Council (MAAC) Regional Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	248	246	264	261	281	278	297	296
Generation¹								
Coal	127	122	124	120	110	116	117	121
Natural Gas	18	15	44	42	90	78	135	123
Petroleum	10	4	5	2	4	2	4	2
Hydro	4	5	4	5	4	5	4	5
Nuclear	89	91	90	91	82	78	47	44
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	5	5	5	5	5	5	5	5
Biomass ²	0	0	0	1	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	254	242	272	266	295	285	311	300
Capability (Gigawatts)³								
Combined Cycle	3.70	3.93	7.31	7.13	14.53	11.93	22.92	18.08
Coal	20.30	19.40	19.95	19.31	16.97	19.17	16.84	19.19
Combustion Turbines	9.39	9.63	12.05	12.85	14.83	12.89	17.55	15.26
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	1.23	1.20	1.23	1.20	1.23	1.20	1.23	1.20
Nuclear	12.19	12.83	12.19	12.83	9.97	10.00	6.23	6.25
Other Fossil Fuel	8.96	8.96	3.95	5.02	2.37	4.76	2.37	4.76
Pumped Storage	1.67	1.34	1.67	1.34	1.67	1.34	1.67	1.34
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.77	0.81	0.77	0.81	0.77	0.81	0.77	0.81
Biomass ²	0.07	0.06	0.07	0.06	0.07	0.06	0.07	0.06
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	58.26	58.17	59.17	60.55	62.39	62.16	69.62	66.96
Emissions								
NO _x (Thousand Short Tons)	300	271	201	220	169	223	178	243
Average Electricity Price (1997 Mills per Kilowatthour)	82.0	79.6	78.9	78.6	74.6	75.2	72.2	70.4

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A5. Mid-America Interconnected Network (MAIN) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	222	235	235	247	250	261	264	277
Generation¹								
Coal	149	160	150	166	162	175	172	186
Natural Gas	3	3	6	6	12	13	23	27
Petroleum	1	1	1	1	1	1	1	1
Hydro	3	3	3	3	3	3	3	3
Nuclear	87	83	89	81	85	78	72	71
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	0	0	0	0	0	0	0	0
Biomass ²	0	0	0	0	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	244	250	250	257	264	271	272	289
Capability (Gigawatts)³								
Combined Cycle	0.29	0.29	1.24	0.90	2.77	2.43	4.88	5.55
Coal	27.81	27.66	25.11	26.41	25.11	26.41	25.29	26.57
Combustion Turbines	6.00	11.22	13.73	17.82	17.14	19.72	18.94	21.74
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Nuclear	13.11	12.72	13.11	11.57	12.34	10.80	9.51	9.51
Other Fossil Fuel	4.76	4.76	2.46	3.18	0.29	3.18	0.29	3.18
Pumped Storage	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09
Biomass ²	0.04	0.03	0.06	0.06	0.06	0.06	0.06	0.06
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	53.35	58.03	57.05	61.30	59.07	63.96	60.34	67.97
Emissions								
NO _x (Thousand Short Tons)	320	352	235	285	254	302	267	325
Average Electricity Price (1997 Mills per Kilowatthour)	65.7	65.4	66.8	66.7	62.3	63.5	56.9	57.2

