APPENDIX

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Table A **Abbreviations**

Acronym	Description
Bbl	Barrel
Btu	British Thermal Unit
cf	Cubic Feet
EIA	Energy Information Administration
F.O.B.	Free on Board at the mine
GDP	Gross Domestic Product
GSP	Gross State Product
GW	Gigawatt
GWh	Gigawatthour
kW	Kilowatt
kWh	Kilowatthour
LNG	Liquefied Natural Gas
NGL	Natural Gas Liquids
m	Thousand
mcf	Thousand cubic feet
mm	Million
MSW	Municipal Solid Waste
MW	Megawatt
MWh	Megawatthour
PV	Photovoltaic
U_3O_8	Uranium Oxide
UEO	Utah Energy Office

Table B **Petroleum Product Thermal Conversion Factors**

Million Btu per Barrel

Petroleum Product	Heat Content
Asphalt	6.636
Aviation Gasoline	5.048
Butane	4.326
Butane-Propane Mixture (60/40)	4.130
Distillate Fuel Oil	5.825
Ethane	3.082
Ethane-Propane Mixture (70/30)	3.308
Isobutane	3.974
Jet Fuel, Kerosene-Type	5.670
Jet Fuel, Naphtha-Type	5.355
Kerosene	5.670
Lubricants	6.065
Motor Gasoline	
Conventional	5.253
Oxygenated	5.150
Reformulated	5.150
Fuel Ethanol	3.539
Natural Gasoline	4.620
Pentanes Plus	4.620
Petrochemicals Feedstocks	
Naphtha less than 401 degrees F	5.248
Other Oils equal to or greater than 401 degrees F	5.825
Still Gas	6.000
Petroleum Coke	6.024
Plant Condensate	5.418
Propane	3.836
Residual Fuel Oil	6.287
Road Oil	6.636
Special Naphthas	5.248
Still Gas	6.000
Unfinished Oils	5.825
Unfractionated Stream	5.418
Waxes	5.537
Miscellaneous	5.796

Table C **Selected Biomass Thermal Conversion Factors**

Fuel Type	Heat Content	Units
Agricultural Byproducts	8.248	Million Btu/Short Ton
Black Liquor	11.758	Million Btu/Short Ton
Digester Gas	0.619	Million Btu/Thousand Cubic Feet
Landfill Gas	0.490	Million Btu/Thousand Cubic Feet
Methane	0.841	Million Btu/Thousand Cubic Feet
Municipal Solid Waste (MSW)	9.945	Million Btu/Short Ton
Paper pellets	13.029	Million Btu/Short Ton
Peat	8.000	Million Btu/Short Ton
Railroad Ties	12.618	Million Btu/Short Ton
Sludge Waste	7.512	Million Btu/Short Ton
Sludge Wood	10.071	Million Btu/Short Ton
Solid Byproducts	25.830	Million Btu/Short Ton
Spent Sulfite Liquor	12.720	Million Btu/Short Ton
Tires	26.865	Million Btu/Short Ton
Utility Poles	12.500	Million Btu/Short Ton
Waste Alcohol	3.800	Million Btu/Barrel
Wood/Wood Waste	9.961	Million Btu/Short Ton

Source: EIA, Form EIA-860B (Annual Electric Generator Report - Nonutility 1999)

