Cane Island Power Park
Unit 3

BLACK & VEATCH LLP

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1B.1.0 Overview and Summary

1B.1.1 Overview

Cane Island Unit 3 is planned as a new combined cycle addition to the existing Cane Island site, located in Osceola County. Cane Island Units 1 and 2, a combustion turbine and combined cycle burning natural gas, are currently operating. The Cane Island Site was licensed for an ultimate capacity of approximately 1,000 MW. Cane Island Unit 3 will provide very economical power for the Kissimmee Utility Authority (KUA) with a minimal environmental impact. Cane Island Unit 3 will be a 1x1 "F" class combined cycle unit. The actual output of the unit will depend upon the combustion turbine vendor selected and the design and size of the steam turbine. Output will also vary with degradation and ambient conditions. KUA will be a 50 percent joint owner in Cane Island Unit 3. KUA's portion of the nominal 250 MW of generation from Cane Island Unit 3 will be approximately 125 MW. Details specific to the project are presented in Volume 1A. This volume, Volume 1B, contains information specific to KUA's need for the project.

KUA strives to meet its responsibility to supply its customer's loads in a reliable manner at the lowest achievable cost while maintaining a concern for the environment. KUA's rates are among the lowest in the state due to strategic planning and ability to provide economies of scale to its customers.

KUA is committed to meet its customer's needs and identify projects that will provide economical power through the combination of demand-side and supply-side resources. KUA has been a strong supporter of conservation and demand-side programs where cost effective. With KUA's ability to pursue very economical supply-side resources, it is difficult for demand-side programs to be cost-effective.

A diversified mix of fuels for generation provides methods to reduce risk associated with fuel price volatility and supply risk. Cane Island Unit 3 provides the best alternative for fuel diversification for KUA with the price of natural gas projected to remain low and the availability of natural gas to remain high throughout the planning horizon.

KUA achieves savings through economy interchange and central dispatch which are obtained through participation in the Florida Municipal Power Pool (FMPP) which consists of OUC, Lakeland, Kissimmee, and the FMPA All-Requirements Project.

KUA's mission to provide low cost power while striving to meet or exceed environmental regulations will continue with the Cane Island Unit 3 project. Cane Island Unit 3 will burn natural gas as the primary fuel with dry low NO_x burners providing a very clean burning high efficiency unit.

As discussed in the remainder of this Volume, KUA has evaluated appropriate alternatives to Cane Island Unit 3 to determine if they are lower in cumulative present worth revenue requirements. As part of the evaluation process, KUA together with FMPA, issued a joint request for proposals (RFP) for power supply as an alternative to Cane Island Unit 3 in May 1997. Numerous bids were received and evaluated. All bids received that were feasible under current regulations in Florida resulted in higher costs than Cane Island Unit 3. As a result, KUA rejected all long-term bids and is pursuing the construction of Cane Island Unit 3.

KUA believes that Cane Island Unit 3 represents the minimal cost and performance risk to its customers due to the proven performance of the F class combined cycle technology. As demonstrated in this application, Cane Island Unit 3 represents KUA's least cost alternative that has been demonstrated through exhaustive evaluations as well as a thorough test of the marketplace.

1B.1.2 Summary

KUA historically has been one of the fastest growing utilities in the United States with a 6.7 percent annual growth rate in peak demand over the last ten years. Rapid growth is projected to continue with a 4.2 percent annual growth rate in peak demand projected through the end of the 20 year planning period. The development of the proposed World Exposition Center (Expo Center) on KUA's service territory is projected to contribute significantly to KUA's load growth. The Expo Center is projected to begin operation in 2000. KUA has incorporated estimates of the direct loads from the Expo Center into KUA's forecast. Indirect loads from the Expo Center are likely to be significant and currently are only considered in sensitivity projections.

KUA is currently using a 15 percent reserve margin for planning purposes. In 2000, KUA's reserve margin dips to 11.9 percent including projected loads from the Expo Center requiring an additional 8 MW to maintain a 15 percent reserve margin. Without the Expo Center, KUA's reserve margin is projected to be 18.2 percent in 2000. KUA has a

supplemental resale contract with Florida Power Corporation which allows KUA to purchase the capacity necessary to maintain a 15 percent reserve margin with the Expo Center's loads. While this purchase has not been explicitly included in KUA's expansion plans, KUA can implement it as the Expo Center loads develop. In 2001, KUA's reserve margin is projected to be negative with and without the Expo Center requiring the addition of capacity.

KUA has evaluated numerous demand and supply-side alternatives to meet capacity requirements. The low cost of Cane Island Unit 3 precludes demand-side alternatives from being cost effective. KUA issued a request for proposals (RFP) for purchase power on May 28, 1997. KUA received 22 proposals from 13 different bidders. After an extensive evaluation, the lowest cost purchase power proposal was almost 30 percent more costly than Cane Island 3. KUA evaluated 10 different generating unit alternatives using the EGEAS optional generation expansion model. Cane Island 3 was found to be the least cost alternative under both base and sensitivity conditions.

1B.2.0 Description of Existing Facilities

1B.2.1 KUA Structure

KUA has been a municipal utility, owned by the City of Kissimmee, since 1901. In 1985, voters approved the Charter for Kissimmee Utility Authority. KUA now operates as an independent utility authority owned by the City of Kissimmee and operated by a 5-member Board of Directors plus the mayor of the City of Kissimmee as a not voting member. Since becoming an independent utility authority, KUA has enjoyed stable management and has been operated by the Board of Directors in a very business like environment.

1B.2.2 Generation System

KUA owns and operates or has ownership interest in generating units comprised of several technologies, including nuclear, coal fired, diesel, simple cycle, combustion turbine, and combined cycle. Table 1B.2-1 provides a summary of KUA's existing generating resources. The following paragraphs describe KUA's generating assets and ownership interests in detail.

KUA owns and operates eight diesel generating units ranging in age from 15 to 39 years. All of these diesel units are located at the Roy B. Hansel Generating Station in Kissimmee. Six of these diesel units are fueled by natural gas with No. 2 oil as pilot oil while the remaining two burn No. 2 oil only. The total nameplate capacity of the eight diesels is 18.35 MW. In addition, KUA owns and operates a natural gas fired (with No. 2 oil as backup) combined cycle plant, which is also located at the Hansel site. This plant consists of a 35 MW (nameplate) combustion turbine which provides waste heat for two 10 MW (nameplate) steam turbine generators. The total nameplate generating capability at the Hansel site is approximately 73.35 MW.

KUA and FMPA are both 50 percent joint owners of Cane Island Units 1 and 2. Unit 1 is a simple cycle General Electric LM6000 aeroderivative combustion turbine with a nameplate rating of 42 MW. Unit 2 is a 1 x 1 General Electric Frame 7EA combined cycle with a nameplate rating of 120 MW. KUA's 50 percent ownership share of the Cane Island Units is 81 MW (nameplate).

Table 1B.2-1
Kissimmee Utility Authority Existing Generating Facilities

Plant	Unit No.	Location	Type	Fuel		Fuel Transportation		Commercial In-Service (Month/Year)	Expected Retirement (Month/Year)	Generator Maximum Nameplate (MW)	Net Capability	
				Primary	Alternate	Primary	Alternate				Summer (MW)	Winter (MW)
Hemet	8	Osceola County 27,T25S/R29E	IC	NG	FO2	PL	TK	02/59	-/98	3.00	3	3
	14		IC	NG	FO2	PL	TK	02/72	01/02	2.07	2	2
	15		IC	NG	FO2	PL	TK	02/72	01/02	2.07	2	2
	16		IC	NG	FO2	PL	TK	02/72	01/02	2.07	2	2
	17		IC	NG	FO2	PL	TK	02/72	01/02	2.07	2	2
	18		IC	NG	FO2	PL	TK	02/72	01/02	2.07	2	2
	19		IC	FO2	—	TK	—	02/83	01/13	2.50	3	3
	20		IC	FO2	—	TK	—	02/83	01/13	2.50	3	3
	21		CT	NG	FO2	PL	TK	02/83	01/13	35.00	28	32
	22		ST	WH	—	—	—	02/83	01/13	10.00	10	10
	23		ST	WH	—	—	—	02/83	01/13	10.00	10	10
Plant Total										73.35	67	71
Crystal River	3	Citrus County 33,T17S/R16E	N	UR	—	TK	—	03/77	Unknown	890.46	6[2]	6[2]
Plant Total										890.46	6	6
Stanton Energy Center	1	Orange County 13,14,23,24 /R31E/T23S and 18,19 /T23S/R32E	ST	BIT	—	RR	—	07/87	Unknown	464.58	21[2]	21[2]
Plant Total										464.58	21	21
Indian River	A	Brevard County 12/T23S/R35E	CT	NG	FO2	PL	TK	07/89	Unknown	41.40	4.5[2]	5.5[2]
	B		CT	NG	FO2	PL	TK	07/89	Unknown	41.40	4.5[2]	5.5[2]
Plant Total										82.80	9	11

Table 1B.2-1 (Continued)
Kissimmee Utility Authority Existing Generating Facilities

Plant	Unit No.	Location	Type	Fuel		Fuel Transportation		Commercial In-Service (Month/Year)	Expected Retirement (Month/Year)	Generator Maximum Nameplate (MW)	Net Capability	
				Primary	Alternate	Primary	Alternate				Summer (MW)	Winter (MW)
Cane Island	1	Osceola County	CT	NG	FO2	PL	TK	01/95	Unknown	42.00	15[3]	20[3]
	2	29,32/R28E	CT	NG	FO2	PL	TK	06/95	Unknown	80.00	34[3]	40[3]
	2	/T25S	ST	WH	—	—	—	06/95	Unknown	40.00	20[3]	20[3]
Plant Total										162	69	80
									System Total as of January 1, 1998		172	189

Notes:
(1)KUA's 0.6754 percent portion of joint ownership.
(2)KUA's 4.8193 percent ownership portion.
(3)KUA's 12.2 percent portion of joint ownership.
(4)KUA's 50 percent ownership portion.

KUA owns a 0.6754 percent interest, or 6 MW (nameplate), in Florida Power Corporation's (FPC) Crystal River Nuclear Unit 3, located in Citrus County, Florida. KUA also has a 4.8193 percent ownership interest, or 22.3 MW (nameplate), in Orlando Utilities Commission's (OUC) Stanton Energy Center Unit 1 and a 12.2 percent, or 10 MW (nameplate), of OUC's Indian River Combustion Turbine Project Units A and B.

1B.2.3 Purchase Power Resources and Entitlement

KUA is a member of the Florida Municipal Power Agency (FMPA), a legal entity organized in 1978 and existing under the laws of Florida. During 1983, FMPA acquired an 8.8060 percent (73.9 MW) undivided ownership interest in St. Lucie Unit 2 on behalf of KUA and 14 other members of FMPA. KUA's entitlement share of this unit, based on a power purchase contract, is 0.8282 percent (6.9 MW). FMPA has also entered into a Reliability Exchange Agreement with FPL under which half of KUA's entitlement share of capacity and energy will be supplied from St. Lucie Unit No. 1 and half from Unit No.2.

In addition to the above resources, KUA purchases electric power and energy from other utilities. KUA has one contract to purchase 20 MW of firm capacity from OUC through December 2003. This contract also provides for supplemental purchases up to an additional 50 MW if the capacity is available from OUC. KUA has a second contract with OUC for Stanton 2 unit power purchases. KUA is purchasing 30 MW of this capacity for 1998 and 1999, and 40 MW in 2000. KUA has a 1.80725 percent (7.9 MW) entitlement share of Stanton 1 through the FMPA Stanton Project and a 7.6628 percent (33.3 MW) share of Stanton 2 through the FMPA Stanton II Project. The Stanton 2 percentage includes recently acquired Homestead and Lake Worth shares which total 3.8314 percent. Table 1B.2-2 presents KUA's purchase power resources.

1B.2.4 Transmission System

KUA is a member of the Florida Reliability Coordinating Council (FRCC). The FRCC has established an energy broker system which provides economic interchange of electric energy between member utilities, including KUA. KUA has purchased and sold energy through this broker system, and intends to continue such transactions whenever conditions

Table 1B.2-2
KUA's Purchase Power

Year	Utility/Unit (MW)				Annual Total
	St. Lucie 1 & 2	Stanton 1[1]	Stanton 2[2]	OUC[3]	
1998	6.9	7.86	33.3	50	98.1
1999	6.9	7.86	33.3	50	98.1
2000	6.9	7.86	33.3	60	108.1
2001	6.9	7.86	33.3	20	68.1
2002	6.9	7.86	33.3	20	68.1
2003	6.9	7.86	33.3	20	68.1
2004	6.9	7.86	33.3	0	48.1
2005	6.9	7.86	33.3	0	48.1
2006	6.9	7.86	33.3	0	48.1
2007	6.9	7.86	33.3	0	48.1
2008	6.9	7.86	33.3	0	48.1
2009	6.9	7.86	33.3	0	48.1
2010	6.9	7.86	33.3	0	48.1
2011	6.9	7.86	33.3	0	48.1
2012	6.9	7.86	33.3	0	48.1
2013	6.9	7.86	33.3	0	48.1
2014	6.9	7.86	33.3	0	48.1
2015	6.9	7.86	33.3	0	48.1
2016	6.9	7.86	33.3	0	48.1
2017	6.9	7.86	33.3	0	48.1

Notes:
No reserves are supplied by the selling utility. KUA provides for 15 percent reserves.

(1)KUA share of Stanton 1 through FMPA Stanton 1 Project is 1.80725 percent.
(2)KUA share of Stanton 2 through FMPA Stanton 2 Project is 7.6628 percent. Total percentage represents KUA's original purchase percentage plus sum of recently acquired Homestead and Lake Worth purchase percentages equal to 3.8314 percent.
(3)20 MW firm purchase plus 30 MW Stanton 2 unit purchase in 1998, 1999, and 40 MW in 2000.

are favorable. Currently, these economy transactions are conducted through the Florida Municipal Power Pool (FMPP).

KUA has direct transmission interconnections with: (i) FPC, delivered at 69 kV from the FPC Lake Bryan substation and at 230 kV at OUC's Taft substation; (ii) OUC delivered from two 230 kV lines from Cane Island, one 230 kV line from the Taft substation, and a 230/69 kV autotransfromer at Taft substation serving KUA's 69 kV line; (iii) the City of St. Cloud, Florida now being operated by OUC, at KUA's 69 kV interconnection with St. Cloud's transmission facilities; and (iv) TECO, one 230 kV circuit through the interconnection with the Osceola and Lake Jewell circuits.

Electric power and energy supplied from KUA-owned generation and purchased capacity is delivered through 230 kV and 69 kV transmission lines to eight distribution substations. KUA provides electric service to retail customers primarily by 13.2 kV feeder circuits from the distribution substations.

1B.2.5 Service Area

KUA serves a total area of approximately 85 square miles, which includes the City of Kissimmee and surrounding areas of Osceola County. As of January 1, 1998, KUA served approximately 42,743 electric customers. Of these, 34,662 were residential, 7,403 were general service non-demand, and the remaining 678 were general service demand customers. KUA's electric service area, shown on Figure 1B.2-1, is entirely located in Osceola county.

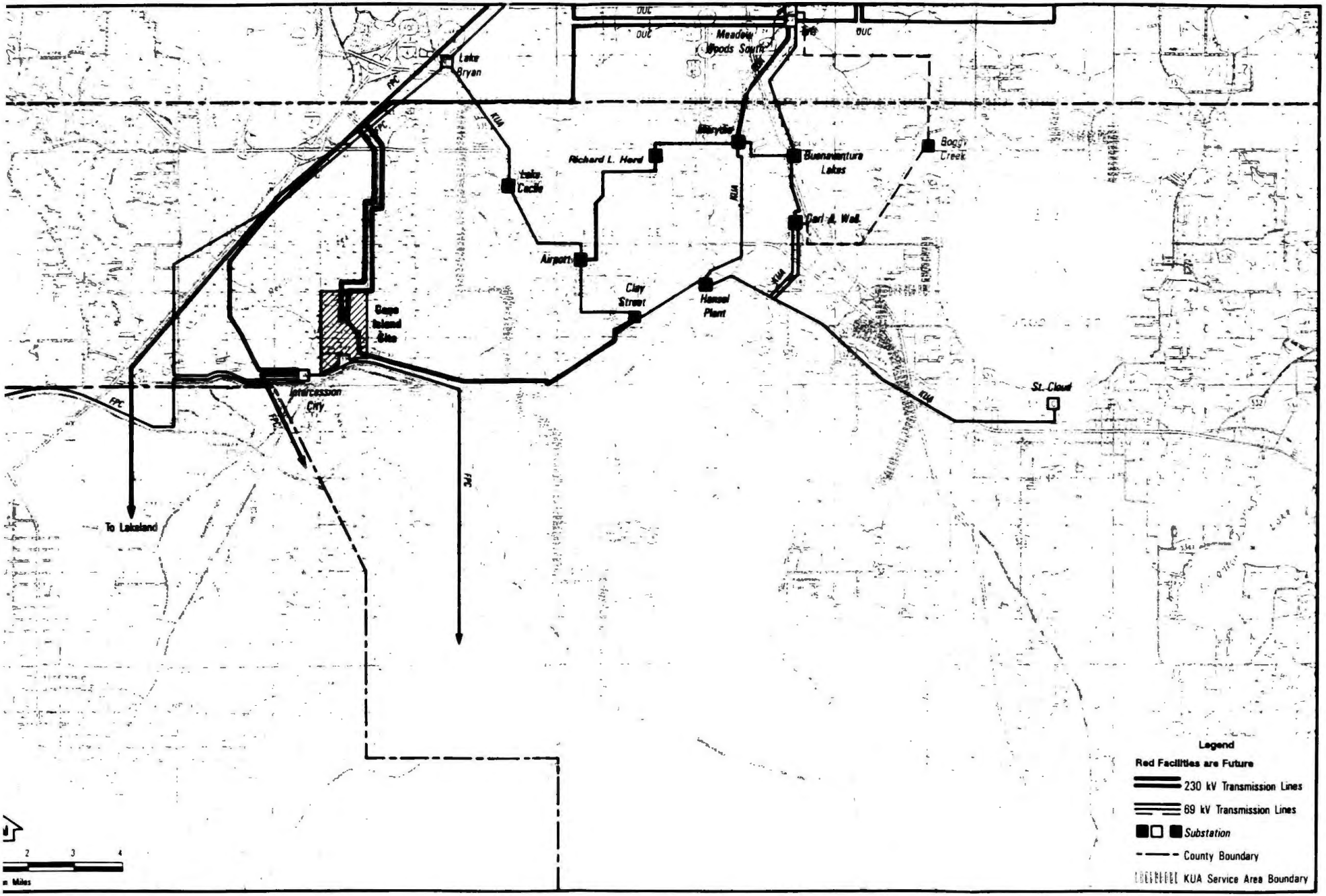

OUC
OUC
OUC
Meadow Woods South
Lake Bryan
FPC
KUA
Maryller
Richard L. Hand
Buenaventura Lakes
Boggy Creek
Lake Cecile
Carl A. Wall
Airport
Clay Street
Hamul Plant
Gum Island Site
Intercession City
FPC
To Lakeland
St. Cloud
KUA
Legend
Red Facilities are Future
230 kV Transmission Lines
69 kV Transmission Lines
Substation
County Boundary
KUA Service Area Boundary
2
3
4
Miles

Figure 1B.2-1

1B.3.0 Methodology

This section provides a general description of the methodology used to analyze the Cane Island Unit 3 expansion for KUA and is arranged according to the sequence of the remaining sections of this volume. The purpose of the power supply planning study and determination of need is to develop evaluation criteria, a range of load and fuel forecasts, and potential capacity additions that will meet the least-cost power generation needs of its consumers while providing consideration for reliability, fuel diversity, environmental impacts, strategic goals, and regulatory requirements. To this end, KUA has provided in-depth analysis and evaluation of supply-side and demand-side resources to determine the least-cost plan which is in the collective best interest of all parties involved.

1B.3.1 Evaluation Criteria

The first step in the power supply planning process is to establish evaluation criteria, that is, to identify the assumptions about important parameters used in the analysis. Evaluation criteria presented in Section 1B.4.0 include the following:

- Economic forecast assumptions.
- Financial assumptions.
- Natural gas availability assumptions.
- Fuel price projections.

1B.3.2 Forecast of Electrical Power Demand and Energy Consumption

The load forecast for the KUA electric system is summarized in Section 1B.5.0 and shown in detail in Appendix 1B.16.1. The Appendix describes the development of the econometric models which forecast system peak demands and energy requirements. The load forecast takes into account KUA's existing conservation plans. Demand-side program reductions are forecast separately.

1B.3.3 Conservation and Demand-Side Management

KUA's conservation and demand-side management programs are discussed in Section 1B.6.0. Estimates of capacity avoided by the demand-side management program is provided.

1B.3.4 Reliability Criteria

Section 1B.7.0 presents the reliability criteria used to identify timing of capacity additions. KUA uses a 15 percent minimum reserve margin as the reliability criteria.

1B.3.5 Supply-Side Alternatives

Supply-side alternatives that are candidates for meeting the KUA capacity expansion requirements are outlined in Section 1A.5.0. A variety of plant sizes, capital costs, and operating parameters of conventional alternatives as well as advanced and renewable technologies are considered.

1B.3.6 Supply-Side Screening

The economics of the supply-side alternatives were evaluated on a screening level before modeling in detail in production cost programs. The screening analysis provides a method to eliminate alternatives that possess no potential of being economically viable under any operating parameters for KUA. The details of the screening analysis are provided in Section 1A.6.0.

1B.3.7 Economic Analyses

In Section 1B.10.0, the economics of the expansion alternatives are evaluated from the characteristics in Section 1A.5.0. The plans are evaluated on a comparative basis. Comparative costs include only those costs which are affected by differences in the plans. The economic analyses determine the annual revenue requirements of items which are affected by the alternative plans. Annual comparative revenue requirements include the following components:

- Fuel costs.
- Purchased power costs.
- Operation and maintenance (O&M) costs

- Capital costs for new generation.
- Transmission Costs for new units.

An optimization program, EGEAS, is used to model the KUA system for the expansion alternatives developed in Section 1B.10.0. Annual system fuel and O&M costs are developed for each plan. Production cost simulation is necessary to incorporate the effect upon the operation of the existing units due to the new unit additions.

The objective of the economic analysis is to determine the total present worth of the annual comparative revenue requirements. This refers to the sum of the annual comparative revenue requirements discounted to 1998 using KUA's present worth discount rate.

1B.3.8 Sensitivity Analyses

Several sensitivity analyses were conducted to verify the robustness of the least-cost plan to altered conditions. The sensitivity analyses include a high load and energy forecast, low load and energy forecast, high fuel price forecast, low fuel price forecast, and a case where the differential fuel prices of coal versus natural gas/oil are held constant over the planning horizon. The results of the analyses are included in Section 1B.11.0.

1B.3.9 Strategic Considerations

Section 1B.12.0 outlines the strategic considerations involved in the alternative power supply plans. Such considerations include fuel mix, fuel supply, and availability of sites. The strategic considerations factor into the analysis of the least-cost plan. While the least-cost plan might provide the least-cost under the applied assumptions, the "best" plan may be different depending on strategic considerations.

1B.3.10 Consequences of Delay

Section 1B.13.0 addresses the adverse consequences of not building or delaying Cane Island Unit 3.

1B.3.11 Financial Analysis

Section 1B.14.0 addresses the financial feasibility of constructing Cane Island 3 with KUA's current financial position. This section highlights KUA's strong standing among Florida Utilities and high outlook for future growth.

1B.3.12 Analysis of 1990 Clean Air Act Amendments

Section 1B.15.0 addresses the impact of the 1990 Clean Air Act Amendments on the Cane Island 3 project.

1B.4.0 Evaluation Criteria

This section presents the assumptions applied for economic parameters and projections of prices used in evaluating the need for Cane Island Unit 3. The assumptions stated in this section are applied consistently throughout. Economic evaluation is conducted over a 20 year period from 1998 through 2017. The economic evaluation is based on the cumulative present worth of annual costs for capital costs, nonfuel O&M costs, fuel costs, and purchase power demand, energy, and transmission costs. Costs that are common to all expansion alternatives, such as demand charges for existing firm purchases, conservation and demand side management, existing transmission and distribution system costs, and administrative and general costs are not included.

1B.4.1 Economic Parameters

1B.4.1.1 Escalation Rates

A 2.5 percent general inflation rate is assumed. A 3.0 percent annual escalation rate is used for operation and maintenance (O&M) costs. A 2.5 percent annual escalation rate is used for capital costs.

1B.4.1.2 Bond Interest Rate

The bond interest rate is assumed to be 5.5 percent.

1B.4.1.3 Bond Issuance Fee

A bond issuance fee of 2.9 percent is assumed to apply to KUA bond issues.

1B.4.1.4 Present Worth Discount Rate

The base case present worth discount rate is equal to the bond interest rate of 5.5 percent.

1B.4.1.5 Interest During Construction

Interest during construction is assumed equal to bond interest rate of 5.5 percent.

1B.4.1.6 Fixed Charge Rate

The fixed charge rate is 8.2 percent. The fixed charge rate was developed based on a 30 year bond term including principal and interest, a 1 year debt service reserve fund, interest earnings credit based on the bond interest rate, a 2.9 percent bond issuance fee, and 1.0 percent for property insurance.

1B.4.2 Fuel Price Projections

A detailed discussion of the fuel price projections is in Section 1A.3.2.

1B.4.3 Fuel Availability

Natural gas is currently delivered to KUA's Hansel Plant and Cane Island Power Park under two firm transportation service agreements with Florida Gas Transmission Company (FGT). These two firm transportation services are commonly referred to as FTS-1 and FTS-2. KUA has contracted with FGT for FTS-1 and FTS-2 and has firm rights to deliver the following Maximum Daily Transportation Quantities (MDTQ) (Mbtu/day):

	October	November-March	April	May-September
FTS-1	2,310	3,340	4,360	6,441

	November-April	May-October
FTS-2	10,984	8,781

The FTS-1 agreement terminates August 1, 2005 and KUA has the right of first refusal to extend the agreement. The FTS-2 agreement was effective March 1, 1995 and has a term of 21 years.

KUA is a member of Florida Gas Utility (FGU) which is an organization of municipal utilities which manages and schedules member's transportation entitlements and purchases gas for members.

KUA can deliver additional volumes of natural gas to Hansel and Cane Island by utilizing the firm transportation rights of other member cities of FGU when available. KUA can release its unused firm transportation rights to other member cities of FGU as needed. When available, interruptible transportation can be utilized under KUA's interruptible contract through FGU.

KUA has also contracted with FGU which acts as agent to KUA and other member cities to make bulk purchases of natural gas which consist of a combination of spot market purchases and firm supplies. FGU contracts for approximately one third of its supply requirements on a firm basis.

1B.5.0 Forecast of Electrical Power Demand and Energy Consumption

1B.5.1 Introduction

KUA's detailed, long-term electric load and energy forecast is presented in the following Subsections. KUA's system wide forecast was developed in two components, which were summed to develop the total system load forecast.

The first component is the bulk system forecast, which KUA developed for planning purposes using econometric techniques to forecast customer class energy sales. The detailed econometric energy sales forecast is developed on a monthly basis. The model is reviewed annually and revised, if necessary.

The second forecast component is the proposed World Exposition Center (Expo Center) forecast. The Expo Center forecast, further described in Section 1B.5.4, presents KUA's detailed analysis of a significant, planned load addition to the system, which is the result of a major commercial development on an 800-acre site in the northwest corner of KUA's service territory.

1B.5.2 Econometric Energy Sales Forecast

Econometric forecast models were used to project monthly energy sales for each customer class. The econometric models and associated statistical relationships were developed for forecasting monthly changes in customer class electricity usage as a function of demographic influencing factors such as temperature, population and income. The models used were developed based on identifiable, statistical relationships between historical, economic, weather and electric system data.

1B.5.2.1 Forecast Methodology

The statistical estimating technique used in the development of the models was multiple least squares linear regression. This method was used to determine the linear relationship between the dependent variable, energy usage, and multiple independent econometric variables based on changes in the values of the variables through time. Implicit in the model development is the assumption that customer class energy usage will be affected by the same

key factors in the future as in the past. The following equation represents this linear relationship:

$$Y = a + \sum_{i=1}^{n} [b_i * X_i] + e$$

where: Y = dependent variable (predicted)
a = constant term
b_i = coefficient terms
X_i = independent variables
e = error term

The calculated equation minimizes the sum of the squared errors between the actual and predicted values of the dependent variable.

An important consideration in regression analysis is the selection of variables. Independent variables explain changes in the dependent variable. Therefore, sufficient historical data for both dependent and independent variables must be available to produce a reliable regression equation. Also, to forecast values of the dependent variable, the independent variables must have the potential to be projected into the future.

All regression equations were tested using five primary statistical measures. The first measure is the adjusted R^2, the coefficient of determination corrected for reduced degrees of freedom due to inclusion of additional independent variables in the regression equation. The coefficient of determination (perfect = 1.0) is the proportion of variability in the dependent variable that is explained by the independent variables. The second measure is the F statistic, which is a test of whether there is a significant linear relationship between the dependent variable and the entire set of independent variables. The F-test is performed by determining the calculated F statistic (F_{CALC}) and comparing this value with the corresponding value of the F distribution (F_{DIST}). The third measure is the T statistic, which is a test for multicollinearity of the independent variables. This test is performed by determining the calculated T statistic (T_{CALC}) and comparing this value with the corresponding value of the T distribution (T_{DIST}). The fourth measure is the Durbin-Watson (DW) statistic, which is a test for serial correlation of adjacent error terms. The fifth, and final, measure is the Akaike Information Criterion (AIC). The AIC serves as a guide to the selection of the number of terms in an equation by placing a penalty on additional coefficients.

1B.5.2.2 Econometric Data and Projections

This subsection describes the data sources used in the development of the econometric variable projections for the forecast period. As in previous forecasts, economic and population forecasts from the Bureau of Economic and Business Research (BEBR) were included in the analysis as econometric variables.

1B.5.2.2.1 Historical Data. A careful compilation of historical data was developed to formulate a reliable econometric model for forecasting electricity sales. Monthly historical sales data were compiled for each major customer classification for the period of January 1985 through September 1997. Additional data including temperature, population, employment, households, real personal income and total housing starts was also compiled. The econometric data were obtained from BEBR data applicable to the MSA in which Kissimmee is located. MSAs are Metropolitan Statistical Areas defined by the census bureau for various regions within each state. Kissimmee is located within the Orlando MSA. The Orlando MSA includes Orange, Lake, Seminole and Osceola Counties. Although some variance in general MSA versus Kissimmee data can be expected, the homogeneous nature of the surrounding region provided well aligned trend relationships between historical electricity use and the econometric variables selected for the forecast. A complete listing of all historical data evaluated in the development of the load forecast, including projections of selected variables, is contained in Appendix 1B.16.2.

1B.5.2.2.2 Econometric Projections. The BEBR has estimated that, during the next fifteen years, employment will grow at an average annual rate of 2.2 percent, down from 3.5 percent from 1980 through 1995. Real personal income is estimated to grow at an average annual rate of 2.9 percent, down from 4.1 percent from 1980 through 1995. In general, the slower percentage growth rates of employment and income for Florida are related to a slowing annual population growth rate. Florida's average annual population growth rate is forecast to be 1.5 percent from 1995 through 2010, down from 2.5 percent from 1980 through 1995. Although Osceola County economic and population forecasts show slower growth, Osceola County's annual growth rate continues to exceed the surrounding counties. Osceola County is currently the third fastest growing county in Florida, and all but nine counties in Florida are growing faster than the national average.

1B.5.2.3 Forecasting Assumptions

The first key assumption included in the load forecast analysis is related to regional weather patterns. Because predicting future weather patterns is not possible, normal weather conditions were assumed for the load forecast model. Monthly average temperatures for the last 10 years were used as a representation of normal weather. For weather projections, the weather for every month of the forecast period was set equal to that month's 10-year average of daily temperatures for the historical period. The same methodology was applied uniformly to all other weather-related variables used in the analysis.

The second key assumption of significance to the 1998 sales forecast is the inclusion of an estimated annual rate decrease of 2.5 percent for all rate classes to be implemented during a 6-year period beginning October 1997. This assumption is based on KUA's goal of reducing rates by nearly 15 percent during the next six years to increase competitiveness in the changing utility regulatory environment. In general, the rate decrease will act to offset economic slowdown by increasing energy use per customer in both the Residential and General Service Non-Demand customer classes. The variables PRICERES and PRICEGSN were introduced correspondingly into the models to estimate the impacts of this rate reduction.

1B.5.3 Energy Sales Forecast

1B.5.3.1 Residential Sales

To forecast residential electricity sales, annual forecasts of residential electricity use per customer and number of customers were developed using multiple least-squares regression models. The product of residential service customers and electricity use per customer forecasts yielded total annual residential electricity sales.

1B.5.3.1.1 Residential Customers. In the development of the econometric model for residential customers, a important economic data series is included to the forecast as a potential explanatory variable. The new data series, total housing starts (TS), represents the number of houses for which construction begins during the year. Based on KUA's statistical evaluation, TS more accurately represents fluctuations in historical sales data compared to Osceola County population estimates. For this reason, TS is used for the projection of annual number of residential customers. Autoregressive correction (AR) factors are included to minimize the effects of serial correlation. In effect, the AR variable incorporates the residual from previous observations into the regression model for the current observation. The

resulting equation is shown in Table 1B.5-1. Results of statistical tests for the equation are listed in Appendix 1B.16.1.

1B.5.3.1.2 Residential Energy Use Per Customer. Residential electricity use per customer was based on the relationship between historical income per household and the previous year's real price of electricity. In addition, a strong relationship between the HEAT2 variable, which represents the combined effect of heating degree days and the saturation of large electric appliances, and residential electricity use per customer was discovered. The significance of the HEAT2 term in the model of residential use per customer was also very high.

1B.5.3.1.3 Weather Impacts. Temperature and billing data were adjusted to compensate for different reporting periods. The degree days were shifted from calendar month to billing month to more accurately reflect the relationship between temperature and energy consumption. An example of this shifting is described as follows:

> *A customer has his electric meter read on billing cycle 2. In February, billing cycle 2 corresponds with a meter reading date of February 2nd. Sales to this customer are billed in February, but primarily occur in January. If the remainder of February is bitterly cold, the corresponding degree days are not reflected in the customer's February bill. As a result, error is introduced.*

By aligning the sales and degree days, the model became more responsive to changes in temperature. The resulting equation, showing the results of multiple regression on the independent variables, is listed in Table 1B.5-1. Results of statistical tests for the equation are listed in Appendix 1B.16.1.

Table 1B.5-1
Sales Forecast Equations

RSCUSTT = 7674.448 + 537.403*TS + 0.431*AR(1) + 0.414*AR(2)

RSCUSTT	:	Total Residential Customers
TS	:	Total Number of Housing Starts in Osceola County
AR(1)	:	First Order Auto-Regressive Term
AR(2)	:	Second Order Auto-Regressive Term

RSUPC = 413.260 + 1.040*HEAT2 + 2.488*MINTEMP +17.380*INCPERHH - 4.973*PRICERES - 84.227*MAR - 65.276*APR + 191.163*JUN + 362.351*JUL + 408.281*AUG + 437.390*SEP + 283.073*OCT - 83.888*DEC + 0.206*AR(1)

RSUPC	:	Residential Use Per Customer
HEAT2	:	Billing Month Heating Degree Days * Appliance Saturation
MINTEMP	:	Minimum Temperature of the Month
INCPERHH	:	Real Personal Income Per Household
PRICERES	:	Residential Real Price of Electricity
MAR-DEC	:	Variables for the Months of March through December
AR(1)	:	First Order Auto-Regressive Term

GSNCUSTT= - 2993.870 + 73.652*POPA + 0.764*AR(1) + 0.746*MA(2)

GSNCUSTT	:	Total General Service Non-Demand Customers
POPA	:	Population in Osceola County
AR(1)	:	First Order Auto-Regressive Term
MA(2)	:	Second Order Moving Average Term

Table 1B.5-1 (Continued)
Sales Forecast Equations

GSNKWHT = - 41914.30*PRICEGSN(-1) + 262002.6*GOODSERV + 46.329*BMC_TIME + 0.785*AR(1) + 0.364*MA(11) + 0.515*MA(12)

GSNKWHT	:	Total General Service Non-Demand Energy Sales
PRICEGSN	:	Real Price of Electricity
GOODSERV	:	Goods-Producing and Service-Related Employment
BMC_TIME	:	Billing Month Cooling Degree Days*Time Trend Variable
AR(1)	:	First Order Auto-Regressive Term
MA(11)	:	Eleventh Order Moving Average Term
MA(12)	:	Twelfth Order Moving Average Term

GSDKWHT = 11631387 + 73.170*BMC_TIME + 231556.3*GOODSERV - 904931.3*FEB - 1376438*MAR + 981953.4*JUN + 1989366*JUL +1888365*AUG + 3918532*SEP + 1359601*OCT

GSDKWHT	:	Total General Service Demand Energy Sales
BMC_TIME	:	Billing Month Cooling Degree Days*Time Trend Variable
GOODSERV	:	Goods-Producing and Service-Related Employment
FEB-OCT	:	Variables for the months.

OLSKWHT = - 429999.1 + 6849.977*POPA + 0.568*AR(1) + 0.315*AR(2)

OLSKWHT	:	Outdoor Lighting Service Energy Sales
POPA	:	Osceola County Population
AR(1)	:	First-Order Auto-Regressive Term
AR(2)	:	Second-Order Auto-Regressive Term

1B.5.3.2 General Service Non-Demand Forecast

The model for the general service non-demand rate classification comprises forecasts for a number of customers and energy sales and includes temporary service and KUA rate classifications.

1B.5.3.2.1 General Service Non-Demand Customers. Osceola County population was used as the basis for forecasting the number of general service non-demand customers. The resulting equation, developed to forecast the number of general service non-demand customers, is shown in Table 1B.5-1. Results of statistical tests for the equation are listed in Appendix 1B.16.1.

1B.5.3.2.2 General Service Non-Demand Electricity Sales. The general service non-demand model for annual electricity sales is primarily driven by goods-producing and service-related employment and the real price of electricity. In addition, a BMC_TIME term was added as a proxy for the saturation of cooling-related equipment in the commercial sector. The resulting equation, used to forecast the energy sales in kilowatt-hours for the general service non-demand customer class, is shown in Table 1B.5-1. Results of statistical tests for the equation are listed in Appendix 1B.16.1.

1B.5.3.3 General Service Demand Forecast

The general service demand model currently in use is progressively being improved. For the purpose of this forecast, general service demand comprises: GSD, GSDT, GSLD, and interruptible rate classifications. The general service demand customer forecast was derived by assuming that the use per customer would be constant through the study period, and was divided into the energy sales forecast to estimate the number of customers.

The equation resulting from the model for general service energy sales is shown in Table 1B.5-1. Results of statistical tests for the equation are listed in Appendix 1B.16.1.

1B.5.3.4 Outdoor Lighting Forecast

Street lighting, vapor lighting, and outdoor lighting were combined into one class for forecasting purposes. A multiple regression model was developed for outdoor lighting energy sales using Osceola County population as the explanatory variable. The multiple regression generated the equation shown in Table 1B.5-1. Results of statistical tests for the equation are listed in Appendix 1B.16.1.

1B.5.4 World Exposition Center Load Forecast

1B.5.4.1 Project Description

The developers of the World Exposition Center (Expo Center) are planning a major commercial development on an 800-acre site in the northwest corner of KUA's service territory in Osceola County. The construction of this world-class, mixed-use facility is already in the planning stages and is expected to be operational in 2000.

Phase I of the current plan, to be completed by the first part of 2000, includes a 2.4 million sq ft exposition hall, 1.3 million sq ft outside parking area, and a 0.6 million sq ft parking garage. Phase IA, to be completed by the first part of 2001, includes a 1.0 million sq ft hotel, 1.3 million sq ft County convention center, and 79,000 sq ft of commercial office space.

Phase II of construction will be completed during 2002-2004 in stages after Phase I and IA are operational. Phase II facilities include three resort hotels totaling 1.6 million sq ft, two office buildings totaling 0.5 million sq ft, a 1.0 million sq ft retail and entertainment complex, a public safety facility, and 2.0 million sq ft of additional parking.

Complete build-out of this facility will require an estimated $1.1 billion. Total employment projections for the project and supporting industries is nearly 30,000 jobs with an estimated annual payroll of $700 million.

Once completed, the peak demand and energy requirements of the Expo Center will significantly impact KUA's current system demand and least-cost planning methodology. Accordingly, KUA has conducted a detailed consumption analysis to determine the potential peak demand and energy use of the facility.

1B.5.4.2 Peak Demand and Energy Consumption Estimate

Electric demand of the Expo Center was estimated using data compiled by the Energy Information Administration (EIA) contained in the most recent Commercial Buildings Energy Consumption (CBEC) survey. The survey is conducted every three years by the EIA for the purpose of developing estimates of annual peak demand and energy usage, per sq. ft., for various building activities. The last survey conducted was compiled during 1996. The target population for the CBEC survey consists of all commercial buildings in the United States with more than 1,000 sq. ft. of floorspace. A commercial building is defined as any enclosed structure with more than 50 percent of its floorspace devoted to activities other than residential, industrial or agricultural uses. Major categories of commercial buildings tabulated

in the report include education, food sales, food service, health care, lodging, mercantile and service, office, public assembly, public order and safety, religious worship, warehouse and storage, other and vacant.

Table 1B.5-2 presents the per sq. ft. peak demand and energy consumption estimates derived from the survey. Survey data was statistically analyzed and divide into 25th percentile, median, and 75th percentile categories. For forecasting purposes, the 25th percentile data was used for the low demand forecast, the median was used for the base demand forecast, and the 75th percentile data was used for the high demand forecast.

To develop the load forecast scenarios, the consumption estimates listed in Table 1B.5-2 were multiplied by the estimated square footage of each Expo Center building and summed to develop the total annual peak demand and energy requirements for the entire Expo Center. It is assumed that the Expo Center's peak demand is coincident with KUA's system peak demand. Peak demands associated with the parking areas are excluded from the estimate of total peak demand total based on the assumption that these demands will occur after KUA's coincident system peak demand.

Table 1B.5-3 presents the resulting high, low and base forecasts of peak demand and energy consumption for Phase I, Phase IA and Phase 2 of the Expo Center. Total annual estimates are based on the following building expansion plan supplied by the developer.

- 2000 - Exposition Hall, Parking Area, Parking Garage.
- 2001 - Hotel Rooms, Convention Center, Offices.
- 2002 - Hotel Rooms, Offices, Retail Stores, Public Safety Building.
- 2003 - Hotel Rooms, Offices, Parking Area.
- 2004 - Hotel Rooms.

The proposed facility layout is presented on Figure 1B.5-1.

The Expo Center forecast only includes the projected direct loads of the Expo Center. Additional loads will occur from the related jobs and development. These additional loads may be accounted for, to some extent, in the high band forecast.

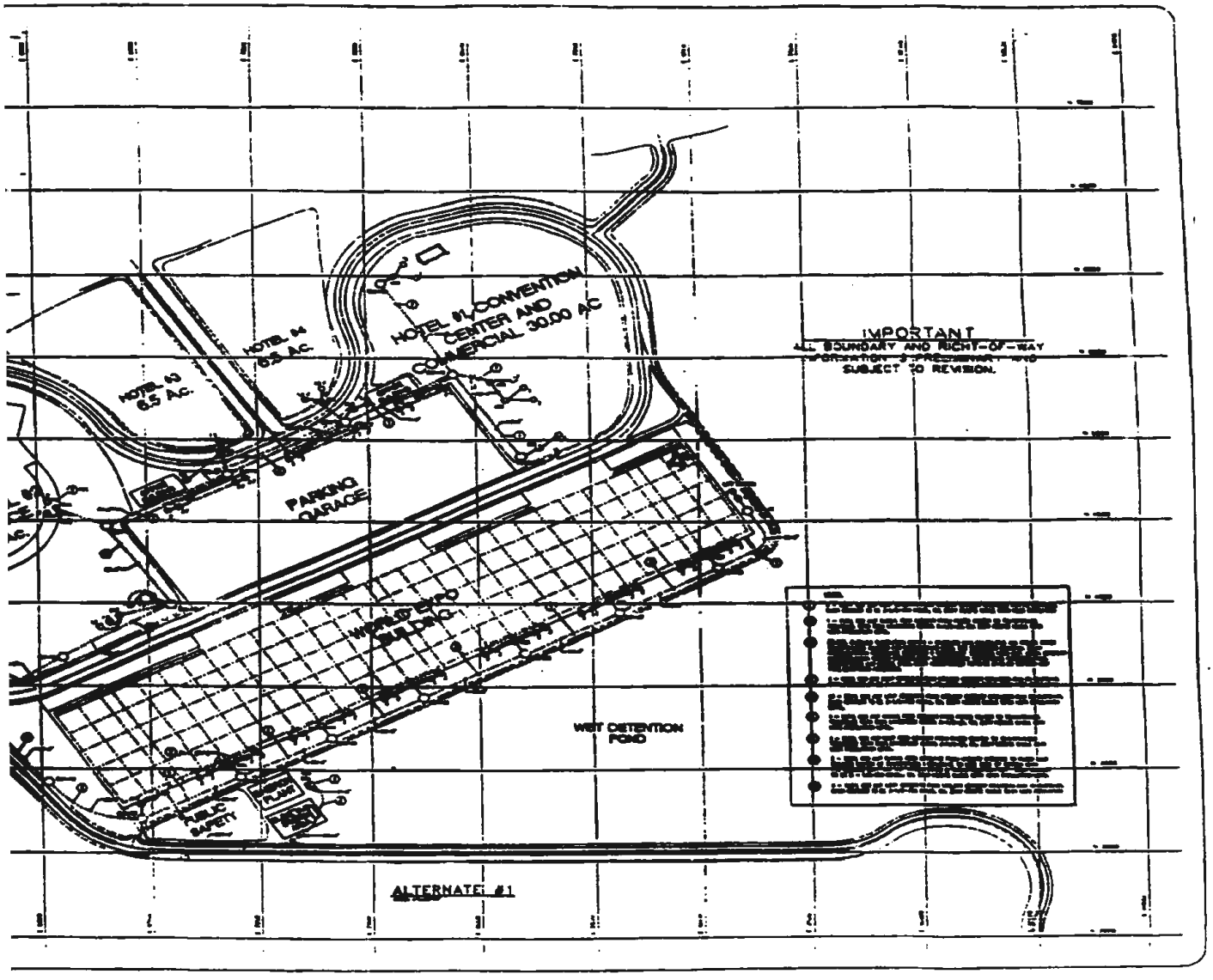
Table 1B.5-2
CBEC Commercial Buildings Survey
Annual Peak Demand and Energy Estimates (sq. Ft.)

Principal Building Activity	Peak Demand (W/sq. Ft.)			Energy (kWh/sq. Ft.)		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
Hotel	2.55	4.89	8.33	6.5	11.7	20.1
Mercantile and Service[1]	2.36	4.91	8.80	3.0	6.9	12.8
Office	3.40	6.00	7.99	6.1	12.2	20.2
Public Assembly[2]	3.33	5.52	8.29	2.7	5.8	10.0
Public Order and Safety	2.24	5.00	5.14	3.3	3.9	9.8
Parking Garage	1.77	5.50	8.89	2.6	6.2	10.9

Notes
[1] Mercantile and service estimates applied to retail and entertainment buildings.
[2] Public assembly estimates applied to convention center buildings.

Table 1B.5-3
World Exposition Center Load Forecast
Annual Peak Demand and Energy

Year	Low Forecast		Base Forecast		High Forecast	
	Peak (MW)	Energy (MWh)	Peak (MW)	Energy (MWh)	Peak (MW)	Energy (MWh)
2000	8.0	11,420	13.2	25,700	19.9	44,710
2001	15.1	21,912	25.8	45,904	39.6	79,406
2002	19.8	30,038	34.9	62,320	55.1	108,389
2003	22.0	40,458	39.1	94,490	61.6	146,796
2004	24.8	47,608	44.5	97,360	70.8	168,906
2005-2017	24.8	47,608	44.5	97,360	70.8	168,906



WORLD EXPO CENTER
CENTRAL PLANT FEASIBILITY STUDY
OSCEOLA COUNTY, FLORIDA

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1B.5.5 System Net Energy for Load and Peak Demand Forecast

1B.5.5.1 Net Energy For Load

During the past several years, system net energy for load (NEL) was projected by applying an efficiency factor of 95 percent to the projection of total sales. During fiscal year 1997-98, an attempt was made to develop an econometric model for NEL using the relationship of NEL to total sales and certain monthly variables. After further review, it was decided that the econometric model did not provide significant accuracy to the projection of NEL and KUA returned to the 95 percent efficiency factor methodology.

Tables 1B.5-4 through 1B.5-6 present KUA's base-, high-, and low-case NEL forecasts. The total NEL forecast includes energy associated with the Expo Center load listed in Table 1B.5-3. Based on the current forecast, NEL is projected to grow at an average annual rate of 3.9 percent from 1998 through 2017 compared to 6.5 percent from 1988 through 1997.

1B.5.5.2 System Peak Demand Forecast

The forecast of system peak load was prepared using average winter and summer load factors of 52 percent and 50 percent, respectively. Previous attempts to model peak load have been unsuccessful due to a lack of data. The estimate of peak load conditions is very dependent on weather and customer equipment. Although relatively reliable temperature data is available, peak load is extremely sensitive to other variables such as cloud cover, humidity and barometric pressure. KUA is continually investigating new methods of forecasting peak load to improve accuracy.

Tables 1B.5-7 through 1B.5-9 present KUA's summer low-, base- and high case peak demand forecasts. The total peak demand forecast equals the sum of the Expo Center and system-wide peak demand estimates. Based on the current forecast, a 4.2 percent average annual summer peak demand growth rate is projected for 1998 through 2017. This growth rate is significantly lower than KUA's historical average annual growth rate of 6.7 percent during the last 10 years.

1B.5.6 High and Low Sensitivities

In addition to the base-case load forecast, projections were developed for high- and low-system peak demand and customer class sales and resulting NEL load growth scenarios. The sensitivity analyses exclude the effects of 'spin-off' loads resulting from the construction of the Expo Center. Spin-off loads are difficult to estimate; however, the addition of several

thousand jobs and new commercial business establishments will result in additional system load growth within KUA's service territory.

1B.5.6.1 System NEL Sensitivities

The high and low bulk system sales and resulting NEL forecast sensitivities were developed based on changes in the independent economic variables, specifically, the BEBR's high and low population forecast. The economic forecast provided by BEBR is projected to 2010, and BEBR's long-term population forecast is projected to 2020. The BEBR economic forecast was used through 2010. To develop economic data beyond 2010, the economic data were adjusted by using their rate of change with respect to population in the base case, and maintaining that ratio in the high and low cases.

The high and low Expo Center NEL estimates were based on the 75th and 25th percentile data listed in Table 1B.5-2 as described in Section 1B.5.4.2.

1B.5.6.2 System Peak Demand Sensitivities

The high and low system peak demand forecast sensitivities were developed based on applying the system load factor listed in Section 1B.5.5.2 to the forecast of system NEL.

The high and low Expo Center peak demand estimates were based on the 75th and 25th percentile data listed in Table 1B.5-2 as described in Section 1B.5.4.2.

Figure 1B.5-2 presents a graphical representation of KUA's peak demand and energy forecasts. The base, high, and low peak demand forecasts are presented in Tables 1B.5-7 through 1B.5-9.

Table 1B.5-4
1998 Base-Case Net Energy for Load Forecast
Annual Summary of Historical and Projected Data

Calendar Year	Residential		General Service Non-Demand		General Service Demand		Street and Outdoor Light MWh	Total Customer Accounts	Total KUA Sales MWh	Net Energy for Load Mwh (1)
	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh				
1988	22,588	251,281	2,963	39,023	769	235,618	2,508	26,320	528,431	556,720
1989	25,225	289,481	3,641	48,425	831	255,167	1,925	29,696	594,997	652,052
1990	28,002	323,416	4,071	55,393	883	277,828	1,696	32,956	658,333	698,045
1991	29,014	325,317	5,272	77,954	785	273,275	4,686	35,071	681,232	720,749
1992	30,128	341,341	5,912	92,306	744	270,110	4,962	36,784	708,720	744,554
1993	31,553	368,682	6,270	102,384	730	283,911	5,046	38,553	760,022	801,114
1994	32,699	386,879	7,000	115,804	719	295,446	5,546	40,418	803,676	840,950
1995	34,053	425,453	7,280	126,558	718	299,255	6,237	42,051	857,503	915,228
1996	35,015	447,161	7,399	133,209	741	304,918	6,725	43,155	892,014	943,404
1997	35,613	447,647	7,619	142,325	750	322,243	7,173	43,962	919,388	981,406
1998	36,893	463,915	8,128	146,659	788	324,767	7,439	45,809	942,779	992,399
1999	38,228	491,509	8,567	159,480	811	334,039	7,779	47,606	992,808	1,045,061
2000	39,522	515,682	8,941	169,498	833	343,456	8,171	49,297	1,036,807	1,117,076
2001	40,816	540,467	9,301	179,779	855	352,299	8,565	50,971	1,081,110	1,183,915
2002	42,124	565,727	9,668	190,172	877	361,268	8,972	52,669	1,126,140	1,247,730
2003	43,453	591,481	10,046	200,661	899	370,686	9,394	54,398	1,172,023	1,328,198
2004	44,803	617,188	10,436	210,854	922	379,964	9,828	56,161	1,217,834	1,379,291
2005	46,174	642,085	10,829	221,148	945	389,551	10,267	57,948	1,263,051	1,426,887
2006	47,546	669,328	11,193	230,797	967	398,587	10,673	59,707	1,309,385	1,475,661

Table 1B.5-4 (Continued)
1998 Base-Case Net Energy for Load Forecast
Annual Summary of Historical and Projected Data

Calendar Year	Residential		General Service Non-Demand		General Service Demand		Street and Outdoor Light MWh	Total Customer Accounts	Total KUA Sales MWh	Net Energy for Load Mwh (1)
	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh				
2007	48,920	697,321	11,561	240,542	989	407,729	11,084	61,470	1,356,676	1,525,440
2008	50,293	725,810	11,939	250,513	1,012	417,088	11,505	63,244	1,404,917	1,622,800
2009	51,667	754,800	12,326	260,718	1,035	426,673	11,938	65,028	1,454,129	1,628,022
2010	53,042	784,221	12,718	271,059	1,059	436,394	12,375	66,819	1,504,049	1,680,569
2011	54,427	813,861	13,093	281,089	1,082	445,859	12,794	68,603	1,553,602	1,732,731
2012	55,851	844,499	13,474	291,262	1,105	455,466	13,219	70,430	1,604,445	1,786,250
2013	57,319	876,285	13,863	301,658	1,129	465,286	13,653	72,311	1,656,882	1,841,446
2014	58,831	909,267	14,262	312,284	1,154	475,325	14,098	74,246	1,710,974	1,898,385
2015	60,367	943,032	14,664	323,025	1,178	485,480	14,547	76,208	1,766,884	1,956,396
2016	61,833	975,680	15,045	333,365	1,202	495,297	14,972	78,080	1,819,314	2,012,428
2017	63,334	1,009,458	15,436	344,037	1,226	505,312	15,410	79,997	1,874,149	2,070,149

(1) Includes Expo Center 2000-2017 annual energy estimate listed in Table 1B.5-3.

Table 1B.5-5
1998 High-Case Net Energy for Load Forecast
Annual Summary of Historical and Projected Data

Calendar Year	Residential		General Service Non-Demand		General Service Demand		Street and Outdoor Light MWh	Total Customer Accounts	Total KUA Sales MWh	Net Energy for Load Mwh (1)
	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh				
1988	22,588	251,281	2,963	39,023	169	235,618	2,508	26,123	528,431	556,720
1989	25,225	289,481	3,641	48,425	831	255,167	1,925	29,485	594,997	652,052
1990	28,002	323,416	4,071	55,393	883	277,828	1,696	32,748	658,333	698,045
1991	29,014	325,317	5,272	77,954	785	273,275	4,686	34,949	681,232	720,749
1992	30,128	341,341	5,912	92,306	744	270,110	4,962	36,695	708,720	714,554
1993	31,553	368,682	6,270	102,384	730	283,911	5,046	38,512	760,022	801,114
1994	32,699	386,879	7,000	115,804	719	295,446	5,546	40,416	803,676	840,950
1995	34,053	425,453	7,280	126,558	718	299,255	6,237	42,059	857,503	915,22.
1996	35,015	447,161	7,399	133,209	741	304,918	6,725	43,154	892,014	943,404
1997	35,754	449,897	7,617	143,631	740	326,183	7,200	44,162	926,910	989,324
1998	38,858	492,970	8,272	162,340	836	344,512	7,825	47,967	1,007,647	1,060,681
1999	41,954	545,460	8,995	192,981	875	360,703	8,527	51,824	1,107,672	1,165,970
2000	44,717	591,520	9,585	214,021	916	377,510	9,233	55,218	1,192,284	1,299,745
2001	47,167	634,757	10,089	232,403	952	392,407	9,855	58,208	1,269,401	1,415,618
2002	49,677	679,730	10,601	251,201	989	407,714	10,490	61,267	1,349,135	1,528,531
2003	52,332	727,581	11,138	270,856	1,029	423,859	11,157	64,498	1,433,453	1,655,694
2004	55,152	777,952	11,701	291,043	1,070	440,898	11,857	67,923	1,521,750	1,770,748
2005	58,098	829,833	12,282	311,577	1,112	458,235	12,579	71,492	1,612,225	1,865,985
2006	60,960	886,119	12,841	329,065	1,148	473,139	13,273	74,949	1,701,596	1,960,060
2007	63,949	946,622	13,417	346,718	1,185	488,192	13,980	78,551	1,795,523	2,058,930

Table 1B.5-5 (Continued)
1998 High-Case Net Energy for Load Forecast
Annual Summary of Historical and Projected Data

Calendar Year	Residential		General Service Non-Demand		General Service Demand		Street and Outdoor Light MWh	Total Customer Accounts	Total KUA Sales MWh	Net Energy for Load Mwh (1)
	Average Accounts Billed	Sales Mwh	Average Accounts Billed	Sales Mwh	Average Accounts Billed	Sales Mwh				
2008	67,108	1,011,527	14,019	365,095	1,223	503,844	14,738	82,350	1,895,204	2,163,858
2009	70,447	1,081,170	14,648	384,231	1,262	520,124	15,519	86,357	2,001,044	2,275,268
2010	73,926	1,154,896	15,295	403,986	1,303	536,853	16,323	90,525	2,111,979	2,392,042
2011	77,347	1,228,718	15,924	423,065	1,342	553,182	17,105	94,613	2,222,068	2,507,925
2012	80,910	1,306,830	16,572	442,771	1,383	569,965	17,909	98,865	2,337,476	2,629,407
2013	84,658	1,390,168	17,245	463,226	1,425	587,367	18,747	103,329	2,459,507	2,757,861
2014	88,599	1,479,093	17,946	484,466	1,469	605,413	19,617	108,015	2,588,589	2,893,737
2015	92,691	1,572,789	18,666	506,205	1,514	623,874	20,511	112,870	2,723,380	3,035,621
2016	96,713	1,666,495	19,365	527,535	1,558	642,019	21,381	117,637	2,857,430	3,176,727
2017	100,911	1,765,784	20,091	549,764	1,603	660,692	22,287	122,604	2,998,078	3,324,778

(1) Includes Expo Center 2000-2017 annual energy estimate listed in Table 1B.5-3.