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

Table A6. Mid-Continent Area Power Pool (MAPP) Regional Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	141	148	150	157	161	166	171	176
Generation¹								
Coal	111	133	125	143	131	145	135	147
Natural Gas	2	2	4	4	10	12	25	19
Petroleum	1	0	1	0	1	0	1	0
Hydro	12	17	12	17	12	17	12	17
Nuclear	24	25	12	12	11	11	8	8
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	1	2	1	2	2	2	2	2
Biomass ²	0	0	1	1	1	1	1	1
Solar Thermal	0	0	0	0	0	0	0	0
Wind	1	1	2	2	2	2	2	2
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	153	181	158	180	170	190	185	196
Capability (Gigawatts)³								
Combined Cycle	0.42	0.42	0.75	0.58	1.57	0.92	4.38	0.92
Coal	21.68	20.78	20.29	20.54	20.26	20.51	20.29	20.28
Combustion Turbines	4.97	6.42	5.69	9.70	7.82	11.62	8.87	17.86
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41
Nuclear	3.35	3.74	1.57	1.57	1.03	1.03	1.03	1.03
Other Fossil Fuel	0.61	0.61		0.60	0.30	0.60	0.30	0.60
Pumped Storage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.20	0.20	0.23	0.23	0.27	0.27	0.29	0.29
Biomass ²	0.11	0.11	0.21	0.23	0.13	0.23	0.13	0.23
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.52	0.52	0.68	0.68	0.68	0.68	0.68	0.68
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	35.27	36.21	33.13	37.54	35.46	39.26	39.37	45.29
Emissions								
NO _x (Thousand Short Tons)	235	302	262	327	277	337	284	347
Average Electricity Price (1997 Mills per Kilowatthour)	56.1	53.7	55.1	52.4	53.8	51.7	50.2	49.7

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A7. Northeast Power Coordinating Council/New England (NE) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	115	115	121	122	128	128	135	134
Generation¹								
Coal	20	20	20	20	19	15	18	14
Natural Gas	24	21	50	48	62	75	82	88
Petroleum	25	17	8	6	8	2	2	1
Hydro	7	9	7	9	7	9	7	9
Nuclear	29	29	26	25	21	21	17	17
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	4	5	4	5	5	5	5	5
Biomass ²	3	3	4	3	4	4	4	4
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	1	1	1	1
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	114	105	120	117	127	132	136	140
Capability (Gigawatts)³								
Combined Cycle	2.13	2.21	5.60	5.91	7.91	9.99	11.10	11.97
Coal	3.05	3.05	2.84	3.05	2.84	3.05	2.84	3.05
Combustion Turbines	1.78	1.84	1.78	2.09	2.08	2.06	2.69	2.22
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02
Nuclear	4.32	4.32	2.78	3.65	2.78	2.78	2.28	2.28
Other Fossil Fuel	8.14	8.14	7.12	5.73	1.88	3.31	1.11	3.31
Pumped Storage	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.63	0.63	0.65	0.65	0.67	0.67	0.67	0.69
Biomass ²	0.76	0.75	0.54	0.81	0.60	0.88	0.60	0.88
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.02	0.02	0.12	0.12	0.27	0.27	0.27	0.27
Solar Photovoltaic	0.00	0.00	0.01	0.01	0.05	0.04	0.05	0.04
Total	24.49	24.63	25.11	25.70	22.75	26.72	25.28	28.39
Emissions								
NO _x (Thousand Short Tons)	76	73	44	62	39	59	29	61
Average Electricity Price (1997 Mills per Kilowatthour)	99.9	89.4	97.8	84.4	90.1	82.8	82.6	78.2

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A8. Northeast Power Coordinating Council/New York (NY) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	140	145	148	152	157	160	164	168
Generation¹								
Coal	12	34	20	34	25	29	27	33
Natural Gas	44	41	61	59	82	90	95	106
Petroleum	26	18	13	6	2	1	2	1
Hydro	29	20	31	21	32	21	32	21
Nuclear	34	33	27	27	14	14	8	8
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	2	2	2	2	2	2	2	2
Biomass ²	0	0	0	1	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	147	148	155	150	157	158	166	172
Capability (Gigawatts)³								
Combined Cycle	4.62	4.62	5.77	7.34	11.30	12.39	15.20	14.74
Coal	3.98	4.92	3.98	4.92	3.82	4.92	3.68	4.92
Combustion Turbines	4.10	4.10	4.09	4.09	4.09	4.09	4.09	5.27
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	4.63	4.63	4.91	4.91	4.96	4.96	4.96	4.96
Nuclear	4.91	4.91	3.11	3.11	2.03	2.03	1.10	1.09
Other Fossil Fuel	12.39	12.39	8.40	6.18	1.21	3.11	1.21	3.11
Pumped Storage	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Biomass ²	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	36.28	37.23	31.92	32.21	29.06	33.16	31.90	35.77
Emissions								
NO _x (Thousand Short Tons)	56	99	54	78	42	72	44	84
Average Electricity Price (1997 Mills per Kilowatthour)	109.7	103.1	105.8	101.9	102.8	99.7	96.8	93.2