Table D **Utah Energy Production - Thermal Conversion Factors**

Million Btu per Unit of Measure

Year	Coal	Crude Oil	Natural Gas	Yellowcake	Electricity	
					Hydro	Geothermal
	Short Tons	Barrels	Thousand Cubic Feet	Pounds	Kilowatthour	Kilowatthour
1960	23.500	5.800	1.107	58.000	0.011	0.023
1961	23.500	5.800	1.108	58.000	0.011	0.023
1962	23.500	5.800	1.107	58.000	0.011	0.023
1963	23.500	5.800	1.103	58.000	0.011	0.022
1964	23.500	5.800	1.102	58.000	0.010	0.022
1965	23.500	5.800	1.101	58.000	0.010	0.022
1966	23.500	5.800	1.103	58.000	0.010	0.022
1967	23.500	5.800	1.105	58.000	0.010	0.022
1968	23.500	5.800	1.115	58.000	0.010	0.022
1969	23.500	5.800	1.103	58.000	0.010	0.022
1970	23.500	5.800	1.102	58.000	0.010	0.022
1971	23.500	5.800	1.103	58.000	0.010	0.022
1972	23.500	5.800	1.100	58.000	0.010	0.022
1973	23.500	5.800	1.093	58.000	0.010	0.022
1974	23.500	5.800	1.097	58.000	0.010	0.022
1975	23.500	5.800	1.095	58.000	0.010	0.022
1976	23.500	5.800	1.093	58.000	0.010	0.022
1977	23.500	5.800	1.093	58.000	0.010	0.022
1978	23.500	5.800	1.088	58.000	0.010	0.022
1979	23.500	5.800	1.092	58.000	0.010	0.022
1980	23.500	5.800	1.098	58.000	0.010	0.022
1981	23.500	5.800	1.103	58.000	0.010	0.022
1982	23.500	5.800	1.107	58.000	0.010	0.022
1983	23.500	5.800	1.115	58.000	0.011	0.021
1984	23.500	5.800	1.109	58.000	0.010	0.021
1985	23.500	5.800	1.112	58.000	0.010	0.021
1986	23.500	5.800	1.110	58.000	0.010	0.021
1987	23.500	5.800	1.112	58.000	0.010	0.021
1988	23.500	5.800	1.109	58.000	0.010	0.021
1989	23.500	5.800	1.107	58.000	0.010	0.021
1990	23.598	5.800	1.105	58.000	0.010	0.021
1991	23.572	5.800	1.108	58.000	0.010	0.021
1992	23.648	5.800	1.110	58.000	0.010	0.021
1993	23.200	5.800	1.106	58.000	0.010	0.021
1994	23.236	5.800	1.105	58.000	0.010	0.021
1995	23.296	5.800	1.106	58.000	0.010	0.021
1996	23.282	5.800	1.109	58.000	0.010	0.021
1997	23.096	5.800	1.107	58.000	0.010	0.021
1998	23.040	5.800	1.109	58.000	0.010	0.021
1999	23.530	5.800	1.107	58.000	0.010	0.021
2000	23.692	5.800	1.107	58.000	0.010	0.021
2001	23.968	5.800	1.105	58.000	0.010	0.021
2002	23.946	5.800	1.105	58.000	0.010	0.021

Table E **Utah Energy Consumption - Thermal Conversion Factors**

Million Btu per Unit of Measure

Year	Coal	Natural Gas	Electricity	
			Hydro	Geothermal
	Short Tons	Thousand Cubic Feet	Kilowatthour	Kilowatthour
1960	26.384	1.035	0.011	0.023
1961	25.609	1.036	0.011	0.023
1962	26.272	1.035	0.010	0.023
1963	26.285	0.926	0.011	0.022
1964	26.394	0.923	0.010	0.022
1965	26.426	0.925	0.010	0.022
1966	26.340	0.921	0.010	0.022
1967	26.299	0.924	0.010	0.022
1968	26.365	0.925	0.010	0.022
1969	26.238	0.925	0.010	0.022
1970	26.050	0.938	0.011	0.022
1971	25.829	0.938	0.010	0.022
1972	25.661	0.938	0.010	0.022
1973	25.425	0.945	0.010	0.022
1974	25.240	0.952	0.010	0.022
1975	24.957	0.950	0.010	0.022
1976	24.727	0.948	0.010	0.022
1977	24.461	0.950	0.010	0.022
1978	24.169	0.956	0.010	0.022
1979	24.057	0.960	0.010	0.022
1980	23.684	1.086	0.010	0.022
1981	23.641	1.073	0.010	0.022
1982	23.516	0.939	0.010	0.022
1983	23.309	1.075	0.011	0.021
1984	23.479	1.075	0.010	0.021
1985	24.015	1.075	0.010	0.021
1986	23.299	0.948	0.010	0.021
1987	23.190	1.080	0.010	0.028
1988	23.289	1.081	0.010	0.021
1989	22.966	1.087	0.010	0.024
1990	23.275	1.088	0.010	0.024
1991	23.257	1.073	0.010	0.024
1992	23.068	1.078	0.010	0.019
1993	23.097	1.080	0.010	0.019
1994	22.960	1.067	0.010	0.020
1995	23.100	1.063	0.010	0.021
1996	23.068	1.046	0.010	0.021
1997	22.683	1.041	0.010	0.020
1998	22.613	1.045	0.010	0.020
1999	23.099	1.054	0.010	0.020
2000	23.201	1.049	0.010	0.019
2001	24.235	1.049	0.010	0.020
2002	26.031	1.035	0.010	0.019