Table 1B.5-6
1998 Low-Case Net Energy for Load Forecast
Annual Summary of Historical and Projected Data

Calendar Year	Residential		General Service Non-Demand		General Service Demand		Street and Outdoor Light MWh	Total Customer Accounts	Total KUA Sales MWh	Net Energy for Load MWh (1)
	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh	Average Accounts Billed	Sales MWh				
1988	22,588	251,281	2,963	39,023	769	235,618	2,508	26,123	528,431	556,720
1989	25,225	289,481	3,641	48,425	831	255,167	1,925	29,485	594,997	652,052
1990	28,002	323,416	4,071	55,393	883	277,828	1,696	32,748	658,333	698,045
1991	29,014	325,317	5,272	77,954	785	273,275	4,686	34,949	681,232	720,749
1992	30,128	341,341	5,912	92,306	744	270,110	4,962	36,695	708,720	744,554
1993	31,553	368,682	6,270	102,394	730	283,911	5,046	38,512	760,022	801,114
1994	32,699	386,879	7,000	115,804	719	295,446	5,546	40,416	803,676	840,950
1995	34,053	425,453	7,280	126,558	718	299,255	6,237	42,059	857,503	915,228
1996	35,015	447,161	7,399	133,209	741	304,918	6,725	43,154	892,014	943,404
1997	35,478	445,437	7,575	141,455	722	319,100	7,147	43,827	913,140	974,829
1998	35,018	436,186	7,442	135,169	748	308,365	7,006	43,208	886,726	933,396
1999	34,705	440,926	7,468	135,372	756	311,318	6,833	42,929	894,449	941,525
2000	34,647	445,473	7,504	137,061	763	314,397	6,761	42,915	903,693	962,675
2001	34,819	453,008	7,587	141,465	772	318,125	6,805	43,179	919,403	989,705
2002	35,050	461,122	7,678	146,043	781	321,954	6,888	43,509	936,008	1,015,309
2003	35,298	469,292	7,769	150,458	791	325,795	6,990	43,858	952,535	1,043,126
2004	35,555	476,964	7,860	154,298	800	329,648	7,103	44,215	968,012	1,066,568
2005	35,775	482,606	7,938	157,911	809	333,306	7,202	44,523	981,026	1,080,267
2006	35,788	484,952	7,943	160,406	815	335,913	7,204	44,547	988,475	1,088,108
2007	35,773	486,821	7,938	162,726	821	338,374	7,194	44,532	995,115	1,095,097

Table 1B.5-6 (Continued)[1]
1998 Low-Case Net Energy for Load Forecast
Annual Summary of Historical and Projected Data

Calendar Year	Residential		General Service Non-Demand		General Service Demand		Street and Outdoor Light MWh	Total Customer Accounts	Total KUA Sales MWh	Net Energy for Load MWh
	Average Accounts Billed	Sales Mwh	Average Accounts Billed	Sales Mwh	Average Accounts Billed	Sales Mwh				
2008	35,757	488,629	7,932	165,025	827	340,835	7,185	44,517	1,001,673	1,102,001
2009	35,742	490,375	7,927	167,303	833	343,295	7,176	44,502	1,008,151	1,108,819
2010	35,687	491,349	7,908	169,358	839	345,560	7,149	44,434	1,013,416	1,114,362
2011	35,430	488,587	7,818	170,345	842	346,821	7,024	44,090	1,012,777	1,113,689
2012	35,148	485,325	7,718	171,181	844	347,954	6,887	43,710	1,011,346	1,112,183
2013	34,868	482,045	7,619	172,014	847	349,101	6,750	43,335	1,009,909	1,110,670
2014	34,591	478,748	7,521	172,843	850	350,262	6,615	42,963	1,008,468	1,109,153
2015	34,272	474,624	7,408	173,445	852	351,222	6,458	42,533	1,005,749	1,106,291
2016	33,726	466,309	7,214	172,836	852	351,036	6,190	41,792	996,370	1,096,419
2017	33,188	458,139	7,025	172,229	851	350,850	5,933	41,064	987,079	1,086,639

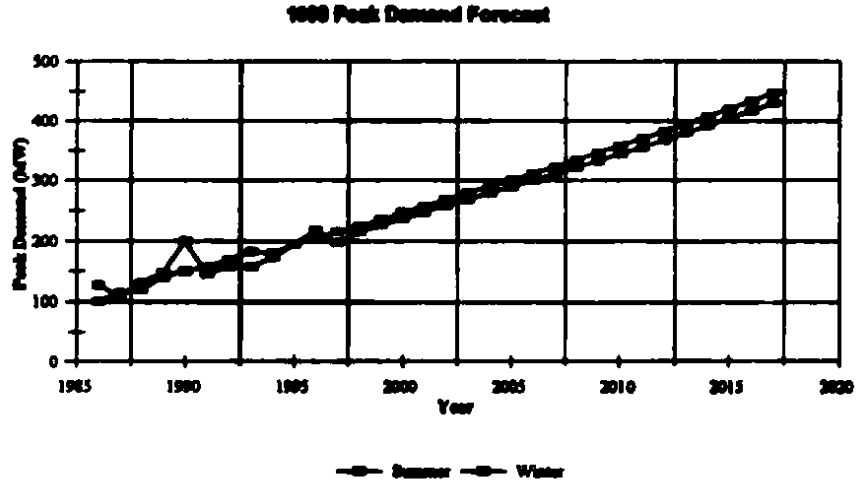
(1) Includes Expo Center 2000-2017 annual energy estimate listed in Table 1B.5-3.

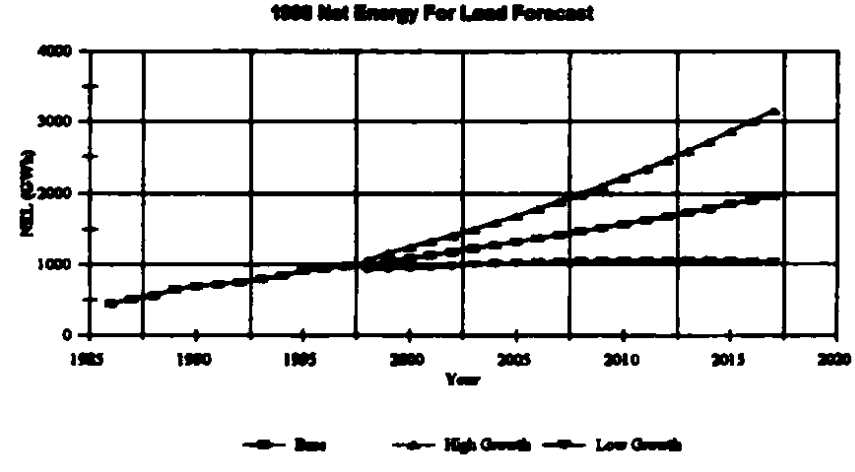
Table 1B.5-7 System Peak Demand Forecast Low Case (Summer) (MW)			
Year	Peak Demand	Expo Center	Total Peak Demand
1998	213	0	213
1999	215	0	215
2000	216	8	224
2001	220	15.1	235
2002	224	19.8	244
2003	228	22.0	250
2004	232	24.8	257
2005	235	24.8	260
2006	237	24.8	262
2007	239	24.8	264
2008	240	24.8	265
2009	242	24.8	267
2010	243	24.8	268
2011	244	24.8	269
2012	243	24.8	268
2013	243	24.8	268
2014	242	24.8	267
2015	242	24.8	267
2016	240	24.8	265
2017	238	24.8	263

Table 1B.5-8
System Peak Demand Forecast
Base Case
(Summer)
(MW)

Year	Peak Demand	Expo Center	Total Peak Demand
1998	224	0	224
1999	236	0	236
2000	247	13.2	260
2001	257	25.8	283
2002	268	34.9	303
2003	279	39.1	318
2004	290	44.5	335
2005	301	44.5	346
2006	312	44.5	357
2007	323	44.5	368
2008	335	44.5	380
2009	347	44.5	392
2010	359	44.5	404
2011	371	44.5	416
2012	383	44.5	428
2013	395	44.5	440
2014	408	44.5	453
2015	421	44.5	466
2016	434	44.5	479
2017	447	44.5	492

Table 1B.5-9 System Peak Demand Forecast High Case (Summer) (MW)			
Year	Peak Demand	Expo Center	Total Peak Demand
1998	236	0	236
1999	261	0	261
2000	282	19.9	302
2001	301	39.6	341
2002	320	55.1	375
2003	340	61.6	402
2004	361	70.8	432
2005	382	70.8	453
2006	404	70.8	475
2007	426	70.8	497
2008	450	70.8	521
2009	475	70.8	546
2010	501	70.8	572
2011	528	70.8	599
2012	555	70.8	626
2013	584	70.8	655
2014	614	70.8	685
2015	647	70.8	718
2016	679	70.8	750
2017	713	70.8	784





KUA Historical and Projected
Peak Demand and Energy Forecast
Figure 1B.5-2

1B.6.0 Demand-side Programs

KUA considers conservation and demand-side management (DSM) an integral component in managing the efficiency of its electric system and providing choice to its customers. To support this Site Certification Application, KUA performed a cost-effectiveness analysis of nearly 70 proposed DSM measures. The results of the analysis indicated that none of the DSM measures were cost-effective. A more detailed discussion of the DSM programs evaluated and the method of evaluation is presented in Section 1A.5.0.

1B.6.1 Current Conservation and DSM Programs

Although the DSM analysis failed to identify any cost-effective measures, KUA is committed to conservation and load management programs. KUA has established several DSM programs and continues to evaluate both old and new DSM programs on a frequent and regular basis in an attempt to identify cost-effective programs for the electric system that add value for the customers. KUA's energy conservation specialist performs approximately 600 free audits annually, advising customers on the appropriate conservation programs to implement. Additionally, KUA continues to offer a residential load management program.

1B.6.1.1 Residential Load Management (SAVE)

KUA currently offers a residential direct load control program which has been in place since 1992. This program is called Shifting Adds Value to Energy (SAVE). SAVE is designed to cycle residential air conditioners, electric water heaters, and electric space heaters to reduce KUA's system peak demand. The SAVE program was administered to over 7,000 customers by the end of 1997. The program was originally mandatory for new customers, but is now voluntary for all residential customers. For participating in the program, customers receive a monthly credit on their bills. KUA installs load control receivers on eligible equipment, and transmits radio signals to cycle equipment for peak demand reduction. The SAVE program provides a utility controlled process that ensures direct capacity value to KUA while minimizing impacts to the customer's lifestyle. There are no significant reductions in energy consumption from this program. Table 1B.6-1 shows KUA's historical and forecasted estimate of peak demand reductions resulting from this load management program.

Table 1B.6-1
KUA Load Management Impact

Year	Average Active Customers	Estimated Participation Increase	Forecast of Customer Participation	Load Mgmt Impact (MW)
1993	1,914	-	-	3.16
1994	5,040	-	-	8.32
1995	7,213	-	-	11.90
1996	7,648	-	-	12.62
1997	7,261	-	-	11.98
1998	-	100	7,361	12.15
1999	-	100	7,461	12.31
2000	-	100	7,561	12.48
2001	-	100	7,661	12.64
2002	-	100	7,761	12.81
2003	-	100	7,861	12.97
2004	-	100	7,961	13.14
2005	-	100	8,061	13.30
2006	-	100	8,161	13.47
2007	-	100	8,261	13.63
2008	-	100	8,361	13.80
2009	-	100	8,461	13.96
2010	-	100	8,561	14.13
2011	-	100	8,661	14.29
2012	-	100	8,761	14.46
2013	-	100	8,861	14.62
2014	-	100	8,961	14.79
2015	-	100	9,061	14.95
2016	-	100	9,161	15.12
2017	-	100	9,261	15.28

1B.6.1.1.1 Delivery Strategy. The approach for delivering the program is based on two design components: (i) promoting the program to customers through bill inserts and general media and (ii) granting bill credits for participants based on the number and type of appliances being controlled. A schedule reflecting bill credits is presented in Table 1B.6-2.

Table 1B.6-2
Credits - SAVE Program

Load Management Credit			
Appliance	Control Period	Monthly Credit(1)	With Water Heater Control(1)
Water Heater	Year Round	$1.75	--
Central AC (15 minutes per 1/2 hour)	April-October	$3.00	$4.75
Central heating (15 minutes per 1/2 hour)	November-March	$3.00	$4.75

(1)Based on a minimum consumption at 500 kWh/month.

1B.6.1.1.2 Implementation Activities. Because KUA has operated the program since 1992, current implementation activities focus on ongoing installation and maintenance of load switches, and updating and maintaining tracking systems to monitor participation.

1B.7.0 Reliability Criteria

1B.7.1 Development of Reliability Criteria

One of the most common criteria used in the utility industry to evaluate electric system reliability is reserve margin. Reserve margin is calculated as the system net capacity less system net peak demand, divided by the system peak demand.

KUA is a member of the Florida Reliability Coordinating Council (FRCC). FRCC has specific criteria for determining each utility's operating and spinning reserve requirements, but does not have specific planning reserve requirements. The selection of specific planning reserve requirements is up to the individual utility.

KUA has adopted a 15 percent reserve margin for capacity planning in accordance with Section 25-6.035, Fla. Admin. Code. A 15 percent reserve margin is typical for utilities in Florida and throughout the Southeast.

1B.7.2 Available Capacity

KUA's available generating and purchase power capacity are described in Section 1B.2.0. In addition, KUA has scheduled the following units for retirement.

Unit	Type	Net Summer Capacity	Retirement Date
Hansel 8	Diesel	3	01/03
Hansel 14-18	Diesel	10	01/03
Hansel 19-20	Diesel	6	01/13
Hansel 21-23	Combined Cycle	48	01/13

In 2002, Hansel Unit 8 will be 43 years old and will have exceeded its reliable economic life. KUA may continue to operate Hansel Unit 8 until it has a major failure or until maintenance costs become prohibitive, but for planning purposes, the unit is no longer considered as dependable capacity after the year 2002. Similarly, Hansel Units 14-18 will be 31 years old in 2003 and have been scheduled for retirement based on KUA's expectation of their reliable economic lifetime.

Tables 1B.7-1 and 1B.7-2 present the available capacity and purchase power for summer and winter, respectively.

1B.7.3 Reliability Need for Cane Island 3

Applying the base case forecast for electrical demand, KUA will need additional capacity by the year 2000 to maintain a 15 percent reserve margin. Table 1B.7-1 presents the projected reserve margins for KUA's system without resource additions for summer, while Table 1B.7-2 is for winter. Tables 1B.7-1 and 1B.7-2 clearly indicate that capacity is needed in 2001.

Table 1B.7-1
System Peak Demand Forecast and Capacity Balance
Base Case (Summer)

Year	Generation (MW)	Purchases (MW)	Total Resources (MW)	Peak Demand (MW)	Expo Center (MW)	DSM (MW)	Reserve Margin[1] (percent)	
							Without Center	With Center
1998	172	98	270	224	0	12.2	27.5	27.5
1999	172	98	270	236	0	12.3	20.7	20.7
2000	172	108	280	247	13	12.5	19.4	13.1
2001	172	68	240	257	26	12.6	(1.8)	(11.1)
2002	172	68	240	268	35	12.8	(5.9)	(17.2)
2003	153	68	221	279	39	13.0	(16.9)	(27.5)
2004	153	48	201	290	45	13.1	(27.4)	(37.4)
2005	153	48	201	301	45	13.3	(30.1)	(39.5)
2006	153	48	201	312	45	13.5	(32.6)	(41.4)
2007	153	48	201	323	45	13.6	(35.0)	(43.2)
2008	153	48	201	335	45	13.8	(37.4)	(45.0)
2009	153	48	201	347	45	14.0	(39.6)	(46.7)
2010	153	48	201	359	45	14.1	(41.7)	(48.4)
2011	153	48	201	371	45	14.3	(43.6)	(49.9)
2012	153	48	201	383	45	14.5	(45.4)	(51.3)
2013	105	48	153	395	45	14.6	(59.8)	(64.0)
2014	105	48	153	408	45	14.8	(61.1)	(65.0)
2015	105	48	153	421	45	15.0	(62.3)	(66.0)
2016	105	48	153	434	45	15.1	(63.5)	(67.0)
2017	105	48	153	447	45	15.3	(64.5)	(67.9)

(1) DSM is subtracted from peak demand.

Table 1B.7-2
System Peak Demand Forecast and Capacity Balance
Base Case (Winter)

Year	Generation (MW)	Purchases (MW)	Total Resources (MW)	Peak Demand (MW)	Expo Center (MW)	DSM (MW)	Reserve Margin[1] (percent)	
							Without Center	With Center
1998	189	98	287	215	0	12.2	41.6	41.6
1999	189	98	287	227	0	12.3	33.7	33.7
2000	189	108	297	237	13	12.5	32.3	25.0
2001	189	68	257	247	26	12.6	9.7	(1.2)
2002	189	68	257	258	35	12.8	4.9	(8.2)
2003	170	68	238	268	39	13.0	(6.6)	(19.0)
2004	170	48	218	279	45	13.1	(18.0)	(29.7)
2005	170	48	218	289	45	13.3	(20.9)	(31.9)
2006	170	48	218	300	45	13.5	(23.9)	(34.1)
2007	170	48	218	311	45	13.6	(26.7)	(36.2)
2008	170	48	218	322	45	13.8	(29.2)	(38.2)
2009	170	48	218	333	45	14.0	(31.6)	(40.0)
2010	170	48	218	345	45	14.1	(34.1)	(41.9)
2011	170	48	218	356	45	14.3	(36.2)	(43.5)
2012	170	48	218	368	45	14.5	(38.3)	(45.2)
2013	118	48	166	380	45	14.6	(54.5)	(59.5)
2014	118	48	166	392	45	14.8	(56.0)	(60.6)
2015	118	48	166	405	45	15.0	(57.4)	(61.8)
2016	118	48	166	417	45	15.1	(58.7)	(62.8)
2017	118	48	166	430	45	15.3	(59.9)	(63.8)

(1) DSM is subtracted from peak demand.

1B.8.0 Supply-side Alternatives

Several capacity addition alternatives were selected for consideration in the development of KUA's expansion plan. The size of the alternatives selected considered KUA's need for capacity and the size of KUA's system including the impact of the loss of a unit. The alternatives considered include specific alternatives that KUA has studied in the past as well as generic alternatives. Generating unit and purchase power alternatives being considered for capacity expansion include the following:

- Renewable technologies.
- Waste technologies.
- Advanced technologies.
- Energy storage systems.
- Nuclear (Fission).
- Coal fueled.
- Combined cycle.
- Simple cycle combustion turbine.
- Purchased power.

Unconventional technologies, including renewable technologies, waste technologies, advanced technologies, energy storage systems, and nuclear technology, were reviewed in Section 1A.6.0 on a summary level basis to identify any alternatives with reasonable economic and environmental characteristics. The coal fueled units and the unconventional technologies are assumed to be the first units located at new undetermined sites. Combined cycle and simple cycle combustion turbines were assumed to be installed on the Cane Island site to take advantage of existing infrastructure. Combustion turbine alternatives were based on the size and performance of specific machines, but were not intended to limit consideration to only those machines. There are a number of combustion turbines available from different manufacturers with similar sizes and performance characteristics. Purchased power was also investigated as an option to construction of additional generation at Cane Island.

1B.8.1 Unconventional Technologies

Unconventional generation methods utilizing renewable technologies, waste technologies, advanced technologies, energy storage systems, and nuclear fusion technology were evaluated as supply-side alternatives. Capital costs, technology specific siting, and relatively large footprints were included in the evaluation process. Performance and cost information for the unconventional technology alternatives evaluated are discussed in more detail in Section 1A.6.0. Section 1A.6.8 presents the discussion supporting the screening of these alternatives to eliminate them as possible expansion candidates to meet KUA's forecasted capacity needs.

1B.8.2 Coal Fueled Alternatives

1B.8.2.1 Pulverized Coal

A 250 MW pulverized coal unit with dry scrubber, electrostatic precipitator and selective catalytic reduction (SCR) was selected as a solid fuel alternative. The unit is assumed to be the first unit at an undetermined new site in Central Florida. Coal is assumed to be delivered by rail and cooling is achieved with mechanical draft cooling towers. Table 1A.6-24 presents the estimated cost and performance of the 250 MW pulverized coal unit.

1B.8.2.2 Fluidized Bed

A 250 MW atmospheric circulating fluidized bed unit (CFB) with selective noncatalytic reduction (SNCR) was selected as another solid fuel alternative. The CFB is capable of burning a wide range of fuels. For expansion planning purposes, the CFB is assumed to burn coal. Like the pulverized coal unit, the CFB is assumed to be the first unit at a undetermined new site in Central Florida. Coal is assumed to be delivered by rail and cooling is achieved with mechanical draft cooling towers. Table 1A.6-25 presents the estimated cost and performance of the 250 MW CFB unit.

1B.8.3 Combined Cycle Alternatives

Four combined cycle units were selected for further evaluation as generating unit alternatives:

- 1 x 1 General Electric 7EA (Table 1A.6-26)
- 2 x 1 General Electric 7EA (Table 1A.6-27)

- 1 x 1 Westinghouse 501FC (Table 1A.6-28)
- 1 x 1 Westinghouse 501G (Table 1A.6-29)

The combined cycles all utilize conventional, heavy-duty industrial type combustion turbines. The combined cycles would be dual fueled. Specifications for performance and operating costs are based on natural gas fuel and baseload operation. The combined cycles assume that emission requirements will be met with dry low NO_x combustors. SCRs are not included except for the 501G combustion turbines prior to 2002. The units would be located at the Cane Island site and would utilize existing common facilities to the extent possible. Adequate natural gas pressure is assumed. Therefore, natural gas compressors are not included.

1B.8.4 Simple Cycle Alternatives

Four simple cycle combustion turbines were selected for further evaluation as generating unit alternatives:

- General Electric LM6000 (Table 1A.6-30)
- General Electric 7EA (Table 1A.6-31)
- Westinghouse 501G (Table 1A.6-32)
- General Electric 7FA (Table 1A.6-33)

The 7EA, 501G, and 7FA combustion turbines are heavy-duty industrial combustion turbines. The LM6000 is an aeroderivative combustion turbine. The combustion turbines would be dual fueled with specifications for performance and operating costs based on natural gas operation.

1B.8.5 Purchased Power

KUA conducted a two-phase evaluation of purchased power alternatives from a request for proposals (RFP) for purchased power issued May 28, 1997. The comparison of purchase power bids included applicable transmission rates, transmission upgrade costs, and loss percentages. Certain non-price items were also included in the evaluation including pricing terms and flexibility, supply availability for economy transactions, dispatchability, fuel risks, transmission path, commercial viability of technology and potential environmental effects. A detailed discussion of the RFP evaluation is contained in Section 1B.9.0. The evaluation concluded that Cane Island 3 was KUA's least cost alternative.

In addition to 1997 RFP, KUA has a contract with Florida Power Corporation (FPC) for supplemental resale service. Under the contract, KUA can obtain base, intermediate, and peaking supplemental service. The contract term continues indefinitely; however, either party may terminate the contract by giving notice in any calendar year after the calendar year 1999 and the contract will terminate at the end of the fifth future calendar year. For example, the earliest that the contract could terminate is December 31, 2005 by either party giving notice in 2000.

The capacity is firm and includes reserves. Any curtailment of the capacity must be no more interruptive than FPC's service to their retail customers.

The capacity is stratified into base, intermediate, and peaking capacity. KUA must specify the future capacity levels as described below.

By May 31 of the current Year, Provide Updated Contract Demand Values:	Range
Update of the First Future Year Base, Intermediate & Peaking Contract Demands	Previously-Specified Annual Contract Demands for that year with up to a cumulative increase no greater than 25 MW
Update of the Second Future Year Specify Base, Intermediate & Peaking Contract Demands	Sum of Base, Intermediate & Peaking +/- the greater of 20% or 30 MW of Total Demand For That Year
Update of the Third Future Year Total and Fourth Future Year Total Contract Demand	Previously-Specified Contract Demand For That Year + up to the greater of 20% or 55 MW Total Contract Demand or Previously-Specified Total Contract Demand For That Year less up to the greater of 20% or 30 MW of Previously-Specified Total Contract Demand
Initial Specification for Fifth Future Year Total Contract Demands	Previously-Specified Demand For Fourth Future Year +/- up to 55 MW

For example, on or before May 31, 1999, KUA shall provide an initial specification of KUA's Total Contract Demand for the calendar year 2004 and may adjust the previously-specified demand specifications in accordance with the above limitations.

In addition to the above limitations, in no event shall the total of updated Contract Demands (Base, Intermediate, Peaking) for any year be more than the greater of 20% or 55 MW above or the greater of 20% or 20 MW below the total initial specified Contract Demand for that year. In addition, the specification for the Second Future Year Base, Intermediate and Peaking Contract Demands shall not exceed the respective percent kW allocation of 40% for base, intermediate, and peaking times KUA's most recent historical system peak demand kW adjusted for the Average System Growth Rate (ASGR) of 10 percent (for example, second year peak demand equals the most recent historical system peak multiplied by (1 + ASGR) ^2).

In addition to the annual specification for the fifth future year provided for above, KUA, at its option, may make a further specification for Contract Demand for the seventh future calendar year. Such specification for the seventh future calendar year shall not be higher (unless FPC agrees in writing that it may be higher) than the specification for the fifth calendar year, but may, without limitation, be lower than the specification for the fifth future year. Such specification for the seventh year shall not be subject to change until the specification becomes the fourth future year specification as defined in the required rolling five-year specification or the specifications for any lesser future year; it may be updated but is subject to all limitations set out above.

KUA has currently specified 0 kW demand for base, intermediate, and peaking for all future years. Based on specifications made beginning no later than May 31, 1999, KUA can obtain up to the following capacity under the contract.

Year	Base MW	Intermediate MW	Peaking MW	Total* MW
2000	10	10	10	25
2001	22	22	22	55
2002	22	22	22	55
2003	22	22	22	55

Year	Base MW	Intermediate MW	Peaking MW	Total* MW
2004	44	44	44	110
2005	44	44	44	110

* Sum of base, intermediate, and peaking cannot exceed total.

The contract also contains limitations on how quickly KUA can reduce capacity once specified.

The price that KUA pays for the supplemental service is based on a FERC filed tariff and currently is as follows.

	Base	Intermediate	Peaking
Demand Charge ($/kW/mo)	14.00	8.94	5.13
Non-Fuel Energy Charge ($/MWh)	7.38	14.73	2.31
Transmission ($/kW/mo)	1.15	1.15	1.15
Customer Charge ($/month)	667.00	667.00	667.00

The fuel charge is based on the average fuel charge for the month for FPC units assigned to each category as follows.

Base

Crystal River Units #1-5

Cogeneration (Seminole Fertilizer)

Firm Southern Company Purchases (20.5%)

Intermediate

Firm Southern Company Purchases (79.5%)

Anclote Units #1-2

Bartow Units #1-3

Suwanne Units #1-3

Higgins Units #1-3
Turner Units #3-4
Cogeneration (Timber Energy, Dade County, Bay County)
Debary Peakers #7-10

Peaking

All Other Peaking Units

The fuel charge can vary considerably from month to month. The fuel charges for September 1996, the last month in which KUA was billed for energy under the supplemental service contract, are as follows.

	$/MWh
Base	13.35
Intermediate	18.73
Peaking	59.76

As is shown, capacity and energy under the supplemental service contract is expensive, compared to current market prices. The supplemental service contract does, however, offer KUA low cost insurance against lack of capacity and protection by being able to purchase coal and nuclear energy if gas and oil prices increase. With no capacity specified, as is currently the case, the only cost for KUA of maintaining the contract is the $667 per month service charge. The contract also contains provisions for KUA to obtain capacity above the specified demands, but at even higher rates.

1B.9.0 Supply-side Screening

1B.9.1 Generating Alternatives

The generating unit alternatives considered for evaluation include the coal, combined cycle and combustion turbine units identified in Section 1A.6.8.1.6.

1B.9.2 Purchased Power

1B.9.2.1 1997 RFP for Power Purchases

KUA conducted a two-phase evaluation of purchased power alternatives from a request for proposals (RFP #004-97) for purchased power issued May 28, 1997. The RFP is contained in Appendix 1B.16.3. The comparison of purchase power bids included applicable transmission rates and upgrade costs, and loss percentages. Certain nonprice items were also included in the evaluation such as: pricing terms and flexibility, supply availability for economy transactions, dispatch capability, fuel risks, transmission path, commercial viability of technology and potential environmental effects. The analysis results indicated that KUA's self-build option provided costs lower than all purchase bids.

KUA's RFP was developed by KUA and R.W. Beck and requested proposals for electric capacity and energy to satisfy up to 80 MW of KUA's projected requirements for the period from 2001 through 2030. The RFP requested proposals for base, intermediate or peaking capacity. The minimum capacity required for bidding was 10 MW with a minimum term of three years.

KUA received 22 proposals from 13 bidders. These proposals are summarized in Table 1B.9-1.

Table 1B.9-1
RFP Responses

No.	Bidder Name	Number Of Bids	No.	Bidder Name	Number Of Bids
1	Constellation Power, Inc.	1	8	Tarpon Power, Inc.	2
2	City of Lakeland Electric & Water	1	9	Tenaska Energy Partners, Inc.	1
3	LG&E Energy Marketing	2	10	Indeck Energy Services	2
4	NP Energy, Inc.	3	11	Progress Energy Corporation	1
5	Panda Energy International, Inc.	1	12	PECO Energy	1
6	Southern Wholesale Energy	5	13	Energy Pacific	1
7	Stewart & Stevenson International	1	Total Number of Proposals		22

The Stage I evaluation focused on the issue of completeness of the bid packages and satisfaction of minimum requirements, but did not address issues of price, operating characteristics or performance. The RFP contained a Minimum Requirements Form, which required the bidder to demonstrate the following:

1. Although capacity is required during all months, proposal must provide for capacity either one or both of the following peak load periods: (i) June through September; or (ii) December through March for a minimum of three calendar years.

2. The capacity and energy proposed are on a first call, nonrecallable basis, i.e., as long as the unit(s) from which the capacity is purchased is available, KUA has the right to the output of the unit(s) for the duration of the contract. KUA's rights must be equal to or superior to any other party's rights to such unit(s) output.

3. The proposal for capacity sales for terms of five years or less must remain in effect until December 31, 1997, or later if the purchase is to be finalized pending a transmission service request. All other proposals must remain effective until March 31, 1998, or later if the purchase is to be finalized pending a transmission service request.

4. The minimum capacity amount offered to KUA shall be 10 MW.

5. All generating units providing the proposed capacity must be in operation at least two months prior to the delivery commencement date of the term of the proposed power supply.

6. Proposals must identify and include the location of each capacity resource, name the originating control area, and identify the firm transmission contract path.

7. The bidder must ensure that all emissions allowance requirements will be satisfied and that such costs are included in the proposal.

8. The bidder must declare ownership or contractual status of unit, plant, or system capacity as described in Section 15 of the RFP.

9. The bidder must complete the appropriate RFP Forms 1 through 5 and provide the information requested in Attachment B of the RFP. All forms requiring a signature must be signed by a duly authorized official.

10. Bidders offering power that impacts any transmission interface must provide a letter of intent from the owner(s) of the systems forming the interface stating that the required power transfer capability is available on a firm (nonrecallable) basis.

11. The bidder must be willing to provide adequate bid security prior to entering shortlist negotiations.

12. The bidder must not include any contractual limits on energy utilization (as opposed to price) by day, month or year.

13. The proposal must include scheduling provisions for the sale.

14. Each proposal must contain the appropriate proposal fee in accordance with Section 10 of the RFP.

During the Stage I evaluation, letters were sent and responses received from nine of the bidders requesting clarification on several minor issues. During the Stage I evaluation, proposals from PECO Energy and Energy Pacific were eliminated for failing to meet the minimum requirements of the RFP.

As a result of the Stage I evaluation, 11 bidders with 20 proposals totaling 1,600 MW were selected for the Stage II evaluation. The 20 proposals are summarized in Table 1B.9-2.

In the Stage II evaluation, the 11 bidders were sent clarifying questions to enable the bids to be compared on an equal basis. The following presents a brief summary of the proposals offered by each of the bidders.

Table 1B.9-2
Summary of Stage I Evaluation

Proposal	Bidder Name	Type of proposal (System or Unit Purchase)	Capacity (MW)
1	Constellation Power, Inc.	Unit Purchase	80.0
2	City of Lakeland Electric & Water	Unit Purchase	80.0
3	LG&E Energy Marketing (A) Alternative One (B) Alternative Two	 Unit Purchase[1] Unit Purchase[1]	 80.0 80.0
4	NP Energy, Inc. (A) FSO Annual Option (B) FSO Season Option (C) AO Option	 Unit Purchase Unit Purchase Unit Purchase	 80.0 80.0 80.0
5	Panda Energy International, Inc.	Unit Purchase	80.0
6	Southern Wholesale Energy (A) 5x16 Strip (B) 7x16 Strip (C) 7x24 Strip (D) Intermediate Purchase (E) Peaking Purchase	 System Purchase System Purchase System Purchase System Purchase System Purchase	 80.0 80.0 80.0 80.0 80.0
7	Stewart & Stevenson International	Unit Purchase[2]	120.0
8	Tarpon Power, Inc. (A) TP1 (B) TP2	 Unit Purchase [1] Unit Purchase [1]	 80.0 80.0
9	Tenaska Energy Partners, Inc.	Unit Purchase [2]	40.0
10	Indeck Energy Services (A) Option A (B) Option B	 Unit Purchase[1] Unit Purchase	 80.0 80.0
11	Progress Energy Corporation	Unit Purchase	80.0
TOTAL			1,600.0

(1) Unit purchase offer included the option for KUA ownership.
(2) Unit purchase only offered ownership options.
Note: Of the 22 proposals received, 16 were long-term (more than 5 years) and 6 were short-term (5 years or less; 5 were system purchases and 17 were unit or plant purchases; of the 17 unit or plant purchases, all were new unit or plant constructions; proposal 9 is initially 40 MW and ramps to 80 MW by 2011.

Constellation Power, Inc. Constellation offered an 80 MW, 20 year power purchase from a 700 MW 2x1 Westinghouse 501G combined cycle plant to be built in Hardee County, Florida.

City of Lakeland Electric & Water. The City of Lakeland Electric & Water (Lakeland) offered an 80 MW, 10 year unit power purchase from a coal-fired ABB presurized fluidized bed (PFB) repowering of McIntosh Units 1 and 2.

LG&E Energy Marketing. LG&E Energy Marketing proposed to sell KUA 80 MW of capacity and associated energy for a term of between 5 and 30 years. The capacity would be dispatchable between a minimum load of 48 MW and a maximum load of 80 MW. The power would come from a unit to be built on a confidential site in Central Florida. The power would be delivered from the FPC control area and would be supplemented by LG&E Energy Marketing's system power portfolio to make it 100 percent available. LG&E Energy Marketing's proposal makes two specific offers. The first is joint ownership in a 500 MW facility. The second calls for KUA to build, own, and operate a larger unit and sell LG&E Energy Marketing the excess capacity and energy.

NP Energy, Inc. NP Energy, Inc. made three proposals. The first proposal called for KUA and FMPA to construct a 240 MW unit at Cane Island. KUA would retain the 80 MW requested in the RFP and FMPA would retain the long-term 120 MW requested in FMPA's RFP. The remaining 40 MW would be sold to NP Energy, Inc. for a 10 year period. The second proposal was to sell KUA an 80 MW 5x16 strip on an annual basis for 10 years. The third proposal was to sell KUA an 80 MW 5x16 strip on a seasonal basis.

Panda Energy International, Inc. Panda Energy International, Inc. proposed to sell 80 MW of purchased capacity and energy for a term of 20 years. The power would be supplied from a 500 MW 2x1 Westinghouse 501F merchant plant to be built in Fellsmere, Florida and wheeled over Florida Power & Light's system.

Southern Wholesale Energy. Southern Wholesale Energy offered five 80 MW proposals. The first three were 5x16, 7x16 and 7x24 strips. The other two proposals were for peaking and intermediate capacity. Southern Wholesale Energy's proposals required transmission import capacity into the State.

Stewart & Stevenson International. Stewart & Stevenson International offered a proposal to provide a turnkey power generation project at Cane Island. In a phased approach, Stewart and Stevenson International proposed to install a LM6000PD combined cycle plant and to convert Cane Island Unit 1 into a LM6000PD.

Tarpon Power, Inc. Tarpon Power, Inc. offered two proposals for 80 MW for a term of 20 years. The power would come from either a 1,500 or 750 MW project that Tarpon Power, Inc. would develop in Hardee County, Florida. The projects would use the Westinghouse 501G combustion turbines. One proposal is for capacity from the 1,500 MW project and one from the 750 MW project.

Tenaska Energy Partners, Inc. Tenaska Energy Partners, Inc. proposed to provide KUA with an ownership share in the Tenaska-Lakeland Combined Cycle Project. The Project would be a 2x1 Westinghouse 501G combined cycle located at the McIntosh site. Tenaska Energy Partners, Inc. offered to initially buy back 40 MW of KUA's 80 MW ownership share with an annual reduction of the buy back capacity through the year 2007, when KUA would then receive their entire 80 MW ownership share.

Indeck Energy Services. Indeck Energy Services proposed to provide KUA with 80 MW of capacity and energy for a term of 20 years from a 500 MW combined cycle plant. Indeck Energy Services offered two options. One for municipal financing and one for private financing.

Progress Energy Corporation. Progress Energy Corporation proposed a sale of 80 MW of capacity and energy for a 7 year term. The capacity and energy would be from a 2x1 Westinghouse 501F combined cycle.

After receiving the responses from the clarifying questions, KUA selected 11 bids along with KUA's self-build combined cycle option for modeling with the Stage II Screening Model developed by R.W. Beck. The proposals evaluated are shown in Table 1B.9-3.

LG&E Energy Marketing's second offer, which called for KUA to build, own, and operate a larger unit and sell LG&E Energy Marketing the excess capacity and energy was judged to be no different that KUA's self build option and was not included in the Stage II Screening Model.

NP Energy, Inc.'s first proposal to KUA, which was for KUA and FMPA to construct a 240 MW combined cycle unit at Cane Island and sell 40 MW of capacity to NP Energy, Inc.

Table 1B.9-3 Proposals Evaluated at Stage II	
Proposal Number	Bidder Name
1	Constellation Power, Inc.
2	City of Lakeland Electric & Water
3(A)	LG&E Energy Marketing
4(A)	NP Energy, Inc.
5(A)	Panda Energy International, Inc.
7	Stewart & Stevenson International
8(A)	Tarpon Power, Inc.
8(B)	Tarpon Power, Inc.
10(A)	Indeck Energy Services
10(B)	Indeck Energy Services
11	Progress Energy Corporation

was judged to be no different than KUA's self build option and was not included in the Stage II Screening Model. NP Energy, Inc.'s second proposal for a 5x16 strip of 80 MW for 10 years violated KUA's basic RFP requirement to identify the resource that will provide the capacity and energy, but was included in the Stage II Screening Model because KUA received very few short-term bids. NP Energy, Inc.'s third proposal of a 5x16 strip of 80 MW for 10 years on a seasonal basis also violated the requirement to identify the resource that was supplying the capacity and energy. Since KUA was seeking annual capacity and since NP Energy, Inc.'s second proposal was being evaluated in the Stage II Screening Model, NP Energy Inc.'s third proposal was not included in the Stage II Screening Model.

Southern Wholesale Energy's five proposals involved capacity and energy that originated from outside the State of Florida. Southern Wholesale Energy formally requested transmission from Florida Power & Light (FPL) and Florida Power Corporation (FPC). FPC responded and denied Southern Wholesale Energy's request on the grounds that no transmission import capacity exists at their Florida-Georgia interface. No communication was received indicating that any other entities were capable of providing the necessary transmission services. Therefore, the five Southern Wholesale Energy proposals were not included in the Stage II Screening Model.

Tenaska Energy Partners, Inc. proposal for KUA to participate in the Tenaska-Lakeland Combined Cycle Project was not included in the Stage II Screening Model because Lakeland withdrew from the Project and a replacement participant was not identified.

The Stage II Screening Model evaluated the cost of each bid on a cumulative present worth basis. The evaluations were conducted over 7, 15 and 20 year periods. To preserve the confidential nature of the pricing of the proposals, only the percentage differences between the self-build option and the proposals are presented. Tables 1B.9-4 through 1B.9-6 present the results of the Stage II Screening Model.

In addition to the Stage II Screening Model, KUA conducted a non-price evaluation of the proposals. A total of 40 scoring points were assigned to the attributes considered in the nonprice evaluation. Attributes evaluated included the following:

Power Cost (Maximum Score 4 points)

- Fixed Costs remain constant or escalate at a predetermined fixed index.
- No minimum payment provision.
- Pricing terms are market focused.

Flexibility (Maximum Score 4 points)

- KUA's sole option to increase or decrease contract purchases.
- KUA's sole option to increase or decrease contract term.

Dispatchability (Maximum Score 6 points)

- 100% dispatchable.
- Supply available for economy transactions.
- Scheduling provision to allow for change within one hour.

Fuel Risk (Maximum Score 8 points)

- Fuel prices are fixed and guaranteed.
- Fuel supply is fixed.
- Firmness of supply.
- Includes multiple suppliers.
- Improves diversity of fuel mix.
- Fuel incentives are provided.

Firm Supply (Maximum Score 4 points)

- Same priority as system's native load or assurance of guaranteed availability.
- Provides adequate corporate guarantee.
- Proposer provides adequate assurance that it is capable of mitigating risk.

Transmission (Maximum Score 5 points)

- Supply is connected to KUA's transmission system (directly, 1 away, 2 away ...).

Technology (Maximum Score 5 points)

- The proposed technology is commercially proven.

Environmental Effects (Maximum Score 4 points)

- Extraordinary measures taken to minimize adverse environmental impacts.
- Includes renewable resources.

The results of the non-price evaluation are presented in Table 1B.9-7. Based on the results of the Stage II Screening Model and the non-price evaluation, in which the installation of a self-build option of Cane Island 3, the 1x1 F-class combined cycle was clearly the least cost long-term alternative and preferred alternative in the nonprice evaluation, KUA decided to pursue the installation of Cane Island 3.

Table 1B.9-4
Performance of Stage II Bidders
7-Year Cumulative Present Worth

Rank	Bidder Name	Percent Cost Difference at Capacity Factor		
		50 Percent	75 Percent	100 Percent
1	KUA Self-Build Option	---	---	---
2	NP Energy, Inc.	-11.64	-6.77	-3.52
3	City of Lakeland Electric & Water	13.19	8.02	4.70
4	Progress Energy Corporation	21.72	15.95	12.17
5	Constellation Power, Inc.	38.79	29.12	22.83
6	Tarpon Power, Inc. (TP1)	44.80	35.12	28.85
7	Indeck Energy Services 10(A)	43.89	35.73	30.44
8	Tarpon Power, Inc. (TP2)	49.46	38.85	31.92
9	Indeck Energy Services 10(B)	51.75	41.95	35.58
10	LG&E Energy Marketing	56.80	43.97	35.61
11	Panda Energy International, Inc.	62.73	49.36	40.65

Note: Positive percentage difference for all table values represent the amount by which alternatives are more costly than the KUA Self-Build Option.

Table 1B.9-5
Performance of Stage II Bidders
15-Year Cumulative Present Worth

Rank	Bidder Name	Percent Cost Difference at Capacity Factor		
		50 Percent	75 Percent	100 Percent
1	KUA Self-Build Option	---	---	---
2	Constellation Power, Inc.	39.51	29.37	22.83
3	Tarpon Power, Inc. (TP1)	41.97	32.98	23.76
4	Tarpon Power, Inc. (TP2)	46.97	32.98	29.78
5	Indeck Energy Services 10(A)	45.87	36.98	31.26
6	Indeck Energy Services 10(B)	53.94	43.31	36.45
7	LG&E Energy Marketing	59.66	45.85	36.92
8	Panda Energy International, Inc.	69.18	53.96	44.11

Note: Positive percentage difference for all table values represent the amount by which alternatives are more costly than the KUA Self-Build Option.

Table 1B.9-6
Performance of Stage II Bidders
20-Year Cumulative Present Worth

Rank	Bidder Name	Percent Cost Difference at Capacity Factor		
		50 Percent	75 Percent	100 Percent
1	KUA Self-Build Option	---	---	---
2	Constellation Power, Inc.	39.34	29.07	22.50
3	Tarpon Power, Inc. (TP1)	41.08	31.76	25.76
4	Tarpon Power, Inc. (TP2)	45.51	35.22	28.61
5	Indeck Energy Services 10(A)	46.87	37.61	31.66
6	Indeck Energy Services 10(B)	55.01	43.95	36.86
7	LG&E Energy Marketing	61.05	46.75	37.53
8	Panda Energy International, Inc.	71.86	55.78	45.43

Note: Positive percentage difference for all table values represent the amount by which alternatives are more costly than the KUA Self-Build Option.

Table 1B.9-7
Non-Price Evaluation Results

Rank	Bidder Name	Raw Score	Weighted Score	Percentage Score	Relative Score
1	KUA Self-Build Option	29.00	30.00	75.00	—
2	Progress Energy Corporation	20.00	21.00	52.50	30.00
3	Constellation Power, Inc.	17.50	18.34	45.84	38.88
4	Tarpon Power, Inc. (TP1)	13.00	14.00	35.00	53.33
5	Tarpon Power, Inc. (TP2)	13.00	14.00	35.00	53.33
6	City of Lakeland Electric & Water	13.00	13.00	32.50	56.67
7	Panda Energy International, Inc.	13.00	13.00	32.50	56.67
8	Indeck Energy Services 10(B)	12.00	12.00	30.00	60.00
9	Indeck Energy Services 10(A)	11.00	11.33	28.34	62.22
10	LG&E Energy Marketing	10.00	11.00	27.51	63.33
11	NP Energy, Inc.	7.00	7.67	19.17	74.44

Note: Percentage Score is calculated by dividing Weighted Score by the total possible points (40). The positive percentages under Relative Score indicate the degree to which the KUA Self-Build option has outperformed other proposals in the non-price evaluation.

1B.9.2.2 Florida Power Corporation Power Purchase Agreement

In addition to the purchase power proposals KUA received from the RFP, KUA has a contract with Florida Power Corporation (FPC) for supplemental resale service in which KUA can increase or decrease capacity levels as described in detail in Section 1B.8.5. KUA can purchase peaking, intermediate or base capacity under the supplemental resale contract. Figure 1B.9-1 presents a comparison of the supplemental resale capacity costs and Cane Island 3 based on the supplemental resale prices contained in Section 1B.8.5. No escalation has been included to increase the supplemental resale prices to 2001 dollars. Even without escalation of the supplemental resale prices, Cane Island 3 is lower in cost than either the peaking, intermediate or base supplemental resale service. Therefore, the FPC supplemental resale service is not included in KUA's power supply plans - except in instances where it is not possible to obtain other capacity.

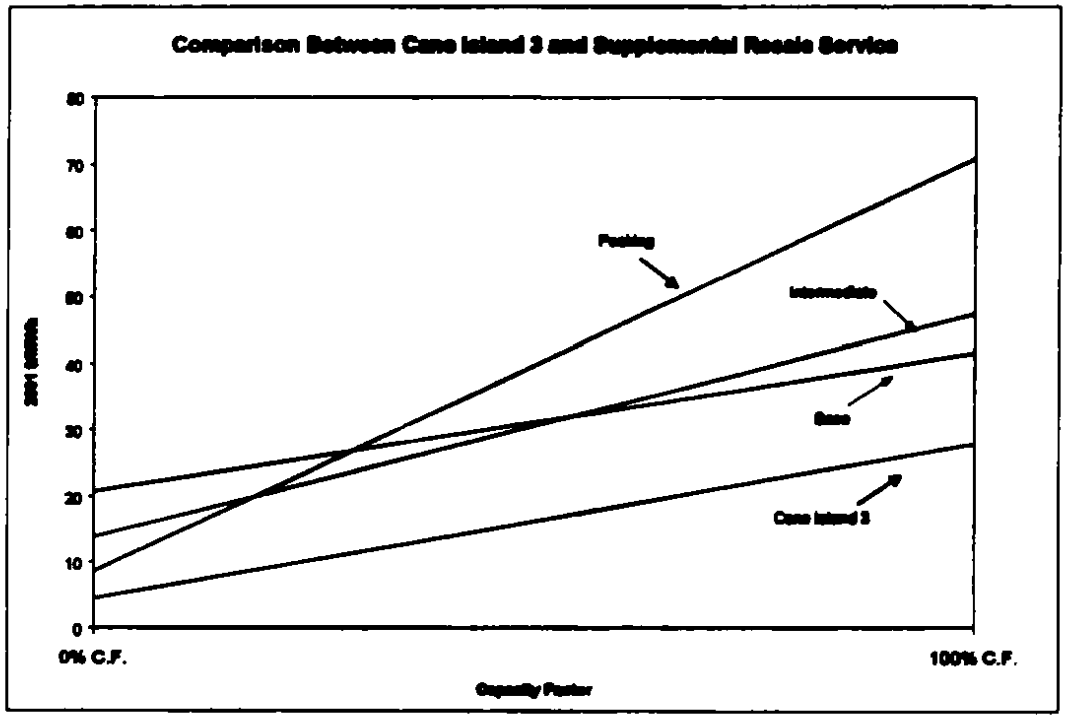


Figure 1B.9-1
Comparison Between Cane Island 3 and Supplemental Resale Service

1B.10.0 Economic Analysis

1B.10.1 Methodology

A three-phased economic analysis was conducted to determine KUA's optimum capacity expansion plan. The three phases included demand-side, supply-side and sensitivity analyses. Results of the supply- and demand-side analyses are presented in this section. Results of the sensitivity analyses are presented in Section 1B.11.0.

The demand-side analysis is presented in Section 1A.5.0. Over 60 demand-side alternatives were evaluated using the FIRE model. No demand-side alternatives were determined to be cost effective; therefore, no further analysis was included in the production cost modeling.

The supply-side evaluation of generating unit alternatives was performed using the EGEAS optimal generation expansion model. EGEAS is part of the "Resource Planning Workstation" suite of programs developed by the Electric Power Research Institute (EPRI). The EGEAS program is used to determine a set of optimal capacity expansion plans, simulate the operation of each of these plans, and select the most desirable plan based on the lowest system-wide cumulative present worth revenue requirement. EGEAS has the ability to incorporate any one of several optimization techniques including Dynamic Programming, Screening Audit Analysis or Generalized Benders Decomposition. EGEAS evaluates all combinations of generating unit alternatives and purchase power options while maintaining user-defined reliability criteria. The reserve criteria utilized included a minimum reserve margin of 15 percent and a maximum of 50 percent. All capacity expansion plans were analyzed over a twenty year period from 1998 to 2017.

Several sensitivities are addressed in Section 1B.11.0 to demonstrate the robustness of the expansion plan. Sensitivities addressed include: high load growth, low load growth, high fuel prices, low fuel prices and constant differential between natural gas/oil and coal.

1B.10.2 Expansion Candidates

The expansion candidates for the EGEAS evaluation were taken directly from the screening analysis in Section 1A.6.8. The expansion candidates were developed to be applied jointly by KUA and FMPA. Table 1B.10-1 provides a summary of the expansion alternatives considered.

1B.10.3 Results of Economic Analysis

The economic evaluation was first conducted for a base case scenario of the future, which assumed the base case KUA load forecast, base case fuel price forecast and minimum reserve margin of 15 percent. Results of the base case scenario economic evaluation are summarized in this subsection.

Based upon the cost and performance characteristics described in detail in Section 1A.6.6 and summarized in Table 1B.10-1, the expansion plan outlined in Table 1B.10-2 represents the least-cost capacity addition plan for KUA under the base case scenario. The unit capacities shown on Table 1B.10-1 are based on the summer capacity and assume 50 percent KUA ownership share for all additions except the 501G combined cycle for which KUA's ownership share is assumed to be 37.5 percent.

Table 1B.10-1
Summary of Generation Alternatives (2001 $)

Description	Capital Costs **	Capacity**		O&M Costs**		Fuel Type	Full Load Heat Rate*	Forced Outage Rate	Planned Maintenance	First Year Available
		Summer	Winter	Variable	Fixed					
	$1,000	MW	MW	$/MWh	$/kW-Yr		Btu/kWh	percent	weeks	
Pulverized Coal	279,873	240.75	240.75	4.71	33.83	Coal	10,157	9.0	4.00	2002
Fluidized Bed	262,125	242.78	242.78	4.87	28.69	Coal	10,250	9.0	4.00	2002
7EA 1x1 CC	77,504	109.94	124.166	2.59	3.59	Nat. Gas	7,049	3.7	2.25	2001
7EA 2x1 CC	134,184	222.10	250.42	2.36	2.45	Nat. Gas	7,791	1.7	2.25	2001
501F 1x1 CC	117,566	236.63	261.79	2.82	2.27	Nat. Gas	6,815	4.1	2.25	2001
501G 1x1 CC ***	147,362/ 145,157	294.96	333.46	2.48/ 2.34	2.13	Nat. Gas	6,784	13.3	2.25	2001/ 2002
LM6000 SC	22,165	33.36	41.66	7.56	5.96	Nat. Gas	9,417	2.3	1.00	2000
7EA SC	31,451	72.43	81.55	25.74	3.63	Nat. Gas	11,959	2.1	1.25	2001
501G SC***	74,694 / 72,922	197.04	223.87	12.69/ 11.19	2.33	Nat. Gas	10,847	13.3	1.50	2001/ 2002
7FA SC	48,757	147.17	165.31	11.33	2.70	Nat. Gas	10,698	2.7	1.50	2001

*At ISO conditions including degradation.
** KUA would retain 50 percent ownership in the expansion alternative.
*** Capital and operating costs assume SCR through 2001; beyond 2001 SCR is not included in capital and operating costs.

Table 1B.10-2
Base Case Expansion Plan

Year	Expansion Plan	Annual Costs ($1,000)	Cumulative Present Worth ($1,000)
1998		37,749	37,749
1999		39,592	75,277
2000		41,565	112,621
2001	Build 501F 1x1 Combined Cycle (118 MW) *	44,876	150,838
2002		47,819	189,438
2003		50,480	228,062
2004	Build LM6000 Simple Cycle (17 MW)**	54,321	267,458
2005	Build 501G Combined Cycle (111)***	59,446	308,323
2006		62,019	348,735
2007		64,872	388,802
2008		68,078	428,657
2009		71,234	468,186
2010		75,102	507,688
2011		79,089	547,119
2012	Build 501G Combined Cycle (111 MW)***	84,538	587,069
2013		88,586	626,749
2014		93,198	666,319
2015		97,883	705,712
2016		102,851	744,946
2017		108,379	784,133

*Indicates KUA's share of 50 percent ownership with FMPA.

**Assumes 50 percent KUA ownership share.

***Assumes 37.5 percent KUA ownership share.

1B.11.0 Sensitivity Analyses

KUA performed several sensitivities to measure the impact of variations in key assumptions on the least-cost plan. The sensitivities, which are presented in Sections 1B.11.1 through 1B.11.6, include: low load and energy growth, high load and energy growth, low fuel price escalation, high fuel price escalation, and constant differential between oil/gas and coal prices over the planning horizon. For each sensitivity presented, the least-cost capacity expansion plan over the planning horizon is identified.

The sensitivity analyses were performed over a 20 year planning horizon, similar to the base case economic evaluation, with a projection of annual costs and cumulative present worth costs.

The expansion plan tables indicate the resources necessary to maintain a system reserve margin above 15 percent in all years. All capacities listed in the expansion plan summary tables are the summer ratings of the units. It was assumed that KUA would have a 50 percent ownership share of all units except for the 501G combined cycle. A 37.5 percent ownership share was assumed for the 501G combined cycle. As demonstrated in the sensitivities and the base case expansion plans, the construction of Cane Island 3 is the best resource addition for KUA.

1B.11.1 Low Load and Energy Growth

The low load and energy growth scenario provides insight into the effect of resource decisions made in an economic environment where load and energy growth are less than the expected base case forecast. The low load and energy growth scenario requires less generation resources than the base case forecast. Table 1B.11-1 indicates the need for power based upon the low load and energy forecast. Capacity is still required in 2001 for the low load and energy forecast. Table 1B.11-2 presents the results of the economic evaluation of the least-cost expansion plan for the low load and energy growth sensitivity. With the lower load and energy projections, EGEAS selects the 7EA simple cycle in 2001.

Table 11.11-1
Projected Reliability Levels with
Demand-Side Management and Conservation
Before Expansion Plan **- Low Growth**

Year	Generation (MW)	Purchases (MW)	Total Resources (MW)	Peak Demand (MW)	Expo Center (MW)	DSM (MW)	Reserve Margin[1] (percent)	
							Without Center	With Center
1998	172	98	270	213	12.1	12.2	34.5	26.9
1999	172	98	270	215	11.9	12.3	33.3	25.9
2000	172	108	280	224	11.9	12.5	32.4	25.4
2001	172	68	240	235	11.9	12.6	7.9	2.4
2002	172	68	240	244	12.0	12.8	3.9	(1.2)
2003	153	68	221	250	12.1	13.0	(6.7)	(11.2)
2004	153	48	201	257	12.2	13.1	(17.5)	(21.4)
2005	153	48	201	260	12.3	13.3	(18.4)	(22.3)
2006	153	48	201	262	12.3	13.5	(19.0)	(22.8)
2007	153	48	201	264	12.3	13.6	(19.6)	(23.4)
2008	153	48	201	265	12.3	13.8	(19.9)	(23.6)
2009	153	48	201	267	12.3	14.0	(20.5)	(24.1)
2010	153	48	201	268	12.3	14.1	(20.7)	(24.4)
2011	153	48	201	269	12.2	14.3	(21.0)	(24.6)
2012	153	48	201	268	12.1	14.5	(20.6)	(24.2)
2013	105	48	153	268	12.0	14.6	(39.5)	(42.3)
2014	105	48	153	267	11.9	14.8	(39.2)	(42.0)
2015	105	48	153	267	11.8	15.0	(39.2)	(41.9)
2016	105	48	153	265	11.6	15.1	(38.7)	(41.4)
2017	105	48	153	263	11.5	15.3	(38.1)	(40.9)

(1) DSM is subtracted from peak demand.

Table 1B.11-2
Low Load and Energy Growth Sensitivity

Year	Expansion Plan	Annual Costs ($1,000)	Cumulative Present Worth ($1,000)
1998		36,332	36,332
1999		37,069	71,469
2000		38,398	105,967
2001	Build 7EA Simple Cycle (36MW)[1]	40,216	140,216
2002		42,367	174,415
2003	Build 7EA 1x1 Combined Cycle (55MW)[1]	45,207	209,004
2004		46,928	243,039
2005		48,386	276,301
2006		49,900	308,816
2007		51,606	340,689
2008		53,344	371,918
2009		55,053	402,468
2010		57,019	432,459
2011		58,899	461,824
2012	Build 7EA 1x1 Combined Cycle (55MW)[1]	60,817	490,564
2013		62,500	518,560
2014		64,258	545,843
2015		66,094	572,442
2016		67,636	598,243
2017		69,328	623,311

(1) Assumes 50 percent ownership share.

1B.11.2 High Load and Energy Growth

The high load and energy growth scenario provides insight into the effect of resource decisions made in an economic environment where load and energy growth are greater than the expected forecast. The high load and energy growth scenario requires the addition of more generation resulting in an increase in cumulative present worth costs for the capacity expansion plan. The high load and energy growth scenario is based upon the high load and energy growth forecast presented in Subsection 1B.5.4.1. Table 1B.11-3 indicates the need for power based upon the high load and energy forecast.

As indicated in Table 1B.11-3, the need for power to maintain a 15 percent reserve margin occurs in 1999. Since the planning alternatives evaluated are not available until 2001, purchase power from an existing supplemental resale contract with Florida Power Corporation is assumed to be made to maintain system reserves. The least-cost plan selected for the high load sensitivity is the installation of a 501F 1x1 combined cycle and a 7FA simple cycle unit in 2001. Table 1B.11-4 presents the results of the economic evaluation for the least-cost capacity expansion plan for the high load and energy growth sensitivity.

Table 1B.11-3
Projected Reliability Levels with
Demand-Side Management and Conservation
Before Expansion Plan - High Load Growth

Year	Generation (MW)	Purchases (MW)	Total Resources (MW)	Peak Demand (MW)	Expo Center (MW)	DSM (MW)	Reserve Margin[1] (percent)	
							Without Center	With Center
1998	172	98	270	236	0	13.0	21.1	21.1
1999	172	98	270	261	0	14.1	9.4	9.4
2000	172	138	310	282	20	15.1	16.1	8.1
2001	172	68	240	301	40	16.0	(15.8)	(26.0)
2002	153	68	221	320	55	16.8	(27.1)	(38.3)
2003	153	68	221	340	62	17.7	(31.4)	(42.4)
2004	153	48	201	361	71	18.7	(41.3)	(51.3)
2005	153	48	201	382	71	19.7	(44.5)	(53.6)
2006	153	48	201	404	71	20.7	(47.5)	(55.7)
2007	153	48	201	426	71	21.7	(50.3)	(57.7)
2008	153	48	201	450	71	22.7	(52.9)	(59.6)
2009	153	48	201	475	71	23.9	(55.4)	(61.5)
2010	153	48	201	501	71	25.1	(57.7)	(63.2)
2011	153	48	201	528	71	26.2	(59.9)	(64.9)
2012	153	48	201	555	71	27.4	(61.9)	(66.4)
2013	105	48	153	584	71	28.7	(72.4)	(75.5)
2014	105	48	153	614	71	30.1	(73.8)	(76.6)
2015	105	48	153	647	71	31.5	(75.1)	(77.7)
2016	105	48	153	679	71	32.8	(76.3)	(78.6)
2017	105	48	153	713	71	34.3	(77.4)	(79.6)

(1) DSM is subtracted from peak demand.

Table 1B.11-4
High Load and Energy Growth Sensitivity

Year	Expansion Plan	Annual Costs ($1,000)	Cumulative Present Worth ($1,000)
1998		39,451	39,451
1999		42,792	80,012
2000		46,514	121,803
2001	Build 501F 1x1 Combined Cycle (118MW)[1] Build 7FA Simple Cycle (74MW)[2]	52,214	166,268
2002		56,958	212,246
2003		61,599	259,377
2004	Build 501G 1x1 Combined Cycle (111MW)[3]	67,524	308,349
2005		70,789	357,012
2006		75,095	405,944
2007	Build 501G 1x1 Combined Cycle (111MW)[3]	82,936	457,168
2008		88,028	508,702
2009		93,239	560,442
2010		99,773	612,920
2011		106,617	666,075
2012	Build 501G 1x1 Combined Cycle (111MW)[3]	114,254	720,068
2013		121,635	774,553
2014	Build 501G 1x1 Combined Cycle (111MW)[3]	134,191	831,528
2015		142,647	888,935
2016		151,952	946,900
2017		162,578	1,005,685

(1) Assumes 50 percent ownership share with FMPA.
(2) Assumes 50 percent ownership share.
(3) Assumes 37.5 percent KUA ownership share.

1B.11.3 Low Fuel Price Escalation

The low fuel price scenario applies the low fuel price forecast to the generation planning assumptions. The low fuel price forecast is provided in Section 1A.3.2. With the low fuel price forecast, the resource plan indicates increased amounts of energy from generation resources and decreased reliance on purchased power as low cost power sources. Table 1B.11-5 presents the results of the economic evaluation for the least-cost capacity expansion plan for the low fuel price escalation sensitivity.

Table 1B.11-5
Low Fuel Price Escalation Sensitivity

Year	Expansion Plan	Annual Costs ($1,000)	Cumulative Present Worth ($1,000)
1998		37,372	37,372
1999		38,986	74,325
2000		41,159	111,304
2001	Build 501F 1x1 Combined Cycle (118MW)[1]	43,293	147,173
2002		45,783	185,129
2003		47,817	221,715
2004	Build LM6000 Simple Cycle (17MW)[2]	51,073	258,756
2005	Build 501G 1x1 Combined Cycle (111MW)[3]	55,625	296,994
2006		57,582	334,515
2007		59,664	371,365
2008		62,022	407,674
2009		64,257	443,331
2010		67,049	478,598
2011		70,002	513,498
2012	Build 501G 1x1 Combined Cycle (111MW)[3]	74,143	548,536
2013		76,824	582,948
2014		79,923	616,882
2015		82,993	650,282
2016		86,240	683,179
2017		89,970	715,711

(1) Assumes 50 percent ownership share with FMPA.
(2) Assumes 50 percent KUA ownership share.
(3) Assumes 37.5 percent KUA ownership share.