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A9. Southeastern Electric Reliability Council/Florida (FL) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	176	175	193	191	211	209	230	228
Generation¹								
Coal	64	73	86	73	107	74	135	79
Natural Gas	44	30	66	54	82	88	84	117
Petroleum	34	22	9	15	4	12	3	9
Hydro	0	0	0	0	0	0	0	0
Nuclear	29	28	29	27	22	21	12	11
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	4	4	4	4	4	4	4	4
Biomass ²	0	0	0	0	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	175	158	194	175	219	198	239	221
Capability (Gigawatts)³								
Combined Cycle	5.59	5.12	11.04	7.82	14.48	12.93	16.65	16.74
Coal	9.94	10.09	13.18	10.09	15.71	10.10	19.57	10.59
Combustion Turbines	5.88	5.54	8.95	6.38	11.66	7.11	12.35	9.78
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Nuclear	3.82	3.82	3.82	3.82	3.01	3.01	1.68	1.68
Other Fossil Fuel	13.32	13.32	8.59	12.35	4.17	11.89	4.17	11.63
Pumped Storage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Biomass ²	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	39.38	38.73	46.42	41.31	49.87	45.87	55.26	51.26
Emissions								
NO _x (Thousand Short Tons)	226	222	166	224	148	225	144	232
Average Electricity Price (1997 Mills per Kilowatthour)	72.0	68.4	72.5	68.0	71.1	66.9	68.5	62.9

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A10. Southeastern Electric Reliability Council (SERC) Regional Electricity Results:
CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	581	567	631	612	687	665	741	720
Generation¹								
Coal	378	419	412	430	426	437	454	482
Natural Gas	10	8	27	41	87	92	178	172
Petroleum	4	3	4	2	5	3	5	2
Hydro	38	38	38	38	38	38	38	38
Nuclear	187	182	183	179	166	161	106	98
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	1	2	2	2	2	3	2	3
Biomass ²	1	0	1	0	1	0	1	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	618	652	666	693	723	734	783	795
Capability (Gigawatts)³								
Combined Cycle	3.01	3.00	5.03	7.88	15.31	14.40	31.82	30.24
Coal	65.78	65.63	62.71	65.63	62.64	65.40	63.24	67.17
Combustion Turbines	13.34	13.16	20.51	19.51	27.69	25.18	31.87	30.47
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	11.87	11.87	11.93	11.93	11.93	11.93	11.93	11.93
Nuclear	25.47	25.58	24.71	24.83	21.34	21.46	14.27	13.56
Other Fossil Fuel	3.15	3.15	2.77	3.09	2.72	2.98	2.57	2.89
Pumped Storage	7.52	6.68	7.52	6.68	7.52	6.68	7.52	6.68
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.29	0.37	0.34	0.41	0.39	0.46	0.42	0.49
Biomass ²	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	130.59	129.61	135.67	140.12	149.70	148.65	163.79	163.61
Emissions								
NO _x (Thousand Short Tons)	768	881	618	736	639	764	674	838
Average Electricity Price (1997 Mills per Kilowatthour)	57.2	56.4	55.9	58.1	54.9	56.7	53.8	54.0