1B.11.4 High Fuel Price Escalation

The high fuel price scenario applies the high fuel price forecast to the generation planning assumptions. The high fuel price forecast is provided in Section 1A.3.2. Table 1B.11-6 presents the results of the economic evaluation for the least-cost capacity expansion plan for the high fuel price escalation sensitivity.

Table 1B.11-6
High Fuel Price Escalation Sensitivity

Year	Expansion Plan	Annual Costs ($1,000)	Cumulative Present Worth ($1,000)
1998		38,148	38,148
1999		40,239	76,289
2000		42,191	114,195
2001	Build 501F 1x1 Combined Cycle (118MW)[1]	46,600	153,881
2002		50,006	194,247
2003		53,191	234,945
2004	Build LM6000 Simple Cycle (17MW)[2]	57,756	276,832
2005	Build 501G 1x1 Combined Cycle (111MW)[3]	63,613	320,562
2006		66,975	364,203
2007		70,718	407,880
2008		74,893	451,725
2009		79,229	495,690
2010		84,334	540,048
2011		89,916	584,876
2012	Build 501G 1x1 Combined Cycle (111MW)[3]	96,915	630,675
2013		102,824	676,733
2014		109,578	723,258
2015		116,685	770,218
2016		124,315	817,640
2017		133,129	865,776

(1) Assumes KUA share of 50 percent ownership with FMPA.
(2) Assumes 50 percent KUA ownership share.
(3) Assumes 37.5 percent KUA ownership share.

1B.11.5 Constant Differential of Oil/Gas Price Versus Coal Price

This scenario assumes the differential price between oil/gas and coal remains constant over the planning horizon based on current fuel prices. This fuel price sensitivity is outlined in Section 1A.3.2 with the fuel prices used shown in Table 1B.11-7. The evaluation results indicate the following plan in Table 1B.11-8.

Table 1B.11-7
Delivered Fuel Price Forecast–
Constant Differential Between Coal versus Natural Gas/Oil
($/MBtu)

Year	Coal	No. 6 Oil	No. 2 Oil	Nuclear	Natural Gas[1] *Existing Units*	Natural Gas[2] *New Units*
1998	1.70	2.68	4.47	0.55	2.39	3.20
1999	1.71	2.69	4.48	0.56	2.40	3.21
2000	1.74	2.72	4.51	0.59	2.43	3.24
2001	1.77	2.75	4.54	0.62	2.46	3.27
2002	1.81	2.79	4.58	0.66	2.50	3.31
2003	1.86	2.84	4.63	0.71	2.55	3.36
2004	1.90	2.88	4.67	0.75	2.59	3.40
2005	1.93	2.91	4.70	0.78	2.62	3.43
2006	1.97	2.95	4.74	0.82	2.66	3.47
2007	2.02	3.00	4.79	0.87	2.71	3.52
2008	2.06	3.04	4.83	0.91	2.75	3.56
2009	2.10	3.08	4.87	0.95	2.79	3.60
2010	2.15	3.13	4.92	1.00	2.84	3.65
2011	2.20	3.18	4.97	1.05	2.89	3.70
2012	2.23	3.21	5.00	1.08	2.92	3.73
2013	2.29	3.27	5.06	1.14	2.98	3.79
2014	2.34	3.32	5.11	1.19	3.03	3.84
2015	2.40	3.38	5.17	1.25	3.09	3.90
2016	2.46	3.44	5.23	1.31	3.15	3.96
2017	2.51	3.49	5.28	1.36	3.20	4 01

(1) Delivered natural gas price less demand reservation.
(2) Includes demand reservation costs.

Table 1B.11-8
Constant Differential of Oil/Gas Versus Coal Sensitivity

Year	Expansion Plan	Annual Costs ($1,000)	Cumulative Present Worth ($1,000)
1998		37,749	37,749
1999		39,875	75,545
2000		41,948	113,233
2001	Build 501G 1x1 Combined Cycle (111MW)[1]	44,693	151,294
2002		47,272	189,453
2003		50,022	227,727
2004	Build LM6000 Simple Cycle (17MW)[2]	53,678	266,657
2005	Build 501G 1x1 Combined Cycle (111MW)[1]	56,820	305,717
2006		59,048	344,192
2007		61,545	382,204
2008		64,095	419,727
2009		66,756	456,771
2010		69,620	493,390
2011		72,767	529,669
2012	Build 501G 1x1 Combined Cycle (111MW)[1]	75,210	565,211
2013		78,327	600,296
2014		81,437	634,873
2015		85,006	669,083
2016		88,499	702,842
2017		92,154	736,163

(1) Assumes 37.5 percent KUA ownership share.
(2) Assumes 50 percent KUA ownership share.

1B.12.0 Strategic Considerations

In selecting a power supply alternative, a utility must consider certain strategic factors that reflect the utility's long-term ability to provide economical and reliable electric capacity and energy to its consumers. There are a number of strategic considerations that favor the installation of Cane Island 3 over other alternatives. The strategic considerations include low installation cost on a $/kW basis, low operating costs, domestically produced fuel, an existing site designed to accommodate the project capacity, electric industry deregulation, environmental benefits and efficiency.

Cane Island 3 is one of the lowest cost alternatives on a $/kW basis in comparison to other resource additions. Cane Island 3 benefits from the lower cost of an existing site, economic conditions where capital costs for combined cycle F-class technology are at the lowest price in history and the availability of low cost funds for financing. These factors contribute to Cane Island 3 having a lower installed cost over other alternatives.

Cane Island 3's F-class technology has the lowest heat rate of any of the generating units commercially operated in the United States. The proposed G-class technology only has a marginally better heat rate than the F-class technology and is not yet in commercial operation in the United States. The efficiency of the F-class technology ensures that Cane Island 3 will produce competitively priced generation for many years. If deregulation in the retail market occurs in Florida, Cane Island 3's low heat rate would ensure that the unit will remain a competitive resource.

The ability to utilize the existing Cane Island site offers many strategic advantages. Only two additional personnel will be required for the operation and maintenance of Cane Island 3, which will result in significantly lower fixed O&M costs. Cane Island 3 will also have the advantage of a skilled and trained staff for operation and maintenance.

The use of the existing site minimizes environmental impacts and reduces the time and effort required for licensing. The low level of emissions with Cane Island Unit 3 provides assurance from risk from future environmental regulations while reducing emissions within the state.

Cane Island Unit 3 will utilize domestic natural gas, which minimizes risks from interruption of supply often associated with imported fuels.

1B.13.0 Consequences of Delay

The initial consequences of delaying the proposed generating plant is the risk of rising construction costs due to price escalation, the need to supply an alternative resource or purchase to maintain the same level of system reliability, which would have been provided by Cane Island 3, and the potential for capital costs to rise above the rate of inflation.

With the equipment costs for F-class combined cycles at their lowest point in history and industry experts indicating that capital costs for new generating facilities may begin to increase again, there could be significant impacts to KUA's system production costs and resulting revenue requirements without installation of Cane Island 3 in 2001.

Installation of Cane Island 3 will provide KUA consumers the lowest possible energy cost with the least possible environmental impacts. This is because Cane Island 3 will displace energy generated by higher cost, higher emission producing oil fired units with cleaner, more efficient natural gas-fired capacity. If Cane Island 3 is delayed, KUA will be required to obtain additional purchased power to meet system demand. This may result in adverse rate impacts to consumers due to increased annual system revenue requirements for capacity and energy purchases and/or increased operation of less efficient units.

Peninsular Florida's need for power is growing at one of the fastest rates in the nation, resulting in a steady decrease in available generating reserves. To maintain a reliable system, KUA and FMPP will require additional resources to meet demand. With a shortage of available purchase power on the market, KUA must build new capacity. The consequences of delaying the project could have potentially large impacts on system reliability.

1B.13.1 Economic Benefits

If the construction of Cane Island 3 is delayed or canceled, several consequences may occur including: risk of possible escalation of capital costs above inflation, the need to purchase power on the market or under emergency conditions, the higher fuel costs associated with running older units, and the environmental impacts of the emissions from the older units.

Ignoring the very realistic possibility of increasing costs for equipment and the effects of higher emissions on the environment, KUA has conducted an economic evaluation to

determine the impact on system cumulative present worth revenue requirements if the project is delayed by one year. KUA would, in lieu of building Cane Island 3 in 2001, purchase 125 MW of capacity and associated energy from an existing Unit Power Purchase Contract with OUC. The capacity and energy charges associated with the Unit Purchase contract are $5.00/kW-mo and $30.00/Mwh respectively. In addition to the capacity and energy charges, a transmission charge of $1.50/kW-mo is assessed.

Table 1B.13-1 presents the results of the economic analysis. As indicated, KUA will experience an increase in total annual cumulative present worth system production costs of approximately $6,806,000 if Cane Island 3 is not constructed. As in any industry, cost increases have detrimental effects on both rate structure and overall competitiveness. Based on KUA's analysis of service area load growth, regional capacity resources, and capacity addition alternatives, Cane Island 3 will provide the least-cost, most environmentally sound, and proven capacity addition alternative - in a dynamic industry where competition, deregulation, and the financial soundness of a utility are closely linked.

Table 1B.13-1
KUA Cumulative Present Worth (CPW) System Production Costs
With and Without Cane Island 3

Year	Annual Cost With Cane Island 3 ($000)	Annual Cost Without Cane Island 3 ($000)	Annual CPW Cost Difference ($000)
1998	37,749	37,749	0
1999	39,592	39,592	0
2000	41,663	41,663	0
2001	44,876	56,057	9,522
2002	47,819	47,787	9,496
2003	52,124	50,455	8,219
2004	54,839	54,287	7,819
2005	57,374	59,498	9,279
2006	60,237	62,071	10,474
2007	63,501	64,924	11,353
2008	69,294	68,130	10,671
2009	72,634	71,287	9,924
2010	76,623	75,155	9,152
2011	80,855	79,141	8,297
2012	84,999	84,590	8,104
2013	89,097	88,638	7,898
2014	93,788	93,250	7,670
2015	98,575	97,935	7,412
2016	103,653	102,903	7,126
2017	109,317	108,431	6,806

1B.14.0 Financial Analysis

A portion of the funding for KUA's share of Cane Island Unit 3 is planned from approximately $17 million remaining proceeds from existing revenue bonds for Cane Island Units 1 and 2. The remainder of funding for Unit 3 is planned from a new bond issue in the year 2000.

KUA is in a strong position to finance its ownership share of Cane Island Unit 3. KUA's outstanding revenue bonds are fully insured and thus carry a AAA risk rating.

KUA's debt service coverage ratio for the fiscal year ended September 30, 1997 was 2.83, and has averaged 2.97 over the past three fiscal years. While interest coverage ratios will be somewhat lower in upcoming years due to higher interest expenses, the coverage ratios are projected to significantly exceed KUA's minimum target of 1.50. KUA's self-imposed minimum target coverage is in turn higher than that defined in the current revenue bond resolutions, which prescribe that annual net revenues not be less than 1.25 times the bond service requirement.

As of September 30, 1997, KUA's reinvested earnings totaled $129.2 million. The reinvested earnings are equal to about 35 percent of overall long-term capitalization and liabilities. This is a financially strong representation of reinvested earnings in relation to outstanding debt.

1B.15.0 Analysis of 1990 Clean Air Act Amendments

1B.15.1 Compliance Strategy

Cane Island Unit 3 will emit small amounts of sulfur dioxide while running on either natural gas or fuel oil. As an affected unit, Unit 3 must have allowances available for emissions of sulfur dioxide to comply with its Title IV Acid Rain permit. KUA is proposing to limit sulfur dioxide emissions to 40 tons per year for Unit 3. The 40 ton per year maximum emissions level minimizes permitting requirements for Unit 3. Forty tons per year of sulfur dioxide emissions for Unit 3 is equivalent to approximately 720 hours of full load operation on distillate oil (0.05 percent sulfur) and 8040 hours of full load operation on fuel gas. The current operating plan for the Cane Island Power Park, including Unit 3, includes operation on fuel oil only during emergency situations. To date Cane Island Units 1 and 2 have not had to operate on fuel oil.

KUA has identified two possible sulfur dioxide emissions compliance strategies. The first and preferred compliance strategy involves re-allocation of excess allowances currently maintained by the OUC Stanton Energy Center to cover the Cane Island Unit 3 sulfur dioxide emissions. KUA owns approximately 6.6 percent of Stanton Unit 1 and approximately 7.7 percent of Stanton Unit 2. Therefore, KUA has entitlements to a proportionate amount of the excess allowances of the Stanton Energy Center. Stanton Unit 1 currently receives 11,199 allowances per year while Stanton Unit 2 receives 0 allowances per year. Current operation of Stanton Unit 1 and Unit 2 results in a combined sulfur dioxide emissions rate of approximately 10,200 tons per year, leaving approximately 1000 excess allowances. Therefore, in accordance with the KUA ownership entitlements, over 60 allowances per year are currently available for reallocation from Stanton to Cane Island by KUA. The second possible compliance strategy involves purchasing allowances. Purchasing allowances will be the compliance strategy utilized if, for any reason, re-allocation proves to supply insufficient quantities of allowances.

Appendix 1B.16.1

Results of Statistical Tests

Appendix 1B.16.1

LS // Dependent Variable is GSNKWHT
Sample (adjusted): 1985:03 1996:09
Included observations: 139 after adjusting endpoints
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PRICESGN(-1)	-41914.30	9437.271	-4.441358	0.0000
GOODSERV	262002.6	25331.59	10.34292	0.0000
BMC_TIME	46.32923	7.723628	5.998376	0.0000
AR(1)	0.784862	0.053777	14.59470	0.0000
MA(11)	0.364201	0.070633	5.156272	0.0000
MA(12)	0.515291	0.067686	7.612998	0.0000
R-squared	0.977187	Mean dependent var		6092871.
Adjusted R-squared	0.976330	S.D. dependent var		3403380.
S.E. of regression	523614.9	Akaike info criterion		26.37923
Sum squared resid	3.65E+13	Schwarz criterion		26.50590
Log likelihood	-2024.589	F-statistic		1139.420
Durbin-Watson stat	2.028290	Prob (F-statistic)		0.000000
Inverted AR Roots	.78			
Inverted MA Roots	.95-.26i .21+.95i -.68-.61i	.95+.26i .21-.95i -.68+.61i	.68+.71i -.30+.90i -.86-.20i	.68-.71i -.30-.90i -.86+.20i

LS // Dependent Variable is GSNCUSTT
Sample: 1991:01 1996:09
Included observations: 69
Convergence achieved after 12 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2993.870	1024.119	-2.923363	0.0048
POPA	73.65239	7.783706	9.462381	0.0000
AR(1)	0.763806	0.065460	11.66824	0.0000
MA(2)	0.746148	0.076843	9.710012	0.0000
R-squared	0.991991	Mean dependent var		6478.203
Adjusted R-squared	0.991622	S.D. dependent var		791.6428
S.E. of regression	72.46208	Akaike info criterion		8.622350
Sum squared resid	341298.9	Schwarz criterion		8.751863
Log likelihood	-391.3778	F-statistic		2683.690
Durbin-Watson stat	2.005084	Prob (F-statistic)		0.000000
Inverted AR Roots	.76			

LS // Dependent Variable is RSUPC
Sample (adjusted): 1986:02 1996:09
Included observations: 128 after adjusting endpoints
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	413.2600	252.7277	1.635199	0.1048
HEAT2	1.039933	0.139833	7.436980	0.0000
MINTEMP	2.487544	1.143512	2.175355	0.0317
INCPERHH	17.38039	7.772856	2.236036	0.0273
PRICERES(-12)	-4.972532	0.797516	-6.235022	0.0000
MAR	-84.22658	20.33522	-4.141906	0.0001
APR	-65.27621	20.45847	-3.190670	0.0018
JUN	191.1631	25.67054	7.446790	0.0000
JUL	362.3508	29.90318	12.11747	0.0000
AUG	408.2809	30.23031	13.50568	0.0000
SEP	437.3900	28.41160	15.39477	0.0000
OCT	283.0730	22.37330	12.65227	0.0000
DEC	-83.88816	20.94499	-4.005166	0.0001
AR(1)	0.205994	0.091024	2.263076	0.0255

R-squared	0.917427	Mean dependent var	964.3945
Adjusted R-squared	0.908011	S.D. dependent var	202.2864
S.E. of regression	61.35286	Akaike info criterion	8.336202
Sum squared resid	429115.7	Schwarz criterion	8.648142
Log likelihood	-701.1410	F-statistic	97.43068
Durbin-Watson stat	1.967069	Prob (F-statistic)	0.000000
Inverted AR Roots	.21		

LS // Dependent Variable is RSCUSTT
Sample (adjusted): 1985:03 1996:09
Included observations: 139 after adjusting endpoints
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7674.448	624.9708	12.27969	0.0000
TS	537.4033	15.77505	34.06666	0.0000
AR(1)	0.431372	0.078309	5.508612	0.0000
AR(2)	0.413804	0.078312	5.284067	0.0000
R-squared	0.997394	Mean dependent var		27282.23
Adjusted R-squared	0.997336	S.D. dependent var		5384.780
S.E. of regression	277.9465	Akaike info criterion		11.28321
Sum squared resid	10429325	Schwarz criterion		11.36766
Log likelihood	-977.4157	F-statistic		17220.19
Durbin-Watson stat	2.078771	Prob (F-statistic)		0.000000
Inverted AR Roots	.89	-.46		

LS // Dependent Variable is OLSKWH
Sample: 1991:01 1996:09
Included observations: 69
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-429999.1	173212.2	-2.482500	0.0156
POPA	6849.977	1287.725	5.319443	0.0000
AR(1)	0.568124	0.116598	4.872509	0.0000
AR(2)	0.315443	0.117173	2.692111	0.0090
R-squared	0.970393	Mean dependent var		456412.2
Adjusted R-squared	0.969026	S.D. dependent var		59816.40
S.E. of regression	10527.33	Akaike info criterion		18.57968
Sum squared resid	7.20E+09	Schwarz criterion		18.70920
Log likelihood	-734.9058	F-statistic		710.1322
Durbin-Watson stat	2.082227	Prob (F-statistic)		0.000000
Inverted AR Roots	.91	-.35		

LS // Dependent Variable is GSDKWHT
Sample: 1991:01 1996:09
Included observations: 69

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11631387	1160050.	10.02662	0.0000
BMC_TIME	73.17016	12.78002	5.725356	0.0000
GOODSERV	231556.3	28289.66	8.185192	0.0000
FEB	-904931.3	412473.9	-2.193912	0.0322
MAR	-1376438.	400371.5	-3.437902	0.0011
JUN	981953.4	513600.6	1.911901	0.0607
JUL	1989366.	574625.3	3.462023	0.0010
AUG	1888365.	608309.7	3.104282	0.0029
SEP	3918532.	559712.3	7.000975	0.0000
OCT	1359601.	497343.6	2.733725	0.0083

R-squared	0.933308	Mean dependent var	23939290
Adjusted R-squared	0.923135	S.D. dependent var	3076540.
S.E. of regression	852959.3	Akaike info criterion	27.44622
Sum squared resid	4.29E+13	Schwarz criterion	27.77000
Log likelihood	-1034.801	F-statistic	91.74024
Durbin-Watson stat	1.836650	Prob (F-statistic)	0.000000

Appendix 1B.16.2

Energy and Demand Forecast Variables

Appendix 1B.16.2

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
1985:01	0.00	0.00	80.89	80.89	130.08	41.00	105.50
1985:02	0.00	0.00	129.22	64.61	196.25	102.50	106.00
1985:03	0.00	0.00	422.66	140.89	58.73	166.00	106.40
1985:04	1.00	0.00	666.83	166.71	17.06	227.00	106.90
1985:05	0.00	0.00	1,590.74	318.15	1.25	385.00	107.30
1985:06	0.00	0.00	2,807.31	467.89	0.00	501.00	107.60
1985:07	0.00	0.00	3,339.12	477.02	0.00	473.00	107.80
1985:08	0.00	1.00	3,955.23	494.40	0.00	508.00	108.00
1985:09	0.00	0.00	4,111.46	456.83	0.00	396.50	108.30
1985:10	0.00	0.00	3,901.87	390.19	0.00	395.00	108.70
1985:11	0.00	0.00	3,159.53	287.23	18.68	220.00	109.00
1985:12	0.00	0.00	1,973.37	164.45	75.33	52.00	109.30
1986:01	0.00	0.00	210.73	16.21	228.68	11.50	109.60
1986:02	0.00	0.00	454.66	32.48	164.06	55.00	109.30
1986:03	0.00	0.00	998.83	66.59	154.91	79.00	108.80
1986:04	1.00	0.00	1,519.91	94.99	52.32	115.00	108.60
1986:05	0.00	0.00	3,429.98	201.76	9.02	294.50	108.90
1986:06	0.00	0.00	6,964.56	386.92	0.00	452.50	109.50
1986:07	0.00	0.00	9,057.17	476.69	0.00	501.00	109.50
1986:08	0.00	1.00	10,019.03	500.95	0.00	505.00	109.70
1986:09	0.00	0.00	10,072.41	479.64	0.00	448.50	110.20
1986:10	0.00	0.00	9,062.01	411.91	0.00	321.50	110.30
1986:11	0.00	0.00	6,211.31	270.06	0.15	275.00	110.40
1986:12	0.00	0.00	4,392.95	183.04	28.56	80.00	110.50
1987:01	0.00	0.00	924.60	36.98	176.32	23.00	111.20
1987:02	0.00	0.00	464.63	17.87	199.95	25.00	111.60
1987:03	0.00	0.00	965.48	35.76	92.52	58.50	112.10
1987:04	1.00	0.00	2,126.99	75.96	93.73	108.00	112.70
1987:05	0.00	0.00	6,618.19	228.21	7.27	317.50	113.10
1987:06	0.00	0.00	12,122.60	404.09	0.00	485.50	113.50
1987:07	0.00	0.00	16,260.32	524.53	0.00	536.50	113.80
1987:08	0.00	1.00	17,377.55	543.05	0.00	545.00	114.40
1987:09	0.00	0.00	16,775.28	508.34	0.00	463.50	115.00
1987:10	0.00	0.00	10,284.34	302.48	1.81	154.00	115.30
1987:11	0.00	0.00	4,866.84	139.05	26.19	125.00	115.40
1987:12	0.00	0.00	2,634.81	73.19	108.79	60.00	115.40
1988:01	0.00	0.00	1,597.56	43.18	178.27	11.50	115.70

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
1988:02	0.00	0.00	1,034.82	27.23	263.08	30.50	116.00
1988:03	0.00	0.00	1,094.90	28.07	169.02	66.00	116.50
1988:04	1.00	0.00	5,205.08	130.13	54.79	186.00	117.10
1988:05	0.00	0.00	9,420.17	229.76	8.05	284.50	117.50
1988:06	0.00	0.00	14,990.07	356.91	0.00	416.50	118.00
1988:07	0.00	0.00	19,359.57	450.22	0.00	471.00	118.50
1988:08	0.00	1.00	22,611.74	513.90	0.00	525.50	119.00
1988:09	0.00	0.00	22,172.59	492.72	0.00	465.00	119.80
1988:10	0.00	0.00	16,689.91	362.82	0.00	254.00	120.20
1988:11	0.00	0.00	9,314.26	198.18	2.42	177.00	120.30
1988:12	0.00	0.00	5,306.40	110.55	92.58	57.50	120.50
1989:01	0.00	0.00	3,651.29	74.52	79.95	65.00	121.10
1989:02	0.00	0.00	4,255.44	85.11	75.57	83.00	121.60
1989:03	0.00	0.00	4,934.04	96.75	163.34	151.00	122.30
1989:04	1.00	0.00	7,431.44	142.91	43.36	161.50	123.10
1989:05	0.00	0.00	14,489.89	273.39	8.28	377.00	123.80
1989:06	0.00	0.00	24,276.92	449.57	0.00	466.50	124.10
1989:07	0.00	0.00	27,009.88	491.09	0.00	527.50	124.40
1989:08	0.00	1.00	30,751.23	549.13	0.00	568.50	124.60
1989:09	0.00	0.00	30,001.89	526.35	0.00	467.50	125.00
1989:10	0.00	0.00	22,268.60	383.94	10.13	265.50	125.60
1989:11	0.00	0.00	9,760.09	165.43	34.25	106.00	125.90
1989:12	0.00	0.00	2,672.55	44.54	203.18	7.50	126.10
1990:01	0.00	0.00	1,810.32	29.68	255.94	61.50	127.60
1990:02	0.00	0.00	6,488.32	104.65	68.43	117.50	128.20
1990:03	0.00	0.00	5,778.40	91.72	43.73	108.00	128.80
1990:04	1.00	0.00	8,145.65	127.28	13.14	153.00	129.10
1990:05	0.00	0.00	19,492.56	299.89	1.20	418.50	129.30
1990:06	0.00	0.00	29,205.96	442.51	0.00	450.00	129.90
1990:07	0.00	0.00	30,063.66	448.71	0.00	457.50	130.60
1990:08	0.00	1.00	32,360.32	475.89	0.00	487.50	131.60
1990:09	0.00	0.00	33,083.31	479.47	0.00	447.00	132.50
1990:10	0.00	0.00	28,023.67	400.34	1.55	311.00	133.40
1990:11	0.00	0.00	12,511.04	176.21	19.70	111.00	133.80
1990:12	0.00	0.00	5,690.17	79.03	77.54	101.00	134.10
1991:01	0.00	0.00	9,802.02	134.27	62.13	98.00	134.90
1991:02	0.00	0.00	4,228.87	57.15	116.51	44.00	135.10
1991:03	0.00	0.00	4,954.71	66.06	116.60	107.00	135.00
1991:04	1.00	0.00	13,936.07	183.37	37.67	274.50	135.40

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TDME	BM_CDD	BM_HDD	CDD	CPI
1991:05	0.00	0.00	27,665.48	359.29	1.30	409.50	135.80
1991:06	0.00	0.00	32,863.33	421.32	0.00	461.50	136.00
1991:07	0.00	0.00	39,889.73	504.93	0.00	506.50	136.30
1991:08	0.00	1.00	42,272.26	528.40	0.00	525.00	136.60
1991:09	0.00	0.00	39,222.64	484.23	0.00	443.00	137.00
1991:10	0.00	0.00	28,662.62	349.54	0.00	263.00	137.30
1991:11	0.00	0.00	11,635.71	140.19	60.67	68.50	137.80
1991:12	0.00	0.00	7,591.52	90.38	104.69	65.50	138.10
1992:01	0.00	0.00	1,672.58	19.68	191.63	8.00	138.50
1992:02	0.00	0.00	2,193.79	25.51	205.57	63.50	138.80
1992:03	0.00	0.00	7,418.05	85.26	76.74	67.50	139.30
1992:04	1.00	0.00	7,370.57	83.76	69.13	133.00	139.70
1992:05	0.00	0.00	16,782.39	188.57	20.57	257.00	139.90
1992:06	0.00	0.00	33,121.55	368.02	1.02	429.50	140.20
1992:07	0.00	0.00	45,645.21	501.60	0.00	567.00	140.60
1992:08	0.00	1.00	48,344.52	525.48	0.00	477.00	140.90
1992:09	0.00	0.00	42,767.95	459.87	0.00	440.00	141.10
1992:10	0.00	0.00	29,035.44	308.89	0.42	200.00	141.70
1992:11	0.00	0.00	17,405.17	183.21	28.58	156.00	142.00
1992:12	0.00	0.00	7,215.23	75.16	149.65	24.00	142.20
1993:01	0.00	0.00	6,821.29	70.32	81.68	76.00	142.90
1993:02	0.00	0.00	2,172.43	22.17	167.09	2.50	143.40
1993:03	0.00	0.00	1,380.58	13.95	186.86	51.00	143.60
1993:04	1.00	0.00	7,897.26	78.97	52.08	76.50	144.20
1993:05	0.00	0.00	41,373.67	409.64	11.65	677.50	144.40
1993:06	0.00	0.00	54,695.09	536.23	0.00	434.00	144.40
1993:07	0.00	0.00	48,461.44	470.50	0.00	541.00	144.50
1993:08	0.00	1.00	56,316.00	541.50	0.00	504.00	144.90
1993:09	0.00	0.00	49,549.56	471.90	0.00	439.00	144.90
1993:10	0.00	0.00	36,283.06	342.29	0.45	257.00	145.50
1993:11	0.00	0.00	18,008.85	168.31	62.30	95.50	145.80
1993:12	0.00	0.00	5,340.72	49.45	162.56	6.50	146.10
1994:01	0.00	0.00	441.27	4.05	317.21	13.50	146.30
1994:02	0.00	0.00	4,378.58	39.81	174.41	62.00	146.70
1994:03	0.00	0.00	8,244.56	74.28	74.26	121.50	147.20
1994:04	1.00	0.00	19,212.09	171.54	36.14	209.50	147.40
1994:05	0.00	0.00	33,454.80	296.06	0.67	333.00	147.70
1994:06	0.00	0.00	42,072.44	369.06	0.00	436.00	148.10
1994:07	0.00	0.00	53,156.90	462.23	0.00	471.00	148.60

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
1994:08	0.00	1.00	54,353.48	468.56	0.00	457.00	149.10
1994:09	0.00	0.00	50,199.04	429.05	0.00	376.00	149.40
1994:10	0.00	0.00	38,140.26	323.22	0.00	283.50	149.50
1994:11	0.00	0.00	24,955.58	209.71	5.13	151.00	149.90
1994:12	0.00	0.00	13,176.65	109.81	60.66	56.00	150.10
1995:01	0.00	0.00	2,207.27	18.24	204.94	6.50	150.60
1995:02	0.00	0.00	1,863.73	15.28	283.22	35.50	150.90
1995:03	0.00	0.00	6,473.09	52.63	91.62	85.50	151.30
1995:04	1.00	0.00	16,122.00	130.02	22.14	184.50	151.80
1995:05	0.00	0.00	39,725.81	317.81	1.30	417.50	152.20
1995:06	0.00	0.00	52,381.59	415.73	0.00	392.50	152.60
1995:07	0.00	0.00	57,375.19	451.77	0.00	507.00	152.70
1995:08	0.00	1.00	60,707.10	474.27	0.00	455.00	153.00
1995:09	0.00	0.00	55,797.15	432.54	0.00	420.00	153.20
1995:10	0.00	0.00	49,433.06	380.25	0.00	283.00	153.70
1995:11	0.00	0.00	21,642.82	165.21	46.35	69.50	153.80
1995:12	0.00	0.00	4,643.06	35.17	134.17	30.00	154.10
1996:01	0.00	0.00	2,481.95	18.66	312.23	15.50	154.70
1996:02	0.00	0.00	2,123.70	15.85	260.06	40.00	155.00
1996:03	0.00	0.00	6,371.98	47.20	221.95	44.00	155.60
1996:04	1.00	0.00	8,375.19	61.58	108.06	109.50	156.20
1996:05	0.00	0.00	28,343.31	206.89	10.18	260.50	156 70
1996:06	0.00	0.00	35,235.70	255.33	0.00	276.50	156.80
1996:07	0.00	0.00	47,030.13	338.35	0.00	371.50	157.10
1996:08	0.00	1.00	50,987.10	364.19	0.00	336.50	157.20
1996:09	0.00	0.00	45,690.14	324.04	0.00	296.50	157.60
1996:10	0.00	0.00	29,129.01	205.13	5.63	186.00	158 30
1996:11	0.00	0.00	20,477.52	143.20	57.47	89.00	158.80
1996:12	0.00	0.00	12,829.08	89.09	67.01	86.00	159.20
1997:01	0.00	0.00	15,992.10	110.29	109.29	87.50	159.40
1997:02	0.00	0.00	14,285.54	97.85	94.56	173.00	159.80
1997:03	0.00	0.00	40,644.40	276.49	9.04	325.50	159.90
1997:04	1.00	0.00	38,960.52	263.25	0.00	225.00	160.00
1997:05	0.00	0.00	44,485.39	298.56	0 00	380.50	160.10
1997:06	0.00	0.00	64,258.55	428.39	0.00	469.50	160.30
1997:07	0.00	0.00	77,382.14	512.46	0.00	538.00	160.60
1997:08	0.00	1.00	83,771.61	551.13	0.00	552.00	160.90
1997:09	0.00	0.00	79,772.64	521.39	0.00	496.50	161.30
1997:10	0.00	0.00	51,727.37	335.89	2.00	245.70	161.70

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
1997:11	0.00	0.00	26,174.80	168.87	34.31	114.85	162.10
1997:12	0.00	0.00	11,799.34	75.64	116.08	49.40	162.50
1998:01	0.00	0.00	8,209.33	52.29	179.33	44.30	162.90
1998:02	0.00	0.00	7,751.35	49.06	170.85	65.15	163.30
1998:03	0.00	0.00	13,235.29	83.24	115.32	112.70	163.70
1998:04	1.00	0.00	21,964.72	137.28	43.65	171.30	164.11
1998:05	0.00	0.00	46,365.59	287.99	6.32	381.55	164.51
1998:06	0.00	0.00	65,497.68	404.31	0.10	423.25	164.92
1998:07	0.00	0.00	75,499.46	463.19	0.00	495.80	165.32
1998:08	0.00	1.00	81,876.47	499.25	0.00	488.80	165.73
1998:09	0.00	0.00	76,255.80	462.16	0.00	429.05	166.14
1998:10	0.00	0.00	55,758.07	335.89	2.00	245.70	166.55
1998:11	0.00	0.00	28,201.24	168.87	34.31	114.85	166.96
1998:12	0.00	0.00	12,706.98	75.64	116.08	49.40	167.37
1999:01	0.00	0.00	8,836.79	52.29	179.33	44.30	167.78
1999:02	0.00	0.00	8,340.06	49.06	170.85	65.15	168.20
1999:03	0.00	0.00	14,234.18	83.24	115.32	112.70	168.61
1999:04	1.00	0.00	23,612.08	137.28	43.65	171.30	169.03
1999:05	0.00	0.00	49,821.41	287.99	6.32	381.55	169.45
1999:06	0.00	0.00	70,349.36	404.31	0.10	423.25	169.86
1999:07	0.00	0.00	81,057.70	463.19	0.00	495.80	170.28
1999:08	0.00	1.00	87,867.43	499.25	0.00	488.80	170.70
1999:09	0.00	0.00	81,801.67	462.16	0.00	429.05	171.12
1999:10	0.00	0.00	59,788.77	335.89	2.00	245.70	171.55
1999:11	0.00	0.00	30,227.67	168.87	34.31	114.85	171.97
1999:12	0.00	0.00	13,614.62	75.64	116.08	49.40	172.39
2000:01	0.00	0.00	9,464.26	52.29	179.33	44.30	172.82
2000:02	0.00	0.00	8,928.77	49.06	170.85	65.15	173.24
2000:03	0.00	0.00	15,233.07	83.24	115.32	112.70	173.67
2000:04	1.00	0.00	25,259.43	137.28	43.65	171.30	174.10
2000:05	0.00	0.00	53,277.23	287.99	6.32	381.55	174.53
2000:06	0.00	0.00	75,201.04	404.31	0.10	423.25	174.96
2000:07	0.00	0.00	86,615.95	463.19	0.00	495.80	175.39
2000:08	0.00	1.00	93,858.39	499.25	0.00	488.80	175.82
2000:09	0.00	0.00	87,347.55	462.16	0.00	429.05	176.26
2000:10	0.00	0.00	63,819.48	335.89	2.00	245.70	176.69
2000:11	0.00	0.00	32,254.11	168.87	34.31	114.85	177.13
2000:12	0.00	0.00	14,522.26	75.64	116.08	49.40	177.56
2001:01	0.00	0.00	10,091.72	52.29	179.33	44.30	178.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
2001:02	0.00	0.00	9,517.48	49.06	170.85	65.15	178.44
2001:03	0.00	0.00	16,231.96	83.24	115.32	112.70	178.88
2001:04	1.00	0.00	26,906.79	137.28	43.65	171.30	179.32
2001:05	0.00	0.00	56,733.05	287.99	6.32	381.55	179.76
2001:06	0.00	0.00	80,052.72	404.31	0.10	423.25	180.21
2001:07	0.00	0.00	92,174.19	463.19	0.00	495.80	180.65
2001:08	0.00	1.00	99,849.35	499.25	0.00	488.80	181.10
2001:09	0.00	0.00	92,893.43	462.16	0.00	429.05	181.54
2001:10	0.00	0.00	67,850.18	335.89	2.00	245.70	181.99
2001:11	0.00	0.00	34,280.54	168.87	34.31	114.85	182.44
2001:12	0.00	0.00	15,429.90	75.64	116.08	49.40	182.89
2002:01	0.00	0.00	10,719.19	52.29	179.33	44.30	183.34
2002:02	0.00	0.00	10,106.19	49.06	170.85	65.15	183.79
2002:03	0.00	0.00	17,230.85	83.24	115.32	112.70	184.25
2002:04	1.00	0.00	28,554.14	137.28	43.65	171.30	184.70
2002:05	0.00	0.00	60,188.87	287.99	6.32	381.55	185.16
2002:06	0.00	0.00	84,904.40	404.31	0.10	423.25	185.61
2002:07	0.00	0.00	97,732.43	463.19	0.00	495.80	186.07
2002:08	0.00	1.00	105,840.32	499.25	0.00	488.80	186.53
2002:09	0.00	0.00	98,439.30	462.16	0.00	429.05	186.99
2002:10	0.00	0.00	71,880.89	335.89	2.00	245.70	187.45
2002:11	0.00	0.00	36,306.98	168.87	34.31	114.85	187.91
2002:12	0.00	0.00	16,337.54	75.64	116.08	49.40	188.38
2003:01	0.00	0.00	11,346.65	52.29	179.33	44.30	188.84
2003:02	0.00	0.00	10,694.90	49.06	170.85	65.15	189.31
2003:03	0.00	0.00	18,229.74	83.24	115.32	112.70	189.78
2003:04	1.00	0.00	30,201.49	137.28	43.65	171.30	190.24
2003:05	0.00	0.00	63,644.69	287.99	6.32	381.55	190.71
2003:06	0.00	0.00	89,756.08	404.31	0.10	423.25	191.18
2003:07	0.00	0.00	103,290.67	463.19	0.00	495.80	191.65
2003:08	0.00	1.00	111,831.28	499.25	0.00	488.80	192.13
2003:09	0.00	0.00	103,985.18	462.16	0.00	429.05	192.60
2003:10	0.00	0.00	75,911.59	335.89	2.00	245.70	193.08
2003:11	0.00	0.00	38,333.42	168.87	34.31	114.85	193.55
2003:12	0.00	0.00	17,245.18	75.64	116.08	49.40	194.03
2004:01	0.00	0.00	11,974.11	52.29	179.33	44.30	194.51
2004:02	0.00	0.00	11,283.61	49.06	170.85	65.15	194.99
2004:03	0.00	0.00	19,228.63	83.24	115.32	112.70	195.47
2004:04	1.00	0.00	31,848.85	137.28	43.65	171.30	195.95

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
2004:05	0.00	0.00	67,100.51	287.99	6.32	381.55	196.43
2004:06	0.00	0.00	94,607.76	404.31	0.10	423.25	196.92
2004:07	0.00	0.00	108,848.92	463.19	0.00	495.80	197.40
2004:08	0.00	1.00	117,822.24	499.25	0.00	488.80	197.89
2004:09	0.00	0.00	109,531.05	462.16	0.00	429.05	198.38
2004:10	0.00	0.00	79,942.29	335.89	2.00	245.70	198.87
2004:11	0.00	0.00	40,359.85	168.87	34.31	114.85	199.36
2004:12	0.00	0.00	18,152.83	75.64	116.08	49.40	199.85
2005:01	0.00	0.00	12,601.58	52.29	179.33	44.30	200.34
2005:02	0.00	0.00	11,872.32	49.06	170.85	65.15	200.84
2005:03	0.00	0.00	20,227.52	83.24	115.32	112.70	201.33
2005:04	1.00	0.00	33,496.20	137.28	43.65	171.30	201.83
2005:05	0.00	0.00	70,556.33	287.99	6.32	381.55	202.33
2005:06	0.00	0.00	99,459.44	404.31	0.10	423.25	202.83
2005:07	0.00	0.00	114,407.16	463.19	0.00	495.80	203.33
2005:08	0.00	1.00	123,813.20	499.25	0.00	488.80	203.83
2005:09	0.00	0.00	115,076.93	462.16	0.00	429.05	204.33
2005:10	0.00	0.00	83,973.00	335.89	2.00	245.70	204.83
2005:11	0.00	0.00	42,386.29	168.87	34.31	114.85	205.34
2005:12	0.00	0.00	19,060.47	75.64	116.08	49.40	205.85
2006:01	0.00	0.00	13,229.04	52.29	179.33	44.30	206.35
2006:02	0.00	0.00	12,461.03	49.06	170.85	65.15	206.86
2006:03	0.00	0.00	21,226.41	83.24	115.32	112.70	207.37
2006:04	1.00	0.00	35,143.56	137.28	43.65	171.30	207.88
2006:05	0.00	0.00	74,012.15	287.99	6.32	381.55	208.40
2006:06	0.00	0.00	104,311.12	404.31	0.10	423.25	208.91
2006:07	0.00	0.00	119,965.40	463.19	0.00	495.80	209.43
2006:08	0.00	1.00	129,804.16	499.25	0.00	488.80	209.94
2006:09	0.00	0.00	120,622.81	462.16	0.00	429.05	210.46
2006:10	0.00	0.00	88,003.70	335.89	2.00	245.70	210.98
2006:11	0.00	0.00	44,412.73	168.87	34.31	114.85	211.50
2006:12	0.00	0.00	19,968.11	75.64	116.08	49.40	212.02
2007:01	0.00	0.00	13,856.51	52.29	179.33	44.30	212.54
2007:02	0.00	0.00	13,049.74	49.06	170.85	65.15	213.07
2007:03	0.00	0.00	22,225.30	83.24	115.32	112.70	213.59
2007:04	1.00	0.00	36,790.91	137.28	43.65	171.30	214.12
2007:05	0.00	0.00	77,467.97	287.99	6.32	381.55	214.65
2007:06	0.00	0.00	109,162.80	404.31	0.10	423.25	215.18
2007:07	0.00	0.00	125,523.64	463.19	0.00	495.80	215.71

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
2007:08	0.00	1.00	135,795.12	499.25	0.00	488.80	216.24
2007:09	0.00	0.00	126,168.68	462.16	0.00	429.05	216.77
2007:10	0.00	0.00	92,034.41	335.89	2.00	245.70	217.31
2007:11	0.00	0.00	46,439.16	168.87	34.31	114.85	217.84
2007:12	0.00	0.00	20,875.75	75.64	116.08	49.40	218.38
2008:01	0.00	0.00	14,483.97	52.29	179.33	44.30	218.92
2008:02	0.00	0.00	13,638.45	49.06	170.85	65.15	219.46
2008:03	0.00	0.00	23,224.19	83.24	115.32	112.70	220.00
2008:04	1.00	0.00	38,438.26	137.28	43.65	171.30	220.54
2008:05	0.00	0.00	80,923.79	287.99	6.32	381.55	221.09
2008:06	0.00	0.00	114,014.48	404.31	0.10	423.25	221.63
2008:07	0.00	0.00	131,081.89	463.19	0.00	495.80	222.18
2008:08	0.00	1.00	141,786.08	499.25	0.00	488.80	222.73
2008:09	0.00	0.00	131,714.56	462.16	0.00	429.05	223.28
2008:10	0.00	0.00	96,065.11	335.89	2.00	245.70	223.83
2008:11	0.00	0.00	48,465.60	168.87	34.31	114.85	224.38
2008:12	0.00	0.00	21,783.39	75.64	116.08	49.40	224.93
2009:01	0.00	0.00	15,111.44	52.29	179.33	44.30	225.49
2009:02	0.00	0.00	14,227.16	49.06	170.85	65.15	226.04
2009:03	0.00	0.00	24,223.08	83.24	115.32	112.70	226.60
2009:04	1.00	0.00	40,085.62	137.28	43.65	171.30	227.16
2009:05	0.00	0.00	84,379.61	287.99	6.32	381.55	227.72
2009:06	0.00	0.00	118,866.16	404.31	0.10	423.25	228.28
2009:07	0.00	0.00	136,640.13	463.19	0.00	495.80	228.85
2009:08	0.00	1.00	147,777.05	499.25	0.00	488.80	229.41
2009:09	0.00	0.00	137,260.43	462.16	0.00	429.05	229.98
2009:10	0.00	0.00	100,095.81	335.89	2.00	245.70	230.54
2009:11	0.00	0.00	50,492.03	168.87	34.31	114.85	231.11
2009:12	0.00	0.00	22,691.03	75.64	116.08	49.40	231.68
2010:01	0.00	0.00	15,738.90	52.29	179.33	44.30	232.25
2010:02	0.00	0.00	14,815.87	49.06	170.85	65.15	232.83
2010:03	0.00	0.00	25,221.97	83.24	115.32	112.70	233.40
2010:04	1.00	0.00	41,732.97	137.28	43.65	171.30	233.97
2010:05	0.00	0.00	87,835.43	287.99	6.32	381.55	234.55
2010:06	0.00	0.00	123,717.84	404.31	0.10	423.25	235.13
2010:07	0.00	0.00	142,198.37	463.19	0.00	495.80	235.71
2010:08	0.00	1.00	153,768.01	499.25	0.00	488.80	236.29
2010:09	0.00	0.00	142,806.31	462.16	0.00	429.05	236.87
2010:10	0.00	0.00	104,126.52	335.89	2.00	245.70	237.46

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TDME	BM_CDD	BM_HDD	CDD	CPI
2010:11	0.00	0.00	52,518.47	168.87	34.31	114.85	238.04
2010:12	0.00	0.00	23,598.67	75.64	116.08	49.40	238.63
2011:01	0.00	0.00	16,366.37	52.29	179.33	44.30	239.22
2011:02	0.00	0.00	15,404.58	49.06	170.85	65.15	239.81
2011:03	0.00	0.00	26,220.86	83.24	115.32	112.70	240.40
2011:04	1.00	0.00	43,380.33	137.28	43.65	171.30	240.99
2011:05	0.00	0.00	91,291.25	287.99	6.32	381.55	241.59
2011:06	0.00	0.00	128,569.52	404.31	0.10	423.25	242.18
2011:07	0.00	0.00	147,756.62	463.19	0.00	495.80	242.78
2011:08	0.00	1.00	159,758.97	499.25	0.00	488.80	243.38
2011:09	0.00	0.00	148,352.19	462.16	0.00	429.05	243.98
2011:10	0.00	0.00	108,157.22	335.89	2.00	245.70	244.58
2011:11	0.00	0.00	54,544.91	168.87	34.31	114.85	245.19
2011:12	0.00	0.00	24,506.31	75.64	116.08	49.40	245.79
2012:01	0.00	0.00	16,993.83	52.29	179.33	44.30	246.40
2012:02	0.00	0.00	15,993.29	49.06	170.85	65.15	247.00
2012:03	0.00	0.00	27,219.76	83.24	115.32	112.70	247.61
2012:04	1.00	0.00	45,027.68	137.28	43.65	171.30	248.22
2012:05	0.00	0.00	94,747.07	287.99	6.32	381.55	248.84
2012:06	0.00	0.00	133,421.20	404.31	0.10	423.25	249.45
2012:07	0.00	0.00	153,314.86	463.19	0.00	495.80	250.07
2012:08	0.00	1.00	165,749.93	499.25	0.00	488.80	250.68
2012:09	0.00	0.00	153,898.06	462.16	0.00	429.05	251.30
2012:10	0.00	0.00	112,187.92	335.89	2.00	245.70	251.92
2012:11	0.00	0.00	56,571.34	168.87	34.31	114.85	252.54
2012:12	0.00	0.00	25,413.96	75.64	116.08	49.40	253.16
2013:01	0.00	0.00	17,621.30	52.29	179.33	44.30	253.79
2013:02	0.00	0.00	16,582.00	49.06	170.85	65.15	254.41
2013:03	0.00	0.00	28,218.65	83.24	115.32	112.70	255.04
2013:04	1.00	0.00	46,675.04	137.28	43.65	171.30	255.67
2013:05	0.00	0.00	98,202.89	287.99	6.32	381.55	256.30
2013:06	0.00	0.00	138,272.88	404.31	0.10	423.25	256.93
2013:07	0.00	0.00	158,873.10	463.19	0.00	495.80	257.57
2013:08	0.00	1.00	171,740.89	499.25	0.00	488.80	258.20
2013:09	0.00	0.00	159,443.94	462.16	0.00	429.05	258.84
2013:10	0.00	0.00	116,218.63	335.89	2.00	245.70	259.48
2013:11	0.00	0.00	58,597.78	168.87	34.31	114.85	260.12
2013:12	0.00	0.00	26,321.60	75.64	116.08	49.40	260.76
2014:01	0.00	0.00	18,248.76	52.29	179.33	44.30	261.40

Historical and Projected Energy and Demand Forecast Variables

Year/Month	APR	AUG	BMC_TIME	BM_CDD	BM_HDD	CDD	CPI
2014:02	0.00	0.00	17,170.71	49.06	170.85	65.15	262.05
2014:03	0.00	0.00	29,217.54	83.24	115.32	112.70	262.69
2014:04	1.00	0.00	48,322.39	137.28	43.65	171.30	263.34
2014:05	0.00	0.00	101,658.71	287.99	6.32	381.55	263.99
2014:06	0.00	0.00	143,124.56	404.31	0.10	423.25	264.64
2014:07	0.00	0.00	164,431.34	463.19	0.00	495.80	265.29
2014:08	0.00	1.00	177,731.85	499.25	0.00	488.80	265.95
2014:09	0.00	0.00	164,989.81	462.16	0.00	429.05	266.60
2014:10	0.00	0.00	120,249.33	335.89	2.00	245.70	267.26
2014:11	0.00	0.00	60,624.21	168.87	34.31	114.85	267.92
2014:12	0.00	0.00	27,229.24	75.64	116.08	49.40	268.58
2015:01	0.00	0.00	18,876.22	52.29	179.33	44.30	269.24
2015:02	0.00	0.00	17,759.42	49.06	170.85	65.15	269.91
2015:03	0.00	0.00	30,216.43	83.24	115.32	112.70	270.57
2015:04	1.00	0.00	49,969.74	137.28	43.65	171.30	271.24
2015:05	0.00	0.00	105,114.53	287.99	6.32	381.55	271.91
2015:06	0.00	0.00	147,976.24	404.31	0.10	423.25	272.58
2015:07	0.00	0.00	169,989.59	463.19	0.00	495.80	273.25
2015:08	0.00	1.00	183,722.81	499.25	0.00	488.80	273.93
2015:09	0.00	0.00	170,535.69	462.16	0.00	429.05	274.60
2015:10	0.00	0.00	124,280.04	335.89	2.00	245.70	275.28
2015:11	0.00	0.00	62,650.65	168.87	34.31	114.85	275.96
2015:12	0.00	0.00	28,136.88	75.64	116.08	49.40	276.64
2016:01	0.00	0.00	19,503.69	52.29	179.33	44.30	277.32
2016:02	0.00	0.00	18,348.13	49.06	170.85	65.15	278.01
2016:03	0.00	0.00	31,215.32	83.24	115.32	112.70	278.69
2016:04	1.00	0.00	51,617.10	137.28	43.65	171.30	279.38
2016:05	0.00	0.00	108,570.35	287.99	6.32	381.55	280.07
2016:06	0.00	0.00	152,827.92	404.31	0.10	423.25	280.76
2016:07	0.00	0.00	175,547.83	463.19	0.00	495.80	281.45
2016:08	0.00	1.00	189,713.77	499.25	0.00	488.80	282.14
2016:09	0.00	0.00	176,081.57	462.16	0.00	429.05	282.84
2016:10	0.00	0.00	128,310.74	335.89	2.00	245.70	283.54
2016:11	0.00	0.00	64,677.09	168.87	34.31	114.85	284.24
2016:12	0.00	0.00	29,044.52	75.64	116.08	49.40	284.94

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
1985:01	0.00	0.00	3.52	23.45	240.50	110.96	28.52
1985:02	0.00	1.00	3.53	23.61	115.50	167.41	28.73
1985:03	0.00	0.00	3.54	23.77	20.50	50.10	28.94
1985:04	0.00	0.00	3.55	23.92	6.50	14.55	29.14
1985:05	0.00	0.00	3.56	24.08	0.00	1.07	29.35
1985:06	0.00	0.00	3.57	24.24	0.00	0.00	29.56
1985:07	0.00	0.00	3.59	24.45	0.00	0.00	29.71
1985:08	0.00	0.00	3.61	24.66	0.00	0.00	29.86
1985:09	0.00	0.00	3.63	24.87	0.00	0.00	30.01
1985:10	0.00	0.00	3.65	25.08	0.00	0.00	30.16
1985:11	0.00	0.00	3.67	25.29	22.00	15.94	30.31
1985:12	1.00	0.00	3.69	25.50	221.00	64.48	30.46
1986:01	0.00	0.00	3.71	25.71	201.00	195.86	30.61
1986:02	0.00	1.00	3.73	25.92	101.00	140.60	30.76
1986:03	0.00	0.00	3.75	26.13	141.50	132.84	30.91
1986:04	0.00	0.00	3.77	26.34	16.50	44.89	31.07
1986:05	0.00	0.00	3.78	26.55	0.00	7.74	31.22
1986:06	0.00	0.00	3.80	26.76	0.00	0.00	31.37
1986:07	0.00	0.00	3.83	27.00	0.00	0.00	31.54
1986:08	0.00	0.00	3.85	27.24	0.00	0.00	31.71
1986:09	0.00	0.00	3.88	27.48	0.00	0.00	31.88
1986:10	0.00	0.00	3.90	27.72	0.00	0.00	32.05
1986:11	0.00	0.00	3.92	27.96	0.50	0.13	32.22
1986:12	1.00	0.00	3.95	28.20	74.00	24.63	32.39
1987:01	0.00	0.00	3.97	28.43	258.00	152.19	32.56
1987:02	0.00	1.00	3.99	28.67	121.00	172.70	32.73
1987:03	0.00	0.00	4.02	28.91	72.00	79.96	32.90
1987:04	0.00	0.00	4.04	29.15	73.00	80.42	33.07
1987:05	0.00	0.00	4.07	29.39	0.00	6.29	33.24
1987:06	0.00	0.00	4.09	29.63	0.00	0.00	33.41
1987:07	0.00	0.00	4.14	29.88	0.00	0.00	33.57
1987:08	0.00	0.00	4.19	30.12	0.00	0.00	33.73
1987:09	0.00	0.00	4.25	30.36	0.00	0.00	33.90

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
1987:10	0.00	0.00	4.30	30.60	6.00	1.57	34.06
1987:11	0.00	0.00	4.35	30.85	53.00	22.78	34.23
1987:12	1.00	0.00	4.40	31.09	123.50	94.67	34.39
1988:01	0.00	0.00	4.45	31.33	286.50	155.27	34.55
1988:02	0.00	1.00	4.51	31.58	225.50	229.31	34.72
1988:03	0.00	0.00	4.56	31.82	99.50	147.44	34.88
1988:04	0.00	0.00	4.61	32.06	16.00	47.83	35.05
1988:05	0.00	0.00	4.66	32.31	0.00	7.03	35.21
1988:06	0.00	0.00	4.71	32.55	0.00	0.00	35.37
1988:07	0.00	0.00	4.73	32.79	0.00	0.00	35.50
1988:08	0.00	0.00	4.75	33.02	0.00	0.00	35.63
1988:09	0.00	0.00	4.77	33.26	0.00	0.00	35.75
1988:10	0.00	0.00	4.79	33.50	0.00	0.00	35.88
1988:11	0.00	0.00	4.80	33.74	9.50	2.12	36.01
1988:12	1.00	0.00	4.82	33.97	136.50	81.41	36.13
1989:01	0.00	0.00	4.84	34.21	57.50	70.37	36.26
1989:02	0.00	1.00	4.86	34.45	149.50	66.57	36.39
1989:03	0.00	0.00	4.88	34.69	82.00	144.02	36.52
1989:04	0.00	0.00	4.89	34.92	30.50	38.27	36.64
1989:05	0.00	0.00	4.91	35.16	0.00	7.32	36.77
1989:06	0.00	0.00	4.93	35.40	0.00	0.00	36.90
1989:07	0.00	0.00	4.90	35.53	0.00	0.00	37.14
1989:08	0.00	0.00	4.88	35.67	0.00	0.00	37.39
1989:09	0.00	0.00	4.85	35.81	0.00	0.00	37.64
1989:10	0.00	0.00	4.83	35.94	28.00	8.99	37.89
1989:11	0.00	0.00	4.80	36.08	53.00	30.45	38.14
1989:12	1.00	0.00	4.77	36.21	358.00	180.82	38.39
1990:01	0.00	0.00	4.75	36.35	111.00	228.01	38.64
1990:02	0.00	1.00	4.72	36.48	60.50	61.03	38.89
1990:03	0.00	0.00	4.70	36.62	13.00	39.04	39.14
1990:04	0.00	0.00	4.67	36.76	6.50	11.74	39.38
1990:05	0.00	0.00	4.64	36.89	0.00	1.07	39.63
1990:06	0.00	0.00	4.62	37.03	0.00	0.00	39.88
1990:07	0.00	0.00	4.58	36.99	0.00	0.00	40.08
1990:08	0.00	0.00	4.54	36.96	0.00	0.00	40.28
1990:09	0.00	0.00	4.50	36.92	0.00	0.00	40.48
1990:10	0.00	0.00	4.46	36.88	8.50	1.39	40.68
1990:11	0.00	0.00	4.43	36.85	31.00	17.76	40.88
1990:12	1.00	0.00	4.39	36.81	84.50	69.97	41.08

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
1991:01	0.00	0.00	4.35	36.78	90.50	56.13	41.28
1991:02	0.00	1.00	4.31	36.74	124.00	105.39	41.48
1991:03	0.00	0.00	4.27	36.70	87.00	105.60	41.68
1991:04	0.00	0.00	4.23	36.67	7.50	34.16	41.88
1991:05	0.00	0.00	4.20	36.63	0.00	1.18	42.08
1991:06	0.00	0.00	4.16	36.60	0.00	0.00	42.28
1991:07	0.00	0.00	4.15	36.74	0.00	0.00	42.43
1991:08	0.00	0.00	4.14	36.88	0.00	0.00	42.59
1991:09	0.00	0.00	4.13	37.02	0.00	0.00	42.75
1991:10	0.00	0.00	4.12	37.17	0.00	0.00	42.90
1991:11	0.00	0.00	4.11	37.31	112.50	55.54	43.06
1991:12	1.00	0.00	4.10	37.45	116.50	95.97	43.21
1992:01	0.00	0.00	4.09	37.60	252.00	175.92	43.37
1992:02	0.00	1.00	4.08	37.74	110.00	188.98	43.52
1992:03	0.00	0.00	4.07	37.88	100.50	70.64	43.68
1992:04	0.00	0.00	4.07	38.02	34.00	63.73	43.83
1992:05	0.00	0.00	4.06	38.17	4.50	18.99	43.99
1992:06	0.00	0.00	4.05	38.31	0.00	0.94	44.15
1992:07	0.00	0.00	4.06	38.55	0.00	0.00	44.33
1992:08	0.00	0.00	4.07	38.79	0.00	0.00	44.51
1992:09	0.00	0.00	4.08	39.03	0.00	0.00	44.69
1992:10	0.00	0.00	4.09	39.27	1.00	0.39	44.87
1992:11	0.00	0.00	4.10	39.51	84.50	26.63	45.06
1992:12	1.00	0.00	4.11	39.75	145.50	139.67	45.24
1993:01	0.00	0.00	4.11	40.00	99.00	76.35	45.42
1993:02	0.00	1.00	4.12	40.24	203.00	156.45	45.60
1993:03	0.00	0.00	4.13	40.48	124.00	175.24	45.78
1993:04	0.00	0.00	4.14	40.72	21.00	48.91	45.97
1993:05	0.00	0.00	4.15	40.96	0.00	10.96	46.15
1993:06	0.00	0.00	4.16	41.20	0.00	0.00	46.33
1993:07	0.00	0.00	4.16	41.31	0.00	0.00	46.50
1993:08	0.00	0.00	4.17	41.41	0.00	0.00	46.67
1993:09	0.00	0.00	4.17	41.52	0.00	0.00	46.83
1993:10	0.00	0.00	4.17	41.63	14.00	0.43	47.00
1993:11	0.00	0.00	4.17	41.73	93.00	59.23	47.17
1993:12	1.00	0.00	4.17	41.84	291.00	154.83	47.33
1994:01	0.00	0.00	4.17	41.95	247.50	302.67	47.50
1994:02	0.00	1.00	4.17	42.06	101.00	166.71	47.67
1994:03	0.00	0.00	4.18	42.16	68.50	71.11	47.83

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
1994:04	0.00	0.00	4.18	42.27	13.00	34.67	48.00
1994:05	0.00	0.00	4.18	42.38	0.00	0.64	48.17
1994:06	0.00	0.00	4.18	42.48	0.00	0.00	48.34
1994:07	0.00	0.00	4.17	42.63	0.00	0.00	48.49
1994:08	0.00	0.00	4.16	42.77	0.00	0.00	48.64
1994:09	0.00	0.00	4.16	42.92	0.00	0.00	48.80
1994:10	0.00	0.00	4.15	43.06	0.00	0.00	48.95
1994:11	0.00	0.00	4.14	43.21	15.00	4.98	49.10
1994:12	1.00	0.00	4.14	43.35	132.50	58.92	49.26
1995:01	0.00	0.00	4.13	43.50	266.50	199.36	49.41
1995:02	0.00	1.00	4.12	43.64	197.00	275.92	49.56
1995:03	0.00	0.00	4.11	43.79	45.00	89.39	49.71
1995:04	0.00	0.00	4.11	43.93	13.00	21.63	49.87
1995:05	0.00	0.00	4.10	44.07	0.00	1.27	50.02
1995:06	0.00	0.00	4.09	44.22	0.00	0.00	50.17
1995:07	0.00	0.00	4.10	44.39	0.00	0.00	50.33
1995:08	0.00	0.00	4.11	44.56	0.00	0.00	50.48
1995:09	0.00	0.00	4.12	44.74	0.00	0.00	50.63
1995:10	0.00	0.00	4.12	44.91	0.00	0.00	50.78
1995:11	0.00	0.00	4.13	45.08	101.50	45.42	50.93
1995:12	1.00	0.00	4.14	45.25	234.50	131.48	51.08
1996:01	0.00	0.00	4.15	45.42	251.50	305.98	51.23
1996:02	0.00	1.00	4.16	45.60	251.50	254.86	51.38
1996:03	0.00	0.00	4.16	45.77	214.00	217.52	51.53
1996:04	0.00	0.00	4.17	45.94	40.00	105.90	51.68
1996:05	0.00	0.00	4.18	46.11	0.00	9.98	51.84
1996:06	0.00	0.00	4.19	46.28	0.00	0.00	51.99
1996:07	0.00	0.00	4.20	46.47	0.00	0.00	52.14
1996:08	0.00	0.00	4.20	46.65	0.00	0.00	52.30
1996:09	0.00	0.00	4.21	46.83	0.00	0.00	52.46
1996:10	0.00	0.00	4.22	47.01	14.50	5.52	52.61
1996:11	0.00	0.00	4.23	47.19	63.50	56.32	52.77
1996:12	1.00	0.00	4.24	47.37	102.00	65.67	52.93
1997:01	0.00	0.00	4.24	47.55	132.50	107.10	53.08
1997:02	0.00	1.00	4.25	47.73	30.50	92.67	53.24
1997:03	0.00	0.00	4.26	47.91	0.00	8.86	53.39
1997:04	0.00	0.00	4.27	48.09	0.00	0.00	53.55
1997:05	0.00	0.00	4.28	48.27	0.00	0.00	53.71
1997:06	0.00	0.00	4.28	48.45	0.00	0.00	53.86

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
1997:07	0.00	0.00	4.29	48.64	0.00	0.00	54.03
1997:08	0.00	0.00	4.30	48.83	0.00	0.00	54.19
1997:09	0.00	0.00	4.31	49.02	0.00	0.00	54.35
1997:10	0.00	0.00	4.32	49.21	7.20	1.96	54.51
1997:11	0.00	0.00	4.33	49.40	61.65	33.62	54.67
1997:12	1.00	0.00	4.33	49.58	172.45	113.76	54.84
1998:01	0.00	0.00	4.34	49.77	179.45	175.74	55.00
1998:02	0.00	1.00	4.35	49.96	145.25	167.43	55.16
1998:03	0.00	0.00	4.36	50.15	83.35	113.01	55.32
1998:04	0.00	0.00	4.37	50.34	18.15	42.78	55.49
1998:05	0.00	0.00	4.38	50.53	0.45	6.19	55.65
1998:06	0.00	0.00	4.38	50.72	0.00	0.10	55.81
1998:07	0.00	0.00	4.39	50.92	0.00	0.00	55.98
1998:08	0.00	0.00	4.40	51.11	0.00	0.00	56.15
1998:09	0.00	0.00	4.41	51.31	0.00	0.00	56.31
1998:10	0.00	0.00	4.42	51.51	7.20	1.96	56.48
1998:11	0.00	0.00	4.43	51.71	61.65	33.62	56.65
1998:12	1.00	0.00	4.44	51.91	172.45	113.76	56.82
1999:01	0.00	0.00	4.44	52.11	179.45	175.74	56.99
1999:02	0.00	1.00	4.45	52.30	145.25	167.43	57.15
1999:03	0.00	0.00	4.46	52.50	83.35	113.01	57.32
1999:04	0.00	0.00	4.47	52.70	18.15	42.78	57.49
1999:05	0.00	0.00	4.48	52.90	0.45	6.19	57.66
1999:06	0.00	0.00	4.49	53.10	0.00	0.10	57.83
1999:07	0.00	0.00	4.50	53.30	0.00	0.00	58.00
1999:08	0.00	0.00	4.50	53.51	0.00	0.00	58.17
1999:09	0.00	0.00	4.51	53.72	0.00	0.00	58.35
1999:10	0.00	0.00	4.52	53.93	7.20	1.96	58.52
1999:11	0.00	0.00	4.53	54.13	61.65	33.62	58.70
1999:12	1.00	0.00	4.54	54.34	172.45	113.76	58.87
2000:01	0.00	0.00	4.55	54.55	179.45	175.74	59.04
2000:02	0.00	1.00	4.56	54.76	145.25	167.43	59.22
2000:03	0.00	0.00	4.56	54.97	83.35	113.01	59.39
2000:04	0.00	0.00	4.57	55.17	18.15	42.78	59.57
2000:05	0.00	0.00	4.58	55.38	0.45	6.19	59.74
2000:06	0.00	0.00	4.59	55.59	0.00	0.10	59.91
2000:07	0.00	0.00	4.60	55.77	0.00	0.00	60.08
2000:08	0.00	0.00	4.61	55.95	0.00	0.00	60.24
2000:09	0.00	0.00	4.63	56.13	0.00	0.00	60.40

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
2000:10	0.00	0.00	4.64	56.32	7.20	1.96	60.56
2000:11	0.00	0.00	4.65	56.50	61.65	33.62	60.72
2000:12	1.00	0.00	4.66	56.68	172.45	113.76	60.88
2001:01	0.00	0.00	4.67	56.86	179.45	175.74	61.05
2001:02	0.00	1.00	4.69	57.04	145.25	167.43	61.21
2001:03	0.00	0.00	4.70	57.23	83.35	113.01	61.37
2001:04	0.00	0.00	4.71	57.41	18.15	42.78	61.53
2001:05	0.00	0.00	4.72	57.59	0.45	6.19	61.69
2001:06	0.00	0.00	4.73	57.77	0.00	0.10	61.85
2001:07	0.00	0.00	4.75	57.96	0.00	0.00	62.02
2001:08	0.00	0.00	4.76	58.15	0.00	0.00	62.19
2001:09	0.00	0.00	4.77	58.34	0.00	0.00	62.36
2001:10	0.00	0.00	4.78	58.53	7.20	1.96	62.52
2001:11	0.00	0.00	4.80	58.72	61.65	33.62	62.69
2001:12	1.00	0.00	4.81	58.91	172.45	113.76	62.86
2002:01	0.00	0.00	4.82	59.10	179.45	175.74	63.02
2002:02	0.00	1.00	4.83	59.28	145.25	167.43	63.19
2002:03	0.00	0.00	4.85	59.47	83.35	113.01	63.36
2002:04	0.00	0.00	4.86	59.66	18.15	42.78	63.52
2002:05	0.00	0.00	4.87	59.85	0.45	6.19	63.69
2002:06	0.00	0.00	4.88	60.04	0.00	0.10	63.86
2002:07	0.00	0.00	4.90	60.24	0.00	0.00	64.03
2002:08	0.00	0.00	4.91	60.43	0.00	0.00	64.20
2002:09	0.00	0.00	4.92	60.63	0.00	0.00	64.38
2002:10	0.00	0.00	4.93	60.83	7.20	1.96	64.55
2002:11	0.00	0.00	4.95	61.02	61.65	33.62	64.72
2002:12	1.00	0.00	4.96	61.22	172.45	113.76	64.89
2003:01	0.00	0.00	4.97	61.42	179.45	175.74	65.06
2003:02	0.00	1.00	4.98	61.61	145.25	167.43	65.24
2003:03	0.00	0.00	5.00	61.81	83.35	113.01	65.41
2003:04	0.00	0.00	5.01	62.01	18.15	42.78	65.58
2003:05	0.00	0.00	5.02	62.20	0.45	6.19	65.75
2003:06	0.00	0.00	5.04	62.40	0.00	0.10	65.93
2003:07	0.00	0.00	5.05	62.61	0.00	0.00	66.10
2003:08	0.00	0.00	5.06	62.81	0.00	0.00	66.28
2003:09	0.00	0.00	5.08	63.01	0.00	0.00	66.46
2003:10	0.00	0.00	5.09	63.22	7.20	1.96	66.64
2003:11	0.00	0.00	5.10	63.42	61.65	33.62	66.82
2003:12	1.00	0.00	5.11	63.63	172.45	113.76	66.99

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
2004:01	0.00	0.00	5.13	63.83	179.45	175.74	67.17
2004:02	0.00	1.00	5.14	64.04	145.25	167.43	67.35
2004:03	0.00	0.00	5.15	64.24	83.35	113.01	67.53
2004:04	0.00	0.00	5.17	64.44	18.15	42.78	67.71
2004:05	0.00	0.00	5.18	64.65	0.45	6.19	67.88
2004:06	0.00	0.00	5.19	64.85	0.00	0.10	68.06
2004:07	0.00	0.00	5.21	65.07	0.00	0.00	68.25
2004:08	0.00	0.00	5.22	65.28	0.00	0.00	68.43
2004:09	0.00	0.00	5.23	65.49	0.00	0.00	68.61
2004:10	0.00	0.00	5.25	65.70	7.20	1.96	68.80
2004:11	0.00	0.00	5.26	65.92	61.65	33.62	68.98
2004:12	1.00	0.00	5.27	66.13	172.45	113.76	69.16
2005:01	0.00	0.00	5.29	66.34	179.45	175.74	69.35
2005:02	0.00	1.00	5.30	66.55	145.25	167.43	69.53
2005:03	0.00	0.00	5.32	66.76	83.35	113.01	69.72
2005:04	0.00	0.00	5.33	66.98	18.15	42.78	69.90
2005:05	0.00	0.00	5.34	67.19	0.45	6.19	70.08
2005:06	0.00	0.00	5.36	67.40	0.00	0.10	70.27
2005:07	0.00	0.00	5.37	67.59	0.00	0.00	70.43
2005:08	0.00	0.00	5.38	67.78	0.00	0.00	70.60
2005:09	0.00	0.00	5.39	67.97	0.00	0.00	70.77
2005:10	0.00	0.00	5.41	68.15	7.20	1.96	70.94
2005:11	0.00	0.00	5.42	68.34	61.65	33.62	71.11
2005:12	1.00	0.00	5.43	68.53	172.45	113.76	71.27
2006:01	0.00	0.00	5.44	68.72	179.45	175.74	71.44
2006:02	0.00	1.00	5.46	68.91	145.25	167.43	71.61
2006:03	0.00	0.00	5.47	69.09	83.35	113.01	71.78
2006:04	0.00	0.00	5.48	69.28	18.15	42.78	71.94
2006:05	0.00	0.00	5.49	69.47	0.45	6.19	72.11
2006:06	0.00	0.00	5.50	69.66	0.00	0.10	72.28
2006:07	0.00	0.00	5.52	69.85	0.00	0.00	72.45
2006:08	0.00	0.00	5.53	70.05	0.00	0.00	72.62
2006:09	0.00	0.00	5.54	70.24	0.00	0.00	72.80
2006:10	0.00	0.00	5.56	70.44	7.20	1.96	72.97
2006:11	0.00	0.00	5.57	70.63	61.65	33.62	73.14
2006:12	1.00	0.00	5.58	70.82	172.45	113.76	73.31
2007:01	0.00	0.00	5.59	71.02	179.45	175.74	73.49
2007:02	0.00	1.00	5.61	71.21	145.25	167.43	73.66
2007:03	0.00	0.00	5.62	71.41	83.35	113.01	73.83

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
2007:04	0.00	0.00	5.63	71.60	18.15	42.78	74.01
2007:05	0.00	0.00	5.64	71.80	0.45	6.19	74.18
2007:06	0.00	0.00	5.66	71.99	0.00	0.10	74.35
2007:07	0.00	0.00	5.67	72.19	0.00	0.00	74.53
2007:08	0.00	0.00	5.68	72.39	0.00	0.00	74.71
2007:09	0.00	0.00	5.70	72.59	0.00	0.00	74.88
2007:10	0.00	0.00	5.71	72.79	7.20	1.96	75.06
2007:11	0.00	0.00	5.72	73.00	61.65	33.62	75.24
2007:12	1.00	0.00	5.74	73.20	172.45	113.76	75.41
2008:01	0.00	0.00	5.75	73.40	179.45	175.74	75.59
2008:02	0.00	1.00	5.76	73.60	145.25	167.43	75.77
2008:03	0.00	0.00	5.77	73.80	83.35	113.01	75.95
2008:04	0.00	0.00	5.79	74.00	18.15	42.78	76.12
2008:05	0.00	0.00	5.80	74.20	0.45	6.19	76.30
2008:06	0.00	0.00	5.81	74.40	0.00	0.10	76.48
2008:07	0.00	0.00	5.83	74.61	0.00	0.00	76.66
2008:08	0.00	0.00	5.84	74.82	0.00	0.00	76.84
2008:09	0.00	0.00	5.85	75.02	0.00	0.00	77.03
2008:10	0.00	0.00	5.87	75.23	7.20	1.96	77.21
2008:11	0.00	0.00	5.88	75.44	61.65	33.62	77.39
2008:12	1.00	0.00	5.89	75.65	172.45	113.76	77.58
2009:01	0.00	0.00	5.91	75.85	179.45	175.74	77.76
2009:02	0.00	1.00	5.92	76.06	145.25	167.43	77.94
2009:03	0.00	0.00	5.93	76.27	83.35	113.01	78.12
2009:04	0.00	0.00	5.95	76.48	18.15	42.78	78.31
2009:05	0.00	0.00	5.96	76.69	0.45	6.19	78.49
2009:06	0.00	0.00	5.98	76.89	0.00	0.10	78.67
2009:07	0.00	0.00	5.99	77.11	0.00	0.00	78.86
2009:08	0.00	0.00	6.00	77.32	0.00	0.00	79.05
2009:09	0.00	0.00	6.02	77.54	0.00	0.00	79.23
2009:10	0.00	0.00	6.03	77.75	7.20	1.96	79.42
2009:11	0.00	0.00	6.04	77.97	61.65	33.62	79.61
2009:12	1.00	0.00	6.06	78.18	172.45	113.76	79.80
2010:01	0.00	0.00	6.07	78.40	179.45	175.74	79.99
2010:02	0.00	1.00	6.09	78.61	145.25	167.43	80.17
2010:03	0.00	0.00	6.10	78.82	83.35	113.01	80.36
2010:04	0.00	0.00	6.11	79.04	18.15	42.78	80.55
2010:05	0.00	0.00	6.13	79.25	0.45	6.19	80.74
2010:06	0.00	0.00	6.14	79.47	0.00	0.10	80.92

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
2010:07	0.00	0.00	6.15	79.67	0.00	0.00	81.10
2010:08	0.00	0.00	6.17	79.87	0.00	0.00	81.28
2010:09	0.00	0.00	6.18	80.07	0.00	0.00	81.45
2010:10	0.00	0.00	6.19	80.28	7.20	1.96	81.63
2010:11	0.00	0.00	6.21	80.48	61.65	33.62	81.80
2010:12	1.00	0.00	6.22	80.68	172.45	113.76	81.98
2011:01	0.00	0.00	6.23	80.88	179.45	175.74	82.16
2011:02	0.00	1.00	6.24	81.09	145.25	167.43	82.33
2011:03	0.00	0.00	6.26	81.29	83.35	113.01	82.51
2011:04	0.00	0.00	6.27	81.49	18.15	42.78	82.68
2011:05	0.00	0.00	6.28	81.69	0.45	6.19	82.86
2011:06	0.00	0.00	6.30	81.89	0.00	0.10	83.04
2011:07	0.00	0.00	6.31	82.10	0.00	0.00	83.22
2011:08	0.00	0.00	6.32	82.31	0.00	0.00	83.40
2011:09	0.00	0.00	6.34	82.52	0.00	0.00	83.58
2011:10	0.00	0.00	6.35	82.73	7.20	1.96	83.76
2011:11	0.00	0.00	6.36	82.94	61.65	33.62	83.94
2011:12	1.00	0.00	6.38	83.14	172.45	113.76	84.12
2012:01	0.00	0.00	6.39	83.35	179.45	175.74	84.30
2012:02	0.00	1.00	6.40	83.56	145.25	167.43	84.48
2012:03	0.00	0.00	6.42	83.77	83.35	113.01	84.66
2012:04	0.00	0.00	6.43	83.98	18.15	42.78	84.84
2012:05	0.00	0.00	6.44	84.19	0.45	6.19	85.02
2012:06	0.00	0.00	6.46	84.39	0.00	0.10	85.20
2012:07	0.00	0.00	6.47	84.61	0.00	0.00	85.39
2012:08	0.00	0.00	6.48	84.82	0.00	0.00	85.58
2012:09	0.00	0.00	6.50	85.04	0.00	0.00	85.76
2012:10	0.00	0.00	6.51	85.25	7.20	1.96	85.95
2012:11	0.00	0.00	6.52	85.47	61.65	33.62	86.13
2012:12	1.00	0.00	6.54	85.68	172.45	113.76	86.32
2013:01	0.00	0.00	6.55	85.90	179.45	175.74	86.50
2013:02	0.00	1.00	6.56	86.11	145.25	167.43	86.69
2013:03	0.00	0.00	6.58	86.33	83.35	113.01	86.87
2013:04	0.00	0.00	6.59	86.54	18.15	42.78	87.06
2013:05	0.00	0.00	6.60	86.76	0.45	6.19	87.24
2013:06	0.00	0.00	6.62	86.97	0.00	0.10	87.43
2013:07	0.00	0.00	6.63	87.19	0.00	0.00	87.62
2013:08	0.00	0.00	6.65	87.41	0.00	0.00	87.81
2013:09	0.00	0.00	6.66	87.63	0.00	0.00	88.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	DEC	FEB	GOODS	GOODSERV	HDD	HEAT2	HH
2013:10	0.00	0.00	6.67	87.86	7.20	1.96	88.19
2013:11	0.00	0.00	6.69	88.08	61.65	33.62	88.38
2013:12	1.00	0.00	6.70	88.30	172.45	113.76	88.57
2014:01	0.00	0.00	6.72	88.52	179.45	175.74	88.76
2014:02	0.00	1.00	6.73	88.74	145.25	167.43	88.95
2014:03	0.00	0.00	6.74	88.96	83.35	113.01	89.14
2014:04	0.00	0.00	6.76	89.18	18.15	42.78	89.33
2014:05	0.00	0.00	6.77	89.40	0.45	6.19	89.52
2014:06	0.00	0.00	6.79	89.63	0.00	0.10	89.71
2014:07	0.00	0.00	6.80	89.85	0.00	0.00	89.91
2014:08	0.00	0.00	6.81	90.08	0.00	0.00	90.10
2014:09	0.00	0.00	6.83	90.31	0.00	0.00	90.30
2014:10	0.00	0.00	6.84	90.54	7.20	1.96	90.49
2014:11	0.00	0.00	6.86	90.77	61.65	33.62	90.69
2014:12	1.00	0.00	6.87	90.99	172.45	113.76	90.88
2015:01	0.00	0.00	6.89	91.22	179.45	175.74	91.08
2015:02	0.00	1.00	6.90	91.45	145.25	167.43	91.27
2015:03	0.00	0.00	6.91	91.68	83.35	113.01	91.47
2015:04	0.00	0.00	6.93	91.91	18.15	42.78	91.66
2015:05	0.00	0.00	6.94	92.13	0.45	6.19	91.86
2015:06	0.00	0.00	6.96	92.36	0.00	0.10	92.05
2015:07	0.00	0.00	6.97	92.57	0.00	0.00	92.23
2015:08	0.00	0.00	6.98	92.79	0.00	0.00	92.42
2015:09	0.00	0.00	7.00	93.00	0.00	0.00	92.60
2015:10	0.00	0.00	7.01	93.21	7.20	1.96	92.78
2015:11	0.00	0.00	7.02	93.42	61.65	33.62	92.96
2015:12	1.00	0.00	7.04	93.64	172.45	113.76	93.14
2016:01	0.00	0.00	7.05	93.85	179.45	175.74	93.32
2016:02	0.00	1.00	7.06	94.06	145.25	167.43	93.50
2016:03	0.00	0.00	7.08	94.27	83.35	113.01	93.68
2016:04	0.00	0.00	7.09	94.49	18.15	42.78	93.86
2016:05	0.00	0.00	7.10	94.70	0.45	6.19	94.04
2016:06	0.00	0.00	7.12	94.91	0.00	0.10	94.23
2016:07	0.00	0.00	7.13	95.13	0.00	0.00	94.41
2016:08	0.00	0.00	7.14	95.35	0.00	0.00	94.60
2016:09	0.00	0.00	7.16	95.57	0.00	0.00	94.78
2016:10	0.00	0.00	7.17	95.78	7.20	1.96	94.97
2016:11	0.00	0.00	7.18	96.00	61.65	33.62	95.15
2016:12	1.00	0.00	7.20	96.22	172.45	113.76	95.34

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
1985:01	32.79	1.00	0.00	0.00	0.00	88.00	0.00
1985:02	32.83	0.00	0.00	0.00	0.00	89.00	0.00
1985:03	32.88	0.00	0.00	0.00	1.00	88.00	0.00
1985:04	32.92	0.00	0.00	0.00	0.00	92.00	0.00
1985:05	32.97	0.00	0.00	0.00	0.00	96.00	1.00
1985:06	33.01	0.00	0.00	1.00	0.00	100.00	0.00
1985:07	33.11	0.00	1.00	0.00	0.00	97.00	0.00
1985:08	33.22	0.00	0.00	0.00	0.00	96.00	0.00
1985:09	33.32	0.00	0.00	0.00	0.00	95.00	0.00
1985:10	33.42	0.00	0.00	0.00	0.00	94.00	0.00
1985:11	33.52	0.00	0.00	0.00	0.00	90.00	0.00
1985:12	33.62	0.00	0.00	0.00	0.00	84.00	0.00
1986:01	33.71	1.00	0.00	0.00	0.00	80.00	0.00
1986:02	33.81	0.00	0.00	0.00	0.00	83.00	0.00
1986:03	33.91	0.00	0.00	0.00	1.00	88.00	0.00
1986:04	34.00	0.00	0.00	0.00	0.00	95.00	0.00
1986:05	34.09	0.00	0.00	0.00	0.00	93.00	1.00
1986:06	34.19	0.00	0.00	1.00	0.00	95.00	0.00
1986:07	34.23	0.00	1.00	0.00	0.00	97.00	0.00
1986:08	34.27	0.00	0.00	0.00	0.00	97.00	0.00
1986:09	34.31	0.00	0.00	0.00	0.00	95.00	0.00
1986:10	34.34	0.00	0.00	0.00	0.00	95.00	0.00
1986:11	34.38	0.00	0.00	0.00	0.00	88.00	0.00
1986:12	34.42	0.00	0.00	0.00	0.00	85.00	0.00
1987:01	34.46	1.00	0.00	0.00	0.00	83.00	0.00
1987:02	34.49	0.00	0.00	0.00	0.00	82.00	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
1987:03	34.53	0.00	0.00	0.00	1.00	86.00	0.00
1987:04	34.57	0.00	0.00	0.00	0.00	91.00	0.00
1987:05	34.60	0.00	0.00	0.00	0.00	92.00	1.00
1987:06	34.64	0.00	0.00	1.00	0.00	99.00	0.00
1987:07	34.68	0.00	1.00	0.00	0.00	99.00	0.00
1987:08	34.73	0.00	0.00	0.00	0.00	101.00	0.00
1987:09	34.77	0.00	0.00	0.00	0.00	98.00	0.00
1987:10	34.82	0.00	0.00	0.00	0.00	88.00	0.00
1987:11	34.86	0.00	0.00	0.00	0.00	86.00	0.00
1987:12	34.90	0.00	0.00	0.00	0.00	82.00	0.00
1988:01	34.95	1.00	0.00	0.00	0.00	79.00	0.00
1988:02	34.99	0.00	0.00	0.00	0.00	87.00	0.00
1988:03	35.03	0.00	0.00	0.00	1.00	86.00	0.00
1988:04	35.07	0.00	0.00	0.00	0.00	92.00	0.00
1988:05	35.11	0.00	0.00	0.00	0.00	96.00	1.00
1988:06	35.15	0.00	0.00	1.00	0.00	97.00	0.00
1988:07	35.21	0.00	1.00	0.00	0.00	96.00	0.00
1988:08	35.26	0.00	0.00	0.00	0.00	100.00	0.00
1988:09	35.31	0.00	0.00	0.00	0.00	98.00	0.00
1988:10	35.37	0.00	0.00	0.00	0.00	91.00	0.00
1988:11	35.42	0.00	0.00	0.00	0.00	91.00	0.00
1988:12	35.47	0.00	0.00	0.00	0.00	87.00	0.00
1989:01	35.52	1.00	0.00	0.00	0.00	84.00	0.00
1989:02	35.57	0.00	0.00	0.00	0.00	89.00	0.00
1989:03	35.63	0.00	0.00	0.00	1.00	90.00	0.00
1989:04	35.68	0.00	0.00	0.00	0.00	98.00	0.00
1989:05	35.73	0.00	0.00	0.00	0.00	99.00	1.00
1989:06	35.78	0.00	0.00	1.00	0.00	102.00	0.00
1989:07	35.67	0.00	1.00	0.00	0.00	102.00	0.00
1989:08	35.56	0.00	0.00	0.00	0.00	103.00	0.00
1989:09	35.46	0.00	0.00	0.00	0.00	99.00	0.00
1989:10	35.36	0.00	0.00	0.00	0.00	96.00	0.00
1989:11	35.25	0.00	0.00	0.00	0.00	90.00	0.00
1989:12	35.15	0.00	0.00	0.00	0.00	79.00	0.00
1990:01	35.06	1.00	0.00	0.00	0.00	85.00	0.00
1990:02	34.96	0.00	0.00	0.00	0.00	89.00	0.00
1990:03	34.86	0.00	0.00	0.00	1.00	89.00	0.00
1990:04	34.77	0.00	0.00	0.00	0.00	95.00	0.00
1990:05	34.67	0.00	0.00	0.00	0.00	97.00	1.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
1990:06	34.58	0.00	0.00	1.00	0.00	100.00	0.00
1990:07	34.45	0.00	1.00	0.00	0.00	102.00	0.00
1990:08	34.32	0.00	0.00	0.00	0.00	97.00	0.00
1990:09	34.20	0.00	0.00	0.00	0.00	102.00	0.00
1990:10	34.07	0.00	0.00	0.00	0.00	95.00	0.00
1990:11	33.95	0.00	0.00	0.00	0.00	91.00	0.00
1990:12	33.83	0.00	0.00	0.00	0.00	90.00	0.00
1991:01	33.71	1.00	0.00	0.00	0.00	88.00	0.00
1991:02	33.59	0.00	0.00	0.00	0.00	92.00	0.00
1991:03	33.47	0.00	0.00	0.00	1.00	90.00	0.00
1991:04	33.35	0.00	0.00	0.00	0.00	95.00	0.00
1991:05	33.23	0.00	0.00	0.00	0.00	99.00	1.00
1991:06	33.12	0.00	0.00	1.00	0.00	100.00	0.00
1991:07	33.14	0.00	1.00	0.00	0.00	101.00	0.00
1991:08	33.16	0.00	0.00	0.00	0.00	102.00	0.00
1991:09	33.18	0.00	0.00	0.00	0.00	98.00	0.00
1991:10	33.20	0.00	0.00	0.00	0.00	94.00	0.00
1991:11	33.22	0.00	0.00	0.00	0.00	84.00	0.00
1991:12	33.24	0.00	0.00	0.00	0.00	86.00	0.00
1992:01	33.26	1.00	0.00	0.00	0.00	80.00	0.00
1992:02	33.28	0.00	0.00	0.00	0.00	87.00	0.00
1992:03	33.30	0.00	0.00	0.00	1.00	88.00	0.00
1992:04	33.32	0.00	0.00	0.00	0.00	94.00	0.00
1992:05	33.34	0.00	0.00	0.00	0.00	96.00	1.00
1992:06	33.36	0.00	0.00	1.00	0.00	101.00	0.00
1992:07	33.33	0.00	1.00	0.00	0.00	101.00	0.00
1992:08	33.30	0.00	0.00	0.00	0.00	102.00	0.00
1992:09	33.28	0.00	0.00	0.00	0.00	100.00	0.00
1992:10	33.25	0.00	0.00	0.00	0.00	94.00	0.00
1992:11	33.23	0.00	0.00	0.00	0.00	89.00	0.00
1992:12	33.20	0.00	0.00	0.00	0.00	81.00	0.00
1993:01	33.18	1.00	0.00	0.00	0.00	84.00	0.00
1993:02	33.15	0.00	0.00	0.00	0.00	81.00	0.00
1993:03	33.13	0.00	0.00	0.00	1.00	88.00	0.00
1993:04	33.11	0.00	0.00	0.00	0.00	92.00	0.00
1993:05	33.08	0.00	0.00	0.00	0.00	899.00	1.00
1993:06	33.06	0.00	0.00	1.00	0.00	99.00	0.00
1993:07	33.04	0.00	1.00	0.00	0.00	101.00	0.00
1993:08	33.01	0.00	0.00	0.00	0.00	100.00	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
1993:09	32.99	0.00	0.00	0.00	0.00	98.00	0.00
1993:10	32.97	0.00	0.00	0.00	0.00	91.00	0.00
1993:11	32.95	0.00	0.00	0.00	0.00	90.00	0.00
1993:12	32.93	0.00	0.00	0.00	0.00	79.00	0.00
1994:01	32.90	1.00	0.00	0.00	0.00	79.00	0.00
1994:02	32.88	0.00	0.00	0.00	0.00	84.00	0.00
1994:03	32.86	0.00	0.00	0.00	1.00	94.00	0.00
1994:04	32.84	0.00	0.00	0.00	0.00	90.00	0.00
1994:05	32.82	0.00	0.00	0.00	0.00	97.00	1.00
1994:06	32.80	0.00	0.00	1.00	0.00	98.00	0.00
1994:07	32.85	0.00	1.00	0.00	0.00	100.00	0.00
1994:08	32.90	0.00	0.00	0.00	0.00	96.00	0.00
1994:09	32.94	0.00	0.00	0.00	0.00	98.00	0.00
1994:10	32.99	0.00	0.00	0.00	0.00	93.00	0.00
1994:11	33.04	0.00	0.00	0.00	0.00	87.00	0.00
1994:12	33.09	0.00	0.00	0.00	0.00	85.00	0.00
1995:01	33.13	1.00	0.00	0.00	0.00	81.00	0.00
1995:02	33.18	0.00	0.00	0.00	0.00	84.00	0.00
1995:03	33.23	0.00	0.00	0.00	1.00	87.00	0.00
1995:04	33.27	0.00	0.00	0.00	0.00	95.00	0.00
1995:05	33.32	0.00	0.00	0.00	0.00	98.00	1.00
1995:06	33.36	0.00	0.00	1.00	0.00	100.00	0.00
1995:07	33.38	0.00	1.00	0.00	0.00	102.00	0.00
1995:08	33.40	0.00	0.00	0.00	0.00	96.00	0.00
1995:09	33.42	0.00	0.00	0.00	0.00	94.00	0.00
1995:10	33.43	0.00	0.00	0.00	0.00	90.00	0.00
1995:11	33.45	0.00	0.00	0.00	0.00	87.00	0.00
1995:12	33.47	0.00	0.00	0.00	0.00	84.00	0.00
1996:01	33.48	1.00	0.00	0.00	0.00	83.00	0.00
1996:02	33.50	0.00	0.00	0.00	0.00	86.00	0.00
1996:03	33.52	0.00	0.00	0.00	1.00	86.00	0.00
1996:04	33.53	0.00	0.00	0.00	0.00	92.00	0.00
1996:05	33.55	0.00	0.00	0.00	0.00	92.00	1.00
1996:06	33.56	0.00	0.00	1.00	0.00	97.00	0.00
1996:07	33.58	0.00	1.00	0.00	0.00	95.00	0.00
1996:08	33.60	0.00	0.00	0.00	0.00	93.00	0.00
1996:09	33.62	0.00	0.00	0.00	0.00	94.00	0.00
1996:10	33.63	0.00	0.00	0.00	0.00	92.00	0.00
1996:11	33.65	0.00	0.00	0.00	0.00	87.00	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
1996:12	33.67	0.00	0.00	0.00	0.00	86.00	0.00
1997:01	33.68	1.00	0.00	0.00	0.00	87.00	0.00
1997:02	33.70	0.00	0.00	0.00	0.00	93.00	0.00
1997:03	33.72	0.00	0.00	0.00	1.00	93.00	0.00
1997:04	33.73	0.00	0.00	0.00	0.00	87.00	0.00
1997:05	33.75	0.00	0.00	0.00	0.00	86.00	1.00
1997:06	33.77	0.00	0.00	1.00	0.00	90.00	0.00
1997:07	33.78	0.00	1.00	0.00	0.00	92.00	0.00
1997:08	33.80	0.00	0.00	0.00	0.00	90.00	0.00
1997:09	33.82	0.00	0.00	0.00	0.00	89.00	0.00
1997:10	33.84	0.00	0.00	0.00	0.00	92.40	0.00
1997:11	33.85	0.00	0.00	0.00	0.00	88.20	0.00
1997:12	33.87	0.00	0.00	0.00	0.00	83.90	0.00
1998:01	33.89	1.00	0.00	0.00	0.00	83.00	0.00
1998:02	33.90	0.00	0.00	0.00	0.00	87.20	0.00
1998:03	33.92	0.00	0.00	0.00	1.00	89.10	0.00
1998:04	33.94	0.00	0.00	0.00	0.00	93.00	0.00
1998:05	33.95	0.00	0.00	0.00	0.00	175.90	1.00
1998:06	33.97	0.00	0.00	1.00	0.00	98.40	0.00
1998:07	33.99	0.00	1.00	0.00	0.00	99.20	0.00
1998:08	34.00	0.00	0.00	0.00	0.00	97.90	0.00
1998:09	34.02	0.00	0.00	0.00	0.00	97.00	0.00
1998:10	34.04	0.00	0.00	0.00	0.00	92.40	0.00
1998:11	34.06	0.00	0.00	0.00	0.00	88.20	0.00
1998:12	34.07	0.00	0.00	0.00	0.00	83.90	0.00
1999:01	34.09	1.00	0.00	0.00	0.00	83.00	0.00
1999:02	34.11	0.00	0.00	0.00	0.00	87.20	0.00
1999:03	34.12	0.00	0.00	0.00	1.00	89.10	0.00
1999:04	34.14	0.00	0.00	0.00	0.00	93.00	0.00
1999:05	34.16	0.00	0.00	0.00	0.00	175.90	1.00
1999:06	34.17	0.00	0.00	1.00	0.00	98.40	0.00
1999:07	34.19	0.00	1.00	0.00	0.00	99.20	0.00
1999:08	34.21	0.00	0.00	0.00	0.00	97.90	0.00
1999:09	34.23	0.00	0.00	0.00	0.00	97.00	0.00
1999:10	34.24	0.00	0.00	0.00	0.00	92.40	0.00
1999:11	34.26	0.00	0.00	0.00	0.00	88.20	0.00
1999:12	34.28	0.00	0.00	0.00	0.00	83.90	0.00
2000:01	34.30	1.00	0.00	0.00	0.00	83.00	0.00
2000:02	34.31	0.00	0.00	0.00	0.00	87.20	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
2000:03	34.33	0.00	0.00	0.00	1.00	89.10	0.00
2000:04	34.35	0.00	0.00	0.00	0.00	93.00	0.00
2000:05	34.36	0.00	0.00	0.00	0.00	175.90	1.00
2000:06	34.38	0.00	0.00	1.00	0.00	98.40	0.00
2000:07	34.40	0.00	1.00	0.00	0.00	99.20	0.00
2000:08	34.43	0.00	0.00	0.00	0.00	97.90	0.00
2000:09	34.45	0.00	0.00	0.00	0.00	97.00	0.00
2000:10	34.47	0.00	0.00	0.00	0.00	92.40	0.00
2000:11	34.50	0.00	0.00	0.00	0.00	88.20	0.00
2000:12	34.52	0.00	0.00	0.00	0.00	83.90	0.00
2001:01	34.54	1.00	0.00	0.00	0.00	83.00	0.00
2001:02	34.56	0.00	0.00	0.00	0.00	87.20	0.00
2001:03	34.59	0.00	0.00	0.00	1.00	89.10	0.00
2001:04	34.61	0.00	0.00	0.00	0.00	93.00	0.00
2001:05	34.63	0.00	0.00	0.00	0.00	175.90	1.00
2001:06	34.65	0.00	0.00	1.00	0.00	98.40	0.00
2001:07	34.68	0.00	1.00	0.00	0.00	99.20	0.00
2001:08	34.70	0.00	0.00	0.00	0.00	97.90	0.00
2001:09	34.72	0.00	0.00	0.00	0.00	97.00	0.00
2001:10	34.75	0.00	0.00	0.00	0.00	92.40	0.00
2001:11	34.77	0.00	0.00	0.00	0.00	88.20	0.00
2001:12	34.79	0.00	0.00	0.00	0.00	83.90	0.00
2002:01	34.82	1.00	0.00	0.00	0.00	83.00	0.00
2002:02	34.84	0.00	0.00	0.00	0.00	87.20	0.00
2002:03	34.86	0.00	0.00	0.00	1.00	89.10	0.00
2002:04	34.88	0.00	0.00	0.00	0.00	93.00	0.00
2002:05	34.91	0.00	0.00	0.00	0.00	175.90	1.00
2002:06	34.93	0.00	0.00	1.00	0.00	98.40	0.00
2002:07	34.95	0.00	1.00	0.00	0.00	99.20	0.00
2002:08	34.98	0.00	0.00	0.00	0.00	97.90	0.00
2002:09	35.00	0.00	0.00	0.00	0.00	97.00	0.00
2002:10	35.02	0.00	0.00	0.00	0.00	92.40	0.00
2002:11	35.05	0.00	0.00	0.00	0.00	88.20	0.00
2002:12	35.07	0.00	0.00	0.00	0.00	83.90	0.00
2003:01	35.09	1.00	0.00	0.00	0.00	83.00	0.00
2003:02	35.12	0.00	0.00	0.00	0.00	87.20	0.00
2003:03	35.14	0.00	0.00	0.00	1.00	89.10	0.00
2003:04	35.16	0.00	0.00	0.00	0.00	93.00	0.00
2003:05	35.18	0.00	0.00	0.00	0.00	175.90	1.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
2003:06	35.21	0.00	0.00	1.00	0.00	98.40	0.00
2003:07	35.23	0.00	1.00	0.00	0.00	99.20	0.00
2003:08	35.26	0.00	0.00	0.00	0.00	97.90	0.00
2003:09	35.28	0.00	0.00	0.00	0.00	97.00	0.00
2003:10	35.30	0.00	0.00	0.00	0.00	92.40	0.00
2003:11	35.33	0.00	0.00	0.00	0.00	88.20	0.00
2003:12	35.35	0.00	0.00	0.00	0.00	83.90	0.00
2004:01	35.37	1.00	0.00	0.00	0.00	83.00	0.00
2004:02	35.40	0.00	0.00	0.00	0.00	87.20	0.00
2004:03	35.42	0.00	0.00	0.00	1.00	89.10	0.00
2004:04	35.44	0.00	0.00	0.00	0.00	93.00	0.00
2004:05	35.46	0.00	0.00	0.00	0.00	175.90	1.00
2004:06	35.49	0.00	0.00	1.00	0.00	98.40	0.00
2004:07	35.51	0.00	1.00	0.00	0.00	99.20	0.00
2004:08	35.54	0.00	0.00	0.00	0.00	97.90	0.00
2004:09	35.56	0.00	0.00	0.00	0.00	97.00	0.00
2004:10	35.58	0.00	0.00	0.00	0.00	92.40	0.00
2004:11	35.61	0.00	0.00	0.00	0.00	88.20	0.00
2004:12	35.63	0.00	0.00	0.00	0.00	83.90	0.00
2005:01	35.65	1.00	0.00	0.00	0.00	83.00	0.00
2005:02	35.68	0.00	0.00	0.00	0.00	87.20	0.00
2005:03	35.70	0.00	0.00	0.00	1.00	89.10	0.00
2005:04	35.72	0.00	0.00	0.00	0.00	93.00	0.00
2005:05	35.75	0.00	0.00	0.00	0.00	175.90	1.00
2005:06	35.77	0.00	0.00	1.00	0.00	98.40	0.00
2005:07	35.82	0.00	1.00	0.00	0.00	99.20	0.00
2005:08	35.86	0.00	0.00	0.00	0.00	97.90	0.00
2005:09	35.91	0.00	0.00	0.00	0.00	97.00	0.00
2005:10	35.96	0.00	0.00	0.00	0.00	92.40	0.00
2005:11	36.01	0.00	0.00	0.00	0.00	88.20	0.00
2005:12	36.05	0.00	0.00	0.00	0.00	83.90	0.00
2006:01	36.10	1.00	0.00	0.00	0.00	83.00	0.00
2006:02	36.14	0.00	0.00	0.00	0.00	87.20	0.00
2006:03	36.19	0.00	0.00	0.00	1.00	89.10	0.00
2006:04	36.23	0.00	0.00	0.00	0.00	93.00	0.00
2006:05	36.28	0.00	0.00	0.00	0.00	175.90	1.00
2006:06	36.33	0.00	0.00	1.00	0.00	98.40	0.00
2006:07	36.37	0.00	1.00	0.00	0.00	99.20	0.00
2006:08	36.42	0.00	0.00	0.00	0.00	97.90	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
2006:09	36.47	0.00	0.00	0.00	0.00	97.00	0.00
2006:10	36.52	0.00	0.00	0.00	0.00	92.40	0.00
2006:11	36.56	0.00	0.00	0.00	0.00	88.20	0.00
2006:12	36.61	0.00	0.00	0.00	0.00	83.90	0.00
2007:01	36.66	1.00	0.00	0.00	0.00	83.00	0.00
2007:02	36.70	0.00	0.00	0.00	0.00	87.20	0.00
2007:03	36.75	0.00	0.00	0.00	1.00	89.10	0.00
2007:04	36.80	0.00	0.00	0.00	0.00	93.00	0.00
2007:05	36.84	0.00	0.00	0.00	0.00	175.90	1.00
2007:06	36.89	0.00	0.00	1.00	0.00	98.40	0.00
2007:07	36.94	0.00	1.00	0.00	0.00	99.20	0.00
2007:08	36.99	0.00	0.00	0.00	0.00	97.90	0.00
2007:09	37.04	0.00	0.00	0.00	0.00	97.00	0.00
2007:10	37.08	0.00	0.00	0.00	0.00	92.40	0.00
2007:11	37.13	0.00	0.00	0.00	0.00	88.20	0.00
2007:12	37.18	0.00	0.00	0.00	0.00	83.90	0.00
2008:01	37.23	1.00	0.00	0.00	0.00	83.00	0.00
2008:02	37.27	0.00	0.00	0.00	0.00	87.20	0.00
2008:03	37.32	0.00	0.00	0.00	1.00	89.10	0.00
2008:04	37.37	0.00	0.00	0.00	0.00	93.00	0.00
2008:05	37.42	0.00	0.00	0.00	0.00	175.90	1.00
2008:06	37.46	0.00	0.00	1.00	0.00	98.40	0.00
2008:07	37.51	0.00	1.00	0.00	0.00	99.20	0.00
2008:08	37.56	0.00	0.00	0.00	0.00	97.90	0.00
2008:09	37.61	0.00	0.00	0.00	0.00	97.00	0.00
2008:10	37.66	0.00	0.00	0.00	0.00	92.40	0.00
2008:11	37.71	0.00	0.00	0.00	0.00	88.20	0.00
2008:12	37.76	0.00	0.00	0.00	0.00	83.90	0.00
2009:01	37.81	1.00	0.00	0.00	0.00	83.00	0.00
2009:02	37.85	0.00	0.00	0.00	0.00	87.20	0.00
2009:03	37.90	0.00	0.00	0.00	1.00	89.10	0.00
2009:04	37.95	0.00	0.00	0.00	0.00	93.00	0.00
2009:05	38.00	0.00	0.00	0.00	0.00	175.90	1.00
2009:06	38.04	0.00	0.00	1.00	0.00	98.40	0.00
2009:07	38.09	0.00	1.00	0.00	0.00	99.20	0.00
2009:08	38.14	0.00	0.00	0.00	0.00	97.90	0.00
2009:09	38.19	0.00	0.00	0.00	0.00	97.00	0.00
2009:10	38.24	0.00	0.00	0.00	0.00	92.40	0.00
2009:11	38.29	0.00	0.00	0.00	0.00	88.20	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
2009:12	38.34	0.00	0.00	0.00	0.00	83.90	0.00
2010:01	38.39	1.00	0.00	0.00	0.00	83.00	0.00
2010:02	38.44	0.00	0.00	0.00	0.00	87.20	0.00
2010:03	38.49	0.00	0.00	0.00	1.00	89.10	0.00
2010:04	38.54	0.00	0.00	0.00	0.00	93.00	0.00
2010:05	38.59	0.00	0.00	0.00	0.00	175.90	1.00
2010:06	38.63	0.00	0.00	1.00	0.00	98.40	0.00
2010:07	38.68	0.00	1.00	0.00	0.00	99.20	0.00
2010:08	38.73	0.00	0.00	0.00	0.00	97.90	0.00
2010:09	38.77	0.00	0.00	0.00	0.00	97.00	0.00
2010:10	38.82	0.00	0.00	0.00	0.00	92.40	0.00
2010:11	38.87	0.00	0.00	0.00	0.00	88.20	0.00
2010:12	38.91	0.00	0.00	0.00	0.00	83.90	0.00
2011:01	38.96	1.00	0.00	0.00	0.00	83.00	0.00
2011:02	39.00	0.00	0.00	0.00	0.00	87.20	0.00
2011:03	39.05	0.00	0.00	0.00	1.00	89.10	0.00
2011:04	39.09	0.00	0.00	0.00	0.00	93.00	0.00
2011:05	39.14	0.00	0.00	0.00	0.00	175.90	1.00
2011:06	39.18	0.00	0.00	1.00	0.00	98.40	0.00
2011:07	39.23	0.00	1.00	0.00	0.00	99.20	0.00
2011:08	39.28	0.00	0.00	0.00	0.00	97.90	0.00
2011:09	39.32	0.00	0.00	0.00	0.00	97.00	0.00
2011:10	39.37	0.00	0.00	0.00	0.00	92.40	0.00
2011:11	39.42	0.00	0.00	0.00	0.00	88.20	0.00
2011:12	39.46	0.00	0.00	0.00	0.00	83.90	0.00
2012:01	39.51	1.00	0.00	0.00	0.00	83.00	0.00
2012:02	39.56	0.00	0.00	0.00	0.00	87.20	0.00
2012:03	39.60	0.00	0.00	0.00	1.00	89.10	0.00
2012:04	39.65	0.00	0.00	0.00	0.00	93.00	0.00
2012:05	39.69	0.00	0.00	0.00	0.00	175.90	1.00
2012:06	39.74	0.00	0.00	1.00	0.00	98.40	0.00
2012:07	39.79	0.00	1.00	0.00	0.00	99.20	0.00
2012:08	39.83	0.00	0.00	0.00	0.00	97.90	0.00
2012:09	39.88	0.00	0.00	0.00	0.00	97.00	0.00
2012:10	39.93	0.00	0.00	0.00	0.00	92.40	0.00
2012:11	39.98	0.00	0.00	0.00	0.00	88.20	0.00
2012:12	40.02	0.00	0.00	0.00	0.00	83.90	0.00
2013:01	40.07	1.00	0.00	0.00	0.00	83.00	0.00
2013:02	40.12	0.00	0.00	0.00	0.00	87.20	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
2013:03	40.16	0.00	0.00	0.00	1.00	89.10	0.00
2013:04	40.21	0.00	0.00	0.00	0.00	93.00	0.00
2013:05	40.26	0.00	0.00	0.00	0.00	175.90	1.00
2013:06	40.30	0.00	0.00	1.00	0.00	98.40	0.00
2013:07	40.35	0.00	1.00	0.00	0.00	99.20	0.00
2013:08	40.40	0.00	0.00	0.00	0.00	97.90	0.00
2013:09	40.45	0.00	0.00	0.00	0.00	97.00	0.00
2013:10	40.50	0.00	0.00	0.00	0.00	92.40	0.00
2013:11	40.54	0.00	0.00	0.00	0.00	88.20	0.00
2013:12	40.59	0.00	0.00	0.00	0.00	83.90	0.00
2014:01	40.64	1.00	0.00	0.00	0.00	83.00	0.00
2014:02	40.69	0.00	0.00	0.00	0.00	87.20	0.00
2014:03	40.73	0.00	0.00	0.00	1.00	89.10	0.00
2014:04	40.78	0.00	0.00	0.00	0.00	93.00	0.00
2014:05	40.83	0.00	0.00	0.00	0.00	175.90	1.00
2014:06	40.87	0.00	0.00	1.00	0.00	98.40	0.00
2014:07	40.92	0.00	1.00	0.00	0.00	99.20	0.00
2014:08	40.97	0.00	0.00	0.00	0.00	97.90	0.00
2014:09	41.02	0.00	0.00	0.00	0.00	97.00	0.00
2014:10	41.07	0.00	0.00	0.00	0.00	92.40	0.00
2014:11	41.12	0.00	0.00	0.00	0.00	88.20	0.00
2014:12	41.17	0.00	0.00	0.00	0.00	83.90	0.00
2015:01	41.22	1.00	0.00	0.00	0.00	83.00	0.00
2015:02	41.26	0.00	0.00	0.00	0.00	87.20	0.00
2015:03	41.31	0.00	0.00	0.00	1.00	89.10	0.00
2015:04	41.36	0.00	0.00	0.00	0.00	93.00	0.00
2015:05	41.41	0.00	0.00	0.00	0.00	175.90	1.00
2015:06	41.45	0.00	0.00	1.00	0.00	98.40	0.00
2015:07	41.50	0.00	1.00	0.00	0.00	99.20	0.00
2015:08	41.54	0.00	0.00	0.00	0.00	97.90	0.00
2015:09	41.59	0.00	0.00	0.00	0.00	97.00	0.00
2015:10	41.63	0.00	0.00	0.00	0.00	92.40	0.00
2015:11	41.68	0.00	0.00	0.00	0.00	88.20	0.00
2015:12	41.72	0.00	0.00	0.00	0.00	83.90	0.00
2016:01	41.77	1.00	0.00	0.00	0.00	83.00	0.00
2016:02	41.81	0.00	0.00	0.00	0.00	87.20	0.00
2016:03	41.86	0.00	0.00	0.00	1.00	89.10	0.00
2016:04	41.90	0.00	0.00	0.00	0.00	93.00	0.00
2016:05	41.94	0.00	0.00	0.00	0.00	175.90	1.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	INCPERHH	JAN	JUL	JUN	MAR	MAXTEMP	MAY
2016:06	41.99	0.00	0.00	1.00	0.00	98.40	0.00
2016:07	42.03	0.00	1.00	0.00	0.00	99.20	0.00
2016:08	42.08	0.00	0.00	0.00	0.00	97.90	0.00
2016:09	42.12	0.00	0.00	0.00	0.00	97.00	0.00
2016:10	42.17	0.00	0.00	0.00	0.00	92.40	0.00
2016:11	42.21	0.00	0.00	0.00	0.00	88.20	0.00
2016:12	42.26	0.00	0.00	0.00	0.00	83.90	0.00

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
1985:01	19.00	0.00	0.00	76.76	1,703.95	139.18	82.65
1985:02	32.00	0.00	0.00	77.35	1,695.91	138.53	82.26
1985:03	37.00	0.00	0.00	77.93	1,689.53	138.01	81.95
1985:04	45.00	0.00	0.00	78.52	1,714.00	139.99	83.13
1985:05	59.00	0.00	0.00	79.11	1,707.61	139.46	82.82
1985:06	67.00	0.00	0.00	79.70	1,702.84	139.08	82.59
1985:07	66.00	0.00	0.00	80.13	1,699.69	138.82	82.44
1985:08	68.00	0.00	0.00	80.56	1,696.54	138.56	82.29
1985:09	68.00	0.00	0.00	80.99	1,691.84	138.18	82.06
1985:10	58.00	0.00	1.00	81.43	1,719.31	140.42	83.39
1985:11	44.00	1.00	0.00	81.86	1,714.57	140.03	83.17
1985:12	26.00	0.00	0.00	82.29	1,709.87	139.65	82.94
1986:01	24.00	0.00	0.00	82.73	1,705.19	139.27	82.71
1986:02	36.00	0.00	0.00	83.16	1,709.87	139.65	82.94
1986:03	31.00	0.00	0.00	83.59	1,717.73	140.29	83.32
1986:04	44.00	0.00	0.00	84.03	1,716.06	135.71	78.64
1986:05	52.00	0.00	0.00	84.46	1,711.33	135.34	78.42
1986:06	67.00	0.00	0.00	84.89	1,701.95	134.60	77.99

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
1986:07	66.00	0.00	0.00	85.38	1,701.95	134.60	77.99
1986:08	68.00	0.00	0.00	85.87	1,698.85	134.35	77.85
1986:09	66.00	0.00	0.00	86.36	1,691.14	133.74	77.50
1986:10	56.00	0.00	1.00	86.85	1,513.86	120.72	77.43
1986:11	51.00	1.00	0.00	87.33	1,512.49	120.61	77.36
1986:12	47.00	0.00	0.00	87.82	1,505.47	114.84	71.63
1987:01	29.00	0.00	0.00	88.31	1,495.99	114.12	71.18
1987:02	34.00	0.00	0.00	88.80	1,490.63	113.71	70.92
1987:03	40.00	0.00	0.00	89.29	1,483.98	113.20	70.61
1987:04	35.00	0.00	0.00	89.77	1,476.08	112.60	70.23
1987:05	53.00	0.00	0.00	90.26	1,477.52	118.86	76.64
1987:06	65.00	0.00	0.00	90.75	1,472.31	118.44	76.37
1987:07	67.00	0.00	0.00	91.23	1,468.43	118.13	76.17
1987:08	67.00	0.00	0.00	91.71	1,464.49	121.27	79.53
1987:09	66.00	0.00	0.00	92.18	1,456.85	120.63	79.11
1987:10	50.00	0.00	1.00	92.66	1,453.05	120.32	78.91
1987:11	41.00	1.00	0.00	93.14	1,451.80	120.22	78.84
1987:12	36.00	0.00	0.00	93.62	1,451.80	120.22	78.84
1988:01	33.00	0.00	0.00	94.10	1,448.03	119.90	78.63
1988:02	35.00	0.00	0.00	94.58	1,444.29	119.59	78.43
1988:03	36.00	0.00	0.00	95.05	1,438.09	119.08	78.09
1988:04	43.00	0.00	0.00	95.53	1,430.72	118.47	77.69
1988:05	54.00	0.00	0.00	96.01	1,419.47	111.69	71.06
1988:06	61.00	0.00	0.00	96.49	1,413.46	111.22	70.75
1988:07	66.00	0.00	0.00	96.87	1,407.50	110.75	70.46
1988:08	67.00	0.00	0.00	97.25	1,401.58	110.29	70.16
1988:09	59.00	0.00	0.00	97.63	1,392.22	109.55	69.69
1988:10	51.00	0.00	1.00	98.00	1,387.59	109.18	69.46
1988:11	47.00	1.00	0.00	98.38	1,391.14	113.80	74.11
1988:12	29.00	0.00	0.00	98.76	1,388.83	113.61	73.98
1989:01	41.00	0.00	0.00	99.14	1,381.95	113.05	73.62
1989:02	25.00	0.00	0.00	99.52	1,376.27	112.58	73.31
1989:03	39.00	0.00	0.00	99.90	1,368.39	111.94	72.89
1989:04	45.00	0.00	0.00	100.28	1,359.50	111.21	72.42
1989:05	51.00	0.00	0.00	100.66	1,348.77	107.54	68.97
1989:06	62.00	0.00	0.00	101.04	1,345.51	107.28	68.81
1989:07	65.00	0.00	0.00	101.75	1,342.27	107.03	68.64
1989:08	66.00	0.00	0.00	102.46	1,344.34	111.08	72.75
1989:09	66.00	0.00	0.00	103.18	1,340.03	110.72	72.52

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
1989:10	39.00	0.00	1.00	103.89	1,333.63	110.19	72.17
1989:11	42.00	1.00	0.00	104.60	1,330.45	109.93	72.00
1989:12	18.00	0.00	0.00	105.31	1,328.34	109.75	71.89
1990:01	36.00	0.00	0.00	106.03	1,312.73	108.46	71.04
1990:02	42.00	0.00	0.00	106.74	1,306.59	107.96	70.71
1990:03	44.00	0.00	0.00	107.45	1,300.50	107.45	70.38
1990:04	42.00	0.00	0.00	108.16	1,297.48	107.20	70.22
1990:05	55.00	0.00	0.00	108.88	1,295.47	107.04	70.11
1990:06	60.00	0.00	0.00	109.59	1,289.49	106.54	69.78
1990:07	66.00	0.00	0.00	110.13	1,282.57	105.97	69.41
1990:08	65.00	0.00	0.00	110.67	1,275.11	107.45	71.16
1990:09	62.00	0.00	0.00	111.21	1,266.45	106.72	70.68
1990:10	46.00	0.00	1.00	111.74	1,238.92	104.45	69.19
1990:11	45.00	1.00	0.00	112.28	1,235.63	104.55	69.39
1990:12	38.00	0.00	0.00	112.82	1,235.20	106.65	71.57
1991:01	35.00	0.00	0.00	113.36	1,227.87	106.02	71.15
1991:02	29.00	0.00	0.00	113.90	1,226.05	105.86	71.04
1991:03	36.00	0.00	0.00	114.44	1,226.96	105.94	71.10
1991:04	49.00	0.00	0.00	114.98	1,220.56	102.85	68.11
1991:05	62.00	0.00	0.00	115.52	1,218.52	104.10	69.46
1991:06	63.00	0.00	0.00	116.06	1,219.29	106.51	71.93
1991:07	66.00	0.00	0.00	116.47	1,216.18	105.84	71.34
1991:08	68.00	0.00	0.00	116.89	1,209.33	101.43	67.00
1991:09	61.00	0.00	0.00	117.31	1,205.12	100.46	66.13
1991:10	48.00	0.00	1.00	117.73	1,202.22	99.97	65.72
1991:11	37.00	1.00	0.00	118.15	1,197.97	99.72	65.59
1991:12	38.00	0.00	0.00	118.57	1,194.52	98.66	64.61
1992:01	29.00	0.00	0.00	118.98	1,193.12	100.43	66.47
1992:02	35.00	0.00	0.00	119.40	1,188.66	98.32	64.44
1992:03	40.00	0.00	0.00	119.82	1,183.50	97.08	63.32
1992:04	44.00	0.00	0.00	120.24	961.53	83.74	55.93
1992:05	44.00	0.00	0.00	120.66	962.16	85.63	57.86
1992:06	65.00	0.00	0.00	121.08	961.18	86.52	58.81
1992:07	66.00	0.00	0.00	121.58	958.31	86.15	58.51
1992:08	60.00	0.00	0.00	122.08	955.92	85.61	58.03
1992:09	66.00	0.00	0.00	122.58	953.94	84.86	57.33
1992:10	53.00	0.00	1.00	123.08	949.50	84.10	56.68
1992:11	36.00	1.00	0.00	123.58	947.82	84.25	56.89
1992:12	36.00	0.00	0.00	124.08	946.97	84.62	57.30

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
1993:01	37.00	0.00	0.00	124.59	942.66	84.53	57.34
1993:02	32.00	0.00	0.00	125.09	939.24	84.10	57.01
1993:03	30.00	0.00	0.00	125.59	938.16	84.21	57.16
1993:04	42.00	0.00	0.00	126.09	934.47	84.08	57.14
1993:05	53.00	0.00	0.00	126.59	933.67	84.45	57.55
1993:06	62.00	0.00	0.00	127.09	933.09	83.87	56.97
1993:07	65.00	0.00	0.00	127.54	932.37	83.74	56.86
1993:08	64.00	0.00	0.00	127.98	930.75	84.47	57.65
1993:09	62.00	0.00	0.00	128.43	930.85	84.56	57.75
1993:10	40.00	0.00	1.00	128.87	926.91	84.11	57.41
1993:11	34.00	1.00	0.00	129.32	924.88	83.81	57.17
1993:12	26.00	0.00	0.00	129.76	922.72	83.38	56.79
1994:01	33.00	0.00	0.00	130.20	921.35	83.16	56.60
1994:02	33.00	0.00	0.00	130.65	918.72	82.82	56.34
1994:03	37.00	0.00	0.00	131.09	915.83	82.77	56.38
1994:04	42.00	0.00	0.00	131.54	914.55	82.62	56.26
1994:05	50.00	0.00	0.00	131.98	912.96	82.71	56.41
1994:06	61.00	0.00	0.00	132.43	914.77	86.77	60.54
1994:07	66.00	0.00	0.00	132.89	910.80	85.59	59.44
1994:08	66.00	0.00	0.00	133.36	907.15	84.71	58.65
1994:09	62.00	0.00	0.00	133.82	903.60	82.80	56.80
1994:10	59.00	0.00	1.00	134.28	901.44	81.20	55.21
1994:11	48.00	1.00	0.00	134.75	897.12	79.06	53.14
1994:12	39.00	0.00	0.00	135.21	895.98	79.01	53.13
1995:01	34.00	0.00	0.00	135.68	892.55	78.29	52.50
1995:02	25.00	0.00	0.00	136.14	889.33	76.69	50.95
1995:03	42.00	0.00	0.00	136.61	887.68	77.11	51.43
1995:04	44.00	0.00	0.00	137.07	884.43	76.61	51.01
1995:05	61.00	0.00	0.00	137.53	882.53	76.83	51.31
1995:06	59.00	0.00	0.00	138.00	881.51	77.92	52.46
1995:07	65.00	0.00	0.00	138.37	881.14	78.08	52.64
1995:08	68.00	0.00	0.00	138.74	878.22	76.74	51.35
1995:09	65.00	0.00	0.00	139.12	876.57	76.14	50.78
1995:10	53.00	0.00	1.00	139.49	872.91	75.07	49.80
1995:11	37.00	1.00	0.00	139.86	871.70	74.39	49.13
1995:12	25.00	0.00	0.00	140.24	870.10	74.34	49.13
1996:01	25.00	0.00	0.00	140.61	866.36	73.68	48.57
1996:02	23.00	0.00	0.00	140.98	866.17	75.03	49.97
1996:03	29.00	0.00	0.00	141.35	862.67	74.58	49.61