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

Table A11. Southwest Power Pool (SPP) Regional Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	280	284	304	305	330	329	354	355
Generation¹								
Coal	186	202	191	203	196	204	201	207
Natural Gas	40	31	70	70	91	86	106	109
Petroleum	4	4	1	0	3	0	3	1
Hydro	8	7	8	7	8	7	8	7
Nuclear	46	44	46	44	46	44	37	35
Geothermal	0	0	0	0	0	0	0	0
Municipal Solid Waste	0	0	0	1	0	1	0	1
Biomass ²	0	0	0	0	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	283	288	318	324	344	342	357	360
Capability (Gigawatts)³								
Combined Cycle	2.07	2.07	4.67	8.16	9.99	11.45	13.85	15.54
Coal	27.80	27.98	28.36	28.60	28.31	28.61	28.84	28.96
Combustion Turbines	5.22	5.15	7.81	7.29	15.33	8.90	19.31	11.86
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	2.81	2.84	2.81	2.84	2.81	2.84	2.81	2.84
Nuclear	6.05	5.93	6.05	5.93	6.05	5.93	4.27	4.16
Other Fossil Fuel	30.27	30.27	21.87	22.92	11.06	22.81	11.06	22.56
Pumped Storage	0.51	0.50	0.51	0.50	0.51	0.50	0.51	0.50
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Solid Waste	0.07	0.07	0.10	0.10	0.13	0.13	0.15	0.15
Biomass ²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Thermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.00	0.00	0.01	0.01	0.02	0.02	0.05	0.05
Total	74.78	74.82	72.16	76.35	74.20	81.19	80.85	86.62
Emissions								
NO _x (Thousand Short Tons)	426	463	426	441	412	445	403	443
Average Electricity Price (1997 Mills per Kilowatthour)	58.8	54.1	58.0	55.3	57.4	55.5	54.2	51.3

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A12. Southwest Systems Coordinating Council/Rocky Mountain Power Area and Arizona (RA)
Regional Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	133	116	151	131	167	145	184	161
Generation¹								
Coal	102	98	103	99	109	107	118	118
Natural Gas	7	27	13	48	28	58	35	48
Petroleum	0	1	1	0	1	0	1	0
Hydro	12	13	12	13	12	13	12	13
Nuclear	28	21	28	22	28	22	28	22
Geothermal	3	3	3	3	3	3	3	3
Municipal Solid Waste	0	0	0	0	0	1	0	1
Biomass ²	0	0	0	0	0	0	0	0
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	153	163	162	185	181	204	199	205
Capability (Gigawatts)³								
Combined Cycle	1.36	1.93	1.51	5.92	3.91	8.51	5.25	8.99
Coal	14.15	13.25	14.10	13.40	14.78	14.47	16.23	16.00
Combustion Turbines	2.58	3.67	3.78	3.87	5.85	4.13	6.94	4.41
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	3.98	3.98	3.98	3.98	3.98	3.98	3.98	3.98
Nuclear	3.81	2.99	3.81	2.99	3.81	2.99	3.81	2.99
Other Fossil Fuel	2.59	2.59	2.25	2.22	2.25	2.22	2.25	2.22
Pumped Storage	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Geothermal	0.35	0.31	0.35	0.32	0.36	0.32	0.37	0.34
Municipal Solid Waste	0.04	0.04	0.06	0.06	0.08	0.08	0.09	0.09
Biomass ²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Thermal	0.02	0.02	0.06	0.06	0.06	0.06	0.07	0.07
Wind	0.08	0.06	0.08	0.06	0.08	0.06	0.08	0.06
Solar Photovoltaic	0.01	0.01	0.04	0.04	0.06	0.06	0.09	0.08
Total	29.69	29.57	30.72	33.64	35.93	37.60	39.86	39.95
Emissions								
NO _x (Thousand Short Tons)	223	230	230	231	228	233	227	229
Average Electricity Price (1997 Mills per Kilowatthour)	66.2	68.0	64.3	67.7	65.2	67.1	63.3	63.1