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEOSD	PRICEOSN	PRICERES
1996:04	41.00	0.00	0.00	141.73	859.74	74.67	49.80
1996:05	55.00	0.00	0.00	142.10	857.39	74.83	50.04
1996:06	56.00	0.00	0.00	142.47	859.78	77.72	52.94
1996:07	61.00	0.00	0.00	142.86	857.97	77.41	52.68
1996:08	60.00	0.00	0.00	143.24	855.74	75.67	50.95
1996:09	55.00	0.00	0.00	143.63	858.24	80.15	55.50
1996:10	43.00	0.00	1.00	144.01	851.52	76.87	52.33
1996:11	40.00	1.00	0.00	144.40	845.55	73.34	48.88
1996:12	35.00	0.00	0.00	144.78	844.12	73.85	49.45
1997:01	30.00	0.00	0.00	145.17	846.72	77.42	53.05
1997:02	43.00	0.00	0.00	145.55	846.11	78.74	54.42
1997:03	51.00	0.00	0.00	145.94	845.56	78.67	54.37
1997:04	52.00	0.00	0.00	146.32	843.91	77.49	53.21
1997:05	63.00	0.00	0.00	146.71	842.97	77.03	52.76
1997:06	71.00	0.00	0.00	147.09	840.18	75.20	50.96
1997:07	74.00	0.00	0.00	147.49	837.69	74.13	49.94
1997:08	72.00	0.00	0.00	147.89	837.34	75.21	51.06
1997:09	72.00	0.00	0.00	148.28	833.62	73.38	49.29
1997:10	48.20	0.00	1.00	148.68	811.69	71.81	48.37
1997:11	40.70	1.00	0.00	149.08	809.69	71.64	48.25
1997:12	32.00	0.00	0.00	149.48	807.70	71.46	48.14
1998:01	33.30	0.00	0.00	149.87	805.71	71.29	48.02
1998:02	32.20	0.00	0.00	150.27	803.73	71.11	47.90
1998:03	38.40	0.00	0.00	150.67	801.75	70.94	47.78
1998:04	44.40	0.00	0.00	151.07	799.78	70.76	47.66
1998:05	54.80	0.00	0.00	151.46	797.81	70.59	47.55
1998:06	62.00	0.00	0.00	151.86	795.85	70.41	47.43
1998:07	66.00	0.00	0.00	152.27	793.89	70.24	47.31
1998:08	65.60	0.00	0.00	152.68	791.94	70.07	47.20
1998:09	63.00	0.00	0.00	153.09	789.99	69.89	47.08
1998:10	48.20	0.00	1.00	153.50	768.87	68.07	45.86
1998:11	40.70	1.00	0.00	153.91	766.98	67.90	45.75
1998:12	32.00	0.00	0.00	154.32	765.09	67.73	45.64
1999:01	33.30	0.00	0.00	154.73	763.21	67.56	45.53
1999:02	32.20	0.00	0.00	155.14	761.33	67.40	45.41
1999:03	38.40	0.00	0.00	155.55	759.46	67.23	45.30
1999:04	44.40	0.00	0.00	155.96	757.59	67.07	45.19
1999:05	54.80	0.00	0.00	156.37	755.73	66.90	45.08
1999:06	62.00	0.00	0.00	156.78	753.87	66.74	44.97

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEOSD	PRICEOSN	PRICERES
1999:07	66.00	0.00	0.00	157.21	752.01	66.57	44.86
1999:08	65.60	0.00	0.00	157.63	750.16	66.41	44.75
1999:09	63.00	0.00	0.00	158.05	748.32	66.25	44.64
1999:10	48.20	0.00	1.00	158.48	728.31	64.51	43.48
1999:11	40.70	1.00	0.00	158.90	726.52	64.36	43.38
1999:12	32.00	0.00	0.00	159.33	724.73	64.20	43.27
2000:01	33.30	0.00	0.00	159.75	722.95	64.04	43.16
2000:02	32.20	0.00	0.00	160.17	721.17	63.88	43.06
2000:03	38.40	0.00	0.00	160.60	719.40	63.72	42.95
2000:04	44.40	0.00	0.00	161.02	717.63	63.57	42.85
2000:05	54.80	0.00	0.00	161.44	715.86	63.41	42.74
2000:06	62.00	0.00	0.00	161.87	714.10	63.26	42.64
2000:07	66.00	0.00	0.00	162.27	712.34	63.10	42.53
2000:08	65.60	0.00	0.00	162.67	710.59	62.94	42.43
2000:09	63.00	0.00	0.00	163.08	708.84	62.79	42.32
2000:10	48.20	0.00	1.00	163.48	689.89	61.15	41.23
2000:11	40.70	1.00	0.00	163.88	688.20	61.00	41.13
2000:12	32.00	0.00	0.00	164.28	686.50	60.85	41.03
2001:01	33.30	0.00	0.00	164.69	684.81	60.70	40.93
2001:02	32.20	0.00	0.00	165.09	683.13	60.55	40.83
2001:03	38.40	0.00	0.00	165.49	681.45	60.40	40.72
2001:04	44.40	0.00	0.00	165.90	679.77	60.25	40.62
2001:05	54.80	0.00	0.00	166.30	678.10	60.10	40.52
2001:06	62.00	0.00	0.00	166.70	676.43	59.96	40.42
2001:07	66.00	0.00	0.00	167.12	674.77	59.81	40.33
2001:08	65.60	0.00	0.00	167.53	673.11	59.66	40.23
2001:09	63.00	0.00	0.00	167.95	671.45	59.51	40.13
2001:10	48.20	0.00	1.00	168.36	653.50	57.96	39.09
2001:11	40.70	1.00	0.00	168.78	651.90	57.82	39.00
2001:12	32.00	0.00	0.00	169.19	650.29	57.68	38.90
2002:01	33.30	0.00	0.00	169.61	648.69	57.53	38.80
2002:02	32.20	0.00	0.00	170.02	647.10	57.39	38.71
2002:03	38.40	0.00	0.00	170.44	645.50	57.25	38.61
2002:04	44.40	0.00	0.00	170.85	643.92	57.11	38.52
2002:05	54.80	0.00	0.00	171.27	642.33	56.97	38.42
2002:06	62.00	0.00	0.00	171.68	640.75	56.83	38.33
2002:07	66.00	0.00	0.00	172.11	639.17	56.69	38.24
2002:08	65.60	0.00	0.00	172.54	637.60	56.55	38.14
2002:09	63.00	0.00	0.00	172.96	636.03	56.41	38.05

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
2002:10	48.20	0.00	1.00	173.39	619.03	54.94	37.07
2002:11	40.70	1.00	0.00	173.82	617.51	54.80	36.98
2002:12	32.00	0.00	0.00	174.25	615.99	54.67	36.88
2003:01	33.30	0.00	0.00	174.67	614.48	54.53	36.79
2003:02	32.20	0.00	0.00	175.10	612.96	54.40	36.70
2003:03	38.40	0.00	0.00	175.53	611.46	54.27	36.61
2003:04	44.40	0.00	0.00	175.96	609.95	54.13	36.52
2003:05	54.80	0.00	0.00	176.38	608.45	54.00	36.43
2003:06	62.00	0.00	0.00	176.81	606.95	53.87	36.34
2003:07	66.00	0.00	0.00	177.25	605.46	53.73	36.25
2003:08	65.60	0.00	0.00	177.69	603.97	53.60	36.17
2003:09	63.00	0.00	0.00	178.13	602.49	53.47	36.08
2003:10	48.20	0.00	1.00	178.57	601.00	53.34	35.99
2003:11	40.70	1.00	0.00	179.01	599.52	53.21	35.90
2003:12	32.00	0.00	0.00	179.45	598.05	53.08	35.81
2004:01	33.30	0.00	0.00	179.89	596.58	52.95	35.72
2004:02	32.20	0.00	0.00	180.33	595.11	52.82	35.63
2004:03	38.40	0.00	0.00	180.77	593.65	52.69	35.55
2004:04	44.40	0.00	0.00	181.21	592.19	52.56	35.46
2004:05	54.80	0.00	0.00	181.65	590.73	52.43	35.37
2004:06	62.00	0.00	0.00	182.09	589.28	52.30	35.29
2004:07	66.00	0.00	0.00	182.55	587.83	52.17	35.20
2004:08	65.60	0.00	0.00	183.00	586.38	52.04	35.11
2004:09	63.00	0.00	0.00	183.45	584.94	51.91	35.03
2004:10	48.20	0.00	1.00	183.91	583.50	51.78	34.94
2004:11	40.70	1.00	0.00	184.36	582.06	51.66	34.85
2004:12	32.00	0.00	0.00	184.81	580.63	51.53	34.77
2005:01	33.30	0.00	0.00	185.27	579.20	51.40	34.68
2005:02	32.20	0.00	0.00	185.72	577.78	51.28	34.60
2005:03	38.40	0.00	0.00	186.17	576.36	51.15	34.51
2005:04	44.40	0.00	0.00	186.63	574.94	51.03	34.43
2005:05	54.80	0.00	0.00	187.08	573.52	50.90	34.34
2005:06	62.00	0.00	0.00	187.53	572.11	50.77	34.26
2005:07	66.00	0.00	0.00	187.94	570.70	50.65	34.17
2005:08	65.60	0.00	0.00	188.34	569.30	50.52	34.09
2005:09	63.00	0.00	0.00	188.75	567.90	50.40	34.01
2005:10	48.20	0.00	1.00	189.15	566.50	50.28	33.92
2005:11	40.70	1.00	0.00	189.56	565.11	50.15	33.84
2005:12	32.00	0.00	0.00	189.97	563.72	50.03	33.75

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEOSD	PRICEOSN	PRICERES
2006:01	33.30	0.00	0.00	190.37	562.33	49.91	33.67
2006:02	32.20	0.00	0.00	190.78	560.95	49.78	33.59
2006:03	38.40	0.00	0.00	191.18	559.57	49.66	33.51
2006:04	44.40	0.00	0.00	191.59	558.19	49.54	33.42
2006:05	54.80	0.00	0.00	191.99	556.82	49.42	33.34
2006:06	62.00	0.00	0.00	192.40	555.45	49.30	33.26
2006:07	66.00	0.00	0.00	192.81	554.08	49.17	33.18
2006:08	65.60	0.00	0.00	193.23	552.72	49.05	33.10
2006:09	63.00	0.00	0.00	193.65	551.36	48.93	33.01
2006:10	48.20	0.00	1.00	194.06	550.00	48.81	32.93
2006:11	40.70	1.00	0.00	194.48	548.65	48.69	32.85
2006:12	32.00	0.00	0.00	194.89	547.30	48.57	32.77
2007:01	33.30	0.00	0.00	195.31	545.95	48.45	32.69
2007:02	32.20	0.00	0.00	195.73	544.61	48.33	32.61
2007:03	38.40	0.00	0.00	196.14	543.27	48.21	32.53
2007:04	44.40	0.00	0.00	196.56	541.93	48.10	32.45
2007:05	54.80	0.00	0.00	196.97	540.60	47.98	32.37
2007:06	62.00	0.00	0.00	197.39	539.27	47.86	32.29
2007:07	66.00	0.00	0.00	197.82	537.94	47.74	32.21
2007:08	65.60	0.00	0.00	198.24	536.62	47.62	32.13
2007:09	63.00	0.00	0.00	198.67	535.30	47.51	32.05
2007:10	48.20	0.00	1.00	199.10	533.98	47.39	31.97
2007:11	40.70	1.00	0.00	199.52	532.67	47.27	31.90
2007:12	32.00	0.00	0.00	199.95	531.36	47.16	31.82
2008:01	33.30	0.00	0.00	200.38	530.05	47.04	31.74
2008:02	32.20	0.00	0.00	200.80	528.75	46.93	31.66
2008:03	38.40	0.00	0.00	201.23	527.45	46.81	31.58
2008:04	44.40	0.00	0.00	201.66	526.15	46.70	31.51
2008:05	54.80	0.00	0.00	202.08	524.86	46.58	31.43
2008:06	62.00	0.00	0.00	202.51	523.56	46.47	31.35
2008:07	66.00	0.00	0.00	202.95	522.28	46.35	31.27
2008:08	65.60	0.00	0.00	203.39	520.99	46.24	31.20
2008:09	63.00	0.00	0.00	203.82	519.71	46.12	31.12
2008:10	48.20	0.00	1.00	204.26	518.43	46.01	31.04
2008:11	40.70	1.00	0.00	204.70	517.16	45.90	30.97
2008:12	32.00	0.00	0.00	205.14	515.88	45.78	30.89
2009:01	33.30	0.00	0.00	205.57	514.61	45.67	30.81
2009:02	32.20	0.00	0.00	206.01	513.35	45.56	30.74
2009:03	38.40	0.00	0.00	206.45	512.08	45.45	30.66

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
2009:04	44.40	0.00	0.00	206.89	510.82	45.34	30.59
2009:05	54.80	0.00	0.00	207.33	509.57	45.22	30.51
2009:06	62.00	0.00	0.00	207.76	508.31	45.11	30.44
2009:07	66.00	0.00	0.00	208.21	507.06	45.00	30.36
2009:08	65.60	0.00	0.00	208.66	505.82	44.89	30.29
2009:09	63.00	0.00	0.00	209.11	504.57	44.78	30.21
2009:10	48.20	0.00	1.00	209.56	503.33	44.67	30.14
2009:11	40.70	1.00	0.00	210.01	502.09	44.56	30.06
2009:12	32.00	0.00	0.00	210.46	500.86	44.45	29.99
2010:01	33.30	0.00	0.00	210.91	499.62	44.34	29.92
2010:02	32.20	0.00	0.00	211.36	498.40	44.23	29.84
2010:03	38.40	0.00	0.00	211.81	497.17	44.12	29.77
2010:04	44.40	0.00	0.00	212.25	495.95	44.01	29.70
2010:05	54.80	0.00	0.00	212.70	494.73	43.91	29.62
2010:06	62.00	0.00	0.00	213.15	493.51	43.80	29.55
2010:07	66.00	0.00	0.00	213.57	492.29	43.69	29.48
2010:08	65.60	0.00	0.00	213.99	491.08	43.58	29.41
2010:09	63.00	0.00	0.00	214.41	489.88	43.48	29.33
2010:10	48.20	0.00	1.00	214.83	488.67	43.37	29.26
2010:11	40.70	1.00	0.00	215.25	487.47	43.26	29.19
2010:12	32.00	0.00	0.00	215.67	486.27	43.16	29.12
2011:01	33.30	0.00	0.00	216.09	485.07	43.05	29.05
2011:02	32.20	0.00	0.00	216.51	483.88	42.94	28.97
2011:03	38.40	0.00	0.00	216.93	482.69	42.84	28.90
2011:04	44.40	0.00	0.00	217.35	481.50	42.73	28.83
2011:05	54.80	0.00	0.00	217.77	480.32	42.63	28.76
2011:06	62.00	0.00	0.00	218.19	479.14	42.52	28.69
2011:07	66.00	0.00	0.00	218.62	477.96	42.42	28.62
2011:08	65.60	0.00	0.00	219.05	476.78	42.31	28.55
2011:09	63.00	0.00	0.00	219.48	475.61	42.21	28.48
2011:10	48.20	0.00	1.00	219.91	474.44	42.11	28.41
2011:11	40.70	1.00	0.00	220.34	473.27	42.00	28.34
2011:12	32.00	0.00	0.00	220.77	472.11	41.90	28.27
2012:01	33.30	0.00	0.00	221.20	470.94	41.80	28.20
2012:02	32.20	0.00	0.00	221.63	469.79	41.69	28.13
2012:03	38.40	0.00	0.00	222.06	468.63	41.59	28.06
2012:04	44.40	0.00	0.00	222.49	467.48	41.49	27.99
2012:05	54.80	0.00	0.00	222.92	466.33	41.39	27.92
2012:06	62.00	0.00	0.00	223.35	465.18	41.28	27.85

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICERES
2012:07	66.00	0.00	0.00	223.79	464.04	41.18	27.79
2012:08	65.60	0.00	0.00	224.23	462.89	41.08	27.72
2012:09	63.00	0.00	0.00	224.67	461.75	40.98	27.65
2012:10	48.20	0.00	1.00	225.11	460.62	40.88	27.58
2012:11	40.70	1.00	0.00	225.55	459.49	40.78	27.51
2012:12	32.00	0.00	0.00	225.99	458.36	40.68	27.45
2013:01	33.30	0.00	0.00	226.43	457.23	40.58	27.38
2013:02	32.20	0.00	0.00	226.87	456.10	40.48	27.31
2013:03	38.40	0.00	0.00	227.31	454.98	40.38	27.24
2013:04	44.40	0.00	0.00	227.75	453.86	40.28	27.18
2013:05	54.80	0.00	0.00	228.19	452.74	40.18	27.11
2013:06	62.00	0.00	0.00	228.63	451.63	40.08	27.04
2013:07	66.00	0.00	0.00	229.08	450.52	39.98	26.98
2013:08	65.60	0.00	0.00	229.53	449.41	39.88	26.91
2013:09	63.00	0.00	0.00	229.98	448.31	39.79	26.84
2013:10	48.20	0.00	1.00	230.43	447.20	39.69	26.78
2013:11	40.70	1.00	0.00	230.88	446.10	39.59	26.71
2013:12	32.00	0.00	0.00	231.33	445.00	39.49	26.65
2014:01	33.30	0.00	0.00	231.79	443.91	39.40	26.58
2014:02	32.20	0.00	0.00	232.24	442.82	39.30	26.52
2014:03	38.40	0.00	0.00	232.69	441.73	39.20	26.45
2014:04	44.40	0.00	0.00	233.14	440.64	39.11	26.39
2014:05	54.80	0.00	0.00	233.59	439.56	39.01	26.32
2014:06	62.00	0.00	0.00	234.04	438.48	38.91	26.26
2014:07	66.00	0.00	0.00	234.50	437.40	38.82	26.19
2014:08	65.60	0.00	0.00	234.96	436.32	38.72	26.13
2014:09	63.00	0.00	0.00	235.42	435.25	38.63	26.06
2014:10	48.20	0.00	1.00	235.88	434.18	38.53	26.00
2014:11	40.70	1.00	0.00	236.34	433.11	38.44	25.93
2014:12	32.00	0.00	0.00	236.80	432.04	38.34	25.87
2015:01	33.30	0.00	0.00	237.27	430.98	38.25	25.81
2015:02	32.20	0.00	0.00	237.73	429.92	38.15	25.74
2015:03	38.40	0.00	0.00	238.19	428.86	38.06	25.68
2015:04	44.40	0.00	0.00	238.65	427.81	37.97	25.62
2015:05	54.80	0.00	0.00	239.11	426.76	37.87	25.55
2015:06	62.00	0.00	0.00	239.57	425.71	37.78	25.49
2015:07	66.00	0.00	0.00	240.00	424.66	37.69	25.43
2015:08	65.60	0.00	0.00	240.42	423.61	37.60	25.37
2015:09	63.00	0.00	0.00	240.85	422.57	37.50	25.30

Historical and Projected Energy and Demand Forecast Variables

Year/Month	MINTEMP	NOV	OCT	POPA	PRICEGSD	PRICEGSN	PRICER[illegible]
2015:10	48.20	0.00	1.00	241.28	421.53	37.41	25.24
2015:11	40.70	1.00	0.00	241.70	420.49	37.32	25.18
2015:12	32.00	0.00	0.00	242.13	419.46	37.23	25.12
2016:01	33.30	0.00	0.00	242.56	418.43	37.13	25.06
2016:02	32.20	0.00	0.00	242.98	417.40	37.04	24.99
2016:03	38.40	0.00	0.00	243.41	416.37	36.95	24.93
2016:04	44.40	0.00	0.00	243.84	415.35	36.86	24.87
2016:05	54.80	0.00	0.00	244.26	414.33	36.77	24.81
2016:06	62.00	0.00	0.00	244.69	413.31	36.68	24.75
2016:07	66.00	0.00	0.00	245.13	412.29	36.59	24.69
2016:08	65.60	0.00	0.00	245.56	411.27	36.50	24.63
2016:09	63.00	0.00	0.00	246.00	410.26	36.41	24.57
2016:10	48.20	0.00	1.00	246.43	409.25	36.32	24.51
2016:11	40.70	1.00	0.00	246.87	408.25	36.23	24.45
2016:12	32.00	0.00	0.00	247.30	407.24	36.14	24.39

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
1985:01	935.05	680.00	0.61	0.71	0.85	0.00	19.93
1985:02	943.20	681.00	0.61	0.71	0.85	0.00	20.08
1985:03	951.35	682.00	0.61	0.71	0.85	0.00	20.23
1985:04	959.51	683.00	0.61	0.71	0.85	0.00	20.37
1985:05	967.66	684.00	0.61	0.71	0.85	0.00	20.52
1985:06	975.81	685.00	0.61	0.71	0.85	0.00	20.67
1985:07	983.86	686.00	0.61	0.71	0.85	0.00	20.86
1985:08	991.90	687.00	0.61	0.71	0.85	0.00	21.05
1985:09	999.94	688.00	0.61	0.71	0.85	1.00	21.24
1985:10	1,007.98	689.00	0.61	0.71	0.85	0.00	21.43

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
1985:11	1,016.02	690.00	0.61	0.71	0.85	0.00	21.62
1985:12	1,024.07	691.00	0.61	0.71	0.86	0.00	21.81
1986:01	1,032.11	692.00	0.61	0.71	0.86	0.00	22.00
1986:02	1,040.15	693.00	0.61	0.71	0.86	0.00	22.19
1986:03	1,048.19	694.00	0.61	0.71	0.86	0.00	22.38
1986:04	1,056.24	695.00	0.61	0.72	0.86	0.00	22.57
1986:05	1,064.28	696.00	0.61	0.72	0.86	0.00	22.76
1986:06	1,072.32	697.00	0.62	0.72	0.86	0.00	22.96
1986:07	1,079.39	698.00	0.62	0.72	0.86	0.00	23.17
1986:08	1,086.45	699.00	0.62	0.72	0.86	0.00	23.39
1986:09	1,093.52	700.00	0.62	0.72	0.86	1.00	23.60
1986:10	1,100.59	701.00	0.62	0.72	0.86	0.00	23.82
1986:11	1,107.65	702.00	0.62	0.72	0.86	0.00	24.03
1986:12	1,114.72	703.00	0.62	0.72	0.86	0.00	24.25
1987:01	1,121.79	704.00	0.62	0.72	0.86	0.00	24.46
1987:02	1,128.85	705.00	0.62	0.72	0.86	0.00	24.68
1987:03	1,135.92	706.00	0.62	0.72	0.86	0.00	24.90
1987:04	1,142.99	707.00	0.61	0.72	0.86	0.00	25.11
1987:05	1,150.05	708.00	0.63	0.72	0.87	0.00	25.33
1987:06	1,157.12	709.00	0.63	0.72	0.87	0.00	25.54
1987:07	1,164.32	710.00	0.63	0.73	0.87	0.00	25.73
1987:08	1,171.51	711.00	0.63	0.73	0.87	0.00	25.92
1987:09	1,178.71	712.00	0.63	0.73	0.87	1.00	26.12
1987:10	1,185.91	713.00	0.63	0.73	0.87	0.00	26.31
1987:11	1,193.10	714.00	0.63	0.73	0.87	0.00	26.50
1987:12	1,200.30	715.00	0.63	0.73	0.87	0.00	26.69
1988:01	1,207.50	716.00	0.64	0.73	0.87	0.00	26.88
1988:02	1,214.69	717.00	0.64	0.73	0.87	0.00	27.07
1988:03	1,221.89	718.00	0.64	0.73	0.87	0.00	27.26
1988:04	1,229.09	719.00	0.64	0.73	0.87	0.00	27.45
1988:05	1,236.28	720.00	0.64	0.73	0.87	0.00	27.64
1988:06	1,243.48	721.00	0.64	0.73	0.87	0.00	27.84
1988:07	1,249.86	722.00	0.64	0.73	0.88	0.00	28.05
1988:08	1,256.24	723.00	0.64	0.74	0.88	0.00	28.27
1988:09	1,262.61	724.00	0.65	0.74	0.88	1 00	28.49
1988:10	1,268.99	725.00	0.65	0.74	0.88	0.00	28.71
1988:11	1,275.37	726.00	0.65	0.74	0.88	0.00	28.93
1988:12	1,281.75	727.00	0.65	0.74	0.88	0.00	29.15
1989:01	1,288.12	728.00	0.65	0.74	0.88	0.00	29.37

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
1989:02	1,294.50	729.00	0.65	0.74	0.88	0.00	29.59
1989:03	1,300.88	730.00	0.65	0.74	0.88	0.00	29.81
1989:04	1,307.26	731.00	0.66	0.74	0.88	0.00	30.03
1989:05	1,313.63	732.00	0.66	0.74	0.88	0.00	30.25
1989:06	1,320.01	733.00	0.66	0.75	0.88	0.00	30.47
1989:07	1,324.93	734.00	0.66	0.75	0.89	0.00	30.63
1989:08	1,329.85	735.00	0.66	0.75	0.89	0.00	30.79
1989:09	1,334.78	736.00	0.66	0.75	0.89	1.00	30.95
1989:10	1,339.70	737.00	0.67	0.75	0.89	0.00	31.11
1989:11	1,344.62	738.00	0.67	0.75	0.89	0.00	31.28
1989:12	1,349.54	739.00	0.67	0.75	0.89	0.00	31.44
1990:01	1,354.46	740.00	0.67	0.75	0.89	0.00	31.60
1990:02	1,359.38	741.00	0.67	0.75	0.89	0.00	31.76
1990:03	1,364.31	742.00	0.67	0.76	0.89	0.00	31.92
1990:04	1,369.23	743.00	0.68	0.76	0.89	0.00	32.09
1990:05	1,374.15	744.00	0.68	0.76	0.89	0.00	32.25
1990:06	1,379.07	745.00	0.68	0.76	0.90	0.00	32.41
1990:07	1,380.83	746.00	0.68	0.76	0.90	0.00	32.41
1990:08	1,382.59	747.00	0.68	0.76	0.90	0.00	32.41
1990:09	1,384.35	748.00	0.69	0.76	0.90	1.00	32.42
1990:10	1,386.10	749.00	0.69	0.76	0.90	0.00	32.42
1990:11	1,387.86	750.00	0.69	0.77	0.90	0.00	32.42
1990:12	1,389.62	751.00	0.69	0.77	0.90	0.00	32.42
1991:01	1,391.38	752.00	0.69	0.77	0.90	0.00	32.43
1991:02	1,393.14	753.00	0.70	0.77	0.90	0.00	32.43
1991:03	1,394.90	754.00	0.70	0.77	0.91	0.00	32.43
1991:04	1,396.65	755.00	0.70	0.77	0.91	0.00	32.43
1991:05	1,398.41	756.00	0.70	0.77	0.91	0.00	32.44
1991:06	1,400.17	757.00	0.71	0.78	0.91	0.00	32.44
1991:07	1,406.20	758.00	0.71	0.78	0.91	0.00	32.59
1991:08	1,412.23	759.00	0.71	0.78	0.91	0.00	32.74
1991:09	1,418.26	760.00	0.71	0.78	0.91	1.00	32.90
1991:10	1,424.29	761.00	0.71	0.78	0.91	0.00	33.05
1991:11	1,430.32	762.00	0.72	0.78	0.92	0.00	33.20
1991:12	1,436.35	763.00	0.72	0.79	0.92	0.00	33.35
1992:01	1,442.37	764.00	0.72	0.79	0.92	0.00	33.50
1992:02	1,448.40	765.00	0.72	0.79	0.92	0.00	33.66
1992:03	1,454.43	766.00	0.73	0.79	0.92	0.00	33.81
1992:04	1,460.46	767.00	0.73	0.79	0.92	0.00	33.96

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
1992:05	1,466.49	768.00	0.73	0.79	0.92	0.00	34.11
1992:06	1,472.52	769.00	0.73	0.79	0.92	0.00	34.26
1992:07	1,477.44	770.00	0.74	0.80	0.93	0.00	34.49
1992:08	1,482.37	771.00	0.74	0.80	0.93	0.00	34.73
1992:09	1,487.29	772.00	0.74	0.80	0.93	1.00	34.96
1992:10	1,492.21	773.00	0.75	0.80	0.93	0.00	35.19
1992:11	1,497.14	774.00	0.75	0.80	0.93	0.00	35.42
1992:12	1,502.06	775.00	0.75	0.81	0.93	0.00	35.65
1993:01	1,506.98	776.00	0.76	0.81	0.93	0.00	35.88
1993:02	1,511.91	777.00	0.76	0.81	0.94	0.00	36.11
1993:03	1,516.83	778.00	0.76	0.81	0.94	0.00	36.34
1993:04	1,521.75	779.00	0.76	0.81	0.94	0.00	36.57
1993:05	1,526.68	780.00	0.77	0.82	0.94	0.00	36.80
1993:06	1,531.60	781.00	0.77	0.82	0.94	0.00	37.04
1993:07	1,536.08	782.00	0.77	0.82	0.94	0.00	37.14
1993:08	1,540.56	783.00	0.78	0.82	0.95	0.00	37.25
1993:09	1,545.04	784.00	0.78	0.82	0.95	1.00	37.35
1993:10	1,549.51	785.00	0.78	0.83	0.95	0.00	37.46
1993:11	1,553.99	786.00	0.79	0.83	0.95	0.00	37.56
1993:12	1,558.47	787.00	0.79	0.83	0.95	0.00	37.67
1994:01	1,562.95	788.00	0.79	0.83	0.95	0.00	37.78
1994:02	1,567.43	789.00	0.80	0.83	0.96	0.00	37.88
1994:03	1,571.91	790.00	0.80	0.84	0.96	0.00	37.99
1994:04	1,576.38	791.00	0.81	0.84	0.96	0.00	38.09
1994:05	1,580.86	792.00	0.81	0.84	0.96	0.00	38.20
1994:06	1,585.34	793.00	0.81	0.84	0.96	0.00	38.30
1994:07	1,592.73	794.00	0.82	0.85	0.96	0.00	38.46
1994:08	1,600.12	795.00	0.82	0.85	0.97	0.00	38.61
1994:09	1,607.50	796.00	0.82	0.85	0.97	1.00	38.76
1994:10	1,614.89	797.00	0.83	0.85	0.97	0.00	38.91
1994:11	1,622.28	798.00	0.83	0.86	0.97	0.00	39.06
1994:12	1,629.67	799.00	0.83	0.86	0.97	0.00	39.22
1995:01	1,637.05	800.00	0.84	0.86	0.97	0.00	39.37
1995:02	1,644.44	801.00	0.84	0.86	0.97	0.00	39.52
1995:03	1,651.83	802.00	0.84	0.87	0.98	0.00	39.67
1995:04	1,659.22	803.00	0.85	0.87	0.98	0.00	39.82
1995:05	1,666.60	804.00	0.85	0.87	0.98	0.00	39.98
1995:06	1,673.99	805.00	0.86	0.87	0.98	0.00	40.13
1995:07	1,679.90	806.00	0.86	0.88	0.98	0.00	40.29

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
1995:08	1,685.81	807.00	0.86	0.88	0.98	0.00	40.46
1995:09	1,691.72	807.00	0.86	0.88	0.98	1.00	40.62
1995:10	1,697.62	807.00	0.86	0.88	0.98	0.00	40.78
1995:11	1,703.53	807.00	0.87	0.88	0.98	0.00	40.95
1995:12	1,709.44	807.00	0.87	0.89	0.98	0.00	41.11
1996:01	1,715.35	807.00	0.87	0.89	0.98	0.00	41.28
1996:02	1,721.26	807.00	0.87	0.89	0.98	0.00	41.44
1996:03	1,727.17	807.00	0.88	0.89	0.98	0.00	41.61
1996:04	1,733.07	807.00	0.88	0.90	0.98	0.00	41.77
1996:05	1,738.98	807.00	0.88	0.90	0.98	0.00	41.93
1996:06	1,744.89	807.00	0.88	0.90	0.98	0.00	42.10
1996:07	1,751.05	807.00	0.88	0.90	0.98	0.00	42.27
1996:08	1,757.21	807.00	0.88	0.90	0.98	0.00	42.44
1996:09	1,763.37	807.00	0.88	0.90	0.98	1.00	42.61
1996:10	1,769.52	807.00	0.88	0.90	0.98	0.00	42.79
1996:11	1,775.68	807.00	0.88	0.90	0.98	0.00	42.96
1996:12	1,781.84	807.00	0.88	0.90	0.98	0.00	43.13
1997:01	1,788.00	807.00	0.88	0.90	0.98	0.00	43.30
1997:02	1,794.16	807.00	0.88	0.90	0.98	0.00	43.48
1997:03	1,800.32	807.00	0.88	0.90	0.98	0.00	43.65
1997:04	1,806.48	807.00	0.88	0.90	0.98	0.00	43.82
1997:05	1,812.64	807.00	0.88	0.90	0.98	0.00	43.99
1997:06	1,818.79	807.00	0.88	0.90	0.98	0.00	44.17
1997:07	1,825.21	807.00	0.88	0.90	0.98	0.00	44.35
1997:08	1,831.63	807.00	0.88	0.90	0.98	0.00	44.53
1997:09	1,838.05	807.00	0.88	0.90	0.98	1.00	44.71
1997:10	1,844.47	807.00	0.88	0.90	0.98	0.00	44.89
1997:11	1,850.89	807.00	0.88	0.90	0.98	0.00	45.07
1997:12	1,857.31	807.00	0.88	0.90	0.98	0.00	45.25
1998:01	1,863.73	807.00	0.88	0.90	0.98	0.00	45.43
1998:02	1,870.15	807.00	0.88	0.90	0.98	0.00	45.61
1998:03	1,876.57	807.00	0.88	0.90	0.98	0.00	45.79
1998:04	1,882.99	807.00	0.88	0.90	0.98	0.00	45.97
1998:05	1,889.41	807.00	0.88	0.90	0.98	0.00	46.15
1998:06	1,895.83	807.00	0.88	0.90	0.98	0.00	46.33
1998:07	1,902.52	807.00	0.88	0.90	0.98	0.00	46.52
1998:08	1,909.21	807.00	0.88	0.90	0.98	0.00	46.71
1998:09	1,915.90	807.00	0.88	0.90	0.98	1.00	46.90
1998:10	1,922.59	807.00	0.88	0.90	0.98	0.00	47.09

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
1998:11	1,929.28	807.00	0.88	0.90	0.98	0.00	47.28
1998:12	1,935.98	807.00	0.88	0.90	0.98	0.00	47.47
1999:01	1,942.67	807.00	0.88	0.90	0.98	0.00	47.66
1999:02	1,949.36	807.00	0.88	0.90	0.98	0.00	47.85
1999:03	1,956.05	807.00	0.88	0.90	0.98	0.00	48.04
1999:04	1,962.74	807.00	0.88	0.90	0.98	0.00	48.23
1999:05	1,969.43	807.00	0.88	0.90	0.98	0.00	48.42
1999:06	1,976.12	807.00	0.88	0.90	0.98	0.00	48.61
1999:07	1,983.10	807.00	0.88	0.90	0.98	0.00	48.81
1999:08	1,990.07	807.00	0.88	0.90	0.98	0.00	49.01
1999:09	1,997.05	807.00	0.88	0.90	0.98	1.00	49.21
1999:10	2,004.02	807.00	0.88	0.90	0.98	0.00	49.41
1999:11	2,011.00	807.00	0.88	0.90	0.98	0.00	49.60
1999:12	2,017.97	807.00	0.88	0.90	0.98	0.00	49.80
2000:01	2,024.95	807.00	0.88	0.90	0.98	0.00	50.00
2000:02	2,031.92	807.00	0.88	0.90	0.98	0.00	50.20
2000:03	2,038.90	807.00	0.88	0.90	0.98	0.00	50.40
2000:04	2,045.87	807.00	0.88	0.90	0.98	0.00	50.60
2000:05	2,052.85	807.00	0.88	0.90	0.98	0.00	50.80
2000:06	2,059.82	807.00	0.88	0.90	0.98	0.00	51.00
2000:07	2,066.79	807.00	0.88	0.90	0.98	0.00	51.17
2000:08	2,073.76	807.00	0.88	0.90	0.98	0.00	51.34
2000:09	2,080.73	807.00	0.88	0.90	0.98	1.00	51.51
2000:10	2,087.70	807.00	0.88	0.90	0.98	0.00	51.68
2000:11	2,094.67	807.00	0.88	0.90	0.98	0.00	51.85
2000:12	2,101.65	807.00	0.88	0.90	0.98	0.00	52.02
2001:01	2,108.62	807.00	0.88	0.90	0.98	0.00	52.19
2001:02	2,115.59	807.00	0.88	0.90	0.98	0.00	52.36
2001:03	2,122.56	807.00	0.88	0.90	0.98	0.00	52.53
2001:04	2,129.53	807.00	0.88	0.90	0.98	0.00	52.70
2001:05	2,136.50	807.00	0.88	0.90	0.98	0.00	52.87
2001:06	2,143.47	807.00	0.88	0.90	0.98	0.00	53.04
2001:07	2,150.72	807.00	0.88	0.90	0.98	0.00	53.21
2001:08	2,157.98	807.00	0.88	0.90	0.98	0.00	53.39
2001:09	2,165.23	807.00	0.88	0.90	0.98	1.00	53.57
2001:10	2,172.49	807.00	0.88	0.90	0.98	0.00	53.74
2001:11	2,179.74	807.00	0.88	0.90	0.98	0.00	53.92
2001:12	2,186.99	807.00	0.88	0.90	0.98	0.00	54.10
2002:01	2,194.25	807.00	0.88	0.90	0.98	0.00	54.27

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
2002:02	2,201.50	807.00	0.88	0.90	0.98	0.00	54.45
2002:03	2,208.76	807.00	0.88	0.90	0.98	0.00	54.63
2002:04	2,216.01	807.00	0.88	0.90	0.98	0.00	54.80
2002:05	2,223.26	807.00	0.88	0.90	0.98	0.00	54.98
2002:06	2,230.52	807.00	0.88	0.90	0.98	0.00	55.16
2002:07	2,238.07	807.00	0.88	0.90	0.98	0.00	55.34
2002:08	2,245.61	807.00	0.88	0.90	0.98	0.00	55.53
2002:09	2,253.16	807.00	0.88	0.90	0.98	1.00	55.71
2002:10	2,260.71	807.00	0.88	0.90	0.98	0.00	55.89
2002:11	2,268.26	807.00	0.88	0.90	0.98	0.00	56.08
2002:12	2,275.81	807.00	0.88	0.90	0.98	0.00	56.26
2003:01	2,283.36	807.00	0.88	0.90	0.98	0.00	56.45
2003:02	2,290.91	807.00	0.88	0.90	0.98	0.00	56.63
2003:03	2,298.45	807.00	0.88	0.90	0.98	0.00	56.81
2003:04	2,306.00	807.00	0.88	0.90	0.98	0.00	57.00
2003:05	2,313.55	807.00	0.88	0.90	0.98	0.00	57.18
2003:06	2,321.10	807.00	0.88	0.90	0.98	0.00	57.36
2003:07	2,328.96	807.00	0.88	0.90	0.98	0.00	57.56
2003:08	2,336.81	807.00	0.88	0.90	0.98	0.00	57.75
2003:09	2,344.67	807.00	0.88	0.90	0.98	1.00	57.94
2003:10	2,352.52	807.00	0.88	0.90	0.98	0.00	58.13
2003:11	2,360.38	807.00	0.88	0.90	0.98	0.00	58.32
2003:12	2,368.23	807.00	0.88	0.90	0.98	0.00	58.51
2004:01	2,376.09	807.00	0.88	0.90	0.98	0.00	58.70
2004:02	2,383.94	807.00	0.88	0.90	0.98	0.00	58.89
2004:03	2,391.80	807.00	0.88	0.90	0.98	0.00	59.09
2004:04	2,399.65	807.00	0.88	0.90	0.98	0.00	59.28
2004:05	2,407.51	807.00	0.88	0.90	0.98	0.00	59.47
2004:06	2,415.36	807.00	0.88	0.90	0.98	0.00	59.66
2004:07	2,423.54	807.00	0.88	0.90	0.98	0.00	59.86
2004:08	2,431.71	807.00	0.88	0.90	0.98	0.00	60.06
2004:09	2,439.88	807.00	0.88	0.90	0.98	1.00	60.26
2004:10	2,448.06	807.00	0.88	0.90	0.98	0.00	60.46
2004:11	2,456.23	807.00	0.88	0.90	0.98	0.00	60.65
2004:12	2,464.41	807.00	0.88	0.90	0.98	0.00	60.85
2005:01	2,472.58	807.00	0.88	0.90	0.98	0.00	61.05
2005:02	2,480.75	807.00	0.88	0.90	0.98	0.00	61.25
2005:03	2,488.93	807.00	0.88	0.90	0.98	0.00	61.45
2005:04	2,497.10	807.00	0.88	0.90	0.98	0.00	61.65

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
2005:05	2,505.28	807.00	0.88	0.90	0.98	0.00	61.85
2005:06	2,513.45	807.00	0.88	0.90	0.98	0.00	62.05
2005:07	2,522.79	807.00	0.88	0.90	0.98	0.00	62.22
2005:08	2,532.14	807.00	0.88	0.90	0.98	0.00	62.40
2005:09	2,541.48	807.00	0.88	0.90	0.98	1.00	62.57
2005:10	2,550.83	807.00	0.88	0.90	0.98	0.00	62.75
2005:11	2,560.17	807.00	0.88	0.90	0.98	0.00	62.92
2005:12	2,569.52	807.00	0.88	0.90	0.98	0.00	63.10
2006:01	2,578.86	807.00	0.88	0.90	0.98	0.00	63.28
2006:02	2,588.21	807.00	0.88	0.90	0.98	0.00	63.45
2006:03	2,597.55	807.00	0.88	0.90	0.98	0.00	63.63
2006:04	2,606.90	807.00	0.88	0.90	0.98	0.00	63.80
2006:05	2,616.24	807.00	0.88	0.90	0.98	0.00	63.98
2006:06	2,625.59	807.00	0.88	0.90	0.98	0.00	64.15
2006:07	2,635.35	807.00	0.88	0.90	0.98	0.00	64.34
2006:08	2,645.11	807.00	0.88	0.90	0.98	0.00	64.52
2006:09	2,654.87	807.00	0.88	0.90	0.98	1.00	64.70
2006:10	2,664.64	807.00	0.88	0.90	0.98	0.00	64.88
2006:11	2,674.40	807.00	0.88	0.90	0.98	0.00	65.06
2006:12	2,684.16	807.00	0.88	0.90	0.98	0.00	65.24
2007:01	2,693.92	807.00	0.88	0.90	0.98	0.00	65.43
2007:02	2,703.68	807.00	0.88	0.90	0.98	0.00	65.61
2007:03	2,713.45	807.00	0.88	0.90	0.98	0.00	65.79
2007:04	2,723.21	807.00	0.88	0.90	0.98	0.00	65.97
2007:05	2,732.97	807.00	0.88	0.90	0.98	0.00	66.15
2007:06	2,742.73	807.00	0.88	0.90	0.98	0.00	66.33
2007:07	2,752.93	807.00	0.88	0.90	0.98	0.00	66.52
2007:08	2,763.13	807.00	0.88	0.90	0.98	0.00	66.71
2007:09	2,773.32	807.00	0.88	0.90	0.98	1.00	66.90
2007:10	2,783.52	807.00	0.88	0.90	0.98	0.00	67.08
2007:11	2,793.72	807.00	0.88	0.90	0.98	0.00	67.27
2007:12	2,803.92	807.00	0.88	0.90	0.98	0.00	67.46
2008:01	2,814.11	807.00	0.88	0.90	0.98	0.00	67.65
2008:02	2,824.31	807.00	0.88	0.90	0.98	0.00	67.84
2008:03	2,834.51	807.00	0.88	0.90	0.98	0.00	68.02
2008:04	2,844.71	807.00	0.88	0.90	0.98	0.00	68.21
2008:05	2,854.90	807.00	0.88	0.90	0.98	0.00	68.40
2008:06	2,865.10	807.00	0.88	0.90	0.98	0.00	68.59
2008:07	2,875.75	807.00	0.88	0.90	0.98	0.00	68.78

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
2008:08	2,886.40	807.00	0.88	0.90	0.98	0.00	68.98
2008:09	2,897.06	807.00	0.88	0.90	0.98	1.00	69.17
2008:10	2,907.71	807.00	0.88	0.90	0.98	0.00	69.36
2008:11	2,918.36	807.00	0.88	0.90	0.98	0.00	69.56
2008:12	2,929.01	807.00	0.88	0.90	0.98	0.00	69.75
2009:01	2,939.67	807.00	0.88	0.90	0.98	0.00	69.95
2009:02	2,950.32	807.00	0.88	0.90	0.98	0.00	70.14
2009:03	2,960.97	807.00	0.88	0.90	0.98	0.00	70.34
2009:04	2,971.62	807.00	0.88	0.90	0.98	0.00	70.53
2009:05	2,982.28	807.00	0.88	0.90	0.98	0.00	70.72
2009:06	2,992.93	807.00	0.88	0.90	0.98	0.00	70.92
2009:07	3,004.06	807.00	0.88	0.90	0.98	0.00	71.12
2009:08	3,015.18	807.00	0.88	0.90	0.98	0.00	71.32
2009:09	3,026.31	807.00	0.88	0.90	0.98	1.00	71.52
2009:10	3,037.44	807.00	0.88	0.90	0.98	0.00	71.72
2009:11	3,048.57	807.00	0.88	0.90	0.98	0.00	71.92
2009:12	3,059.69	807.00	0.88	0.90	0.98	0.00	72.12
2010:01	3,070.82	807.00	0.88	0.90	0.98	0.00	72.32
2010:02	3,081.95	807.00	0.88	0.90	0.98	0.00	72.52
2010:03	3,093.08	807.00	0.88	0.90	0.98	0.00	72.72
2010:04	3,104.20	807.00	0.88	0.90	0.98	0.00	72.93
2010:05	3,115.33	807.00	0.88	0.90	0.98	0.00	73.13
2010:06	3,126.46	807.00	0.88	0.90	0.98	0.00	73.33
2010:07	3,137.05	807.00	0.88	0.90	0.98	0.00	73.52
2010:08	3,147.65	807.00	0.88	0.90	0.98	0.00	73.71
2010:09	3,158.24	807.00	0.88	0.90	0.98	1.00	73.89
2010:10	3,168.84	807.00	0.88	0.90	0.98	0.00	74.08
2010:11	3,179.43	807.00	0.88	0.90	0.98	0.00	74.27
2010:12	3,190.02	807.00	0.88	0.90	0.98	0.00	74.46
2011:01	3,200.62	807.00	0.88	0.90	0.98	0.00	74.65
2011:02	3,211.21	807.00	0.88	0.90	0.98	0.00	74.84
2011:03	3,221.81	807.00	0.88	0.90	0.98	0.00	75.03
2011:04	3,232.40	807.00	0.88	0.90	0.98	0.00	75.22
2011:05	3,242.99	807.00	0.88	0.90	0.98	0.00	75.41
2011:06	3,253.59	807.00	0.88	0.90	0.98	0.00	75.60
2011:07	3,264.61	807.00	0.88	0.90	0.98	0.00	75.79
2011:08	3,275.64	807.00	0.88	0.90	0.98	0.00	75.99
2011:09	3,286.66	807.00	0.88	0.90	0.98	1.00	76.18
2011:10	3,297.69	807.00	0.88	0.90	0.98	0.00	76.38

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
2011:11	3,308.71	807.00	0.88	0.90	0.98	0.00	76.57
2011:12	3,319.74	807.00	0.88	0.90	0.98	0.00	76.77
2012:01	3,330.76	807.00	0.88	0.90	0.98	0.00	76.96
2012:02	3,341.79	807.00	0.88	0.90	0.98	0.00	77.16
2012:03	3,352.81	807.00	0.88	0.90	0.98	0.00	77.35
2012:04	3,363.84	807.00	0.88	0.90	0.98	0.00	77.55
2012:05	3,374.86	807.00	0.88	0.90	0.98	0.00	77.74
2012:06	3,385.89	807.00	0.88	0.90	0.98	0.00	77.94
2012:07	3,397.36	807.00	0.88	0.90	0.98	0.00	78.14
2012:08	3,408.83	807.00	0.88	0.90	0.98	0.00	78.34
2012:09	3,420.31	807.00	0.88	0.90	0.98	1.00	78.54
2012:10	3,431.78	807.00	0.88	0.90	0.98	0.00	78.74
2012:11	3,443.25	807.00	0.88	0.90	0.98	0.00	78.94
2012:12	3,454.72	807.00	0.88	0.90	0.98	0.00	79.14
2013:01	3,466.20	807.00	0.88	0.90	0.98	0.00	79.35
2013:02	3,477.67	807.00	0.88	0.90	0.98	0.00	79.55
2013:03	3,489.14	807.00	0.88	0.90	0.98	0.00	79.75
2013:04	3,500.62	807.00	0.88	0.90	0.98	0.00	79.95
2013:05	3,512.09	807.00	0.88	0.90	0.98	0.00	80.15
2013:06	3,523.56	807.00	0.88	0.90	0.98	0.00	80.35
2013:07	3,535.50	807.00	0.88	0.90	0.98	0.00	80.56
2013:08	3,547.44	807.00	0.88	0.90	0.98	0.00	80.77
2013:09	3,559.38	807.00	0.88	0.90	0.98	1.00	80.97
2013:10	3,571.32	807.00	0.88	0.90	0.98	0.00	81.18
2013:11	3,583.26	807.00	0.88	0.90	0.98	0.00	81.39
2013:12	3,595.20	807.00	0.88	0.90	0.98	0.00	81.60
2014:01	3,607.14	807.00	0.88	0.90	0.98	0.00	81.80
2014:02	3,619.08	807.00	0.88	0.90	0.98	0.00	82.01
2014:03	3,631.02	807.00	0.88	0.90	0.98	0.00	82.22
2014:04	3,642.96	807.00	0.88	0.90	0.98	0.00	82.43
2014:05	3,654.90	807.00	0.88	0.90	0.98	0.00	82.63
2014:06	3,666.84	807.00	0.88	0.90	0.98	0.00	82.84
2014:07	3,679.26	807.00	0.88	0.90	0.98	0.00	83.05
2014:08	3,691.69	807.00	0.88	0.90	0.98	0.00	83.27
2014:09	3,704.11	807.00	0.88	0.90	0.98	1.00	83.48
2014:10	3,716.54	807.00	0.88	0.90	0.98	0.00	83.69
2014:11	3,728.96	807.00	0.88	0.90	0.98	0.00	83.91
2014:12	3,741.39	807.00	0.88	0.90	0.98	0.00	84.12
2015:01	3,753.81	807.00	0.88	0.90	0.98	0.00	84.34

Historical and Projected Energy and Demand Forecast Variables

Year/Month	RYTOT	SATURATE	SAT_APPL	SAT_HEAT	SAT_RFRG	SEP	SERVICES
2015:02	3,766.24	807.00	0.88	0.90	0.98	0.00	84.55
2015:03	3,778.66	807.00	0.88	0.90	0.98	0.00	84.76
2015:04	3,791.09	807.00	0.88	0.90	0.98	0.00	84.98
2015:05	3,803.51	807.00	0.88	0.90	0.98	0.00	85.19
2015:06	3,815.94	807.00	0.88	0.90	0.98	0.00	85.40
2015:07	3,827.63	807.00	0.88	0.90	0.98	0.00	85.60
2015:08	3,839.31	807.00	0.88	0.90	0.98	0.00	85.80
2015:09	3,851.00	807.00	0.88	0.90	0.98	1.00	86.00
2015:10	3,862.69	807.00	0.88	0.90	0.98	0.00	86.20
2015:11	3,874.37	807.00	0.88	0.90	0.98	0.00	86.40
2015:12	3,886.06	807.00	0.88	0.90	0.98	0.00	86.60
2016:01	3,897.74	807.00	0.88	0.90	0.98	0.00	86.80
2016:02	3,909.43	807.00	0.88	0.90	0.98	0.00	87.00
2016:03	3,921.12	807.00	0.88	0.90	0.98	0.00	87.20
2016:04	3,932.80	807.00	0.88	0.90	0.98	0.00	87.40
2016:05	3,944.49	807.00	0.88	0.90	0.98	0.00	87.60
2016:06	3,956.18	807.00	0.88	0.90	0.98	0.00	87.79
2016:07	3,963.29	807.00	0.88	0.90	0.98	0.00	88.00
2016:08	3,980.41	807.00	0.88	0.90	0.98	0.00	88.20
2016:09	3,992.52	807.00	0.88	0.90	0.98	1.00	88.41
2016:10	4,004.64	807.00	0.88	0.90	0.98	0.00	88.61
2016:11	4,016.76	807.00	0.88	0.90	0.98	0.00	88.82
2016:12	4,028.87	807.00	0.88	0.90	0.98	0.00	89.02

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
1985:01	0.00	1.00	18.72	857.58	3.52	23.54	28.52
1985:02	0.00	2.00	18.85	867.71	3.53	23.70	28.73

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
1985:03	0.00	3.00	18.98	877.85	3.54	23.86	28.94
1985:04	0.00	4.00	19.12	887.98	3.55	24.02	29.14
1985:05	0.00	5.00	19.25	898.11	3.56	24.18	29.35
1985:06	0.00	6.00	19.38	908.24	3.57	24.34	29.56
1985:07	0.00	7.00	19.58	918.34	3.59	24.55	29.71
1985:08	0.00	8.00	19.77	928.44	3.61	24.76	29.86
1985:09	0.00	9.00	19.96	938.54	3.63	24.98	30.01
1985:10	0.00	10.00	20.16	948.63	3.65	25.19	30.16
1985:11	0.00	11.00	20.35	958.73	3.67	25.40	30.31
1985:12	0.00	12.00	20.55	968.83	3.69	25.61	30.46
1986:01	0.00	13.00	20.74	978.93	3.71	25.82	30.61
1986:02	0.00	14.00	20.93	989.03	3.73	26.03	30.76
1986:03	0.00	15.00	21.13	999.13	3.75	26.25	30.91
1986:04	0.00	16.00	21.32	1,009.23	3.77	26.46	31.07
1986:05	0.00	17.00	21.52	1,019.33	3.78	26.67	31.22
1986:06	0.00	18.00	21.71	1,029.43	3.80	26.88	31.37
1986:07	0.00	19.00	21.95	1,040.07	3.83	27.12	31.54
1986:08	0.00	20.00	22.19	1,050.71	3.85	27.36	31.71
1986:09	0.00	21.00	22.43	1,061.35	3.88	27.60	31.88
1986:10	0.00	22.00	22.67	1,071.99	3.90	27.84	32.05
1986:11	0.00	23.00	22.90	1,082.63	3.92	28.08	32.22
1986:12	0.00	24.00	23.14	1,093.27	3.95	28.32	32.39
1987:01	0.00	25.00	23.38	1,103.91	3.97	28.56	32.56
1987:02	0.00	26.00	23.62	1,114.55	3.99	28.80	32.73
1987:03	0.00	27.00	23.86	1,125.20	4.02	29.04	32.90
1987:04	0.00	28.00	24.10	1,135.84	4.04	29.28	33.07
1987:05	0.00	29.00	24.34	1,146.48	4.07	29.52	33.24
1987:06	0.00	30.00	24.58	1,157.12	4.09	29.76	33.41
1987:07	0.00	31.00	24.95	1,168.69	4.14	30.00	33.57
1987:08	0.00	32.00	25.32	1,180.27	4.19	30.25	33.73
1987:09	0.00	33.00	25.70	1,191.84	4.25	30.50	33.90
1987:10	0.00	34.00	26.07	1,203.42	4.30	30.75	34.06
1987:11	0.00	35.00	26.45	1,214.99	4.35	30.99	34.23
1987:12	0.00	36.00	26.82	1,226.57	4.40	31.24	34.39
1988:01	0.00	37.00	27.19	1,238.14	4.45	31.49	34.55
1988:02	0.00	38.00	27.57	1,249.72	4.51	31.73	34.72
1988:03	0.00	39.00	27.94	1,261.29	4.56	31.98	34.88
1988:04	0.00	40.00	28.32	1,272.87	4.61	32.23	35.05
1988:05	0.00	41.00	28.69	1,284.44	4.66	32.48	35.21

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
1988:06	0.00	42.00	29.06	1,296.02	4.71	32.72	35.37
1988:07	0.00	43.00	29.39	1,308.85	4.73	32.96	35.50
1988:08	0.00	44.00	29.72	1,321.69	4.75	33.20	35.63
1988:09	0.00	45.00	30.05	1,334.52	4.77	33.44	35.75
1988:10	0.00	46.00	30.38	1,347.36	4.79	33.67	35.88
1988:11	0.00	47.00	30.71	1,360.19	4.80	33.91	36.01
1988:12	0.00	48.00	31.04	1,373.03	4.82	34.15	36.13
1989:01	0.00	49.00	31.37	1,385.86	4.84	34.39	36.26
1989:02	0.00	50.00	31.70	1,398.70	4.86	34.62	36.39
1989:03	0.00	51.00	32.03	1,411.53	4.88	34.86	36.52
1989:04	0.00	52.00	32.36	1,424.37	4.89	35.10	36.64
1989:05	0.00	53.00	32.69	1,437.21	4.91	35.34	36.77
1989:06	0.00	54.00	33.02	1,450.04	4.93	35.57	36.90
1989:07	0.00	55.00	33.35	1,461.28	4.90	35.71	37.14
1989:08	0.00	56.00	33.68	1,472.52	4.88	35.84	37.39
1989:09	0.00	57.00	34.01	1,483.76	4.85	35.98	37.64
1989:10	0.00	58.00	34.34	1,494.99	4.83	36.11	37.89
1989:11	0.00	59.00	34.67	1,506.23	4.80	36.25	38.14
1989:12	1.00	60.00	34.99	1,517.47	4.77	36.38	38.39
1990:01	0.00	61.00	35.32	1,528.71	4.75	36.52	38.64
1990:02	0.00	62.00	35.65	1,539.95	4.72	36.65	38.89
1990:03	0.00	63.00	35.98	1,551.18	4.70	36.79	39.14
1990:04	0.00	64.00	36.31	1,562.42	4.67	36.92	39.38
1990:05	0.00	65.00	36.64	1,573.66	4.64	37.06	39.63
1990:06	0.00	66.00	36.97	1,584.90	4.62	37.19	39.88
1990:07	0.00	67.00	37.15	1,592.52	4.58	37.15	40.08
1990:08	0.00	68.00	37.33	1,600.14	4.54	37.12	40.28
1990:09	0.00	69.00	37.51	1,607.76	4.50	37.08	40.48
1990:10	0.00	70.00	37.69	1,615.38	4.46	37.04	40.68
1990:11	0.00	71.00	37.87	1,623.00	4.43	37.00	40.88
1990:12	0.00	72.00	38.05	1,630.62	4.39	36.97	41.08
1991:01	0.00	73.00	38.23	1,638.25	4.35	36.93	41.28
1991:02	0.00	74.00	38.41	1,645.87	4.31	36.89	41.48
1991:03	0.00	75.00	38.60	1,653.49	4.27	36.86	41.68
1991:04	0.00	76.00	38.78	1,661.11	4.23	36.82	41.88
1991:05	0.00	77.00	38.96	1,668.73	4.20	36.78	42.08
1991:06	0.00	78.00	39.14	1,676.35	4.16	36.74	42.28
1991:07	0.00	79.00	39.37	1,688.17	4.15	36.89	42.43
1991:08	0.00	80.00	39.61	1,699.99	4.14	37.03	42.59

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
1991:09	0.00	81.00	39.84	1,711.81	4.13	37.17	42.75
1991:10	0.00	82.00	40.08	1,723.63	4.12	37.31	42.90
1991:11	0.00	83.00	40.31	1,735.45	4.11	37.45	43.06
1991:12	0.00	84.00	40.54	1,747.27	4.10	37.60	43.21
1992:01	0.00	85.00	40.78	1,759.09	4.09	37.74	43.37
1992:02	0.00	86.00	41.01	1,770.91	4.08	37.88	43.52
1992:03	0.00	87.00	41.25	1,782.73	4.07	38.02	43.68
1992:04	0.00	88.00	41.48	1,794.55	4.07	38.16	43.83
1992:05	0.00	89.00	41.72	1,806.36	4.06	38.31	43.99
1992:06	0.00	90.00	41.95	1,818.18	4.05	38.45	44.15
1992:07	0.00	91.00	42.19	1,828.25	4.06	38.69	44.33
1992:08	0.00	92.00	42.43	1,838.32	4.07	38.93	44.51
1992:09	0.00	93.00	42.67	1,848.39	4.08	39.18	44.69
1992:10	0.00	94.00	42.92	1,858.46	4.09	39.42	44.87
1992:11	0.00	95.00	43.16	1,868.53	4.10	39.66	45.06
1992:12	0.00	96.00	43.40	1,878.60	4.11	39.91	45.24
1993:01	0.00	97.00	43.64	1,888.67	4.11	40.15	45.42
1993:02	0.00	98.00	43.88	1,898.73	4.12	40.39	45.60
1993:03	0.00	99.00	44.12	1,908.80	4.13	40.64	45.78
1993:04	0.00	100.00	44.37	1,918.87	4.14	40.88	45.97
1993:05	0.00	101.00	44.61	1,928.94	4.15	41.12	46.15
1993:06	0.00	102.00	44.85	1,939.01	4.16	41.37	46.33
1993:07	0.00	103.00	45.03	1,948.24	4.16	41.48	46.50
1993:08	0.00	104.00	45.20	1,957.48	4.17	41.60	46.67
1993:09	0.00	105.00	45.38	1,966.72	4.17	41.72	46.83
1993:10	0.00	106.00	45.56	1,975.95	4.17	41.83	47.00
1993:11	0.00	107.00	45.73	1,985.19	4.17	41.95	47.17
1993:12	0.00	108.00	45.91	1,994.42	4.17	42.06	47.33
1994:01	0.00	109.00	46.09	2,003.66	4.17	42.18	47.50
1994:02	0.00	110.00	46.26	2,012.90	4.17	42.29	47.67
1994:03	0.00	111.00	46.44	2,022.13	4.18	42.41	47.83
1994:04	0.00	112.00	46.62	2,031.37	4.18	42.53	48.00
1994:05	0.00	113.00	46.79	2,040.60	4.18	42.64	48.17
1994:06	0.00	114.00	46.97	2,049.84	4.18	42.76	48.34
1994:07	0.00	115.00	47.11	2,063.61	4.17	43.03	48.49
1994:08	0.00	116.00	47.26	2,077.38	4.16	43.29	48.64
1994:09	0.00	117.00	47.41	2,091.16	4.16	43.56	48.80
1994:10	0.00	118.00	47.55	2,104.93	4.15	43.83	48.95
1994:11	0.00	119.00	47.70	2,118.70	4.14	44.10	49.10

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
1994:12	0.00	120.00	47.84	2,132.47	4.14	44.37	49.26
1995:01	0.00	121.00	47.99	2,146.24	4.13	44.64	49.41
1995:02	0.00	122.00	48.13	2,160.02	4.12	44.90	49.56
1995:03	0.00	123.00	48.28	2,173.79	4.11	45.17	49.71
1995:04	0.00	124.00	48.43	2,187.56	4.11	45.44	49.87
1995:05	0.00	125.00	48.57	2,201.33	4.10	45.71	50.02
1995:06	0.00	126.00	48.72	2,215.11	4.09	45.98	50.17
1995:07	0.00	127.00	48.87	2,228.35	4.11	46.32	50.47
1995:08	0.00	128.00	49.03	2,241.59	4.12	46.67	50.76
1995:09	0.00	129.00	49.18	2,254.83	4.14	47.01	51.06
1995:10	0.00	130.00	49.34	2,268.07	4.15	47.36	51.35
1995:11	0.00	131.00	49.49	2,281.31	4.17	47.70	51.65
1995:12	0.00	132.00	49.64	2,294.55	4.18	48.04	51.94
1996:01	0.00	133.00	49.80	2,307.79	4.20	48.39	52.23
1996:02	0.00	134.00	49.95	2,321.03	4.22	48.73	52.53
1996:03	0.00	135.00	50.11	2,334.27	4.23	49.08	52.82
1996:04	0.00	136.00	50.26	2,347.51	4.25	49.42	53.12
1996:05	0.00	137.00	50.42	2,360.75	4.26	49.77	53.41
1996:06	0.00	138.00	50.57	2,373.99	4.28	50.11	53.71
1996:07	0.00	139.00	50.74	2,388.18	4.29	50.49	54.02
1996:08	0.00	140.00	50.90	2,402.37	4.31	50.86	54.34
1996:09	0.00	141.00	51.06	2,416.56	4.33	51.24	54.65
1996:10	0.00	142.00	51.23	2,430.75	4.34	51.61	54.97
1996:11	0.00	143.00	51.39	2,444.94	4.36	51.99	55.28
1996:12	0.00	144.00	51.55	2,459.13	4.37	52.37	55.60
1997:01	0.00	145.00	51.72	2,473.32	4.39	52.74	55.91
1997:02	0.00	146.00	51.88	2,487.51	4.41	53.12	56.23
1997:03	0.00	147.00	52.05	2,501.70	4.42	53.49	56.54
1997:04	0.00	148.00	52.21	2,515.89	4.44	53.87	56.86
1997:05	0.00	149.00	52.37	2,530.08	4.46	54.25	57.17
1997:06	0.00	150.00	52.54	2,544.27	4.47	54.62	57.49
1997:07	0.00	151.00	52.71	2,559.48	4.49	55.03	57.82
1997:08	0.00	152.00	52.89	2,574.69	4.51	55.44	58.16
1997:09	0.00	153.00	53.06	2,589.90	4.52	55.85	58.50
1997:10	0.00	154.00	53.23	2,605.10	4.54	56.26	58.84
1997:11	0.00	155.00	53.41	2,620.31	4.56	56.67	59.17
1997:12	0.00	156.00	53.58	2,635.52	4.57	57.08	59.51
1998:01	0.00	157.00	53.75	2,650.73	4.59	57.49	59.85
1998:02	0.00	158.00	53.93	2,665.93	4.61	57.90	60.19

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
1998:03	0.00	159.00	54.10	2,681.14	4.62	58.31	60.52
1998:04	0.00	160.00	54.28	2,696.35	4.64	58.72	60.86
1998:05	0.00	161.00	54.45	2,711.56	4.66	59.13	61.20
1998:06	0.00	162.00	54.62	2,726.77	4.67	59.54	61.53
1998:07	0.00	163.00	54.81	2,743.06	4.69	59.99	61.90
1998:08	0.00	164.00	54.99	2,759.36	4.71	60.44	62.26
1998:09	0.00	165.00	55.18	2,775.66	4.73	60.89	62.62
1998:10	0.00	166.00	55.36	2,791.96	4.75	61.34	62.98
1998:11	0.00	167.00	55.55	2,808.26	4.76	61.78	63.34
1998:12	0.00	168.00	55.73	2,824.56	4.78	62.23	63.70
1999:01	0.00	169.00	55.91	2,840.86	4.80	62.68	64.06
1999:02	0.00	170.00	56.10	2,857.16	4.82	63.13	64.42
1999:03	0.00	171.00	56.28	2,873.45	4.83	63.57	64.78
1999:04	0.00	172.00	56.47	2,889.75	4.85	64.02	65.14
1999:05	0.00	173.00	56.65	2,906.05	4.87	64.47	65.51
1999:06	0.00	174.00	56.84	2,922.35	4.89	64.92	65.87
1999:07	0.00	175.00	57.03	2,939.82	4.91	65.41	66.25
1999:08	0.00	176.00	57.23	2,957.29	4.92	65.90	66.64
1999:09	0.00	177.00	57.42	2,974.75	4.94	66.38	67.03
1999:10	0.00	178.00	57.62	2,992.22	4.96	66.87	67.41
1999:11	0.00	179.00	57.81	3,009.69	4.98	67.36	67.80
1999:12	0.00	180.00	58.01	3,027.16	5.00	67.85	68.19
2000:01	0.00	181.00	58.21	3,044.62	5.02	68.34	68.57
2000:02	0.00	182.00	58.40	3,062.09	5.03	68.83	68.96
2000:03	0.00	183.00	58.60	3,079.56	5.05	69.32	69.34
2000:04	0.00	184.00	58.79	3,097.03	5.07	69.80	69.73
2000:05	0.00	185.00	58.99	3,114.50	5.09	70.29	70.12
2000:06	0.00	186.00	59.18	3,131.96	5.11	70.78	70.50
2000:07	0.00	187.00	59.38	3,151.49	5.13	71.17	70.82
2000:08	0.00	188.00	59.58	3,171.01	5.15	71.57	71.14
2000:09	0.00	189.00	59.78	3,190.54	5.17	71.96	71.45
2000:10	0.00	190.00	59.98	3,210.06	5.20	72.35	71.77
2000:11	0.00	191.00	60.18	3,229.59	5.22	72.75	72.08
2000:12	0.00	192.00	60.38	3,249.11	5.24	73.14	72.40
2001:01	0.00	193.00	60.58	3,268.63	5.26	73.53	72.72
2001:02	0.00	194.00	60.78	3,288.16	5.29	73.92	73.03
2001:03	0.00	195.00	60.97	3,307.68	5.31	74.32	73.35
2001:04	0.00	196.00	61.17	3,327.21	5.33	74 71	73.67
2001:05	0.00	197.00	61.37	3,346.73	5.35	75.10	73.98

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
2001:06	0.00	198.00	61.57	3,366.26	5.37	75.49	74.30
2001:07	0.00	199.00	61.77	3,387.24	5.40	75.91	74.63
2001:08	0.00	200.00	61.98	3,408.23	5.42	76.33	74.96
2001:09	0.00	201.00	62.18	3,429.21	5.44	76.75	75.30
2001:10	0.00	202.00	62.38	3,450.20	5.47	77.17	75.63
2001:11	0.00	203.00	62.58	3,471.18	5.49	77.59	75.96
2001:12	0.00	204.00	62.78	3,492.17	5.51	78.01	76.30
2002:01	0.00	205.00	62.99	3,513.15	5.54	78.42	76.63
2002:02	0.00	206.00	63.19	3,534.14	5.56	78.84	76.96
2002:03	0.00	207.00	63.39	3,555.12	5.58	79.26	77.30
2002:04	0.00	208.00	63.59	3,576.11	5.61	79.68	77.63
2002:05	0.00	209.00	63.80	3,597.09	5.63	80.10	77.96
2002:06	0.00	210.00	64.00	3,618.08	5.65	80.52	78.30
2002:07	0.00	211.00	64.20	3,640.63	5.68	80.97	78.65
2002:08	0.00	212.00	64.41	3,663.19	5.70	81.41	79.00
2002:09	0.00	213.00	64.62	3,685.74	5.73	81.86	79.35
2002:10	0.00	214.00	64.82	3,708.29	5.75	82.31	79.70
2002:11	0.00	215.00	65.03	3,730.85	5.78	82.75	80.05
2002:12	0.00	216.00	65.23	3,753.40	5.80	83.20	80.40
2003:01	0.00	217.00	65.44	3,775.96	5.83	83.65	80.75
2003:02	0.00	218.00	65.64	3,798.51	5.85	84.09	81.11
2003:03	0.00	219.00	65.85	3,821.07	5.87	84.54	81.46
2003:04	0.00	220.00	66.06	3,843.62	5.90	84.99	81.81
2003:05	0.00	221.00	66.26	3,866.18	5.92	85.43	82.16
2003:06	0.00	222.00	66.47	3,888.73	5.95	85.88	82.51
2003:07	0.00	223.00	66.68	3,912.98	5.97	86.36	82.88
2003:08	0.00	224.00	66.89	3,937.22	6.00	86.83	83.25
2003:09	0.00	225.00	67.10	3,961.46	6.03	87.31	83.62
2003:10	0.00	226.00	67.30	3,985.70	6.05	87.79	83.99
2003:11	0.00	227.00	67.51	4,009.94	6.08	88.26	84.36
2003:12	0.00	228.00	67.72	4,034.19	6.10	88.74	84.73
2004:01	0.00	229.00	67.93	4,058.43	6.13	89.22	85.10
2004:02	0.00	230.00	68.14	4,082.67	6.15	89.69	85.47
2004:03	0.00	231.00	68.35	4,106.91	6.18	90.17	85.84
2004:04	0.00	232.00	68.56	4,131.15	6.21	90.65	86.21
2004:05	0.00	233.00	68.77	4,155.40	6.23	91.12	86.58
2004:06	0.00	234.00	68.98	4,179.64	6.26	91.60	86.95
2004:07	0.00	235.00	69.19	4,205.69	6.28	92.11	87.34
2004:08	0.00	236.00	69.40	4,231.75	6.31	92.62	87.73

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
2004:09	0.00	237.00	69.62	4,257.80	6.34	93.13	88.12
2004:10	0.00	238.00	69.83	4,283.86	6.37	93.64	88.51
2004:11	0.00	239.00	70.04	4,309.92	6.39	94.14	88.90
2004:12	0.00	240.00	70.26	4,335.97	6.42	94.65	89.29
2005:01	0.00	241.00	70.47	4,362.03	6.45	95.16	89.68
2005:02	0.00	242.00	70.68	4,388.08	6.47	95.67	90.07
2005:03	0.00	243.00	70.89	4,414.14	6.50	96.18	90.46
2005:04	0.00	244.00	71.11	4,440.19	6.53	96.69	90.85
2005:05	0.00	245.00	71.32	4,466.25	6.56	97.20	91.24
2005:06	0.00	246.00	71.53	4,492.30	6.58	97.70	91.63
2005:07	0.00	247.00	71.75	4,522.32	6.61	98.10	92.00
2005:08	0.00	248.00	71.96	4,552.34	6.63	98.49	92.37
2005:09	0.00	249.00	72.17	4,582.35	6.66	98.88	92.75
2005:10	0.00	250.00	72.38	4,612.37	6.69	99.27	93.12
2005:11	0.00	251.00	72.60	4,642.39	6.71	99.66	93.49
2005:12	0.00	252.00	72.81	4,672.40	6.74	100.05	93.86
2006:01	0.00	253.00	73.02	4,702.42	6.76	100.45	94.24
2006:02	0.00	254.00	73.24	4,732.44	6.79	100.84	94.61
2006:03	0.00	255.00	73.45	4,762.45	6.82	101.23	94.98
2006:04	0.00	256.00	73.66	4,792.47	6.84	101.62	95.35
2006:05	0.00	257.00	73.87	4,822.48	6.87	102.01	95.73
2006:06	0.00	258.00	74.09	4,852.50	6.89	102.40	96.10
2006:07	0.00	259.00	74.30	4,884.92	6.92	102.81	96.49
2006:08	0.00	260.00	74.51	4,917.35	6.95	103.23	96.88
2006:09	0.00	261.00	74.73	4,949.77	6.97	103.64	97.27
2006:10	0.00	262.00	74.94	4,982.19	7.00	104.05	97.66
2006:11	0.00	263.00	75.15	5,014.62	7.03	104.46	98.05
2006:12	0.00	264.00	75.36	5,047.04	7.06	104.87	98.44
2007:01	0.00	265.00	75.58	5,079.46	7.08	105.28	98.83
2007:02	0.00	266.00	75.79	5,111.89	7.11	105.69	99.22
2007:03	0.00	267.00	76.00	5,144.31	7.14	106.10	99.61
2007:04	0.00	268.00	76.22	5,176.73	7.16	106.51	100.00
2007:05	0.00	269.00	76.43	5,209.16	7.19	106.92	100.39
2007:06	0.00	270.00	76.64	5,241.58	7.22	107.33	100.79
2007:07	0.00	271.00	76.86	5,276.60	7.25	107.76	101.20
2007:08	0.00	272.00	77.07	5,311.63	7.28	108.19	101.60
2007:09	0.00	273.00	77.28	5,346.65	7.30	108.62	102.01
2007:10	0.00	274.00	77.49	5,381.67	7.33	109.06	102.42
2007:11	0.00	275.00	77.71	5,416.69	7.36	109.49	102.83

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
2007:12	0.00	276.00	77.92	5,451.72	7.39	109.92	103.24
2008:01	0.00	277.00	78.13	5,486.74	7.42	110.35	103.65
2008:02	0.00	278.00	78.35	5,521.76	7.45	110.78	104.06
2008:03	0.00	279.00	78.56	5,556.79	7.47	111.21	104.47
2008:04	0.00	280.00	78.77	5,591.81	7.50	111.64	104.88
2008:05	0.00	281.00	78.99	5,626.83	7.53	112.07	105.29
2008:06	0.00	282.00	79.20	5,661.85	7.56	112.50	105.70
2008:07	0.00	283.00	79.41	5,699.69	7.59	112.95	106.13
2008:08	0.00	284.00	79.62	5,737.52	7.62	113.40	106.56
2008:09	0.00	285.00	79.84	5,775.35	7.65	113.86	106.99
2008:10	0.00	286.00	80.05	5,813.18	7.68	114.31	107.42
2008:11	0.00	287.00	80.26	5,851.01	7.71	114.76	107.85
2008:12	0.00	288.00	80.48	5,888.84	7.74	115.21	108.28
2009:01	0.00	289.00	80.69	5,926.67	7.77	115.66	108.71
2009:02	0.00	290.00	80.90	5,964.50	7.80	116.12	109.14
2009:03	0.00	291.00	81.12	6,002.33	7.83	116.57	109.57
2009:04	0.00	292.00	81.33	6,040.17	7.86	117.02	110.00
2009:05	0.00	293.00	81.54	6,078.00	7.89	117.47	110.43
2009:06	0.00	294.00	81.75	6,115.83	7.92	117.92	110.86
2009:07	0.00	295.00	81.97	6,156.69	7.95	118.40	111.31
2009:08	0.00	296.00	82.18	6,197.56	7.98	118.87	111.76
2009:09	0.00	297.00	82.39	6,238.42	8.01	119.34	112.21
2009:10	0.00	298.00	82.61	6,279.29	8.04	119.82	112.66
2009:11	0.00	299.00	82.82	6,320.15	8.07	120.29	113.11
2009:12	0.00	300.00	83.03	6,361.01	8.10	120.76	113.56
2010:01	0.00	301.00	83.25	6,401.88	8.13	121.24	114.01
2010:02	0.00	302.00	83.46	6,442.74	8.17	121.71	114.46
2010:03	0.00	303.00	83.67	6,483.61	8.20	122.19	114.91
2010:04	0.00	304.00	83.89	6,524.47	8.23	122.66	115.36
2010:05	0.00	305.00	84.10	6,565.34	8.26	123.13	115.81
2010:06	0.00	306.00	84.31	6,606.20	8.29	123.61	116.26
2010:07	0.00	307.00	84.53	6,646.43	8.32	124.06	116.69
2010:08	0.00	308.00	84.74	6,686.66	8.35	124.51	117.12
2010:09	0.00	309.00	84.95	6,726.89	8.38	124.95	117.55
2010:10	0.00	310.00	85.17	6,767.12	8.41	125.40	117.98
2010:11	0.00	311.00	85.38	6,807.35	8.44	125.85	118.41
2010:12	0.00	312.00	85.60	6,847.58	8.47	126.30	118.84
2011:01	0.00	313.00	85.81	6,887.81	8.50	126.75	119.27
2011:02	0.00	314.00	86.02	6,928.04	8.53	127.20	119.70

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
2011:03	0.00	315.00	86.24	6,968.27	8.56	127.65	120.13
2011:04	0.00	316.00	86.45	7,008.50	8.59	128.10	120.56
2011:05	0.00	317.00	86.67	7,048.73	8.62	128.55	120.99
2011:06	0.00	318.00	86.88	7,088.95	8.65	128.99	121.42
2011:07	0.00	319.00	87.10	7,132.12	8.68	129.46	121.86
2011:08	0.00	320.00	87.32	7,175.29	8.71	129.93	122.31
2011:09	0.00	321.00	87.54	7,218.46	8.74	130.40	122.76
2011:10	0.00	322.00	87.76	7,261.63	8.77	130.87	123.21
2011:11	0.00	323.00	87.98	7,304.80	8.80	131.34	123.66
2011:12	0.00	324.00	88.20	7,347.97	8.83	131.81	124.11
2012:01	0.00	325.00	88.42	7,391.14	8.86	132.28	124.56
2012:02	0.00	326.00	88.64	7,434.31	8.89	132.74	125.00
2012:03	0.00	327.00	88.86	7,477.48	8.92	133.21	125.45
2012:04	0.00	328.00	89.08	7,520.65	8.96	133.68	125.90
2012:05	0.00	329.00	89.31	7,563.82	8.99	134.15	126.35
2012:06	0.00	330.00	89.53	7,606.99	9.02	134.62	126.80
2012:07	0.00	331.00	89.75	7,653.31	9.05	135.11	127.27
2012:08	0.00	332.00	89.98	7,699.63	9.08	135.60	127.73
2012:09	0.00	333.00	90.21	7,745.96	9.11	136.09	128.20
2012:10	0.00	334.00	90.43	7,792.28	9.15	136.58	128.67
2012:11	0.00	335.00	90.66	7,838.60	9.18	137.07	129.14
2012:12	0.00	336.00	90.89	7,884.93	9.21	137.56	129.61
2013:01	0.00	337.00	91.12	7,931.25	9.24	138.04	130.08
2013:02	0.00	338.00	91.34	7,977.58	9.28	138.53	130.54
2013:03	0.00	339.00	91.57	8,023.90	9.31	139.02	131.01
2013:04	0.00	340.00	91.80	8,070.22	9.34	139.51	131.48
2013:05	0.00	341.00	92.03	8,116.55	9.37	140.00	131.95
2013:06	0.00	342.00	92.25	8,162.87	9.40	140.49	132.42
2013:07	0.00	343.00	92.49	8,212.58	9.44	141.00	132.91
2013:08	0.00	344.00	92.72	8,262.29	9.47	141.51	133.40
2013:09	0.00	345.00	92.96	8,312.00	9.51	142.02	133.88
2013:10	0.00	346.00	93.19	8,361.71	9.54	142.54	134.37
2013:11	0.00	347.00	93.42	8,411.42	9.57	143.05	134.86
2013:12	0.00	348.00	93.66	8,461.13	9.61	143.56	135.35
2014:01	0.00	349.00	93.89	8,510.84	9.64	144.07	135.84
2014:02	0.00	350.00	94.13	8,560.54	9.67	144.58	136.33
2014:03	0.00	351.00	94.36	8,610.25	9.71	145.09	136.82
2014:04	0.00	352.00	94.59	8,659.96	9.74	145.60	137.31
2014:05	0.00	353.00	94.83	8,709.67	9.77	146.11	137.80

Historical and Projected Energy and Demand Forecast Variables

Year/Month	SPIKE89	TIME	TS	YTOT	HGOODS	HGOODSERV	HHH
2014:06	0.00	354.00	95.06	8,759.38	9.81	146.62	138.29
2014:07	0.00	355.00	95.30	8,812.72	9.84	147.16	138.80
2014:08	0.00	356.00	95.55	8,866.06	9.88	147.69	139.31
2014:09	0.00	357.00	95.79	8,919.41	9.91	148.22	139.82
2014:10	0.00	358.00	96.03	8,972.75	9.95	148.76	140.33
2014:11	0.00	359.00	96.27	9,026.09	9.98	149.29	140.84
2014:12	0.00	360.00	96.51	9,079.43	10.02	149.82	141.35
2015:01	0.00	361.00	96.75	9,132.77	10.05	150.36	141.86
2015:02	0.00	362.00	96.99	9,186.11	10.09	150.89	142.37
2015:03	0.00	363.00	97.23	9,239.45	9.71	151.20	142.88
2015:04	0.00	364.00	97.48	9,292.80	10.16	151.96	143.39
2015:05	0.00	365.00	97.72	9,346.14	10.19	152.49	143.90
2015:06	0.00	366.00	97.96	9,399.48	10.23	153.03	144.42
2015:07	0.00	367.00	98.18	9,451.21	10.26	153.53	144.90
2015:08	0.00	368.00	98.41	9,502.95	10.30	154.04	145.39
2015:09	0.00	369.00	98.63	9,554.68	10.33	154.55	145.88
2015:10	0.00	370.00	98.86	9,606.41	10.36	155.06	146.37
2015:11	0.00	371.00	99.08	9,658.14	10.40	155.57	146.86
2015:12	0.00	372.00	99.31	9,709.88	10.43	156.07	147.34
2016:01	0.00	373.00	99.53	9,761.61	10.46	156.58	147.83
2016:02	0.00	374.00	99.76	9,813.34	10.50	157.09	148.32
2016:03	0.00	375.00	99.98	9,865.08	10.53	157.60	148.81
2016:04	0.00	376.00	100.20	9,916.81	10.56	158.11	149.30
2016:05	0.00	377.00	100.43	9,968.54	10.60	158.61	149.78
2016:06	0.00	378.00	100.65	10,020.27	10.63	159.12	150.27
2016:07	0.00	379.00	100.89	10,075.42	10.66	159.65	150.78
2016:08	0.00	380.00	101.12	10,130.57	10.70	160.18	151.29
2016:09	0.00	381.00	101.35	10,185.72	10.73	160.71	151.79
2016:10	0.00	382.00	101.58	10,240.87	10.77	161.24	152.30
2016:11	0.00	383.00	101.81	10,296.02	10.80	161.77	152.81
2016:12	0.00	384.00	102.04	10,351.17	10.84	162.29	153.32

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LOOODS
1985:01	32.79	76.76	935.05	19.93	18.72	857.58	3.52
1985:02	32.83	77.35	943.20	20.08	18.85	867.71	3.53
1985:03	32.88	77.93	951.35	20.23	18.98	877.85	3.54
1985:04	32.92	78.52	959.51	20.37	19.12	887.98	3.55
1985:05	32.97	79.11	967.66	20.52	19.25	898.11	3.56
1985:06	33.01	79.70	975.81	20.67	19.38	908.24	3.57
1985:07	33.11	80.13	983.86	20.86	19.58	918.34	3.59
1985:08	33.22	80.56	991.90	21.05	19.77	928.44	3.61
1985:09	33.32	80.99	999.94	21.24	19.96	938.54	3.63
1985:10	33.42	81.43	1,007.98	21.43	20.16	948.63	3.65
1985:11	33.52	81.86	1,016.02	21.62	20.35	958.73	3.67
1985:12	33.62	82.29	1,024.07	21.81	20.55	968.83	3.69
1986:01	33.71	82.73	1,032.11	22.00	20.74	978.93	3.71
1986:02	33.81	83.16	1,040.15	22.19	20.93	989.03	3.73
1986:03	33.91	83.59	1,048.19	22.38	21.13	999.13	3.75
1986:04	34.00	84.03	1,056.24	22.57	21.32	1,009.23	3.77
1986:05	34.09	84.46	1,064.28	22.76	21.52	1,019.33	3.78
1986:06	34.19	84.89	1,072.32	22.96	21.71	1,029.43	3.80
1986:07	34.23	85.38	1,079.39	23.17	21.95	1,040.07	3.83
1986:08	34.27	85.87	1,086.45	23.39	22.19	1,050.71	3.85
1986:09	34.31	86.36	1,093.52	23.60	22.43	1,061.35	3.88
1986:10	34.34	86.85	1,100.59	23.82	22.67	1,071.99	3.90
1986:11	34.38	87.33	1,107.65	24.03	22.90	1,082.63	3.92
1986:12	34.42	87.82	1,114.72	24.25	23.14	1,093.27	3.95
1987:01	34.46	88.31	1,121.79	24.46	23.38	1,103.91	3.97
1987:02	34.49	88.80	1,128.85	24.68	23.62	1,114.55	3.99
1987:03	34.53	89.29	1,135.92	24.90	23.86	1,125.20	4.02
1987:04	34.57	89.77	1,142.99	25.11	24.10	1,135.84	4.04
1987:05	34.60	90.26	1,150.05	25.33	24.34	1,146.48	4.07
1987:06	34.64	90.75	1,157.12	25.54	24.58	1,157.12	4.09
1987:07	34.68	91.23	1,164.32	25.73	24.95	1,168.69	4.14
1987:08	34.73	91.71	1,171.51	25.92	25.32	1,180.27	4.19
1987:09	34.77	92.18	1,178.71	26.12	25.70	1,191.84	4.25
1987:10	34.82	92.66	1,185.91	26.31	26.07	1,203.42	4.30
1987:11	34.86	93.14	1,193.10	26.50	26.45	1,214.99	4.35
1987:12	34.90	93.62	1,200.30	26.69	26.82	1,226.57	4.40

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
1988:01	34.95	94.10	1,207.50	26.88	27.19	1,238.14	4.45
1988:02	34.99	94.58	1,214.69	27.07	27.57	1,249.72	4.51
1988:03	35.03	95.05	1,221.89	27.26	27.94	1,261.29	4.56
1988:04	35.07	95.53	1,229.09	27.45	28.32	1,272.87	4.61
1988:05	35.11	96.01	1,236.28	27.64	28.69	1,284.44	4.66
1988:06	35.15	96.49	1,243.48	27.84	29.06	1,296.02	4.71
1988:07	35.21	96.87	1,249.86	28.05	29.39	1,308.85	4.73
1988:08	35.26	97.25	1,256.24	28.27	29.72	1,321.69	4.75
1988:09	35.31	97.63	1,262.61	28.49	30.05	1,334.52	4.77
1988:10	35.37	98.00	1,268.99	28.71	30.38	1,347.36	4.79
1988:11	35.42	98.38	1,275.37	28.93	30.71	1,360.19	4.80
1988:12	35.47	98.76	1,281.75	29.15	31.04	1,373.03	4.82
1989:01	35.52	99.14	1,288.12	29.37	31.37	1,385.86	4.84
1989:02	35.57	99.52	1,294.50	29.59	31.70	1,398.70	4.86
1989:03	35.63	99.90	1,300.88	29.81	32.03	1,411.53	4.88
1989:04	35.68	100.28	1,307.26	30.03	32.36	1,424.37	4.89
1989:05	35.73	100.66	1,313.63	30.25	32.69	1,437.21	4.91
1989:06	35.78	101.04	1,320.01	30.47	33.02	1,450.04	4.93
1989:07	35.67	101.75	1,324.93	30.63	33.35	1,461.28	4.90
1989:08	35.56	102.46	1,329.85	30.79	33.68	1,472.52	4.88
1989:09	35.46	103.18	1,334.78	30.95	34.01	1,483.76	4.85
1989:10	35.36	103.89	1,339.70	31.11	34.34	1,494.99	4.83
1989:11	35.25	104.60	1,344.62	31.28	34.67	1,506.23	4.80
1989:12	35.15	105.31	1,349.54	31.44	34.99	1,517.47	4.77
1990:01	35.06	106.03	1,354.46	31.60	35.32	1,528.71	4.75
1990:02	34.96	106.74	1,359.38	31.76	35.65	1,539.95	4.72
1990:03	34.86	107.45	1,364.31	31.92	35.98	1,551.18	4.70
1990:04	34.77	108.16	1,369.23	32.09	36.31	1,562.42	4.67
1990:05	34.67	108.88	1,374.15	32.25	36.64	1,573.66	4.64
1990:06	34.58	109.59	1,379.07	32.41	36.97	1,584.90	4.62
1990:07	34.45	110.13	1,380.83	32.41	37.15	1,592.52	4.58
1990:08	34.32	110.67	1,382.59	32.41	37.33	1,600.14	4.54
1990:09	34.20	111.21	1,384.35	32.42	37.51	1,607.76	4.50
1990:10	34.07	111.74	1,386.10	32.42	37.69	1,615.38	4.46
1990:11	33.95	112.28	1,387.86	32.42	37.87	1,623.00	4.43
1990:12	33.83	112.82	1,389.62	32.42	38.05	1,630.62	4.39
1991:01	33.71	113.36	1,391.38	32.43	38.23	1,638.25	4.35
1991:02	33.59	113.90	1,393.14	32.43	38.41	1,645.87	4.31
1991:03	33.47	114.44	1,394.90	32.43	38.60	1,653.49	4.27

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	[illegible]	[illegible]A	[illegible]YTOT	[illegible]AVG	HTG	HYTOT	LGOODS
1991:04	33.35	114.98	1,396.65	32.43	38.78	1,461.11	4.23
1991:05	33.23	115.52	1,398.41	32.44	38.96	1,668.73	4.20
1991:06	33.12	116.06	1,400.17	32.44	39.14	1,676.35	4.16
1991:07	33.14	116.47	1,406.20	32.59	39.37	1,688.17	4.15
1991:08	33.16	116.89	1,412.23	32.74	39.61	1,699.99	4.14
1991:09	33.18	117.31	1,418.26	32.90	39.84	1,711.81	4.13
1991:10	33.20	117.73	1,424.29	33.05	40.08	1,723.63	4.12
1991:11	33.22	118.15	1,430.32	33.20	40.31	1,735.45	4.11
1991:12	33.24	118.57	1,436.35	33.35	40.54	1,747.27	4.10
1992:01	33.26	118.98	1,442.37	33.50	40.78	1,759.09	4.09
1992:02	33.28	119.40	1,448.40	33.66	41.01	1,770.91	4.08
1992:03	33.30	119.82	1,454.43	33.81	41.25	1,782.73	4.07
1992:04	33.32	120.24	1,460.46	33.96	41.48	1,794.55	4.07
1992:05	33.34	120.66	1,466.49	34.11	41.72	1,806.36	4.06
1992:06	33.36	121.08	1,472.52	34.26	41.95	1,818.18	4.05
1992:07	33.33	121.58	1,477.44	34.49	42.19	1,828.25	4.06
1992:08	33.30	122.08	1,482.37	34.73	42.43	1,838.32	4.07
1992:09	33.28	122.58	1,487.29	34.96	42.67	1,848.39	4.08
1992:10	33.25	123.08	1,492.21	35.19	42.92	1,858.46	4.09
1992:11	33.23	123.58	1,497.14	35.42	43.16	1,868.53	4.10
1992:12	33.20	124.08	1,502.06	35.65	43.40	1,878.60	4.11
1993:01	33.18	124.59	1,506.98	35.88	43.64	1,888.67	4.11
1993:02	33.15	125.09	1,511.91	36.11	43.88	1,898.73	4.12
1993:03	33.13	125.59	1,516.83	36.34	44.12	1,908.80	4.13
1993:04	33.11	126.09	1,521.75	36.57	44.37	1,918.87	4.14
1993:05	33.08	126.59	1,526.68	36.80	44.61	1,928.94	4.15
1993:06	33.06	127.09	1,531.60	37.04	44.85	1,939.01	4.16
1993:07	33.04	127.54	1,536.08	37.14	45.03	1,948.24	4.16
1993:08	33.01	127.98	1,540.56	37.25	45.20	1,957.48	4.17
1993:09	32.99	128.43	1,545.04	37.35	45.38	1,966.72	4.17
1993:10	32.97	128.87	1,549.51	37.46	45.56	1,975.95	4.17
1993:11	32.95	129.32	1,553.99	37.56	45.73	1,985.19	4.17
1993:12	32.93	129.76	1,558.47	37.67	45.91	1,994.42	4.17
1994:01	32.90	130.20	1,562.95	37.78	46.09	2,003.66	4.17
1994:02	32.88	130.65	1,567.43	37.88	46.26	2,012.90	4.17
1994:03	32.86	131.09	1,571.91	37.99	46.44	2,022.13	4.18
1994:04	32.84	131.54	1,576.38	38.09	46.62	2,031.37	4.18
1994:05	32.82	131.98	1,580.86	38.20	46.79	2,040.60	4.18
1994:06	32.80	132.43	1,585.34	38.30	46.97	2,049.84	4.18

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HNCP	HPOPA	HYTOT	HSERVICES	HHS	HYTOT	LGOODS
1994:07	32.85	132.89	1,592.73	38.46	47.11	2,063.61	4.17
1994:08	32.90	133.36	1,600.12	38.61	47.26	2,077.38	4.16
1994:09	32.94	133.82	1,607.50	38.76	47.41	2,091.16	4.16
1994:10	32.99	134.28	1,614.89	38.91	47.55	2,104.93	4.15
1994:11	33.04	134.75	1,622.28	39.06	47.70	2,118.70	4.14
1994:12	33.09	135.21	1,629.67	39.22	47.84	2,132.47	4.14
1995:01	33.13	135.68	1,637.05	39.37	47.99	2,146.24	4.13
1995:02	33.18	136.14	1,644.44	39.52	48.13	2,160.02	4.12
1995:03	33.23	136.61	1,651.83	39.67	48.28	2,173.79	4.11
1995:04	33.27	137.07	1,659.22	39.82	48.43	2,187.56	4.11
1995:05	33.32	137.53	1,666.60	39.98	48.57	2,201.33	4.10
1995:06	33.36	138.00	1,673.99	40.13	48.72	2,215.11	4.09
1995:07	33.40	138.73	1,685.51	40.45	49.03	2,240.91	4.09
1995:08	33.43	139.45	1,697.02	40.77	49.35	2,266.72	4.09
1995:09	33.46	140.18	1,708.54	41.09	49.66	2,292.53	4.09
1995:10	33.50	140.91	1,720.05	41.41	49.97	2,318.33	4.09
1995:11	33.53	141.63	1,731.57	41.73	50.29	2,344.14	4.09
1995:12	33.56	142.36	1,743.09	42.05	50.60	2,369.95	4.10
1996:01	33.59	143.09	1,754.60	42.37	50.92	2,395.75	4.10
1996:02	33.62	143.81	1,766.12	42.69	51.23	2,421.56	4.10
1996:03	33.65	144.54	1,777.63	43.01	51.54	2,447.37	4.10
1996:04	33.68	145.27	1,789.15	43.33	51.86	2,473.17	4.10
1996:05	33.71	145.99	1,800.67	43.65	52.17	2,498.98	4.10
1996:06	33.74	146.72	1,812.18	43.97	52.49	2,524.79	4.10
1996:07	33.78	147.49	1,824.65	44.32	52.82	2,554.20	4.10
1996:08	33.81	148.26	1,837.12	44.67	53.16	2,583.62	4.10
1996:09	33.84	149.04	1,849.58	45.02	53.50	2,613.03	4.10
1996:10	33.88	149.81	1,862.05	45.37	53.84	2,642.45	4.10
1996:11	33.91	150.58	1,874.52	45.72	54.18	2,671.86	4.10
1996:12	33.94	151.35	1,886.98	46.07	54.52	2,701.28	4.10
1997:01	33.97	152.13	1,899.45	46.42	54.85	2,730.69	4.10
1997:02	34.00	152.90	1,911.92	46.77	55.19	2,760.11	4.10
1997:03	34.03	153.67	1,924.38	47.12	55.53	2,789.52	4.10
1997:04	34.07	154.45	1,936.85	47.48	55.87	2,818.94	4.10
1997:05	34.10	155.22	1,949.32	47.83	56.21	2,848.35	4.10
1997:06	34.13	155.99	1,961.78	48.18	56.55	2,877.76	4.10
1997:07	34.16	156.81	1,975.28	48.56	56.91	2,911.29	4.11
1997:08	34.19	157.63	1,988.77	48.95	57.28	2,944.82	4.11
1997:09	34.23	158.45	2,002.27	49.33	57.64	2,978.35	4.11

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
1997:10	34.26	159.28	2,015.77	49.71	58.00	3,011.87	4.11
1997:11	34.29	160.10	2,029.26	50.10	58.37	3,045.40	4.11
1997:12	34.33	160.92	2,042.76	50.48	58.73	3,078.93	4.11
1998:01	34.36	161.74	2,056.25	50.87	59.10	3,112.45	4.11
1998:02	34.39	162.56	2,069.75	51.25	59.46	3,145.98	4.11
1998:03	34.42	163.38	2,083.24	51.64	59.83	3,179.51	4.11
1998:04	34.45	164.20	2,096.74	52.02	60.19	3,213.03	4.11
1998:05	34.48	165.03	2,110.24	52.40	60.56	3,246.56	4.11
1998:06	34.51	165.85	2,123.73	52.79	60.92	3,280.09	4.11
1998:07	34.55	166.72	2,138.34	53.21	61.31	3,318.30	4.11
1998:08	34.58	167.59	2,152.95	53.63	61.71	3,356.52	4.11
1998:09	34.62	168.47	2,167.56	54.05	62.10	3,394.73	4.11
1998:10	34.65	169.34	2,182.17	54.47	62.49	3,432.95	4.11
1998:11	34.68	170.21	2,196.78	54.89	62.88	3,471.16	4.11
1998:12	34.72	171.09	2,211.39	55.32	63.28	3,509.37	4.11
1999:01	34.75	171.96	2,226.00	55.74	63.67	3,547.59	4.11
1999:02	34.78	172.83	2,240.61	56.16	64.06	3,585.80	4.11
1999:03	34.81	173.71	2,255.22	56.58	64.46	3,624.02	4.12
1999:04	34.84	174.58	2,269.83	57.00	64.85	3,662.23	4.12
1999:05	34.87	175.45	2,284.44	57.42	65.24	3,700.44	4.12
1999:06	34.90	176.33	2,299.05	57.84	65.63	3,738.66	4.12
1999:07	34.94	177.26	2,314.87	58.30	66.06	3,782.22	4.12
1999:08	34.97	178.18	2,330.68	58.76	66.48	3,825.77	4.12
1999:09	35.01	179.11	2,346.50	59.23	66.90	3,869.33	4.12
1999:10	35.04	180.04	2,362.32	59.69	67.33	3,912.89	4.12
1999:11	35.08	180.97	2,378.13	60.15	67.75	3,956.44	4.12
1999:12	35.11	181.90	2,393.95	60.61	68.17	4,000.00	4.12
2000:01	35.14	182.83	2,409.76	61.07	68.60	4,043.56	4.12
2000:02	35.17	183.76	2,425.58	61.53	69.02	4,087.11	4.12
2000:03	35.21	184.68	2,441.40	61.99	69.44	4,130.67	4.12
2000:04	35.24	185.61	2,457.21	62.46	69.86	4,174.23	4.12
2000:05	35.27	186.54	2,473.03	62.92	70.29	4,217.78	4.12
2000:06	35.30	187.47	2,488.84	63.38	70.71	4,261.34	4.12
2000:07	35.34	188.24	2,502.84	63.73	71.09	4,305.47	4.13
2000:08	35.38	189.02	2,516.83	64.08	71.47	4,349.61	4.13
2000:09	35.42	189.80	2,530.82	64.43	71.85	4,393.74	4.13
2000:10	35.46	190.57	2,544.82	64.78	72.22	4,437.88	4.13
2000:11	35.50	191.35	2,558.81	65.13	72.60	4,482.01	4.14
2000:12	35.54	192.12	2,572.80	65.48	72.98	4,526.15	4.14

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
2001:01	35.57	192.90	2,586.80	65.84	73.36	4,570.28	4.14
2001:02	35.61	193.67	2,600.79	66.19	73.74	4,614.41	4.14
2001:03	35.65	194.45	2,614.78	66.54	74.11	4,658.55	4.15
2001:04	35.69	195.22	2,628.78	66.89	74.49	4,702.68	4.15
2001:05	35.72	196.00	2,642.77	67.24	74.87	4,746.82	4.15
2001:06	35.76	196.77	2,656.77	67.59	75.25	4,790.95	4.15
2001:07	35.80	197.59	2,671.70	67.96	75.65	4,840.57	4.16
2001:08	35.84	198.40	2,686.64	68.34	76.05	4,890.19	4.16
2001:09	35.88	199.22	2,701.58	68.71	76.46	4,939.81	4.16
2001:10	35.92	200.03	2,716.52	69.09	76.86	4,989.43	4.16
2001:11	35.96	200.84	2,731.45	69.46	77.26	5,039.05	4.17
2001:12	36.00	201.66	2,746.39	69.84	77.66	5,088.67	4.17
2002:01	36.03	202.47	2,761.33	70.21	78.07	5,138.29	4.17
2002:02	36.07	203.28	2,776.27	70.58	78.47	5,187.91	4.18
2002:03	36.11	204.10	2,791.20	70.96	78.87	5,237.53	4.18
2002:04	36.15	204.91	2,806.14	71.33	79.27	5,287.15	4.18
2002:05	36.18	205.73	2,821.08	71.71	79.68	5,336.77	4.18
2002:06	36.22	206.54	2,836.02	72.08	80.08	5,386.39	4.19
2002:07	36.26	207.39	2,851.96	72.48	80.51	5,442.17	4.19
2002:08	36.30	208.25	2,867.91	72.88	80.93	5,497.96	4.19
2002:09	36.34	209.10	2,883.85	73.28	81.36	5,553.74	4.19
2002:10	36.38	209.96	2,899.80	73.68	81.79	5,609.53	4.20
2002:11	36.42	210.81	2,915.74	74.08	82.22	5,665.32	4.20
2002:12	36.46	211.67	2,931.69	74.48	82.65	5,721.10	4.20
2003:01	36.50	212.52	2,947.63	74.88	83.08	5,776.89	4.20
2003:02	36.54	213.37	2,963.58	75.28	83.50	5,832.68	4.21
2003:03	36.58	214.23	2,979.52	75.67	83.93	5,888.46	4.21
2003:04	36.62	215.08	2,995.47	76.07	84.36	5,944.25	4.21
2003:05	36.65	215.94	3,011.41	76.47	84.79	6,000.04	4.21
2003:06	36.69	216.79	3,027.36	76.87	85.22	6,055.82	4.22
2003:07	36.73	217.69	3,044.38	77.30	85.67	6,118.54	4.22
2003:08	36.77	218.58	3,061.40	77.72	86.13	6,181.26	4.22
2003:09	36.81	219.48	3,078.42	78.15	86.58	6,243.98	4.22
2003:10	36.86	220.38	3,095.45	78.58	87.04	6,306.70	4.23
2003:11	36.90	221.27	3,112.47	79.00	87.50	6,369.42	4.23
2003:12	36.93	222.17	3,129.49	79.43	87.95	6,432.14	4.23
2004:01	36.97	223.07	3,146.51	79.85	88.41	6,494.86	4.24
2004:02	37.01	223.96	3,163.53	80.28	88.86	6,557.58	4.24
2004:03	37.05	224.86	3,180.55	80.70	89.32	6,620.30	4.24

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
2004:04	37.09	225.76	3,197.57	81.13	89.78	6,683.02	4.24
2004:05	37.13	226.65	3,214.59	81.56	90.23	6,745.74	4.25
2004:06	37.17	227.55	3,231.61	81.98	90.69	6,808.46	4.25
2004:07	37.21	228.49	3,249.78	82.44	91.17	6,878.97	4.25
2004:08	37.25	229.43	3,267.95	82.89	91.66	6,949.49	4.25
2004:09	37.29	230.37	3,286.12	83.34	92.14	7,020.00	4.26
2004:10	37.33	231.32	3,304.29	83.80	92.63	7,090.52	4.26
2004:11	37.37	232.26	3,322.46	84.25	93.11	7,161.03	4.26
2004:12	37.41	233.20	3,340.63	84.71	93.60	7,231.55	4.26
2005:01	37.45	234.14	3,358.80	85.16	94.08	7,302.06	4.27
2005:02	37.49	235.08	3,376.97	85.61	94.57	7,372.58	4.27
2005:03	37.53	236.02	3,395.14	86.07	95.05	7,443.09	4.27
2005:04	37.57	236.96	3,413.31	86.52	95.54	7,513.60	4.27
2005:05	37.61	237.90	3,431.48	86.98	96.02	7,584.12	4.28
2005:06	37.65	238.84	3,449.65	87.43	96.51	7,654.63	4.28
2005:07	37.73	239.72	3,471.49	87.85	96.96	7,741.72	4.28
2005:08	37.82	240.60	3,493.33	88.27	97.42	7,828.81	4.28
2005:09	37.90	241.48	3,515.17	88.69	97.88	7,915.90	4.28
2005:10	37.98	242.36	3,537.01	89.12	98.34	8,002.99	4.28
2005:11	38.07	243.24	3,558.84	89.54	98.80	8,090.08	4.28
2005:12	38.15	244.12	3,580.68	89.96	99.25	8,177.17	4.28
2006:01	38.23	245.00	3,602.52	90.38	99.71	8,264.26	4.28
2006:02	38.31	245.88	3,624.36	90.80	100.17	8,351.35	4.28
2006:03	38.39	246.76	3,646.20	91.22	100.63	8,438.44	4.28
2006:04	38.47	247.64	3,668.04	91.64	101.08	8,525.53	4.28
2006:05	38.55	248.52	3,689.88	92.07	101.54	8,612.62	4.28
2006:06	38.62	249.39	3,711.72	92.49	102.00	8,699.71	4.28
2006:07	38.71	250.31	3,735.22	92.93	102.48	8,798.68	4.28
2006:08	38.80	251.23	3,758.71	93.38	102.97	8,897.66	4.28
2006:09	38.88	252.15	3,782.21	93.82	103.45	8,996.64	4.28
2006:10	38.97	253.07	3,805.71	94.27	103.93	9,095.62	4.28
2006:11	39.05	253.98	3,829.21	94.72	104.42	9,194.60	4.28
2006:12	39.14	254.90	3,852.71	95.16	104.90	9,293.58	4.28
2007:01	39.22	255.82	3,876.20	95.61	105.38	9,392.56	4.28
2007:02	39.30	256.74	3,899.70	96.05	105.87	9,491.54	4.28
2007:03	39.38	257.66	3,923.20	96.50	106.35	9,590.52	4.28
2007:04	39.47	258.57	3,946.70	96.95	106.84	9,689.50	4.28
2007:05	39.55	259.49	3,970.20	97.39	107.32	9,788.48	4.28
2007:06	39.63	260.41	3,993.69	97.84	107.80	9,887.46	4.28

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
2007:07	39.72	261.37	4,018.98	98.31	108.31	9,999.95	4.28
2007:08	39.80	262.33	4,044.26	98.78	108.83	10,112.44	4.28
2007:09	39.89	263.29	4,069.54	99.25	109.34	10,224.94	4.28
2007:10	39.98	264.25	4,094.83	99.72	109.85	10,337.43	4.28
2007:11	40.07	265.20	4,120.11	100.20	110.36	10,449.92	4.28
2007:12	40.15	266.16	4,145.39	100.67	110.87	10,562.41	4.28
2008:01	40.24	267.12	4,170.67	101.14	111.38	10,674.91	4.28
2008:02	40.32	268.08	4,195.96	101.61	111.89	10,787.40	4.28
2008:03	40.41	269.04	4,221.24	102.08	112.40	10,899.89	4.27
2008:04	40.49	270.00	4,246.52	102.55	112.91	11,012.39	4.27
2008:05	40.57	270.96	4,271.81	103.03	113.43	11,124.88	4.27
2008:06	40.65	271.91	4,297.09	103.50	113.94	11,237.37	4.27
2008:07	40.74	272.91	4,324.29	104.00	114.48	11,365.22	4.27
2008:08	40.84	273.92	4,351.50	104.50	115.02	11,493.07	4.27
2008:09	40.93	274.92	4,378.70	104.99	115.56	11,620.92	4.27
2008:10	41.02	275.92	4,405.91	105.49	116.10	11,748.78	4.27
2008:11	41.10	276.92	4,433.11	105.99	116.64	11,876.63	4.27
2008:12	41.19	277.92	4,460.31	106.49	117.18	12,004.48	4.27
2009:01	41.28	278.92	4,487.52	106.99	117.72	12,132.33	4.27
2009:02	41.37	279.92	4,514.72	107.49	118.26	12,260.18	4.27
2009:03	41.45	280.92	4,541.93	107.99	118.80	12,388.03	4.27
2009:04	41.54	281.92	4,569.13	108.49	119.34	12,515.88	4.27
2009:05	41.62	282.92	4,596.33	108.99	119.88	12,643.73	4.27
2009:06	41.71	283.92	4,623.54	109.49	120.42	12,771.59	4.27
2009:07	41.80	284.97	4,652.81	110.01	120.99	12,916.89	4.27
2009:08	41.89	286.02	4,682.08	110.54	121.56	13,062.20	4.27
2009:09	41.99	287.06	4,711.35	111.07	122.13	13,207.50	4.27
2009:10	42.08	288.11	4,740.62	111.60	122.71	13,352.81	4.27
2009:11	42.17	289.15	4,769.89	112.12	123.28	13,498.12	4.27
2009:12	42.26	290.20	4,799.16	112.65	123.85	13,643.42	4.27
2010:01	42.35	291.24	4,828.43	113.18	124.42	13,788.73	4.27
2010:02	42.44	292.29	4,857.70	113.71	124.99	13,934.04	4.27
2010:03	42.53	293.33	4,886.97	114.24	125.56	14,079.34	4.27
2010:04	42.62	294.38	4,916.24	114.76	126.13	14,224.65	4.27
2010:05	42.70	295.42	4,945.51	115.29	126.70	14,369.96	4.27
2010:06	42.79	296.47	4,974.78	115.82	127.27	14,515.26	4.27
2010:07	42.88	297.46	5,003.40	116.33	127.82	14,665.33	4.27
2010:08	42.96	298.45	5,032.02	116.83	128.37	14,815.40	4.26
2010:09	43.05	299.44	5,060.64	117.34	128.92	14,965.47	4.26

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPERHH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
2010:10	43.14	300.43	5,089.26	117.85	129.47	15,115.54	4.26
2010:11	43.22	301.42	5,117.88	118.36	130.02	15,265.61	4.26
2010:12	43.31	302.42	5,146.50	118.86	130.56	15,415.67	4.25
2011:01	43.39	303.41	5,175.12	119.37	131.11	15,565.74	4.25
2011:02	43.47	304.40	5,203.73	119.88	131.66	15,715.81	4.25
2011:03	43.56	305.39	5,232.35	120.39	132.21	15,865.88	4.24
2011:04	43.64	306.38	5,260.97	120.89	132.76	16,015.95	4.24
2011:05	43.72	307.37	5,289.59	121.40	133.31	16,166.02	4.24
2011:06	43.80	308.37	5,318.21	121.91	133.85	16,316.08	4.24
2011:07	43.89	309.40	5,348.81	122.44	134.43	16,484.77	4.23
2011:08	43.98	310.43	5,379.40	122.98	135.01	16,653.46	4.23
2011:09	44.07	311.46	5,409.99	123.51	135.59	16,822.14	4.23
2011:10	44.16	312.49	5,440.59	124.04	136.16	16,990.83	4.22
2011:11	44.24	313.52	5,471.18	124.58	136.74	17,159.52	4.22
2011:12	44.33	314.56	5,501.78	125.11	137.32	17,328.20	4.22
2012:01	44.42	315.59	5,532.37	125.65	137.89	17,496.89	4.21
2012:02	44.50	316.62	5,562.97	126.18	138.47	17,665.58	4.21
2012:03	44.59	317.65	5,593.56	126.71	139.05	17,834.26	4.21
2012:04	44.67	318.68	5,624.16	127.25	139.62	18,002.95	4.21
2012:05	44.75	319.71	5,654.75	127.78	140.20	18,171.64	4.20
2012:06	44.84	320.74	5,685.35	128.32	140.78	18,340.32	4.20
2012:07	44.93	321.82	5,718.05	128.88	141.38	18,529.94	4.20
2012:08	45.02	322.89	5,750.76	129.44	141.99	18,719.55	4.19
2012:09	45.11	323.96	5,783.47	130.00	142.60	18,909.17	4.19
2012:10	45.20	325.04	5,816.17	130.56	143.20	19,098.78	4.19
2012:11	45.29	326.11	5,848.88	131.13	143.81	19,288.40	4.19
2012:12	45.38	327.18	5,881.59	131.69	144.42	19,478.01	4.18
2013:01	45.47	328.25	5,914.29	132.25	145.02	19,667.63	4.18
2013:02	45.56	329.33	5,947.00	132.81	145.63	19,857.24	4.18
2013:03	45.64	330.40	5,979.71	133.38	146.24	20,046.85	4.17
2013:04	45.73	331.47	6,012.41	133.94	146.84	20,236.47	4.17
2013:05	45.81	332.55	6,045.12	134.50	147.45	20,426.08	4.17
2013:06	45.90	333.62	6,077.83	135.06	148.06	20,615.70	4.17
2013:07	45.99	334.73	6,112.79	135.65	148.69	20,828.84	4.16
2013:08	46.09	335.85	6,147.76	136.25	149.33	21,041.98	4.16
2013:09	46.18	336.97	6,182.72	136.84	149.97	21,255.11	4.16
2013:10	46.27	338.08	6,217.69	137.43	150.61	21,468.25	4.15
2013:11	46.36	339.20	6,252.65	138.02	151.25	21,681.39	4.15
2013:12	46.45	340.31	6,287.62	138.61	151.88	21,894.53	4.15

Historical and Projected Energy and Demand Forecast Variables							
Year/Month	HINCPEREH	HPOPA	HRYTOT	HSERVICES	HTS	HYTOT	LGOODS
2014:01	46.54	341.43	6,322.58	139.20	152.52	22,107.67	4.15
2014:02	46.63	342.55	6,357.54	139.80	153.16	22,320.81	4.14
2014:03	46.72	343.66	6,392.51	140.39	153.80	22,533.95	4.14
2014:04	46.81	344.78	6,427.47	140.98	154.44	22,747.09	4.14
2014:05	46.90	345.89	6,462.44	141.57	155.07	22,960.23	4.13
2014:06	46.99	347.01	6,497.40	142.16	155.71	23,173.36	4.13
2014:07	47.08	348.17	6,534.78	142.78	156.38	23,412.95	4.13
2014:08	47.18	349.33	6,572.16	143.41	157.05	23,652.53	4.13
2014:09	47.27	350.49	6,609.54	144.03	157.72	23,892.11	4.12
2014:10	47.37	351.65	6,646.92	144.65	158.40	24,131.69	4.12
2014:11	47.46	352.81	6,684.29	145.28	159.07	24,371.27	4.12
2014:12	47.55	353.97	6,721.67	145.90	159.74	24,610.86	4.11
2015:01	47.65	355.14	6,759.05	146.52	160.41	24,850.44	4.11
2015:02	47.74	356.30	6,796.43	147.14	161.08	25,090.02	4.11
2015:03	47.83	357.46	6,833.81	147.77	161.75	25,329.60	4.14
2015:04	47.92	358.62	6,871.19	148.39	162.42	25,569.18	4.10
2015:05	48.01	359.78	6,908.57	149.01	163.09	25,808.76	4.10
2015:06	48.10	360.94	6,945.94	149.64	163.76	26,048.35	4.10
2015:07	48.19	362.04	6,982.50	150.23	164.41	26,294.72	4.09
2015:08	48.28	363.15	7,019.06	150.83	165.05	26,541.09	4.09
2015:09	48.37	364.25	7,055.61	151.43	165.70	26,787.46	4.08
2015:10	48.45	365.36	7,092.17	152.03	166.35	27,033.83	4.07
2015:11	48.54	366.46	7,128.72	152.63	166.99	27,280.20	4.07
2015:12	48.63	367.57	7,165.28	153.23	167.64	27,526.58	4.06
2016:01	48.72	368.67	7,201.83	153.83	168.28	27,772.95	4.05
2016:02	48.80	369.78	7,238.39	154.43	168.93	28,019.32	4.05
2016:03	48.89	370.88	7,274.95	155.03	169.57	28,265.69	4.04
2016:04	48.97	371.98	7,311.50	155.63	170.22	28,512.06	4.04
2016:05	49.06	373.09	7,348.06	156.23	170.87	28,758.43	4.03
2016:06	49.14	374.19	7,384.61	156.83	171.51	29,004.81	4.02
2016:07	49.23	375.34	7,423.48	157.46	172.19	29,279.14	4.02
2016:08	49.33	376.48	7,462.34	158.09	172.86	29,553.47	4.01
2016:09	49.42	377.63	7,501.21	158.72	173.54	29,827.81	4.01
2016:10	49.51	378.77	7,540.07	159.35	174.22	30,102.14	4.00
2016:11	49.60	379.92	7,578.94	159.97	174.89	30,376.48	4.00
2016:12	49.69	381.06	7,617.80	160.60	175.57	30,650.81	3.99

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LINCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
1985:01	23.45	28.52	32.79	76.76	935.05	19.93	18.72	857.58
1985:02	23.61	28.73	32.83	77.35	943.20	20.08	18.85	867.71
1985:03	23.77	28.94	32.88	77.93	951.35	20.23	18.98	877.85
1985:04	23.92	29.14	32.92	78.52	959.51	20.37	19.12	887.98
1985:05	24.08	29.35	32.97	79.11	967.66	20.52	19.25	898.11
1985:06	24.24	29.56	33.01	79.70	975.81	20.67	19.38	908.24
1985:07	24.45	29.71	33.11	80.13	983.86	20.86	19.58	918.34
1985:08	24.66	29.86	33.22	80.56	991.90	21.05	19.77	928.44
1985:09	24.87	30.01	33.32	80.99	999.94	21.24	19.96	938.54
1985:10	25.08	30.16	33.42	81.43	1,007.98	21.43	20.16	948.63
1985:11	25.29	30.31	33.52	81.86	1,016.02	21.62	20.35	958.73
1985:12	25.50	30.46	33.62	82.29	1,024.07	21.81	20.55	968.83
1986:01	25.71	30.61	33.71	82.73	1,032.11	22.00	20.74	978.93
1986:02	25.92	30.76	33.81	83.16	1,040.15	22.19	20.93	989.03
1986:03	26.13	30.91	33.91	83.59	1,048.19	22.38	21.13	999.13
1986:04	26.34	31.07	34.00	84.03	1,056.24	22.57	21.32	1,009.23
1986:05	26.55	31.22	34.09	84.46	1,064.28	22.76	21.52	1,019.33
1986:06	26.76	31.37	34.19	84.89	1,072.32	22.96	21.71	1,029.43
1986:07	27.00	31.54	34.23	85.38	1,079.39	23.17	21.95	1,040.07
1986:08	27.24	31.71	34.27	85.87	1,086.45	23.39	22.19	1,050.71
1986:09	27.48	31.88	34.31	86.36	1,093.52	23.60	22.43	1,061.35
1986:10	27.72	32.05	34.34	86.85	1,100.59	23.82	22.67	1,071.99
1986:11	27.96	32.22	34.38	87.33	1,107.65	24.03	22.90	1,082.63
1986:12	28.20	32.39	34.42	87.82	1,114.72	24.25	23.14	1,093.27
1987:01	28.43	32.56	34.46	88.31	1,121.79	24.46	23.38	1,103.91
1987:02	28.67	32.73	34.49	88.80	1,128.85	24.68	23.62	1,114.55
1987:03	28.91	32.90	34.53	89.29	1,135.92	24.90	23.86	1,125.20
1987:04	29.15	33.07	34.57	89.77	1,142.99	25.11	24.10	1,135.84
1987:05	29.39	33.24	34.60	90.26	1,150.05	25.33	24.34	1,146.48
1987:06	29.63	33.41	34.64	90.75	1,157.12	25.54	24.58	1,157.12
1987:07	29.88	33.57	34.68	91.23	1,164.32	25.73	24.95	1,168.69