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A13. Western Systems Coordinating Council/Northwest Power Pool (NWP)
Regional Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	233	230	254	252	277	276	300	300
Generation¹								
Coal	77	83	81	85	82	89	88	98
Natural Gas	11	18	14	49	24	64	45	87
Petroleum	1	0	1	0	1	0	1	0
Hydro	153	164	152	163	152	163	152	163
Nuclear	7	6	7	7	8	8	8	8
Geothermal	1	1	1	3	3	5	4	8
Municipal Solid Waste	0	1	1	1	1	1	1	1
Biomass ²	1	1	1	1	1	1	1	1
Solar Thermal	0	0	0	0	0	0	0	0
Wind	0	0	0	0	0	0	0	0
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	251	274	258	310	271	332	301	367
Capability (Gigawatts)³								
Combined Cycle	1.88	2.21	1.13	5.77	2.74	8.39	5.87	11.98
Coal	11.37	11.58	11.37	11.88	11.57	12.38	12.40	13.55
Combustion Turbines	1.29	3.17	0.90	3.18	0.91	3.18	0.73	2.95
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	35.03	35.05	35.03	35.03	35.03	35.03	35.03	35.03
Nuclear	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Other Fossil Fuel	0.72	0.72	0.42	0.72	0.42	0.23	0.42	0.23
Pumped Storage	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Geothermal	0.21	0.21	0.21	0.45	0.45	0.71	0.74	0.97
Municipal Solid Waste	0.11	0.11	0.13	0.13	0.17	0.17	0.19	0.19
Biomass ²	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Solar Thermal	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02
Wind	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Photovoltaic	0.00	0.00	0.01	0.03	0.05	0.09	0.10	0.14
Total	52.20	54.66	50.80	58.81	52.94	61.78	57.10	66.65
Emissions								
NO _x (Thousand Short Tons)	157	171	167	184	164	187	164	194
Average Electricity Price (1997 Mills per Kilowatthour)	41.5	43.5	39.6	45.0	38.8	44.4	37.3	42.4

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.

**Table A14. Western Systems Coordinating Council/California-Southern Nevada Power (CNV)
Regional Electricity Results: CECA Reference Cases
(Billion Kilowatthours, Unless Otherwise Noted)**

Demand, Generation, Capability, Emissions, and Prices	Projections							
	2000		2005		2010		2015	
	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS	DOE/ POEMS	EIA/ NEMS
Electricity Demand	247	241	267	262	290	284	313	307
Generation¹								
Coal	30	42	40	45	75	51	117	81
Natural Gas	55	58	111	48	128	71	111	68
Petroleum	10	11	11	6	3	1	2	0
Hydro	40	45	40	45	40	45	40	45
Nuclear	32	38	32	38	32	38	32	38
Geothermal	12	10	12	10	12	10	12	9
Municipal Solid Waste	2	2	2	2	2	2	2	2
Biomass ²	2	2	2	2	2	2	2	2
Solar Thermal	1	1	1	1	1	1	1	1
Wind	4	4	4	5	5	5	5	5
Solar Photovoltaic	0	0	0	0	0	0	0	0
Total	189	213	256	201	300	225	324	252
Capability (Gigawatts)³								
Combined Cycle	3.96	3.91	9.32	4.20	15.71	7.56	16.39	9.21
Coal	4.16	5.73	5.47	6.10	10.19	6.89	15.84	11.03
Combustion Turbines	4.82	4.83	4.63	4.61	5.22	7.33	6.53	10.83
Fuel Cells	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33
Nuclear	4.31	5.13	4.31	5.13	4.31	5.13	4.31	5.13
Other Fossil Fuel	20.48	20.48	15.54	18.31	6.62	18.21	5.23	17.53
Pumped Storage	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73
Geothermal	2.51	2.54	2.25	2.32	2.17	2.17	2.08	1.97
Municipal Solid Waste	0.36	0.36	0.37	0.36	0.37	0.36	0.37	0.36
Biomass ²	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Solar Thermal	0.35	0.35	0.36	0.36	0.37	0.37	0.39	0.38
Wind	1.95	1.96	2.11	2.13	2.20	2.13	2.28	2.13
Solar Photovoltaic	0.02	0.02	0.07	0.04	0.11	0.07	0.16	0.12
Total	58.34	60.72	59.85	58.99	62.70	65.64	69.01	74.12
Emissions								
NO _x (Thousand Short Tons)	78	99	77	95	61	103	57	104
Average Electricity Price (1997 Mills per Kilowatthour)	92.6	97.3	96.4	93.4	91.6	88.7	86.4	82.6

¹Excludes traditional cogenerators and firm imports.

²Includes co-firing as well as direct combustion.

³Includes nontraditional cogenerators.

NO_x = Nitrogen oxide.

Sources: U.S. Department of Energy, *Supporting Analysis for the Comprehensive Electricity Competition Act*, DOE/PO-0059 (Washington, DC, May 1999), and Energy Information Administration, National Energy Modeling System run CECABAS1.D082799A.