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSRV	LHH	LINCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
1987:08	30.12	33.73	34.73	91.71	1,171.51	25.92	25.32	1,180.27
1987:09	30.36	33.90	34.77	92.18	1,178.71	26.12	25.70	1,191.84
1987:10	30.60	34.06	34.82	92.66	1,185.91	26.31	26.07	1,203.42
1987:11	30.85	34.23	34.86	93.14	1,193.10	26.50	26.45	1,214.99
1987:12	31.09	34.39	34.90	93.62	1,200.30	26.69	26.82	1,226.57
1988:01	31.33	34.55	34.95	94.10	1,207.50	26.88	27.19	1,238.14
1988:02	31.58	34.72	34.99	94.58	1,214.69	27.07	27.57	1,249.72
1988:03	31.82	34.88	35.03	95.05	1,221.89	27.26	27.94	1,261.29
1988:04	32.06	35.05	35.07	95.53	1,229.09	27.45	28.32	1,272.87
1988:05	32.31	35.21	35.11	96.01	1,236.28	27.64	28.69	1,284.44
1988:06	32.55	35.37	35.15	96.49	1,243.48	27.84	29.06	1,296.02
1988:07	32.79	35.50	35.21	96.87	1,249.86	28.05	29.39	1,308.85
1988:08	33.02	35.63	35.26	97.25	1,256.24	28.27	29.72	1,321.69
1988:09	33.26	35.75	35.31	97.63	1,262.61	28.49	30.05	1,334.52
1988:10	33.50	35.88	35.37	98.00	1,268.99	28.71	30.38	1,347.36
1988:11	33.74	36.01	35.42	98.38	1,275.37	28.93	30.71	1,360.19
1988:12	33.97	36.13	35.47	98.76	1,281.75	29.15	31.04	1,373.03
1989:01	34.21	36.26	35.52	99.14	1,288.12	29.37	31.37	1,385.86
1989:02	34.45	36.39	35.57	99.52	1,294.50	29.59	31.70	1,398.70
1989:03	34.69	36.52	35.63	99.90	1,300.88	29.81	32.03	1,411.53
1989:04	34.92	36.64	35.68	100.28	1,307.26	30.03	32.36	1,424.37
1989:05	35.16	36.77	35.73	100.66	1,313.63	30.25	32.69	1,437.21
1989:06	35.40	36.90	35.78	101.04	1,320.01	30.47	33.02	1,450.04
1989:07	35.53	37.14	35.67	101.75	1,324.93	30.63	33.35	1,461.28
1989:08	35.67	37.39	35.56	102.46	1,329.85	30.79	33.68	1,472.52
1989:09	35.81	37.64	35.46	103.18	1,334.78	30.95	34.01	1,483.76
1989:10	35.94	37.89	35.36	103.89	1,339.70	31.11	34.34	1,494.99
1989:11	36.08	38.14	35.25	104.60	1,344.62	31.28	34.67	1,506.23
1989:12	36.21	38.39	35.15	105.31	1,349.54	31.44	34.99	1,517.47
1990:01	36.35	38.64	35.06	106.03	1,354.46	31.60	35.32	1,528.71
1990:02	36.48	38.89	34.96	106.74	1,359.38	31.76	35.65	1,539.95
1990:03	36.62	39.14	34.86	107.45	1,364.31	31.92	35.98	1,551.18
1990:04	36.76	39.38	34.77	108.16	1,369.23	32.09	36.31	1,562.42
1990:05	36.89	39.63	34.67	108.88	1,374.15	32.25	36.64	1,573.66
1990:06	37.03	39.88	34.58	109.59	1,379.07	32.41	36.97	1,584.90
1990:07	36.99	40.08	34.45	110.13	1,380.83	32.41	37.15	1,592.52
1990:08	36.96	40.28	34.32	110.67	1,382.59	32.41	37.33	1,600.14
1990:09	36.92	40.48	34.20	111.21	1,384.35	32.42	37.51	1,607.76
1990:10	36.88	40.68	34.07	111.74	1,386.10	32.42	37.69	1,615 38

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LINCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
1990:11	36.85	40.88	33.95	112.28	1,387.86	32.42	37.87	1,623.00
1990:12	36.81	41.09	33.83	112.82	1,389.62	32.42	38.05	1,630.62
1991:01	36.78	41.28	33.71	113.36	1,391.38	32.43	38.23	1,638.25
1991:02	36.74	41.48	33.59	113.90	1,393.14	32.43	38.41	1,645.87
1991:03	36.70	41.68	33.47	114.44	1,394.90	32.43	38.60	1,653.49
1991:04	36.67	41.88	33.35	114.98	1,396.65	32.43	38.78	1,661.11
1991:05	36.63	42.08	33.23	115.52	1,398.41	32.44	38.96	1,668.73
1991:06	36.60	42.28	33.12	116.06	1,400.17	32.44	39.14	1,676.35
1991:07	36.74	42.43	33.14	116.47	1,406.20	32.59	39.37	1,688.17
1991:08	36.88	42.59	33.16	116.89	1,412.23	32.74	39.61	1,699.99
1991:09	37.02	42.75	33.18	117.31	1,418.26	32.90	39.84	1,711.81
1991:10	37.17	42.90	33.20	117.73	1,424.29	33.05	40.08	1,723.63
1991:11	37.31	43.06	33.22	118.15	1,430.32	33.20	40.31	1,735.45
1991:12	37.45	43.21	33.24	118.57	1,436.35	33.35	40.54	1,747.27
1992:01	37.60	43.37	33.26	118.98	1,442.37	33.50	40.78	1,759.09
1992:02	37.74	43.52	33.28	119.40	1,448.40	33.66	41.01	1,770.91
1992:03	37.88	43.68	33.30	119.82	1,454.43	33.81	41.25	1,782.73
1992:04	38.02	43.83	33.32	120.24	1,460.46	33.96	41.48	1,794.55
1992:05	38.17	43.99	33.34	120.66	1,466.49	34.11	41.72	1,806.36
1992:06	38.31	44.15	33.36	121.08	1,472.52	34.26	41.95	1,818.18
1992:07	38.55	44.33	33.33	121.58	1,477.44	34.49	42.19	1,828.25
1992:08	38.79	44.51	33.30	122.08	1,482.37	34.73	42.43	1,838.32
1992:09	39.03	44.69	33.28	122.58	1,487.29	34.96	42.67	1,848.39
1992:10	39.27	44.87	33.25	123.08	1,492.21	35.19	42.92	1,858.46
1992:11	39.51	45.06	33.23	123.58	1,497.14	35.42	43.16	1,868.53
1992:12	39.75	45.24	33.20	124.08	1,502.06	35.65	43.40	1,878.60
1993:01	40.00	45.42	33.18	124.59	1,506.98	35.88	43.64	1,888.67
1993:02	40.24	45.60	33.15	125.09	1,511.91	36.11	43.88	1,898.73
1993:03	40.48	45.78	33.13	125.59	1,516.83	36.34	44.12	1,908.80
1993:04	40.72	45.97	33.11	126.09	1,521.75	36.57	44.37	1,918.87
1993:05	40.96	46.15	33.08	126.59	1,526.68	36.80	44.61	1,928.94
1993:06	41.20	46.33	33.06	127.09	1,531.60	37.04	44.85	1,939.01
1993:07	41.31	46.50	33.04	127.54	1,536.08	37.14	45.03	1,948.24
1993:08	41.41	46.67	33.01	127.98	1,540.56	37.25	45.20	1,957.48
1993:09	41.52	46.83	32.99	128.43	1,545.04	37.35	45.38	1,966.72
1993:10	41.63	47.00	32.97	128.87	1,549.51	37.46	45.56	1,975.95
1993:11	41.73	47.17	32.95	129.32	1,553.99	37.56	45.73	1,985.19
1993:12	41.84	47.33	32.93	129.76	1,558.47	37.67	45.91	1,994.42
1994:01	41.95	47.50	32.90	130.20	1,562.95	37.78	46.09	2,003.66

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LINCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
1994:02	42.06	47.67	32.88	130.65	1,567.43	37.88	46.26	2,012.90
1994:03	42.16	47.83	32.86	131.09	1,571.91	37.99	46.44	2,022.13
1994:04	42.27	48.00	32.84	131.54	1,576.38	38.09	46.62	2,031.37
1994:05	42.38	48.17	32.82	131.98	1,580.86	38.20	46.79	2,040.60
1994:06	42.48	48.34	32.80	132.43	1,585.34	38.30	46.97	2,049.84
1994:07	42.63	48.49	32.85	132.89	1,592.73	38.46	47.11	2,063.61
1994:08	42.77	48.64	32.90	133.36	1,600.12	38.61	47.26	2,077.38
1994:09	42.92	48.80	32.94	133.82	1,607.50	38.76	47.41	2,091.16
1994:10	43.06	48.95	32.99	134.28	1,614.89	38.91	47.55	2,104.93
1994:11	43.21	49.10	33.04	134.75	1,622.28	39.06	47.70	2,118.70
1994:12	43.35	49.26	33.09	135.21	1,629.67	39.22	47.84	2,132.47
1995:01	43.50	49.41	33.13	135.68	1,637.05	39.37	47.99	2,146.24
1995:02	43.64	49.56	33.18	136.14	1,644.44	39.52	48.13	2,160.02
1995:03	43.79	49.71	33.23	136.61	1,651.83	39.67	48.28	2,173.79
1995:04	43.93	49.87	33.27	137.07	1,659.22	39.82	48.43	2,187.56
1995:05	44.07	50.02	33.32	137.53	1,666.60	39.98	48.57	2,201.33
1995:06	44.22	50.17	33.36	138.00	1,673.99	40.13	48.72	2,215.11
1995:07	44.23	50.18	33.36	138.02	1,674.38	40.14	48.73	2,215.98
1995:08	44.24	50.19	33.37	138.05	1,674.77	40.15	48.74	2,216.85
1995:09	44.25	50.20	33.37	138.07	1,675.15	40.16	48.75	2,217.72
1995:10	44.26	50.21	33.37	138.10	1,675.54	40.17	48.76	2,218.58
1995:11	44.28	50.22	33.37	138.12	1,675.93	40.18	48.77	2,219.45
1995:12	44.29	50.23	33.37	138.15	1,676.32	40.19	48.78	2,220.32
1996:01	44.30	50.24	33.37	138.17	1,676.71	40.20	48.79	2,221.19
1996:02	44.31	50.25	33.37	138.19	1,677.09	40.21	48.80	2,222.06
1996:03	44.32	50.26	33.37	138.22	1,677.48	40.22	48.81	2,222.93
1996:04	44.33	50.27	33.38	138.24	1,677.87	40.23	48.82	2,223.80
1996:05	44.34	50.28	33.38	138.27	1,678.26	40.25	48.83	2,224.67
1996:06	44.35	50.29	33.38	138.29	1,678.65	40.26	48.84	2,225.54
1996:07	44.37	50.30	33.38	138.32	1,679.03	40.27	48.85	2,226.41
1996:08	44.38	50.31	33.38	138.34	1,679.42	40.28	48.87	2,227.29
1996:09	44.39	50.32	33.38	138.37	1,679.81	40.29	48.88	2,228.16
1996:10	44.40	50.33	33.38	138.39	1,680.20	40.30	48.89	2,229.03
1996:11	44.41	50.34	33.38	138.42	1,680.59	40.31	48.90	2,229.91
1996:12	44.42	50.35	33.38	138.44	1,680.98	40.32	48.91	2,230.78
1997:01	44.43	50.36	33.39	138.46	1,681.37	40.33	48.92	2,231.65
1997:02	44.45	50.37	33.39	138.49	1,681.76	40.34	48.93	2,232.53
1997:03	44.46	50.38	33.39	138.51	1,682.15	40.35	48.94	2,233.40
1997:04	44.47	50.39	33.39	138.54	1,682.54	40.36	48.95	2,234.27

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LNCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
1997:05	44.48	50.40	33.39	138.56	1,682.92	40.38	48.96	2,235.15
1997:06	44.49	50.41	33.39	138.59	1,683.31	40.39	48.97	2,236.02
1997:07	44.50	50.42	33.39	138.61	1,683.70	40.40	48.98	2,236.90
1997:08	44.51	50.43	33.39	138.64	1,684.09	40.41	48.99	2,237.78
1997:09	44.52	50.44	33.39	138.66	1,684.48	40.42	49.00	2,238.65
1997:10	44.54	50.45	33.40	138.69	1,684.87	40.43	49.01	2,239.53
1997:11	44.55	50.46	33.40	138.71	1,685.26	40.44	49.02	2,240.41
1997:12	44.56	50.47	33.40	138.73	1,685.65	40.45	49.04	2,241.29
1998:01	44.57	50.48	33.40	138.76	1,686.04	40.46	49.05	2,242.16
1998:02	44.58	50.49	33.40	138.78	1,686.43	40.47	49.06	2,243.04
1998:03	44.59	50.50	33.40	138.81	1,686.82	40.48	49.07	2,243.92
1998:04	44.60	50.51	33.40	138.83	1,687.21	40.49	49.08	2,244.80
1998:05	44.62	50.52	33.40	138.86	1,687.60	40.51	49.09	2,245.67
1998:06	44.63	50.53	33.40	138.88	1,687.99	40.52	49.10	2,246.55
1998:07	44.64	50.54	33.41	138.91	1,688.39	40.53	49.11	2,247.43
1998:08	44.65	50.55	33.41	138.93	1,688.78	40.54	49.12	2,248.32
1998:09	44.66	50.56	33.41	138.96	1,689.17	40.55	49.13	2,249.20
1998:10	44.67	50.57	33.41	138.98	1,689.56	40.56	49.14	2,250.08
1998:11	44.68	50.58	33.41	139.01	1,689.95	40.57	49.15	2,250.96
1998:12	44.70	50.59	33.41	139.03	1,690.34	40.58	49.16	2,251.84
1999:01	44.71	50.60	33.41	139.05	1,690.73	40.59	49.17	2,252.72
1999:02	44.72	50.61	33.41	139.08	1,691.12	40.60	49.18	2,253.61
1999:03	44.73	50.62	33.41	139.10	1,691.52	40.61	49.19	2,254.49
1999:04	44.74	50.63	33.42	139.13	1,691.91	40.63	49.21	2,255.37
1999:05	44.75	50.64	33.42	139.15	1,692.30	40.64	49.22	2,256.25
1999:06	44.76	50.65	33.42	139.18	1,692.69	40.65	49.23	2,257.13
1999:07	44.78	50.66	33.42	139.20	1,693.08	40.66	49.24	2,258.02
1999:08	44.79	50.67	33.42	139.23	1,693.47	40.67	49.25	2,258.90
1999:09	44.80	50.68	33.42	139.25	1,693.87	40.68	49.26	2,259.79
1999:10	44.81	50.69	33.42	139.28	1,694.26	40.69	49.27	2,260.68
1999:11	44.82	50.70	33.42	139.30	1,694.65	40.70	49.28	2,261.56
1999:12	44.83	50.71	33.43	139.33	1,695.04	40.71	49.29	2,262.45
2000:01	44.84	50.72	33.43	139.35	1,695.44	40.72	49.30	2,263.33
2000:02	44.86	50.73	33.43	139.38	1,695.83	40.73	49.31	2,264.22
2000:03	44.87	50.74	33.43	139.40	1,696.22	40.75	49.32	2,265.10
2000:04	44.88	50.75	33.43	139.42	1,696.61	40.76	49.33	2,265.99
2000:05	44.89	50.76	33.43	139.45	1,697.00	40.77	49.34	2,266.88
2000:06	44.90	50.77	33.43	139.47	1,697.40	40.78	49.36	2,267.76
2000:07	44.94	50.80	33.44	139.56	1,698.77	40.81	49.39	2,271.15

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LNONRES	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
2000:08	44.97	50.84	33.44	139.64	1,700.15	40.84	49.43	2,274.53
2000:09	45.01	50.87	33.45	139.72	1,701.52	40.88	49.47	2,277.91
2000:10	45.04	50.90	33.45	139.81	1,702.90	40.91	49.51	2,281.30
2000:11	45.08	50.94	33.46	139.89	1,704.27	40.94	49.55	2,284.68
2000:12	45.11	50.97	33.46	139.97	1,705.65	40.97	49.58	2,288.06
2001:01	45.15	51.00	33.47	140.06	1,707.02	41.01	49.62	2,291.45
2001:02	45.18	51.03	33.48	140.14	1,708.40	41.04	49.66	2,294.83
2001:03	45.22	51.07	33.48	140.22	1,709.77	41.07	49.70	2,298.22
2001:04	45.25	51.10	33.49	140.31	1,711.15	41.10	49.74	2,301.60
2001:05	45.29	51.13	33.49	140.39	1,712.52	41.14	49.77	2,304.98
2001:06	45.32	51.17	33.50	140.47	1,713.90	41.17	49.81	2,308.37
2001:07	45.36	51.20	33.50	140.56	1,715.28	41.20	49.85	2,311.81
2001:08	45.39	51.23	33.51	140.64	1,716.67	41.23	49.89	2,315.25
2001:09	45.43	51.26	33.51	140.72	1,718.06	41.27	49.93	2,318.70
2001:10	45.46	51.30	33.52	140.81	1,719.45	41.30	49.97	2,322.14
2001:11	45.50	51.33	33.52	140.89	1,720.84	41.33	50.00	2,325.59
2001:12	45.54	51.36	33.53	140.97	1,722.22	41.37	50.04	2,329.03
2002:01	45.57	51.40	33.54	141.06	1,723.61	41.40	50.08	2,332.48
2002:02	45.61	51.43	33.54	141.14	1,725.00	41.43	50.12	2,335.92
2002:03	45.64	51.46	33.55	141.22	1,726.39	41.46	50.16	2,339.36
2002:04	45.68	51.50	33.55	141.31	1,727.78	41.50	50.20	2,342.81
2002:05	45.71	51.53	33.56	141.39	1,729.17	41.53	50.23	2,346.25
2002:06	45.75	51.56	33.56	141.48	1,730.55	41.56	50.27	2,349.70
2002:07	45.78	51.60	33.57	141.56	1,731.96	41.60	50.31	2,353.20
2002:08	45.82	51.63	33.57	141.64	1,733.36	41.63	50.35	2,356.71
2002:09	45.86	51.66	33.58	141.73	1,734.76	41.66	50.39	2,360.21
2002:10	45.89	51.70	33.58	141.81	1,736.16	41.70	50.43	2,363.72
2002:11	45.93	51.73	33.59	141.90	1,737.56	41.73	50.47	2,367.23
2002:12	45.96	51.76	33.60	141.98	1,738.96	41.76	50.50	2,370.73
2003:01	46.00	51.80	33.60	142.07	1,740.37	41.79	50.54	2,374.24
2003:02	46.03	51.83	33.61	142.15	1,741.77	41.83	50.58	2,377.74
2003:03	46.07	51.86	33.61	142.23	1,743.17	41.86	50.62	2,381.25
2003:04	46.11	51.90	33.62	142.32	1,744.57	41.89	50.66	2,384.76
2003:05	46.14	51.93	33.62	142.40	1,745.97	41.93	50.70	2,388.26
2003:06	46.18	51.96	33.63	142.49	1,747.37	41.96	50.74	2,391.77
2003:07	46.21	52.00	33.63	142.57	1,748.79	41.99	50.78	2,395.34
2003:08	46.25	52.03	33.64	142.66	1,750.21	42.03	50.82	2,398.90
2003:09	46.29	52.06	33.64	142.74	1,751.62	42.06	50.85	2,402.47
2003:10	46.32	52.10	33.65	142.83	1,753.04	42.09	50.89	2,406.04

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSRV	LHE	LNONDURH	LPOPA	LAYTOT	LSERVICES	LTS	LYTOT
2003:11	46.36	52.13	33.66	142.91	1,754.45	42.13	50.93	2,409.61
2003:12	46.39	52.16	33.66	143.00	1,755.87	42.16	50.97	2,413.18
2004:01	46.43	52.20	33.67	143.08	1,757.28	42.20	51.01	2,416.75
2004:02	46.47	52.23	33.67	143.17	1,758.70	42.23	51.05	2,420.32
2004:03	46.50	52.26	33.68	143.25	1,760.11	42.26	51.09	2,423.89
2004:04	46.54	52.30	33.68	143.34	1,761.53	42.30	51.13	2,427.45
2004:05	46.57	52.33	33.69	143.42	1,762.94	42.33	51.17	2,431.02
2004:06	46.61	52.36	33.69	143.51	1,764.36	42.36	51.21	2,434.59
2004:07	46.65	52.40	33.70	143.59	1,765.79	42.40	51.25	2,438.22
2004:08	46.68	52.43	33.70	143.68	1,767.22	42.43	51.28	2,441.86
2004:09	46.72	52.47	33.71	143.76	1,768.65	42.46	51.32	2,445.49
2004:10	46.76	52.50	33.72	143.85	1,770.08	42.50	51.36	2,449.12
2004:11	46.79	52.53	33.72	143.93	1,771.50	42.53	51.40	2,452.75
2004:12	46.83	52.57	33.73	144.02	1,772.93	42.57	51.44	2,456.39
2005:01	46.87	52.60	33.73	144.10	1,774.36	42.60	51.48	2,460.02
2005:02	46.90	52.64	33.74	144.19	1,775.79	42.63	51.52	2,463.65
2005:03	46.94	52.67	33.74	144.28	1,777.22	42.67	51.56	2,467.28
2005:04	46.98	52.70	33.75	144.36	1,778.65	42.70	51.60	2,470.92
2005:05	47.01	52.74	33.75	144.45	1,780.08	42.73	51.64	2,474.55
2005:06	47.05	52.77	33.76	144.53	1,781.51	42.77	51.68	2,478.18
2005:07	47.05	52.77	33.76	144.53	1,781.40	42.77	51.68	2,477.92
2005:08	47.04	52.77	33.76	144.52	1,781.30	42.76	51.67	2,477.65
2005:09	47.04	52.76	33.76	144.52	1,781.19	42.76	51.67	2,477.39
2005:10	47.04	52.76	33.76	144.51	1,781.08	42.76	51.67	2,477.12
2005:11	47.04	52.76	33.76	144.51	1,780.98	42.76	51.67	2,476.86
2005:12	47.04	52.76	33.76	144.50	1,780.87	42.76	51.67	2,476.59
2006:01	47.03	52.76	33.75	144.50	1,780.77	42.75	51.66	2,476.33
2006:02	47.03	52.75	33.75	144.49	1,780.66	42.75	51.66	2,476.06
2006:03	47.03	52.75	33.75	144.49	1,780.56	42.75	51.66	2,475.80
2006:04	47.03	52.75	33.75	144.48	1,780.45	42.75	51.66	2,475.53
2006:05	47.03	52.75	33.75	144.48	1,780.34	42.75	51.65	2,475.27
2006:06	47.02	52.75	33.75	144.47	1,780.24	42.74	51.65	2,475.00
2006:07	47.02	52.74	33.75	144.47	1,780.13	42.74	51.65	2,474.74
2006:08	47.02	52.74	33.75	144.46	1,780.03	42.74	51.65	2,474.48
2006:09	47.02	52.74	33.75	144.46	1,779.92	42.74	51.64	2,474.21
2006:10	47.01	52.74	33.75	144.45	1,779.81	42.74	51.64	2,473.95
2006:11	47.01	52.74	33.75	144.45	1,779.71	42.74	51.64	2,473.68
2006:12	47.01	52.73	33.75	144.44	1,779.60	42.73	51.64	2,473.42
2007:01	47.01	52.73	33.75	144.44	1,779.50	42.73	51.64	2,473.15

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOOD_AV	LHI	LINCPOP	LPOPA	LYTOT	LSERVICES	LTS	LYTOT
2007:02	47.01	52.73	33.75	144.43	1,779.39	42.73	51.63	2,472.89
2007:03	47.00	52.73	33.74	144.43	1,779.29	42.73	51.63	2,472.62
2007:04	47.00	52.73	33.74	144.42	1,779.18	42.73	51.63	2,472.36
2007:05	47.00	52.72	33.74	144.42	1,779.07	42.72	51.63	2,472.10
2007:06	47.00	52.72	33.74	144.41	1,778.97	42.72	51.62	2,471.83
2007:07	47.00	52.72	33.74	144.41	1,778.86	42.72	51.62	2,471.57
2007:08	46.99	52.72	33.74	144.40	1,778.76	42.72	51.62	2,471.30
2007:09	46.99	52.72	33.74	144.40	1,778.65	42.72	51.62	2,471.04
2007:10	46.99	52.71	33.74	144.39	1,778.54	42.71	51.62	2,470.77
2007:11	46.99	52.71	33.74	144.39	1,778.44	42.71	51.61	2,470.51
2007:12	46.99	52.71	33.74	144.38	1,778.33	42.71	51.61	2,470.25
2008:01	46.98	52.71	33.74	144.38	1,778.23	42.71	51.61	2,469.98
2008:02	46.98	52.71	33.74	144.37	1,778.12	42.71	51.61	2,469.72
2008:03	46.98	52.70	33.74	144.37	1,778.02	42.70	51.60	2,469.45
2008:04	46.98	52.70	33.74	144.36	1,777.91	42.70	51.60	2,469.19
2008:05	46.97	52.70	33.73	144.36	1,777.80	42.70	51.60	2,468.93
2008:06	46.97	52.70	33.73	144.35	1,777.70	42.70	51.60	2,468.66
2008:07	46.97	52.70	33.73	144.35	1,777.59	42.70	51.59	2,468.40
2008:08	46.97	52.69	33.73	144.34	1,777.49	42.69	51.59	2,468.13
2008:09	46.97	52.69	33.73	144.34	1,777.38	42.69	51.59	2,467.87
2008:10	46.96	52.69	33.73	144.33	1,777.28	42.69	51.59	2,467.61
2008:11	46.96	52.69	33.73	144.33	1,777.17	42.69	51.59	2,467.34
2008:12	46.96	52.69	33.73	144.32	1,777.06	42.69	51.58	2,467.08
2009:01	46.96	52.68	33.73	144.32	1,776.96	42.68	51.58	2,466.82
2009:02	46.96	52.68	33.73	144.31	1,776.85	42.68	51.58	2,466.55
2009:03	46.95	52.68	33.73	144.31	1,776.75	42.68	51.58	2,466.29
2009:04	46.95	52.68	33.73	144.30	1,776.64	42.68	51.57	2,466.02
2009:05	46.95	52.68	33.73	144.30	1,776.54	42.68	51.57	2,465.76
2009:06	46.95	52.67	33.72	144.29	1,776.43	42.68	51.57	2,465.50
2009:07	46.95	52.67	33.72	144.29	1,776.32	42.67	51.57	2,465.23
2009:08	46.94	52.67	33.72	144.28	1,776.22	42.67	51.56	2,464.97
2009:09	46.94	52.67	33.72	144.28	1,776.11	42.67	51.56	2,464.71
2009:10	46.94	52.67	33.72	144.27	1,776.01	42.67	51.56	2,464.44
2009:11	46.94	52.66	33.72	144.27	1,775.90	42.67	51.56	2,464.18
2009:12	46.94	52.66	33.72	144.26	1,775.80	42.66	51.56	2,463.92
2010:01	46.93	52.66	33.72	144.26	1,775.69	42.66	51.55	2,463.65
2010:02	46.93	52.66	33.72	144.25	1,775.59	42.66	51.55	2,463.39
2010:03	46.93	52.66	33.72	144.25	1,775.48	42.66	51.55	2,463.13
2010:04	46.93	52.65	33.72	144.24	1,775.37	42.66	51.55	2,462.86

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LNCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
2010:05	46.92	52.65	33.72	144.24	1,775.27	42.65	51.54	2,462.60
2010:06	46.92	52.65	33.72	144.23	1,775.16	42.65	51.54	2,462.34
2010:07	46.88	52.61	33.70	144.14	1,773.20	42.62	51.50	2,457.43
2010:08	46.84	52.58	33.69	144.05	1,771.23	42.58	51.46	2,452.53
2010:09	46.81	52.54	33.68	143.95	1,769.26	42.54	51.41	2,447.62
2010:10	46.77	52.50	33.66	143.86	1,767.29	42.51	51.37	2,442.72
2010:11	46.73	52.46	33.65	143.77	1,765.33	42.47	51.33	2,437.81
2010:12	46.69	52.43	33.64	143.67	1,763.36	42.44	51.28	2,432.91
2011:01	46.65	52.39	33.62	143.58	1,761.39	42.40	51.24	2,428.00
2011:02	46.61	52.35	33.61	143.49	1,759.42	42.36	51.20	2,423.10
2011:03	46.57	52.31	33.60	143.40	1,757.46	42.33	51.16	2,418.19
2011:04	46.53	52.28	33.58	143.30	1,755.49	42.29	51.11	2,413.29
2011:05	46.49	52.24	33.57	143.21	1,753.52	42.26	51.07	2,408.38
2011:06	46.46	52.20	33.55	143.12	1,751.55	42.22	51.03	2,403.48
2011:07	46.42	52.16	33.54	143.02	1,749.61	42.18	50.99	2,398.69
2011:08	46.38	52.13	33.53	142.93	1,747.67	42.15	50.94	2,393.91
2011:09	46.34	52.09	33.51	142.84	1,745.73	42.11	50.90	2,389.12
2011:10	46.30	52.05	33.50	142.75	1,743.79	42.08	50.86	2,384.33
2011:11	46.26	52.01	33.49	142.66	1,741.85	42.04	50.82	2,379.54
2011:12	46.22	51.98	33.47	142.56	1,739.90	42.01	50.77	2,374.76
2012:01	46.19	51.94	33.46	142.47	1,737.96	41.97	50.73	2,369.97
2012:02	46.15	51.90	33.45	142.38	1,736.02	41.93	50.69	2,365.18
2012:03	46.11	51.87	33.43	142.29	1,734.08	41.90	50.65	2,360.39
2012:04	46.07	51.83	33.42	142.19	1,732.14	41.86	50.60	2,355.61
2012:05	46.03	51.79	33.41	142.10	1,730.20	41.83	50.56	2,350.82
2012:06	45.99	51.75	33.39	142.01	1,728.26	41.79	50.52	2,346.03
2012:07	45.95	51.72	33.38	141.92	1,726.34	41.76	50.48	2,341.36
2012:08	45.92	51.68	33.37	141.83	1,724.43	41.72	50.44	2,336.69
2012:09	45.88	51.64	33.35	141.74	1,722.51	41.69	50.39	2,332.01
2012:10	45.84	51.61	33.34	141.64	1,720.59	41.65	50.35	2,327.34
2012:11	45.80	51.57	33.33	141.55	1,718.68	41.62	50.31	2,322.67
2012:12	45.76	51.53	33.31	141.46	1,716.76	41.58	50.27	2,317.99
2013:01	45.73	51.50	33.30	141.37	1,714.85	41.55	50.23	2,313.32
2013:02	45.69	51.46	33.29	141.28	1,712.93	41.51	50.18	2,308.65
2013:03	45.65	51.42	33.27	141.19	1,711.02	41.47	50.14	2,303.97
2013:04	45.61	51.39	33.26	141.10	1,709.10	41.44	50.10	2,299.30
2013:05	45.57	51.35	33.25	141.00	1,707.19	41.40	50.06	2,294.63
2013:06	45.53	51.31	33.23	140.91	1,705.27	41.37	50.02	2,289.96
2013:07	45.50	51.28	33.22	140.82	1,703.38	41.33	49.97	2,285.39

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LINCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
2013:08	45.46	51.24	33.21	140.73	1,701.49	41.30	49.93	2,280.83
2013:09	45.42	51.20	33.19	140.64	1,699.60	41.26	49.89	2,276.27
2013:10	45.38	51.17	33.18	140.55	1,697.71	41.23	49.85	2,271.71
2013:11	45.35	51.13	33.17	140.46	1,695.82	41.19	49.81	2,267.15
2013:12	45.31	51.09	33.15	140.37	1,693.93	41.16	49.77	2,262.59
2014:01	45.27	51.06	33.14	140.28	1,692.04	41.12	49.73	2,258.03
2014:02	45.23	51.02	33.13	140.19	1,690.15	41.09	49.68	2,253.47
2014:03	45.19	50.98	33.11	140.09	1,688.26	41.05	49.64	2,248.90
2014:04	45.16	50.95	33.10	140.00	1,686.37	41.02	49.60	2,244.34
2014:05	45.12	50.91	33.09	139.91	1,684.48	40.98	49.56	2,239.78
2014:06	45.08	50.87	33.07	139.82	1,682.59	40.95	49.52	2,235.22
2014:07	45.04	50.84	33.06	139.73	1,680.73	40.92	49.48	2,230.77
2014:08	45.01	50.80	33.05	139.64	1,678.86	40.88	49.44	2,226.32
2014:09	44.97	50.77	33.03	139.55	1,677.00	40.85	49.39	2,221.86
2014:10	44.93	50.73	33.02	139.46	1,675.13	40.81	49.35	2,217.41
2014:11	44.89	50.69	33.01	139.37	1,673.27	40.78	49.31	2,212.96
2014:12	44.86	50.66	32.99	139.28	1,671.40	40.74	49.27	2,208.51
2015:01	44.82	50.62	32.98	139.19	1,669.54	40.71	49.23	2,204.05
2015:02	44.78	50.58	32.97	139.10	1,667.67	40.67	49.19	2,199.60
2015:03	44.78	50.55	32.95	139.01	1,665.81	40.64	49.15	2,195.15
2015:04	44.71	50.51	32.94	138.92	1,663.94	40.60	49.11	2,190.70
2015:05	44.67	50.48	32.93	138.83	1,662.08	40.57	49.07	2,186.24
2015:06	44.63	50.44	32.91	138.74	1,660.21	40.54	49.02	2,181.79
2015:07	44.55	50.36	32.89	138.55	1,656.28	40.46	48.94	2,172.51
2015:08	44.47	50.29	32.86	138.36	1,652.35	40.39	48.85	2,163.23
2015:09	44.40	50.21	32.83	138.17	1,648.42	40.32	48.76	2,153.95
2015:10	44.32	50.13	32.80	137.98	1,644.49	40.24	48.68	2,144.67
2015:11	44.24	50.06	32.77	137.79	1,640.56	40.17	48.59	2,135.39
2015:12	44.16	49.98	32.75	137.60	1,636.64	40.10	48.50	2,126.11
2016:01	44.08	49.90	32.72	137.40	1,632.71	40.02	48.42	2,116.83
2016:02	44.00	49.83	32.69	137.21	1,628.78	39.95	48.33	2,107.55
2016:03	43.92	49.75	32.66	137.02	1,624.85	39.88	48.24	2,098.27
2016:04	43.84	49.67	32.63	136.83	1,620.92	39.80	48.16	2,088.99
2016:05	43.76	49.60	32.60	136.64	1,616.99	39.73	48.07	2,079.71
2016:06	43.68	49.52	32.57	136.45	1,613.06	39.66	47.98	2,070.43
2016:07	43.61	49.45	32.55	136.26	1,609.24	39.59	47.90	2,061.62
2016:08	43.53	49.37	32.52	136.07	1,605.42	39.52	47.81	2,052.82
2016:09	43.45	49.29	32.49	135.89	1,601.61	39.44	47.73	2,044.01
2016:10	43.37	49.22	32.46	135.70	1,597.79	39.37	47.64	2,035.20

Historical and Projected Energy and Demand Forecast Variables								
Year/Month	LGOODSERV	LHH	LINCPERHH	LPOPA	LRYTOT	LSERVICES	LTS	LYTOT
2016:11	43.30	49.14	32.43	135.51	1,593.97	39.30	47.56	2,026.40
2016:12	43.22	49.07	32.41	135.32	1,590.15	39.23	47.47	2,017.59

Appendix 1B.16.3

Kissimmee Utility Authority
Request for Power Supply Proposal
RFP #004-97

KISSIMMEE UTILITY AUTHORITY
Request for Power Supply Proposals
RFP #004-97

May 28, 1997

KISSIMMEE UTILITY AUTHORITY
Request for Power Supply Proposals

May 28, 1997

1. Introduction

The Kissimmee Utility Authority ("KUA" or "Authority") is issuing this Request for Proposals ("RFP") as an invitation to qualified companies to submit proposals for the supply of electric capacity and energy to satisfy up to 80 MW of KUA's projected requirements for the period 2001 -2030. Details of KUA's system requirements for the period are shown in Section 3.

KUA will consider proposals for base, intermediate and/or peaking generating resources and will accept bids that propose a minimum capacity of 10 MW and an agreement term of at least three years. The power supply commencement date is June 1, 2001. Proposals received in response to this RFP will be evaluated in comparison with (I) the options that are available to KUA under existing power supply arrangements; and/or (ii) a self-build alternative that may be developed jointly by KUA and Florida Municipal Power Agency ("FMPA").

The deadline for receipt of proposals by KUA is Wednesday, August 6, 1997.

2. KUA Description

The KUA is a public body corporate and politic, duly organized and legally existing as part of the government of the City of Kissimmee (" City"), Florida, under the Constitution and laws of the State of Florida, particularly the Charter of the City. At a special referendum election held in the City on March 26, 1985, the qualified electors residing in the City approved Amended City Ordinance No. 1285 (the " Ordinance"), amending the charter of the City to create the Authority with powers and immunities set forth in the Ordinance. On October 1, 1985, the City transferred to the Authority ownership and operational control of the electric generation, transmission and distribution system (the " System"), including all generation, transmission, interconnection, and distribution facilities thereof.

3. The SYSTEM

KUA's peak demand, which occurs during the summer months, is projected to be 209 MW for 1997 and the net system energy requirement is expected to be 985 GWh in calendar year 1997.

The Authority's power supply needs are currently satisfied by a combination of KUA-owned generating resources and contracted power supply resources. Details of the annual capacity nominations for each existing resource available to KUA under existing arrangements are shown in Table 1. Partial Requirements Service ("PR") is provided by Florida Power Corporation ("FPC") under its stratified PR rate. No nominations have been made for the FPC PR resource after 2001.

Table 2 provides a summary of KUA's projections of annual net energy requirement, summer peak demand, system capacity requirement, committed capacity resources and required capacity resources for the period 2001 through 2030 which KUA is seeking to satisfy at least in part through this RFP process.

TABLE 1
Committed Capacity Resources

	KUA-Owned Capacity Resources (MW)							Contracted Capacity Resources (MW)					
Year (Ending Dec. 31)	Hand Field (Diesel)	Hand Field (One CC)	Cane Island Plant 1 (One CT)	Cane Island Plant 2 (One CC)	Crystal River #3 (Nuclear)	Stanton No. 1 (Coal)	Indian River (One CT)	St. Lucie Nos 1 & 2 (Nuclear)	OUC Subscl. D (Spot. Pur.)	OUC Stanton #1 (Coal)	OUC Stanton #2 (Coal)	OUC Unit Purchase	FPC Stanfield PH
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
2001	15	41.9	15.2	54.5	5.2	21.0	10.2	6.8	20.0	7.9	33.3	0.0	0.0
2002	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	20.0	7.9	33.3	0.0	0.0
2003	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	20.0	7.9	33.3	0.0	0.0
2004	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2005	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2006	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2007	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2008	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2009	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2010	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2011	0	41.9	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2012	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2013	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2014	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2015	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2016	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2017	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2018	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2019	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2020	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2021	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2022	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2023	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2024	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2025	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2026	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2027	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2028	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2029	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0
2030	0	0.0	15.2	54.5	5.2	21.0	10.2	6.8	0.0	7.9	33.3	0.0	0.0

TABLE 2

System Projections

Year	Energy Requirements (GWh)	Summer Peak Demand (MOO)	System Capacity Requirements (MOO)	Committed Capacity Resources (MOO)	Required Capacity Resources (MW)
(a)	(b)	(c)	(d)	(e)	(f)
2001	1,158	243	279	231	48
2002	1,205	252	290	216	74
2003	1,253	261	300	216	84
2004	1,301	271	312	196	115
2005	1,349	280	322	196	126
2006	1,391	288	331	196	135
2007	1,431	296	340	196	144
2008	1,473	304	350	196	154
2009	1,514	313	360	196	164
2010	1,557	321	369	196	172
2011	1,598	330	380	196	184
2012	1,641	138	389	154	235
2013	1,684	347	399	154	245
2014	1,729	356	409	154	255
2015	1,773	365	420	154	266
2016	1,806	373	429	154	275
2017	1,859	383	440	154	286
2018	1,913	393	452	154	298
2019	1,968	403	463	154	309
2020	2,025	414	476	154	322
2021	2,084	425	489	154	335
2022	2,145	436	501	154	347
2023	2,207	447	514	154	360
2024	2,271	459	528	154	374
2025	2,337	471	542	154	388
2026	2,405	483	555	154	401
2027	2,475	496	570	154	416
2028	2,547	509	585	154	431
2029	2,621	522	600	154	446
2030	2,698	536	616	154	462

4. RFP Schedule

KUA's timetable for this Request For Proposal ("RFP process is shown below. Note that all times shown are based on the prevailing eastern time on the scheduled dates; however, the dates shown are only estimates and may be modified at any time by KUA.

Public Notice of RFP	May 27, 1997	
RFP Available for Distribution	May 28, 1997	
Notification of Conference Attendance Due	June 18, 1997	[12:00 Noon EDT]
Pre-Bid Conference	June 24, 1997	[9:30 A.M. EDT]
Notice of Intent to Bid Form Due to FMPA	June 30, 1997	[5 :00 P.M EDT]
Deadline for Bidders' Questions	July 2, 1997	[5:00 P.M. EDT]
Sealed Proposal(s) Due Date	August 6, 1997	[3:00 P.M. EDT]
Publish Short List/Commence Negotiations	October 8, 1997	
Complete Negotiations	December 4, 1997	
Contract(s) Approved	December 12, 1997	
Commencement of Power Supply Service	June 1, 2001	

5. Potential Power Supply Requirements

KUA initiated the development of an Integrated Resource Plan ("IRP") to ensure that it's customers are provided with reliable and economic energy, both in the short and long terms. In developing the IRP, a wide assortment of supply-side and demand-side alternatives were considered as a means of satisfying KUA's future demand for electricity. KUA's primary objective was to develop a plan (or plans) that blends the short-term and long-term objectives and fairly and reasonably assigns risks associated with the resources set forth in the plan(s). In meeting this objective, it was important that KUA consider its competitive position in the industry in order to maintain customer base while adding those resources which minimize prices and total cost to KUA's customers.

After evaluating a variety of different plans using a risk analysis model, the most robust resources were identified based on the frequency of selection of the resources in the most robust plans. A robust plan is a plan that consistently performs well over a variety of different futures. The lowest cost arrangement of the most robust resources formed the most robust plan. KUA's IRP is being used as the basis for this RFP and the possible selection of the joint project with Florida Municipal Power Agency ("FMPA") at the "Cane Island Site" as the self-build alternative. A copy of the IRP Summary Report dated April, 1996 is included as Attachment C.

KUA is accepting proposals for capacity and energy in whole megawatt quantities for part or all of the capacity requirements with a minimum bid amount of 10 MW. As previously mentioned,

KUA currently has the option to increase its power purchase amounts under existing purchase agreements as well as the option to build and jointly own new generating capacity on the existing Cane Island Site. Accordingly, KUA will consider proposals for the sale of short-term or long-term firm power supply from (I) existing specified resources, (ii) a portfolio of supply resources with appropriate guarantees, and/or (iii) a generating facility to be constructed for a unit power sale or joint ownership participation between KUA and the bidder at the bidder's location. In any event, all proposals must identify the specific resources at a specific site. Proposals that include supply resources located outside the State of Florida must also identify the transmission contracts for the

transmission path that will be utilized from the resources up to KUA's transmission network as more fully described in Section 9.

6. Proposals for Capacity/Energy Sales

Proposals involving a unit or power plant capacity/energy sale should include all available data including equivalent availability factor ("EAF"), maintenance schedules, net capacity, heat rate, fuel type, and other pertinent data for the specific unit(s). Proposals involving a system or portfolio capacity and energy sale to KUA should include information for all generating units and purchase contracts required to make the sale to KUA. All proposals for a capacity/energy sale shall be on a non-recallable basis equivalent to native load delivered to the KUA transmission grid. Details of the information required for each proposal are specified in Attachment B.

If the capacity/energy sale proposal is based on a pass-through fuel cost arrangement, the fuel forecast prices presented in Attachment A of this RFP shall be used by the bidder to project the cost of energy. As an option, bidders may also present energy prices based on their own forecast of fuel prices along with suitable explanations. If the proposal is based on a contractually fixed total energy cost, the proposal must include all information pertinent to the pricing and its escalation. If any of this information is Proprietary Confidential Business Information, it should be clearly noted and KUA will maintain confidentiality per Section 14.

All proposals shall include scheduling provisions of the sale. For proposals that include peaking type resources or peaking type energy pricing, the schedule shall be established hourly with the availability to change up to 10 minutes before the schedule commences. For all other resources, the schedule should be established no more than 1 day in advance with the ability to change the schedule within 2-3 hours before the schedule commences except under KUA emergency conditions when changes may be required as soon as physically possible if the resource is available. The proposal shall not include any contractual limitations on energy usage (MWhs) by day, month or year. As part of the scheduling provisions, the supplier will be required to fax daily to KUA's dispatchers (currently contracted to the Florida Municipal Power Pool (" FMPP")) a schedule of estimated prices for the energy to be delivered for that day and the next day.

7. Proposals for Construction and/or Joint Ownership in Generation

Proposals that involve the construction of a generating unit(s) with KUA as sole owner or a joint owner must include all of the information specified in Attachment B, Section B-1. In addition, the proposals should include details of the terms and conditions of the ownership offer to KUA. KUA prefers proposals that do not utilize the existing Cane Island Site for the construction of generating capacity in excess of that which will be provided to KUA and/or FMPA. Any proposal that offers construction of generating facilities at the Cane Island Site must include provisions to transfer 100% ownership after construction to KUA or to KUA and a qualified joint participant identified by KUA. Federal tax law and State law requirements may place further constraints on eligible partners or specific projects. Proposals involving ownership by KUA are subject to KUA's agreement on the detailed plant specifications and design. Bidders presenting such proposals are encouraged to include detailed specifications and performance guarantees upon which their proposals are based.

8. Cane Island Site

The Cane Island Site is located in Osceola County, Florida. The site comprises 1,027 acres that is owned by KUA and is located near the KUA service area It is situated on uplands known as Cane Island.

Currently there are two generating units in operation at the Cane Island Site. The first is a 40 MW General Electric model LM6000 combustion turbine ("CT") unit which was placed into commercial operation on January 1, 1995. The second unit is a 120 MW combined cycle ("CC") General Electric Model 107 EA comprised of a 80 MW CT and a 40 MW steam turbine unit. This unit entered commercial operation service on November 1, 1995. The Cane Island Site was designed for the installation of up to a total of 1,000 MW of generating capacity.

KUA and FMPA are joint owners of the existing "Cane Island Project," each with a 50 percent ownership share. Both KUA and FMPA have joint ownership of the land specific to the units constructed at the site; however, KUA will continue to own the balance of the site with FMPA paying a user's fee. In addition, KUA has the responsibility for construction, operation and maintenance of the plant.

The Cane Island Site is being served by three new 230 kV transmission lines. Two of the 230 kV circuits result from looping OUC's McIntosh-Taft 230 kV transmission line into the Cane Island Site. The line has been constructed on double circuit towers along the Bonnet Creek Canal. The third 230 kV transmission line is a single circuit line which extends east from the site to the new Clay Street substation where it interconnects with KUA's 69 kV transmission system. The transmission lines and substation are jointly owned by KUA and FMPA.

If KUA decides to participate in the self-build alternative with FMPA, the project will probably consist of a 240 MW combined cycle generating plant located at the Cane Island Site. The main equipment will comprise one combustion turbine and one heat recovery steam generator and associated steam turbine generator. Detailed cost estimates for the self-build project will be prepared by a design consultant and submitted to KUA and FMPA prior to the Proposal Due Date. Tn the initial stages of the evaluation process, this cost estimate will be used as a benchmark for screening alternatives. During the final evaluation stages KUA and FMPA may obtain firm "not to exceed" bids for the self-build project before making a final decision to select a proposal versus the self-build alternative. The design consultant will not have access to the proposals submitted in response to this RFP. Bidders are encouraged to provide their lowest cost offer on August 6, 1997, since repricing is not currently anticipated.

KUA has included a gas fuel forecast in Attachment A for use by bidders. However, KUA will seek bids to confirm market pricing coincident with this RFP process and may use the updated pricing in evaluating the bids.

9. Transmission Arrangements

Electric power supplied from KUA-owned generation and purchased power supplied by other entities are delivered though 21.9 miles of 230 kilovolt and 36.4 miles of 69 kilovolt transmission lines to ten distribution substations. KUA has the following interconnections with area electric utility companies:

(i) FPC - One 69 kV circuit at FPC's Lake Bryan Substation
(ii) OUC - One 230 kV circuit at OUC's Taft Substation
- One 69 kV circuit at OUC's Taft substation
(iii) City of Lakeland - One 230 kV through the interconnection with the Taft-McIntosh Circuit
(iv) City of St. Cloud - One 69 kV with St. Cloud's Transmission System
(v) TECO - One 230 kV circuit through the interconnection with the Osceola and Lake Jewell Circuits.

Where resources originate outside the State of Florida, proposals must consider the limits and allocation of interface capacity among the owners of the transmission lines that make up the Florida-Southern interface. At this writing, KUA believes the total reported import capacity is 3,600 MW. All of that capacity may not be available for firm transmission.

It is KUA's understanding that the current allocation of this import capability is 200 MW to the City of Tallahassee, Florida ("Tallahassee"), 438 MW to FPC, 1,228 MW to the Jacksonville Electric Authority ("JEA") and 1,734 MW to Florida Power & Light Company ("FPL"). The firm commitments of FPC and FPL are believed to be very close to their maximum allocation and KUA does not expect any firm transmission capacity to be available from those utilities.

The bidder should confirm this conclusion on its own. The Tallahassee amount may not be fully committed but may not be available for firm transmission service south of Tallahassee. JEA reportedly has 400 MW of its import allocation committed. Imports through JEA may have a contract path through Seminole Electric Cooperative, Inc. ("Seminole") to the Silver Springs North station which is a tie point for Seminole, Ocala Electric Utility and FPC. The exact amount of firm transmission that may be available through JEA for delivery to FPL's or FPC's transmission system will need to be established and may require agreement of all affected parties. It is the bidders' responsibility to determine that firm transmission and interface capability is available for the resources proposed. Proposals should include the cost of all transmission related services required to deliver the power supply to KUA's transmission system.

Bidders should provide backup information that would verify the reasonableness of assumptions and cost data associated with transmission service required for delivery of the proposed capacity and energy from the source(s) of supply to the high voltage transmission grid of KUA. KUA prefers proposals that include detailed analyses which show all assumptions, including, among other things, contract paths, contracting parties, interface capability, intervening parties, and transfer capabilities. KUA may verify the transmission studies provided by the bidder by performing its own load flow studies. Therefore, bidders are encouraged to submit a hard copy of the transmission analysis results plus the load flow cases in raw data ASCII IBM compatible format (i.e., PTI's PSS/E, (GE's PSLF, IEEE common) along with all assumptions used in creating each case and any special instructions for reading the data. To the extent uncertainty exists regarding whether the bidder has appropriately

accounted for transmission limitations and associated costs in the proposal, KUA may reflect this in its evaluation or reject the proposal.

10. Notice to Bidders

KUA is coordinating the schedule of this RFP process with a similar process that is being followed by FMPA so that the activities for both processes are executed in parallel. In this way, both entities are able to maximize the benefits of their existing relationship. KUA and FMPA will accept proposals that are made to KUA and FMPA jointly for capacity sharing as stipulated by the bidder. Proposals that are submitted to KUA and FMPA jointly may be eliminated from further consideration if either KUA's or FMPA's requirements are not met. To ensure that the applicable components of the joint proposal are eligible to be considered by KUA and FMPA separately, bidders must also submit individual proposals to each entity in addition to the joint proposal which must be submitted to both entities.

KUA has scheduled a Pre-Bid Conference jointly with FMPA for Tuesday, June 24, 1997 at 9:30 A.M. EDT at the KUA offices, 1701 W. Carroll Street, Kissimmee, Florida 34742. Only qualified bidders will be permitted to attend the Pre-Bid Conference. The purpose of the conference is to answer all questions that bidders may have about KUA's solicitation. Only written questions and written responses will be considered official. Companies that intend to submit proposals are requested to use this forum to obtain answers about the RFP and the form of the response to the RFP. Companies must register for the Pre-Bid Conference by submitting a list of attendees via mail to the address given in Section 12, via the Internet to E-Mail address rfp9720@kna.dst.fl.us, or via facsimile to the attention of Mr. A. K. (Ben) Sharma at (407) 847-0787 [fax] to arrive, on or before Noon EDT, Wednesday, June 18, 1997. After the Pre-Bid Conference, a tour of the Cane Island Site will be conducted by KUA for interested bidders. The tour group is scheduled to leave KUA offices for the Cane Island Site at 2:00 P.M. Bidders must indicate on their Pre-Bid Conference registrations whether or not they wish to participate in the tour.

All bidders are required to provide written notification of their intent to submit a proposal no later than 5:00 P.M. EDT on Monday, June 30, 1997. Such notification should be sent by facsimile or mail (not via the Internet) to Ms Barbara Layton, Contract Administrator to the address given in Section 12. A Notice of Intent to Bid Form is included in Section 22 as RFP Form 1. Bidders must complete the form in full, stating the agreement term on which their proposal(s) is planned to be based and sign it prior to submitting it to KUA.

Sealed proposal packages will be received until 3:00 P.M. EDT on Wednesday, August 6, 1997 ("Proposal Due Date") at the offices of KUA. Each bidder is required to submit a Proposal Summary (RFP Form 2), a checklist (RFP Form 5), and other completed forms as applicable (RFP Form 3 to RFP Form 5) as part of the proposal package. The forms are included in Section 22 of this RFP. Registered bidders will be notified through the issue of RFP addenda of any change in the Proposal Due Date or other necessary revision to information contained in this RFP. KUA reserves the right to reject all proposals received after the Proposal Due Date.

One original and six (6) copies of each proposal should be sealed and delivered to the following address:

Director of Materials Management
Kissimmee Utility Authority
2850 N. Bermuda Avenue
Kissimmee, Florida 34741

Phone Number: (407) 933-7777 -- Ext. 3100

The name of the company submitting the proposal should be clearly marked on the outside of each package. In addition, each package should be marked as follows: "Proposal for Supply of Electric Capacity and Energy - RFP #004-97."

An electronic copy of the completed proposal pricing forms and all other spreadsheets included in the proposal should be submitted in Microsoft Excel 5.0/95 or compatible format on a 3-1/2 inch diskette.

Proposals with agreement terms of 5 years or less should remain in effect until December 31, 1997 or later if the purchase is to be finalized pending a transmission service request, and

Proposals offering agreement terms of more than 5 years should remain in effect until March 31, 1997 or later if the purchase is to be finalized pending a transmission service request The proposal packages will be opened after the Proposal Due Date. Each proposal package must be accompanied by a non-refundable Proposal Fee (in the form of a cashiers check made payable to KUA) in the amount of $100 per proposal per year of the proposed agreement term or part thereof up to a maximum of $1,500 per proposal.

11. Right of Rejection

This RFP is not an offer establishing any contractual rights. This solicitation is solely an invitation to submit proposals.

KUA reserves the right to:

- Reject any and all proposals received in response to this RFP;
- Waive any requirement in this RFP;
- Not disclose the reason for rejecting a proposal;
- Negotiate an arrangement or power supply with more than one bidder at a time;
- Not select the proposal with the lowest price; and
- Request clarifications from bidders at any time.

12. Interpretations and Addenda

All questions of a technical nature regarding interpretation of this RFP must be submitted in writing or by the Internet to the following:

By Fax:	Mr. A. K. (Ben) Sharma (407) 847-0787
By E-Mail:	rfp9720@koa.dst.fl.us Attn: Mr. A. K. (Ben) Sharma
By Mail or Courier:	Mr. A. K. (Ben) Sharma Director of Power Supply Kissimmee Utility Authority 1701 W. Carroll Street Kissimmee, Florida 34741

All questions regarding terms, conditions and other non-technical matters should be submitted in writing or by the Internet to:

By Fax:	Ms. Barbara Layton (407) 933-2823
By E-Mail:	rfp9720@kua.dst fl.us Attn: Ms. Barbara Layton
By Mail or Courier:	Ms. Barbara Layton Contract Administrator Kissimmee Utility Authority 2850 N. Bermuda Avenue Kissimmee, Florida 34741

Only written or Internet transmitted responses provided by KUA to bidders' questions will be considered official. A verbal response by KUA will not be considered an official response. Written responses to all questions and requests for interpretations will be provided only to the company posing the question or making the request unless the question and answer are applicable to the RFP process in general, in which case, at KUA's discretion the question and answer will be provided to all bidders. All written questions must be received by KUA on or before Wednesday, July 2, {397 (5:00 P.M. EDT). Inquiries after this date may not receive responses. All addenda issued in connection with this RFP will be placed in the "Important Updates" page on the Internet Website www.rwb.com/fmpa-kna at the time of issue, and it shall be the responsibility of those bidders that download the RFP from the Internet to regularly check the "Important Updates" file to receive addenda. Copies of all issued addenda will also be sent to all companies that directly obtained a copy of the RFP from KUA, by facsimile and/or mail, and after June 30, 1997, those direct purchase companies that submitted a timely Notice of Intent to Bid form.

13. Errors, Modifications or Withdrawal of Proposal

Each bidder should carefully review the information provided in the RFP prior to submitting a response. The RFP contains instructions which should be followed by all bidders. Modifications to proposals already received by KUA will only be accepted prior to the Proposal Due Date. Proposals may be withdrawn by giving written notice (no Internet notices) to KUA prior to the Proposal Due Date. In such cases, a full refund of the Proposal Fee will be provided by KUA. Proposals withdrawn after the Proposal Due Date will result in forfeiture of the proposal fees.

14. Proprietary Confidential Business Information

All proposals shall become the property of KUA. KUA will not disclose to third parties any information that is clearly labeled "Proprietary Confidential Business Information" in a proposal unless such disclosures are required by law or by order of a court or government agency having appropriate jurisdiction. Each page of Proprietary Confidential Business Information must be clearly labeled "PROPRIETARY CONFIDENTIAL BUSINESS INFORMATION" at the top of the page. KUA reserves the right to disclose information contained in proposals to its consultant(s) for the sole purpose of assisting in the proposal evaluation process. KUA will require the consultant(s) to maintain the confidentiality of the document.

15. Bidder Qualifications

KUA will accept bids from any electric utility, independent power producer ("IPP"), qualifying facility ("QF"), exempt wholesale generator, or non-utility generator, or electric power marketer who has received certification as such by the Federal Energy Regulatory Commission ("FERC"). Bidders unfamiliar to KUA may be required to provide proof of experience. Bidders that propose to develop a power generating project to provide power to KUA must have developed, and have had in operation for a minimum of one year, at least one currently operating power supply project that is similar to, or larger in size than, the project being proposed. Bidders proposing to provide KUA with power from an existing generating resource or a portfolio of resources must have successfully provided similar levels of services to at least one electric utility for a minimum of one year.

Bidders offering capacity/energy sales or ownership proposals from an existing unit(s) must own and operate the unit, plant or system capacity or must have the unit(s), plant or system capacity under contract. KUA may require proof of such contracts as well as proof of contracts for sales from a portfolio of sources. Any contracts submitted with the proposal may have the price and other sensitive information deleted before submittal to KUA.

Bidders offering to construct generating unit(s) for KUA's sole or joint ownership must provide sufficient details in accordance with Attachment B, Section 1.19.

Electric power plant operators of a unit, plant or system capacity proposal must provide proof of operating experience as requested in Attachment B.

Respondents are encouraged to provide the following information with their proposals: most recent audited financial statement; Form 10 K of parent company, where appropriate; most recent Dunn & Bradstreet report; description of pending litigation; summary of project experience; and annual report.

16. Capacity

Resources providing the proposed capacity, whether unit, plant or system, or portfolio sale or construction of a joint ownership proposal must be in commercial operation at least two months prior to the start date of the proposed power supply.

17. Bid Security

KUA may require the short-listed bidder(s) to provide adequate bid security prior to short-list negotiations. Bidders are therefore requested to propose an appropriate bid security.

18. Default and Damages Provisions

KUA will negotiate the conditions of default and damages with the successful bidder(s). Bidders should include default and damage provisions in their proposals.

19. Disqualification of Proposals

A bidder's proposal may be disqualified at any point if bribery, conflict of interest, or interference in the evaluation process is determined, at KUA's sole discretion, to be involved with the proposal.

20. Evaluation Process

The proposal evaluation process will be performed on a bid and negotiate basis. Information provided from each bidder by the Proposal Due Date will be used to develop a short list of proposals from which selection(s) could be made for direct negotiations. No additional data may be considered after the Proposal Due Date, except for clarifications requested by KUA and possible transmission study results. KUA will evaluate the proposals in terms of price and non-price factors. The first stage of the evaluation process for qualified bidders will consist of a check of each proposal against the minimum requirements, as listed in this section of the RFP. After the minimum requirements screening, initial price screening of proposals may be accomplished by comparing proposals using a capacity factor analysis. Such proposals may then be screened by comparison with options that are available to KUA under existing power purchase arrangements. Proposals for long-term arrangements may be screened by comparison with KUA's self-build project and/or other proposals. Both screenings will be performed on a present value busbar cost basis. Detailed price and non-price evaluations may be conducted next. From this detailed analysis a short-list of bidder(s) will be selected and notified for participation in negotiations. Selection and rejection of proposals and notification of bidders at all stages will remain entirely with KUA's discretion. KUA intends to notify bidders not selected under this solicitation within a reasonable amount of time.

Minimum Requirements For All Proposals

Each proposal must satisfy certain minimum requirements before it will receive any further evaluation. The bidder must demonstrate in its submittal that the following minimum requirements have been met:

1. Although capacity is required during all months, proposal must provide for capacity for either one or both of the following peak load periods: (I) June through September; or (ii) December through March for a minimum of three (3) calendar years.

2. The capacity and energy proposed are on a first call, non-recallable basis, i.e., as long as the unit(s) from which the capacity is purchased is available, KUA has the right to the output of the unit(s) for the duration of the contract. KUA's rights must be equal to or superior to any other party's rights to such unit(s) output.

3. Proposals that contain agreement terms of 5 years or less must remain in effect through December 31, 1997, or later if the purchase is to be finalized pending a transmission service request. All other proposals must remain effective until March 31, 1998, or later if the purchase is to be finalized pending a transmission service request.

4. The minimum capacity amount offered to KUA shall be 10 MW.

5. All generating units providing the proposed capacity must be in operation at least two months prior to the delivery commencement date of the term of the proposed power supply.

6. Proposals must identify and include the location of each capacity resource, and name the originating control area and identify the firm transmission contract path.

7. The bidder must ensure that all emissions allowance requirements will be satisfied and that such costs are included in the proposal.

8. The bidder must declare ownership or contractual status of the unit, plant or system capacity as described in Section 15.

9. The bidder must complete the appropriate RFP Forms 1 through 5 and provide the information requested in Attachment B. All forms requiring a signature must be signed by a duly authorized official.

10. Bidders offering power that impacts any transmission interface must provide a letter of intent from the owner(s) of the systems forming the interface stating that the required power transfer capability is available on a firm (non-recallable) basis.

11 The bidder must be willing to provide adequate bid security prior to entering short-list negotiations.

12. The bidder must not include any contractual limits on energy utilization (as opposed to price) by day, month or year.

13. The proposal must include scheduling provisions for the sale.

14. Each proposal must contain the appropriate proposal fee in accordance with Section IO

Price Criteria

KUA will evaluate the firm power supply proposal(s) as alternatives to increasing the amount of purchases for certain period under the terms of its existing power purchase arrangements and/or developing a self-build project. The net present value of the total system power cost for KUA with each proposal included in the resource mix separately will be compared to the net present value of

the total system power cost for KUA with increased purchases under existing arrangements and/or the self-build option included in the resource mix. Scores will then be applied to each proposal to reflect the projected cost differential between the proposal and the benchmark option.

Non-Price Criteria

Each proposal will be evaluated on a list of non-price criteria which KUA has developed. A score will be assigned to each criteria based on the extent to which the proposal satisfies KUA's preferences. The total non-price score will be added to price related score for each proposal to obtain an overall score which will be used to determine the ranking of proposals.

The proposals will be evaluated in accordance with the following non-price criteria:

Components of Power Cost -	To evaluate risk, KUA prefers bidders that identify the true fixed and variable costs for the resources providing the power (e.g., the bidder should identify the amount of fixed cost in the capacity charge and the amount of variable costs [fuel, variable operation and maintenance expenses, etc.] in the energy charge).
Flexibility -	KUA prefers flexible proposals with reasonable notice provisions that give KUA sole rights (e.g., adjust the contract term, the amount of purchases, type of purchase, payment provisions, price, etc.).
Dispatchability -	KUA prefers provisions that would permit KUA to dispatch the resources off-line during periods when KUA deems it economical .to do so. Dispatchability may also encompass the concept of scheduling power deliveries for economy transactions in a manner that contributes favorably to KUA's needs.
Fuel Risk -	KUA prefers proposals that have firm fuel supply contracts (vs. spot purchases). KUA also prefers proposals that improve the diversity of KUA's fuel mix. Multiple suppliers are preferred.
Firm Supply -	Proposals will be evaluated on the availability of generating resources, arrangements for firming or reserved capacity, and penalties for nonperformance.
Transmission-	KUA prefers location of generating resources that minimize the number of intermediate transmission systems.
Technology-	Proposals utilizing commercially proven technologies are preferable
Environmental Effects-	KUA prefers proposals that minimize potential adverse environmental impacts including water supply and waste water discharge.

21. Final Contract

Any final contract(s) that result from the proposal evaluation and negotiation processes will be submitted to the Board of Directors of KUA for approval. The tentative date for approval of contract(s) for the purchases is shown in Section 4, RFP Schedule.

22. RFP Forms and Attachments

Form 1	-	Notice of Intent to Bid Form
Form 2	-	Proposal Summary Form
Form 3	-	Minimum Requirements Form
Form 4	-	Pricing Proposal Form
Form 5	-	Checklist
Attachment A	-	Fuel Price Forecast
Attachment B	-	Required Data
Attachment C	-	IRP Summary Report

23. Reserved Rights

The KUA reserves the right to accept or reject any and/or all proposals, to waive irregularities and technicalities, and to request re-submission. Also, the KUA reserves the right to accept all or any part of the proposal. Any sole response received the first submission date may or may not be rejected by the KUA depending on available competition and timely needs of the KUA. To be a responsible bidder the bidder shall have the capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance. Also, the KUA reserves the right to make such investigation as it deems necessary. To make this determination, the information shall be provided by the bidder. Such information may include but shall not be limited to: current financial statement; verification of availability of equipment and personnel; and past performance records.

24. Collusion

By offering a submission to this request for proposal, the bidder certifies the bidder has not divulged, discussed, or compared his proposal with other bidders and has not colluded with any other bidder or parties to this proposal whatsoever. The bidder also certifies, that in connection with this proposal:

(i) Any prices and/or cost data submitted have been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other bidder or with any competitor;

(ii) Any prices and/or cost data quoted for this proposal have not knowingly been disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the scheduled opening directly or indirectly to any other bidder or to any competitor;

(iii) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition;

(iv) The only person or persons interested in this proposal, principal or principals is/are named therein and that no person other than therein mentioned has any interest in this proposal or in the contract to be entered into and;

(v) No person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee excepting bona fide employees or established commercial agencies maintained by KUA for the purpose of doing business.

25. Indemnity

After notification of award, the successful bidder shall indemnify and save harmless the KUA from and against all claims, suits, actions, damages, or causes of action arising during the terms of the resulting agreement for any personal injury, loss of life, or damage to property sustained by reason of a result of the performance of the services or delivery of goods for which the resulting agreement was entered into, or its agents, employees, invitees, and all other persons, and for and against any orders, judgments, or decrees, which may be entered thereto, and from and against all costs, attorney's fees, expenses and liabilities incurred in or by reason of the defense of any such claim, suit or action, and the investigation thereof. Nothing in the award, resulting agreement, contract of Purchase Order shall be deemed to affect the rights, privileges and immunities of the KUA as set forth in Florida Statute 768.28.

26. Equal Employment Opportunity Clause

The Kissimmee Utility Authority of Kissimmee, in accordance with the provision of Title vI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Department of Commerce (15 CFR Part 8) issued pursuant to such Act, hereby notifies all proposers that it will affirmatively ensure that in any contract entered into pursuant to this advertisement minority business will be afforded full opportunity to submit proposals in response to this advertisement and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

[illegible] UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Notice of Intent to Bid Form

Due: June 30, 1997 (5:00 PM)

Date:_____

Project Bidder

Name: _____
Title: _____
Company Name: _____
Address: _____
_____
Telephone: _____
Fax: _____
E-Mail: _____
Project Name: _____
Project Location: _____
Agreement Term: _____
Power Generation Technology: _____
Primary Fuel: _____
Specific Entity to Contract With KUA: _____

Respondent Classification: (Utility, Qualified Facility, Exempt Wholesale Generator, Power Marketer, etc.)

Respondent Qualifications: Describe similar projects developed by bidder, noting project capacity, location, contract commencement date, contract term, etc.
(Attach additional sheets as needed)

_____
_____
_____
_____
_____
_____

Bidder's Signature: _____
(Duly Authorized)

KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Proposal Summary Form

1. Company/Bidder _____
2. Name of Contact _____
3. Mailing Address _____
4. Telephone _____
   Fax _____
   E-Mail _____
5. Proposed Contract Start Date _____
6. Proposed Contract End Date _____
7. Proposed Contract Capacity Listing by Resource

Unit Name and Number	Summer MW Rating	Winter MW Rating	Fuel Type	Location	Proposed Capacity Delivered [1] (MW)	System Delivered to (FPC or FPL)
Total Capacity (MW)						

[1] *Capacity delivered to KUA's transmission system.*

8. Certification: Bidder hereby certifies that all of the statements and representations made in this proposal package, including attached documents, are true to the best of the bidder's knowledge and belief. Bidder agrees to be bound by its representations and the terms and conditions of the Request for Proposals:

Signed: _____

(Typed): _____

Title: _____
(Duly Authorized)

Date: _____

KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Minimum Requirements Form

In submitting this form, we agree to the items below and/or have provided documents to attest to the information provided as requested below.

Duly Authorized Signature: _____ _____
(Date)

If the bidder is an entity proposing a capacity sale from existing resources the bidder must provide sufficient documentation to demonstrate that over time the source utility, or entity will have sufficient capacity to sell to FMPA as well as to serve its own load, if applicable, and other commitments.

All bidders must demonstrate the following by attaching appropriate information to this form:

1. Although capacity is required during all months, proposal must provide for capacity for either one or both of the following peak load periods: (i) June through September; or (ii) December through March for a minimum of 3 calendar years.

2. The capacity and energy proposed are on a first call, non-recallable basis, i.e., as long as the unit(s) from which the capacity is purchased is available, KUA has the right to the output of the unit(s) for the duration of the contract. KUA's rights must be equal to or superior to any other party's rights to such unit(s) output.

3. The proposal for capacity sales for terms of five years or less must remain in effect until December 31, 1997, or later if the purchase is to be finalized pending a transmission service request. All other proposals must remain effective until March 31, 1998, or later if the purchase is to be finalized pending a transmission service request.

4. The minimum capacity amount offered to KUA shall be 10 MW.

5. All generating units providing the proposed capacity must be in operation at least two months prior to the delivery commencement date of the term of the proposed power supply.

6. Proposals must identify and include the location of each capacity resource, name the originating control area and identify the firm transmission contract path.

7. The bidder must ensure that all emissions allowance requirements will be satisfied and that such costs are included in the proposal.

8. The bidder must declare ownership or contractual status of unit, plant or system capacity as described in Section 15.

Minimum Requirements Form
(Continued)

9. The bidder must complete the appropriate RFP Forms 1 through 5 and provide the information requested in Attachment B. All forms requiring a signature must be signed by a duly authorized official.

10. Bidders offering power that impacts any transmission interface must provide a letter of intent from the owner(s) of the systems forming the interface stating that the required power transfer capability is available on a firm (non-recallable) basis.

11. The bidder must be willing to provide adequate bid security prior to entering short-list negotiations.

12. The bidder must not include any contractual limits on energy utilization (as opposed to price) by day, month or year.

13. The proposal must include scheduling provisions for the sale.

14. Each proposal must contain the appropriate proposal fee in accordance with Section 10.

KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Proposal Pricing Form

Capacity Pricing

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KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Proposal Pricing Form

Describe the components of and the methodology for determining the capacity rates.

KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Proposal Pricing Form

Energy Pricing

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KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Proposal Pricing Form

Describe the components of and the methodology for determining the energy rates.

KISSIMMEE UTILITY AUTHORITY
REQUEST FOR POWER SUPPLY PROPOSALS

Checklist

All RFP Forms checked below have been included as part of the response package *.

RFP Form 2 - Proposal Summary Form _____

RFP Form 3 - Minimum Requirements Form _____

RFP Form 4 - Pricing Proposal Form _____

Signature of Bidder: _____

Name of Project: _____

(*) *RFP Form 1 is the Notice of Intent to Bid Form which is sent to KUA prior to, and separately from, the proposal package.*

ATTACHMENT A
Commodity Only Natural Gas Price Forecast
(No Transportation Included)

Year	$/MMBtu
2001	$2.30
2002	$2.35
2003	$2.40
2004	$2.45
2005	$2.50
2006	$2.60
2007	$2.70
2008	$2.80
2009	$2.95
2010	$3.10
2011	$3.22
2012	$3.35
2013	$3.49
2014	$3.63
2015	$3.77

ATTACHMENT B

Required Supply Proposal Data

The following is required for all supply proposals as is applicable. The required data should be provided in sections numbered in accordance with the specific items detailed below. Each section should begin on a new page. Information provided, but not in the requested format, may be disregarded and the proposal rejected for incompleteness. General information (e.g., promotional material, 'boiler plate', etc.) may be provided with the proposal, but only the formatted information will be considered in the event of conflicting data. Any proposal that lacks requested information may be deemed incomplete and may be rejected in KUA's sole discretion KUA may request additional data or clarifying information from respondents.

Information requirements are specified separately for two types of proposal, (i) Section B-1 for those involving sales from specific generating unit(s) with or without capacity reserves, separate reserves or firming service contracts to provide firm power (a "Generating Unit Sale"), or (ii) B-2 for a firm sale from a utility system which will provide sufficient system reserves for its total load, including this sale, (a "System Sale"), or (iii)Section B-1 for those involving sole or joint ownership in a generating facility.

B-1 Generating Unit Power Sale and/or Sole/Joint Ownership

B-1.1 Identity of Bidder Contact

Provide the full name, business address, telephone, E-Mail address if available, and facsimile number of contact person from whom additional information can be requested.

B-1.2 General Description of Supply Proposals

(a) Provide a general overall executive summary of the Supply Proposals. The description must include identification of each major component of involved electric generating unit, including unit type, unit manufacturer, date of manufacture, manufacturer's nameplate capacity rating, any reratings that have occurred since date of manufacture, location of resources, primary and secondary fuel type, term of contract, sites where similar units have been installed for commercial operation, and other relevant information.

(b) Fully describe the dispatchability and dependable capacity of the proposed resource, how reserves or firming service, voltage support, operating reserves, load following capability and dispatching will be provided. All limitations on dispatchability must be disclosed.

B-1.3 Location of Generating Unit(s)

Identify the geographic location of the project and indicate whether or not such area is an attainment or a non-attainment air quality area. If no specific location has been identified, so state. Provide a

segment of a USGS map showing geographical location of each generating unit relative to KUA's service territory and surrounding area with interconnections and transmission lines indicated.

B-1.4 Capacity and Expected Energy Production

(a) Specify the amount of firm capacity offered. Please specify net electrical output at 59 degrees Fahrenheit and 95 degrees Fahrenheit available for four (4) continuous hours at the most efficient level of operation. Also, indicate the additional output (if any) which can be obtained through power augmentation (i.e., steam injection, water injection, duct firing, etc.). Indicate the amount of additional capacity obtained for each type of augmentation at 59 degrees and 95 degrees Fahrenheit.

(b) Indicate the expected total net kilowatt-hours to be delivered to the interface with KUA's transmission system under the contract, by hour, for a typical day's operation. Take into account step-up transformer losses, transmission losses to the interface, capacity degradation, and auxiliary loads. Identify limiting conditions (if any).

(c) Show separately, the amount of capacity provided for reserves, or firming service. KUA may wish to purchase unreserved capacity and reserves, or firming service, separately.

B-1.5 Schedule

Specify the time frame when capacity is available. If capacity is provided by a new generating facility, include a schedule for environmental permitting, design, procurement, construction and commissioning of the project, as applicable.

B-1.6 Proposed Agreement Term

(a) Specify proposed contract term.

(b) Specify any and all proposed provisions for renewal or extension, and cancellation notice, identifying any and all proposed conditions for the above to occur, including whether such events are proposed to be mutually or unilaterally determined.

B-1.7 Operating Parameters

(a) Provide performance characteristics of the proposed facility at most efficient full load capacity, including capacity and heat rate, for operation with the following ambient air temperatures:

8° F, 17° F, 37° F, 59° F, 69° F, 77° F, 95° F

(b) Provide heat rate data for the following percentages, as applicable, of the proposed contract capacity at (a) 59°F and (b) 95°F:

20%, 40%, 60%, 80%, 100 %, 110 %

(c) Provide start-up fuel requirements for (1) cold start (off-line 12 hours or longer) and (2) warm start (off-line less than 12 hours) conditions.

(d) Provide heat rate performance coefficients (A, B and C, as shown below) for the unit(s) operating at ambient air temperatures of (a) 59° F and (b) 95° F, as available. The preferred format for such equation is:

$$F = A + B*P + c*P^2$$

where,

F = fuel used by the unit, in millions of Btu per hour (MMbtu/hr); P = net power output by the unit, in megawatts.

(e) If an alternate format for the heat rate performance equation is used, provide sufficient explanation of all parameters represented including values, units, etc.

All performance must be expressed on a higher heating value (HHV) basis and identified as such.

(f) If heat rate is guaranteed over the proposed contract term, please include degradation and indicate the percentage assumed for degradation. If the heat rate is guaranteed for new and clean state only and not over the contract period, please so state.

(g) Specify: (1) annual availability in hours; (2) annual planned maintenance in hours; (3) expected annual full forced outages in hours; (4) expected annual partial forced outages in hours; (5) frequency, in months, and duration, in days, of periodic (less frequently than annually) major overhauls and/or recommended hours of operation between major overhauls.

(h) Specify the expected calendar months for annual planned maintenance to occur.

B-1.8 History of Existing Facilities

(a) If the proposed facility is an existing generator, provide a narrative describing the project's operating history. Include construction start date, test operation start datecommercial operation date, monthly, capacity factors, non-fuel operations and maintenance expenses, and net heat rates by month,- for at least three (3) years or since commercial operation date. Also include major equipment additions and enhancements and associated costs.

(b) If the proposed facility is comprised of an existing generator(s), provide a narrative describing the project's maintenance history, including: (i) monthly and annual scheduled outages, (ii) number and duration of forced outages, (iii) forced and planned outage rates, (iv) dates and causes of all major equipment breakdowns by year, etc., and (v) all known equipment deficiencies.

B-1.9 Control Area Services

Please describe methodology for dispatching unit(s) and other resources (if any) to meet KUA's load each hour, provide operating reserves (including spinning reserves and ready reserves), load following, load regulation and other Control Area Services. Please separately identify the cost for such services.

B-1.10 Project Dispatchability

Please specify:

(a) maximum and minimum net electrical output at 95° F;

(b) time notice required to attain maximum and minimum operating levels;

(c) time notice required to attain contract capacity output from shut-down condition (assuming unit is available);

(d) technical or contractual limitations with respect to ability and willingness or project to operate at part load conditions, including load following;

(e) technical or contractual limitations with respect to ability and willingness of project to operate on electronic automatic generation control (AGC) signals provided by KUA designated dispatch computer;

(f) technical or contractual limitations with respect to ability and willingness to operate generating unit(s) at levels above contract capacity (include capacity delivery level(s) and duration of operation at each indicated level);

(g) technical or contractual limitations with respect to ability and willingness to periodically cycle electric production off-line; including limits on number and frequency of start-ups, minimum duration of on-line and off-line periods;

(h) output level obtainable within 10-minutes from cold start (quick start capability); and

(i) is unit capable of black-start (capable of starting with no external power available)?

B-1.11 Environmental Considerations

(a) Provide the expected level of air emissions from the generating unit(s) for the following compounds:

	Lbs./Hour *(@ Max Output)*	Tons/Year *(Annual Average)*
Carbon Dioxide		
Carbon Monoxide		
Nitrous Oxides		
Sulfur Dioxide		
Ozone		

Volatile Organic Compounds
Particulate Matter
Solid Waste Discharge (By Type)

(b) Other Environmental Impacts

	Gallons/Hours	Gallons/Year
Water Usage		
Waste Water Discharge		

(c) Other (please specify)

(d) If the project is an existing facility, include levels of emission allowed under existing permits along with actual emission data as described in B-1.1 1(a)-(c) for the three most recent years of operation.

(e) If the project is an existing facility, include a record of each permit violation, notice of violation, civil or criminal penalties related to environmental permits, licenses and registrations.

(f) Provide a statement of bidder's responsibility for compliance with all environmental regulations indicating that the owner of the generating facility will retain responsibility for environmental compliance and absolve KUA of any and all environmental responsibility - associated with operation of the unit(s) providing power under the proposed agreement.

(g) Provide copies of all environmental permits, licenses and registrations and related correspondence associated with the generating unit(s) designated to perform under the proposal. :

(h) If a new facility is to be constructed, provide status of site including permitting, land acquisition, etc.

B-1.12 Third Party Information

Identify any other firm capacity and energy commitments during the proposed contract term from the project to other parties, and provide a description of KUA's rights compared to the rights of the other parties. KUA may require bidders to provide copies of contracts associated with sale of power to other parties.

B-1.13 Fuel Information

(a) Fully describe the fuel source for any proposed generating facility, and any fuel supply contracts, including price and escalation provisions, interruptibility, obligation to deliver, penalties for non-delivery, and dispatchability. Specify project fuel type(s), and associated fuel supply information to the extent known, including number and delivery capability of suppliers. If the fuel source requires any emission allowances, the bidder shall specify if entitlements are now held for the required allowances. If

entitlements to required allowances are not held, the bidder shall identify the source from which allowances will be obtained, and any separate charge proposed to be assessed.

(b) Specify backup fuel arrangements, including type(s) of backup fuel and expected ability (duration and net electrical output level) to deliver power when supplied solely by backup fuel supply.

(c) If the proposal is based on a pass-through fuel cost arrangement, the fuel forecast prices in Attachment A must be used by the bidder to calculate the cost of energy.

B-1.14 Thermal Host

If a thermal host is involved, identify the thermal host and provide a complete description of contractual arrangements with the thermal host, such as term, description of waste heat steam takes, quantities, delivery patterns, and pricing and credit information sufficient to permit KUA to evaluate project viability given the proposed power pricing. If a steam cycle is used to increase the efficiency of the project, provide a heat balance diagram showing steam requirements for the thermal host and calculation of the net heat rate of project. Limitations on the operation of the project due to steam hosts requirements should be described in detail.

B-1.15 Financial Information

(a) Provide a detailed description of the proposed financing plan, including, but not limited to, the identification of expected sources of debt and equity, proposed guarantor, proposed dollar amounts, issuer and rating of performance bonds, the anticipated level and duration of equity involvement by the bidder, and any and all conditions (including revocation, expiration, etc.), if applicable. Provide a sample of each proposed security instrument along with the name of the institution proposed as the issuer of the instrument.

(b) Provide pro forma income statements, balance sheets, and after tax cash flow statements with applicable debt coverage ratios consistent with cost estimation and price bid forecasted on an annual bases for the life of the proposal.

(c) Identify any and all bidder affiliates.

(d) Provide audited financial statements, if available, or other financial statements for the last three years. Such information must be provided for all entities, including affiliates involved in the transaction. For investor owned utilities, this would include as a minimum, FERC Form I's and SEC 10K Forms. Bidders should also provide where appropriate, the most recent Dunn and Bradstreet report, a description of pending litigation, and the most recent annual report.

B-1.16 Pricing Information

(a) Specify on RFP Form 4 - Proposal Pricing form all proposed payment components and proposed incentive amounts, if any, and the conditions which engage such

provisions. KUA requires that proposals clearly distinguish energy and capacity pricing components. Please include all costs for transmission services, reserves or firming service, dispatching, load following, load regulation, telecommunication, and metering.

(b) Specify annual payment stream components, whether explicitly specified or driven by escalation factors. If price escalation factors are proposed, please identity what attribute the proposed factor is to represent (e.g., general inflation, general economic growth, etc.), and the proposed index or other source data to define the escalator (e.g., CPI change in GDP, etc.). Unless the escalation factors are contractually fixed, bidders must use the factor specified in Attachment A.

(c) Provide itemized installed costs for project and ancillary equipment including the power block, substation equipment, balance of plant, spare parts, environmental, site costs, land, step-up transformer, electrical interconnection, high side breaker), transmission system upgrades, gas line, gas compression, gas line interconnection, alternate fuel storage tanks, ancillary equipment to provide Control Area Services, contingencies, interest during construction, financing costs, working capital, owner's engineer costs, development fees, legal fees, start-up, training, mobilization, etc. Please indicate which of these installed costs the proposal will cover with payments indicated in items B-1.16 (a) and (b), and which will be the responsibility of KUA (if any).

B-1.17 Proposed Financial Security Arrangements

Indicate proposed financial security arrangements specifying, at a minimum:

Proposed Form of Security Instrument	
Corporate Guaranty	Proposed guarantor; any and all conditions, including revocation, expiration, etc.
Letter of Credit	Name of issuer proposed dollar amount; any and all conditions, including revocation, expiration, etc.
Performance Bond	Name of issuer and rating; proposed dollar amount; any and all conditions, including revocation, expiration, etc.
Project Take-over Rights	Mechanics and limitations on the exercise of such rights.
Other	Please describe in detail.

B-1.18 Wheeling

Any bidder proposing to wheel power and energy over the facilities of a third party will be required by KUA to provide:

(a) A detailed description of the proposed wheeling and interconnection arrangements, including, but not limited to, contract path and estimated cost of such wheeling services.

(b) Point(s) of delivery of firm capacity and energy into KUA's transmission system.

(c) A description of interconnection facilities and estimated cost and cost responsibility for such facilities.

(d) A description of upgrades in the third party transmission system which may be required to accommodate the project and an estimate of costs.

(e) Back-up information that would verify the reasonableness of assumptions and cost data associated with transmission ;service required for delivery of the proposed capacity and energy from the source of the supply to the transmission grid of KUA. Also, detailed analyses which show all assumptions, including, among other things, contract paths, contracting parties, interface capability intervening parties, and transfer capabilities. KUA may verify the transmission studies provided by the bidder by performing its own load flow studies. Therefore, bidders are encouraged to submit a hard copy of the transmission analysis results plus the load flow cases in raw data ASCII IBM compatible format (i.e., PTI's PSS/E, GE's PSLF, IEEE common), along with all assumptions used in creating each case and any special instructions for reading the data

B-1.19 Summary of Bidder's Qualification

(a) Provide a description of the bidder's qualifications and experience applicable to the developing, designing, financing, constructing, operating and maintaining of the proposed project.

(b) Identify and describe existing generation facilities currently in commercial service on which bidder has contracted, including (i) the name, address, telephone number, and specific contact of the owner of such facilities; (ii) a description of the facility and its location; (iii) the bidder's scope of work relating to the project; and (iv) total contract value and duration.

B-1.20 Additional Information

Please provide any additional information which bidder believes will assist KUA in an accurate and fair evaluation of the proposed project.

B-1.21 Guaranty For Firm Power

Describe the formula or mechanism whereby the power and energy will be compensated or replaced, and/or the capacity or energy payments reduced when or if the project fails to provide firm power when required by KUA.

B-2 System Sale

B-2.1 Identity of Bidder Contract

Provide the full name, business address, telephone, and facsimile number of contract person from whom additional information can be requested.

B-2.2 General Description of Supply Proposals

(a) Provide a general overall summary of the Supply Proposals. The description must include identification of each resource in the electric system from which sale is being made (the "System").

(b) Describe the amount of capacity to be provided, the amount of total resources, and projected loads (including the proposal sale) on the System for each year of the proposed contract. Describe the dispatchability of the resource, and how reserves, firm services, load following, load regulation, operating reserves and other Control Area Services which will be provided to KUA.

B-2.3 Location Of Generating Facilities

Identify the geographic location of the generating resources on the System and the transmission system which interconnects these resources. Identify the transmission path and intervening transmission systems required to deliver the power to KUA's transmission system.

B-2.4 Capacity and Expected Energy Production

(a) Specify the amount of delivered capacity and maximum energy offered on typical days, months and years, taking into account seasonality of supply (if any) and transmission losses.

(b) Please indicate the firmness of the sale (i.e. will KUA have equal priority to the native load and other wholesale customers of the System.). If not, explain. Also describe limiting conditions (if any).

B-2.5 Schedule

Specify the time frame when capacity will be available (or unavailable).

B-2.6 Proposed Agreement Term

(a) Specify proposed contract term.

(b) Specify any and all proposed provisions for renewal or extension, and cancellation notice, identifying any and all proposed conditions for the above to occur, including whether such events are proposed to be mutually or unilaterally determined.

B-2.7 Dispatchability

Indicate all scheduling, and dispatch constraints applicable to the proposed system sale including but not limited to the following:

(a) Scheduling requirements.

(b) Notice requirements for the start-up of units to supply purchased power.

(c) Minimum up-time requirements for units to supply purchased power.

(d) Minimum load requirement (if any).

(e) Ramp-up or ramp-down limitations and notice requirements.

B-2.8 Control Area Services

Please provide a description of how these services could be provided for KUA's load. The service could include dispatching, load following, load regulation, operating reserves (Spinning and ready reserves) and other services.

B-2.9 Environmental Considerations

(a) Provide the expected level of air emissions associated with the proposed system sale for the following compounds:

	Lbs./Hour *(@ Max Output)*	Tons/Year *(Annual Average)*
Carbon Dioxide		
Carbon Monoxide		
Nitrous Oxides		
Ozone		
Sulfur Dioxide		
Volatile Organic Compounds		
Particulate Matter		
Solid Waste Discharge (By Type)		

(b) Other Environmental Impacts

	Gallons/Hours	Gallons/Year
Water Usage		
Waste Water Discharge		

(c) Other (please specify)

(d) Provide a statement of bidder's responsibility for compliance with all environmental regulations and that bidder will retain responsibility for environmental compliance and

absolve KUA of any and all environmental responsibility associated with the system sale.

B-2.10 Third Party Information

Identify any other firm capacity and energy commitments during the proposed contract term from the system to other parties, and provide a description of KUA's rights compared to the rights of the other parties. Provide contracts for sale of power to other parties from the system.

B-2.11 Fuel Information

Please describe the following:

(a) Primary and alternate fuel source for each generating unit on the system.

(b) Relationship of energy pricing for system sale to actual fuel costs (show example calculations).

(c) Historical monthly average fuel prices in $/MMBtu for each generating unit on the system for the last three (3) years.

(d) Average monthly heat rate by unit including separately MMBtu's and net generation for the last three (3) years.

(e) If the proposal is based on a pass-through fuel cost arrangement, the fuel forecast prices in Attachment A must be used to calculate the projected cost of energy.

B-2.12 Financial Information

(a) Identify any and all bidder affiliates.

(b) Provide audited financial statements, if available, or other financial statements for the last three years. Such information must be provided for all entities, including affiliates involved in the transaction. For investor owned utilities, this would include as a minimum FERC Forms l's and SEC 10K Forms. For investor owned utilities, this would include as a minimum, FERC Form l's and SEC 10K Forms. Bidders should also provide where appropriate, the most recent Dunn and Bradstreet' report, a"description of pending litigation,;and the most recent annual report.

B-2.13 Pricing Information

(a) Specify on the RFP Form 4 - Proposal-Pricing form, all proposed payment components and proposed incentive amounts, if any, and the conditions which engage such provisions. KUA requires that proposals clearly distinguish energy and capacity pricing components. Please include all costs for reserves or firming service, transmission service, dispatching, load following, load regulations telecommunications and metering.

(c) Specify annual payment stream components, whether explicitly specified or driven by escalation factors. If price escalation factors are proposed, please identify what attribute the proposed factor is to represent (e.g., general inflation, general economic growth, etc.), and proposed index or other source data to define the escalator (e.g., CPI, change in GDP, etc.). Unless the escalation factors are contractually fixed, bidders must use the factors specified in Attachment A.

B-2.14 Proposed Financial Security Arrangements

Indicate proposed financial security arrangements specifying, at a minimum:

Proposed Form of Security Instrument	
Corporate Guaranty	Proposed guarantor; any and all conditions, including revocation, expiration, etc.
Letter of Credit	Name of issuer; proposed dollar amount; any and all conditions, including revocation, expiration, etc.
Performance Bond	Name of issuer and rating; proposed dollar amount; any and all conditions, including revocation, expiration, etc.
Project Take-over Rights	Mechanics and limitations on the exercise of such rights.
Other	Please describe in detail.

B-2.15 Wheeling

Any bidder proposing to wheel power and energy over the facilities of a third party will be required by KUA to provide:

(a) A detailed description of the proposed wheeling and interconnection arrangements, including, but not limited to, contract path and estimated cost of such wheeling services.

(b) Point(s) of delivery of firm capacity and energy into KUA's transmission system.

(c) A description of interconnection facilities, and estimated costs and cost responsibility for such facilities.

(d) A description of upgrades in third party transmission system(s) which may be required to accommodate the purchase and an estimate of costs.

(e) Back-up information that would verify the reasonableness of assumptions and cost data associated with transmission service required for delivery of the proposed capacity and energy from the source of the supply to the transmission grid of KUA. Also, detailed analyses which show all assumptions, including, among other things,

contract paths, contracting parties, interface capability, intervening parties, and transfer capabilities. FMPA may verify the transmission studies provided by the bidder by performing its own load flow studies. Therefore, bidders are encouraged to submit a hard copy of the transmission analysis results plus the load flow cases in raw data ASCII IBM compatible format (i.e., PTI's PSSIE, GE's PSLF, IEEE common) along with all assumptions used in creating each case and any special instructions for reading the data.

B-2.16 Additional Information

Please provide any additional information which the bidder believes will assist KUA in an accurate and fair evaluation of the proposed project.

B-2.17 Guaranty For Firm Power

Describe the formula or mechanism whereby the power and energy will be compensated or replaced, and/or the capacity or energy payments reduced when or if the project fails to provide firm power when required by KUA.

Attachment C

IRP Summary

CONTENTS

List of Tables

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I. INTRODUCTION

The Kissimmee Utility Authority (KUA) retained the services of Stone & Webster Management Consultants, Inc. (Stone & Webster) to develop an integrated resource plan (IRP). This Summary Report contains the key assumptions and findings associated with the IRP study. Attached to this Summary Report are two additional volumes. Volume I is the Assumptions Document which contains all the underlying data assumptions used for the study. Volume II is the Technical Report which contains methodology and results of the screening and sensitivity analyses, as well as the risk assessment.

A. Background

KUA initiated the development of an IRP to ensure that its customers are provided with reliable and economic energy both in the short and the long term. Due primarily to increased competition, utilities now face a multitude of options for assuring an adequate and reliable future supply of electricity for their customers.

On the supply-side, these options include conventional fossil-fuel-fired central station generation (in both a self-build and joint ownership status), as well as emerging technologies expected to be available in the near future such as fluidized bed, coal gasification, and alternative technologies such as wind and solar. Independent power producers, cogenerators and small power producers are another means of supplying electricity. Purchased power from other utilities is also an option, particularly as deregulation removes constraints to transmitting power from one geographical area to another. New purchased power alternatives were explicitly solicited and investigated as part of this IRP.

Utilities also can use demand-side alternatives as a means of satisfying the future demand for electricity. In some cases it may be less expensive to implement a conservation program that reduces load than to add new capacity to serve the same load. In addition to a broad array of conservation programs currently being implemented in the utility industry, load shifting, peak shaving, and strategic marketing programs must also be considered. If a utility can more efficiently use its current generating capacity by selling firm and/or economy energy, it can reduce the cost of electricity to all customers. These options have been considered in KUA's IRP.

While conservation, load management, and marketing functions have existed in the utility industry for many years, these concepts now called demand-side management (DSM) resources have been added to the resource mix. The simultaneous consideration of supply and DSM resources resulted in the emergence of integrated resource planning (IRP) as a common planning approach.

Integrated resource planning (sometimes referred to as least-cost planning or "value-based planning") involves integrating the activities of forecasting, generation expansion, marketing, and conservation into a comprehensive plan. In most cases, the goal is not to achieve a true least-cost plan but to

provide customers with the most cost-effective plan while assuring adequate reliability given changing business and economic conditions.

Figure I-1

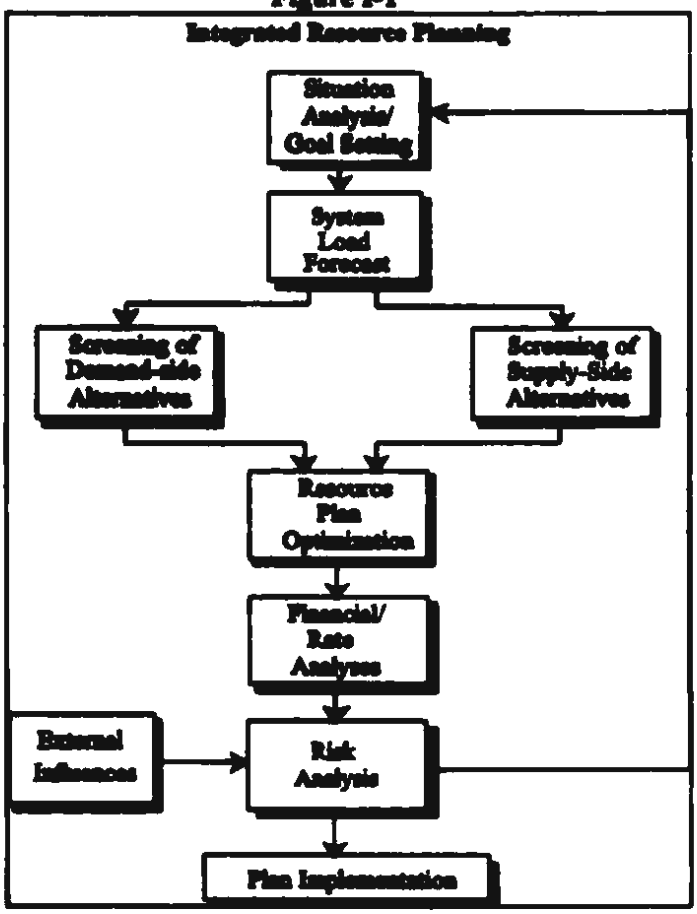


Figure I-1 shows the various components that comprise a thorough integrated resource planning process.

The IRP process for KUA began with a **load forecast** (described in Volume I: Assumptions Document). The forecast was also performed for alternative scenarios of future economic conditions so the flexibility of various resource plans under these conditions could be evaluated. The second major component of IRP is **demand-side planning** (discussed in Volume I, Section 2.0). The DSM analysis adds another dimension to resource planning and KUA considers it important in managing the efficiency of its electric system and providing "choice" to its customers. Cost-effectiveness of all resources is therefore very important, and the IRP process undertaken by KUA provides a framework designed to identify the most cost-effective resource plan.

Supply resource evaluation is the third component of the IRP process. In this step, all available technologies appropriate to KUA were considered in addition to purchases from other utilities. The ultimate number of planning alternatives is a subset of a much larger group which has been selected.

In the fourth major step, **integration**, both the supply and demand resources were evaluated together so that they can compete based on cost-effectiveness and load-serving capability. Following the integration analysis, a **sensitivity analysis** was performed on a range of uncertainty variables aggregated in meaningful combinations to produce a wide range of scenarios. The development of this wide range of scenarios is the foundation of the sensitivity analysis.

The final step of the IRP process is to evaluate all of the decision variables in the **risk analysis**: the objectives and plans are brought together to derive a preferred plan. The risk assessment approach and methodology are discussed in greater detail in Volume II.

B. Models

The models used for the resource evaluation are components of the Resource Planning Workstation (RPW) which is commercially supported by Stone & Webster Management Consultants, Inc. The EGEAS (Electric Generation Expansion Analysis System) model, available from the Electric Power Research Institute (EPRI) and the major component of the RPW models, uses a probabilistic load duration curve based production cost methodology similar to other production costing models. EGEAS is a planning model with a static screening module, a Bender's decomposition optimization module, and a dynamic programming optimization module.

The demand-side programs were developed using the Synergic Resource Company (SRC) model COMPASS®. The results of the COMPASS® program were then used by DSMLINK to create the data for the EGEAS program.

The supply-side screening analysis, the resource integration, and the sensitivity analysis were carried out using EGEAS. The risk analysis was performed using RISKMIN, also developed by EPRI and part of the Resource Planning Workstation.

C. Objectives of the Preferred Plan(s)

Short-term performance is an important part of developing the best long-term plan. KUA's primary objective is to develop a plan (or plans) that blends the short-term and long-term objectives and fairly and reasonably assigns risks associated with the resources and actions set forth in the plan(s). In meeting this objective it is important that KUA consider its competitive position in the industry in order to maintain customer base while adding those resources which minimize prices and total costs to KUA customers.

D. Summary Report Structure

This Summary Report contains seven sections. In addition to the Introduction, there are the following six sections.

II. Core Assumptions
III. Planning Alternatives Retained
IV. Integration Analysis
V. Risk Analysis
VI. Preferred Plans
VII. Recommended Action Plan

The actual IRP was developed for KUA in a non-pool environment. The pool is an operating pool and requires each of its members to perform their own capacity expansion analysis. Unless the pool decides to pursue a joint planning effort KUA is prudent to base its future expansion solely on its own needs. The resulting expansion plan does not reflect any economy energy purchases or sales to the Florida Municipal Power Pool (FMPP) members. The need for capacity and surrounding economic impacts are based solely on KUA's own system needs.

II. CORE ASSUMPTIONS

Load and fuel forecasts tend to dominate the results of the IRP process. Environmental factors can also be strong determining factors in many IRPs, but for KUA they do not dominate the process due to the similarity of fuel types for the planning alternatives and the amount of purchase power available. The load forecast in conjunction with the existing resource base defines the timing and need for new capacity. The fuel forecasts generally tend to be the deciding factor in the choice of new capacity.

Detailed discussion of both the load and fuel forecasts is found in the Volume I: Assumption Document in Section 3 and 4, respectively. This section summarizes the core assumptions in order to frame the results contained later in this report.

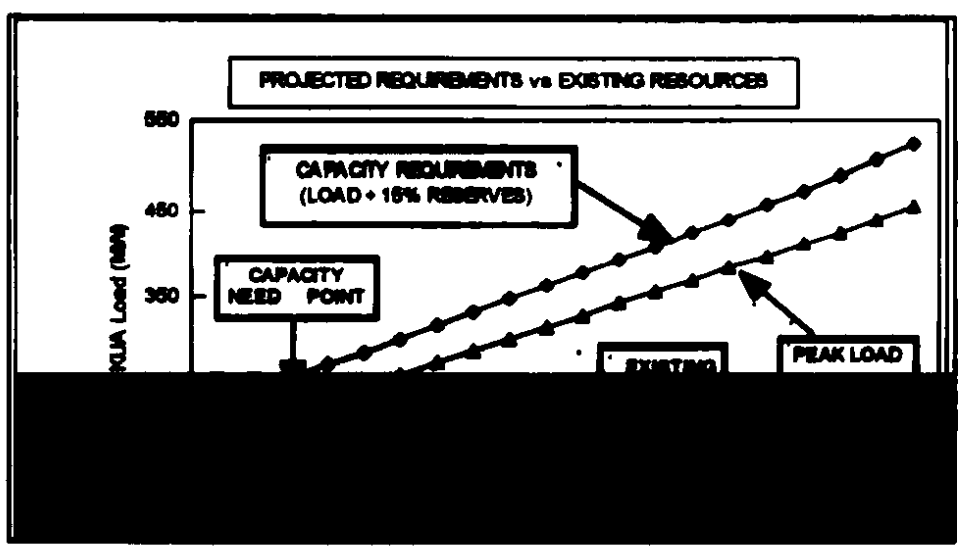
A. Load Forecast

KUA's load forecast is summer peak driven. Table II-1 and Figure II-1 provide both a tabular and graphical representation of the load growth under forecasted base conditions in relation to KUA's existing resources. The KUA peak load is forecasted to increase at a 5.5% annual rate during the next ten years and then slow to a 3.6% growth rate for the subsequent ten-year period.

KUA has an immediate need for new capacity. In 1997, 3 MW of additional capacity will be needed to meet load growth plus a 15% reserve margin. In the short term, purchased power is available under the existing Stratified Purchase Agreement contract with Florida Power Corporation. In conjunction with this IRP additional short-term bids for purchased power were requested from regional utilities. (The excellent response to KUA's request for new purchased power will be discussed in Section III). Long-term capacity can also be obtained under the Stratified Purchase Agreement or through a host of alternatives. Table II-1 indicates that, due to continued load growth and the retirement of capacity, a total of 373 MW will have to be added through 2014. The complete list of planning alternatives that were analyzed and screened is contained in Section 2 and Section 12 of the Assumptions Document while the planning alternatives retained for detailed evaluation are shown in Section III of this Summary Report.

Table II-1 and Figure II-1
Load Projection and Resource Requirements

Year	Existing Resources (MW)	Forecasted Peak Load (MW)	Capacity Requirements (MW)	Annual New Capacity Needed (MW)	Cumulative New Capacity Needed (MW)
1995	258	195	224	0	0
1996	257	211	243	0	0
1997	257	226	260	3	3
1998	234	238	274	37	40
1999	231	251	288	17	57
2000	231	263	302	14	71
2001	231	276	318	15	87
2002	231	290	333	15	102
2003	221	303	349	26	128
2004	221	317	364	15	143
2005	201	330	379	35	179
2006	201	343	394	15	194
2007	201	356	410	15	209
2008	201	370	425	16	225
2009	201	384	442	16	241
2010	201	399	458	17	258
2011	201	412	474	16	274
2012	201	427	491	16	290
2013	152	441	507	66	356
2014	152	456	525	17	373



B. Fuel Forecast

Table II-2 below summarizes the 1995 fuel prices and the long-term price escalation forecast for each of KUA's fuels. Figure II-2 shows the 1996 KUA fuel mix (with Stanton 2 included). On a capacity basis, natural gas provides just over 50% of KUA's needs, and with the current projections, fuel prices and availability, natural gas continues to look attractive as the primary fuel for expansion.

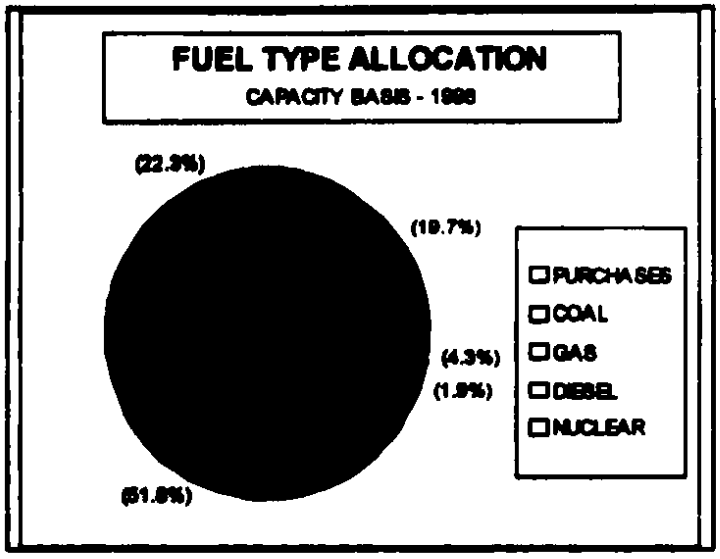
In addition to the traditional fuels (coal, gas, oil and nuclear), municipal solid waste was also investigated in the IRP. The advantage of using municipal solid waste (MSW) is its negative fuel cost (i.e., tipping fee): municipalities pay the utility to use municipal solid waste as the fuel for generating electricity up to the level or cost that would have been incurred to dispose of the solid waste in an approved landfill. Another advantage of considering MSW is the fuel diversity it offers to a heavily gas-dominated system. In the IRP, the initial tipping fee used for MSW is $40/ton with a modest 1.5% annual increase.

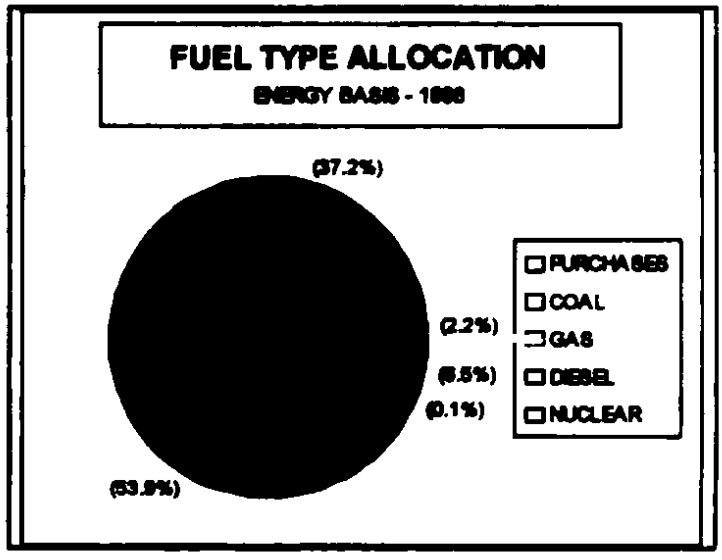
Table II-2
Summary of Fuel & Purchase Power Escalators

Fuel Type	1995 Price	Unit	Annual Escalation (1) (%)
Gas	$2.18	$/MBtu	5.23
Coal	1.94	$/MBtu	1.75
Nuclear	0.63	$/MBtu	3.00
Diesel	4.00	$/MBtu	4.58
Peak Capacity	61.6	$/kW-yr.	0.74
Peak Energy	57.3	$/MWh	2.19
Intermediate Capacity	107.3	$/kW-yr.	0.73
Intermediate Energy	32.9	$/MWh	4.03
Baseload Capacity	168.0	$/kW-yr.	0.79
Baseload Energy	22.3	$/MWh	4.25
Municipal Solid Waste	-40.0	$/ton	1.50

(1) The escalation rates reflect the annual compound rate over the period 1995 through 2015.

Figure II-2
Fuel Type Allocation





III. PLANNING ALTERNATIVES RETAINED

After screening the comprehensive list of supply-side planning alternatives (see Table 12.2 of the Assumptions Document), eleven supply-side alternatives were carried forward into the evaluation phase of the IRP. Four demand-side management alternatives were also incorporated into the evaluation, making a total of fifteen planning alternatives. The alternatives range in size from less than 1 MW up to 80 MW and represent both KUA self- and joint-ownership alternatives. Table III-1 lists the fifteen planning alternatives and some of their key parameters.

Table III-1
Planning Alternatives Considered in IRP Optimization
(All Costs in 1995 Dollars)

Planning Alternative	Type	Size (MW)	Ownership Status	Capital Cost 1995 ($/kW)	Fixed O&M 1995 $/kW-yr	Variable O&M 1995 $/MWh	Full Load Heat Rate Btu/kWh
Commercial Cooling	DSM	2.8	KUA	N/A	0	63.2	N/A
Residential Appliance	DSM	1	KUA	N/A	0	1,148	N/A
Residential Fix-up	DSM	0.6	KUA	N/A	0	965.7	N/A
Direct Load Control	DSM	41.7	KUA	N/A	0	25,979	N/A
Peak Purchase	PURC	10	KUA	N/A	61.56	57.31	N/A
Intermediate Purchase	PURC	10	KUA	N/A	107.56	32.85	N/A
Base Purchase	PURC	10	KUA	N/A	168	22.34	N/A
Aero Derivative CT	Supply	40	KUA	497	0.56	9.96	10,410
Cane Island CT	Supply	80	KUA	335	1.03	4.33	11,751
Large CT	Supply	77	Joint	345	0.15	2.22	11,210
Coal	Supply	44	Joint	925	39.09	8.22	9,880
Hansel Repowering	Supply	58.3	KUA	*957	30.0	1.10	7,370
Conventional CC	Supply	62	Joint	600	16.92	1.81	8,100
Advanced CC	Supply	80	Joint	500	10.86	1.08	7,450
Municipal Solid Waste	Supply	40	KUA	5,500	140	19.84	16,400

** Represents cost of incremental 14 MW of new capacity.*

Along with the fifteen demand-side and supply-side alternatives, additional firm purchases were investigated. Based upon initial findings of the IRP process, KUA invited three regional utilities (Tampa Electric Company, Orlando Utilities Commission and Florida Power Corporation) to provide new bids for both short- and long-term power. The response to KUA's request for bids was excellent and the resulting bids have been incorporated in the IRP analysis, but, because they are considered confidential, have not been illustrated in this Summary Report.

The size indicated for the demand-side alternatives represents the maximum potential for that alternative. Tables 2-1 to 2-4 in the Assumptions Document contain the growth patterns (i.e., penetration rates) along with the costs for each of the demand-side alternatives.

The costs for each of the DSM alternatives have been modeled as variable O&M. For each alternative the O&M values shown in Table III-1 above are for the first year only. The rates decline over time in response to obtaining ongoing benefits associated with one-time prior costs. The year-by-year O&M rates associated with each of the four alternatives is shown in Table III-2.

Table III-2
Year by Year Rates for DSM Program
($/MWh)

Year	Commercial Cooling	Residential Appliance	Direct Load Control	Residential Fix-up
1996	63	1,148	25,978	965
1997	32	391	16,696	498
1998	22	201	13,615	339
1999	17	124	12,085	262
2000	14	84	11,178	216
2001	12	62	10,582	186
2002	10	48	10,164	164
2003	9	38	9,857	148
2004	8	31	9,626	135
2005	8	26	9,446	125
2006	0	0	8,940	0
2007	0	0	8,848	0
2008	0	0	8,776	0
2009	0	0	8,718	0
2010	0	0	8,638	0
2012	0	0	8,612	0
2013	0	0	8,593	0
2014	0	0	8,580	0
2015	0	0	8,572	0

All of the fixed and variable O&M costs for the supply-side units were escalated at 3% annually.

Four supply-side alternatives are listed as having a joint ownership status. To investigate the efficiencies of larger units, Stone & Webster used the price and heat rate parameters for larger units and allocated a portion of the capacity to KUA. For example, the 44 MW coal alternative is based on an actual unit size of 440 MW. The assumption is that KUA can obtain a 10% share of the 440 MW coal unit. Table III-3 shows each of the joint planning alternatives and the actual size unit.

Table III-3
Jointly-Owned Planning Alternatives

Planning Alternative	Planning Size (MW)	KUA Ownership (%)	Actual Size (MW)
Large CT	77	50	155
Conventional CC	62	50	125
Advanced CC	80	32	250
Coal	44	10	440

Jointly-owned units can align resource additions more closely with load growth at a lower cost. The larger units used as jointly-owned planning alternatives have lower capital costs, lower fixed and variable O&M, and more efficient heat rates. The drawback to jointly-owned units is the need to find a suitable partner and the time necessary to negotiate the contracts. Given KUA's ongoing relationship with FMPA, however, joint ownership issues may not be substantial.

IV. INTEGRATION ANALYSIS

Virtually all of the underlying economic parameters associated with the resource options considered by the IRP analysis are to some degree uncertain. An optimal resource strategy therefore depends on a discrete set of assumptions. That is, while a single plan might be optimal for a given set of assumptions, the introduction of uncertainty could result in a drastically different optimal plan. Therefore, the integration analysis dynamically considers a spectrum of likely scenarios for key variables and determines optimal resource strategies for each scenario. To take account of these conditions the analysis was performed using the following process.

Specification of Significant Variables

It is important to identify the variables that significantly influence optimization results. For example, if the optimal plan under base assumptions indicates a preference for gas-fired combustion turbines, the integration analysis should consider natural gas prices as an uncertainty variable, since changes in gas prices will likely result in changes to the optimal resource plan. On the other hand, because variable O&M typically represents a fraction of the total production costs of a combustion turbine, the uncertainty in variable O&M costs most likely will not affect the optimized resource plan, and therefore need not be considered. The uncertainty variables used in the IRP were developed jointly by KUA management and Stone & Webster and are shown in Table IV-1.

Specification of Uncertainty States

Using the list of uncertainty variables, the range of values to address the uncertainty governing each variable was developed. Defining ranges involved the definition of uncertainty boundaries around the base value. Each of these values (base, mid-high, high, mid-low and low) for a particular variable is defined as an uncertainty state.

Table IV-1
Kissimmee Utility Authority 1995 IRP

	Uncertainties	Low	Mid Low	Base	Mid High	High
1	Load Growth	2.40%		5.60%		8.00%
2	Cost of Money	5.50%		6.50%	8.00%	12.00%
3	Combustion Turbine Capital Costs	300		335		400
4	Combined Cycle Capital Costs	540		600		720
5	Gas Prices Escalation (Average)	5.23%		5.23%		7.00%
6	Gas Supply Availability (80%)	4.4216		Unlimited		Unlimited
7	Purc Power Prices (Peak) - Esc.	0.00%		0.74%	1.50%	2.25%
	Purc Energy Prices (Peak) - Esc.	2.19%		2.19%	3.25%	4.50%
8	Purc Power Prices (Int) - Esc.	0.00%		0.74%	1.50%	2.25%
	Purc Energy Prices (Int) - Esc.	2.50%		4.03%	5.00%	6.00%
9	Purc Power Prices (Base) - Esc.	0.00%		0.79%	1.50%	2.25%
	Purc Energy Prices (Base) - Esc.	2.00%		4.25%	4.50%	5.00%
10	Purc Power Availability (Peak)	75%	90%	Unlimited		Unlimited

Definition of Futures

The next step in the process is the combination of uncertainties into meaningful combinations which represent possible "futures." Table IV-2 defines each of the seven futures which KUA and Stone & Webster jointly decided were applicable and appropriate to consider. Each future represents a realistic possibility, and not simply an exhaustive permutation of all combinations of variable uncertainty states.

When developing a future, each uncertainty variable is assigned one of its uncertainty values which reflects how the variable is expected to perform under the specified set of conditions. For example, the underlying assumption behind Future #4 (the over-subscribed gas market case) is that due to the headlong switch to natural gas in the U.S. supplies will not be able to keep up with demand and, correspondingly, gas prices will rise while availability will decrease. Under this premise, a related assumption is that peak and intermediate purchase power costs will increase because these types of transactions are normally made from gas-fired units. By developing reasonable futures, the entire set of uncertainty variables is changed in a cohesive manner to represent the expected impact associated with that future.

Integration

The integration analysis optimizes resource options for each of the futures, with the objective of either minimizing present value of revenue requirements or minimizing the levelized system average rate over the study period. The integration analysis derives optimal and sub-optimal resource strategies for each of the futures defined above. For each of the seven futures, the top two to three plans were initially retained and analyzed, which provided a total of eighteen plans. It is important to note, however, that some of these plans might be duplicates. For example, the best resource plan under Future #1 might be the third-best plan under Future #5. This plan would be reflected twice in the list of plans and it would be redundant to continue analyzing it. Accordingly, the last step in the integration process determines ***unique plans*** by eliminating duplicate plans from the list. A plan is defined as being unique if either the amount of each resource options and/or the timing of installation of these options is different from all other plans. Two plans are duplicates if the following three conditions hold: (1) the same types of resource options are selected, (2) the same number of each of the resource options is selected, and (3) the timing of these resource options is the same. Due to the large number of purchased power alternatives being studied, all of the eighteen plans retained were determined to be unique. Seven additional plans were later incorporated in the analysis framework to test for different timing and resource mix characteristics.

The integration analysis results in a number of unique resource strategies that consider the full spectrum of uncertainties. However, each of these plans was derived based on an optimization of ***a single future***. In the next step, the Risk Analysis, each unique plan is simulated under ***all*** of the futures. This process exposes the consequences of implementing each plan in the event that a different future than the one for which the plan was derived

occurs. The risk analysis identifies the unique plan(s) which perform best over *all* futures and is the point in the IRP process where the majority of the analysis is involved. Therefore, a total of twenty-five plans were carried forward to the risk analysis.

Table IV-2
Definition of Futures

Futures	Uncertainty Variables and Levels									
	Load Forecast	Cost of Money	Turbine Capital Cost	CC Capital Cost	Gas Price	Gas Avail.	Peak Purch Power Prices	Int Purch Power Prices	Base Purch Power Prices	Peak Power Avail.
1.) Existing Conditions	B	B	B	B	B	B	B	B	B	B
2.) Impacts of Wholesale Wheeling	B	MH	B	B	B	B	L	L	L	ML
3.) Florida Limited Transfer Capability	B	B	B	B	B	B	L	L	L	L
4.) Over-subscribed Gas Market	B	B	L	L	H	L	H	H	MH	L
5.) Increased Regulation of Municipals	B	H	B	B	B	B	B	B	B	B
6.) Regional High Economic Growth	H	MH	H	H	MH	B	MH	MH	B	B
7.) Regional Low Economic Growth	L	L	B	B	B	B	L	L	L	H

V. RISK ANALYSIS

The risk analysis is a critical aspect of the IRP process because it pays particular attention to the strategic implications of implementing the resource plans derived in the Integration Analysis, and highlights the situational tradeoffs between each of the plans. In short, the risk analysis assesses the robustness of each of the unique resource plans, aiming to identify the plan(s) which best meet the IRP objectives over the broadest possible spectrum of likely futures. In this step, we defined the attributes by which competing resource strategies are ranked. An ***attribute*** is a performance measure for a particular plan simulated under a particular future. Attributes are selected such that the subsequent ranking of plans accurately reflects the ability of each plan to meet the IRP objectives. Table V-1 contains the list of attributes used in the IRP and the objective for using it.

Table V-1
List of Attributes

Decision Variables (Attribute)	Objectives
Levelized Average System Rates	Low Customer Rates
NO_x and SO_2 per megawatt hour	Environmental Compliance
Present Worth of Revenue Requirements	Low Total Electric Power Costs
Gas supply constraints	Effective use of fuels
KUA-owned new generation costs and purchase power costs per megawatt hour	Balance capital and purchase power costs

Simulation of Scenarios

In this step, each of the unique plans derived in the integration analysis is systematically simulated under each of the futures defined. This expands the number of scenarios considered to a number equal to the number of unique plans times the number of futures (i.e., 25 x 7 = 175 scenarios). For each of these scenarios, the values for the attributes defined in the previous step are tracked and then compared to discern which plans perform best over all futures.

Specification of Attribute Tolerances

In this step, tolerances are established for the attributes defined above. These tolerances establish cutoffs by which a given plan may be deemed "not significantly better" or "worse than" an alternate plan. These tolerance levels are modeled as two inputs to the RISKMIN model, and by establishing them, the best plans can quickly be highlighted from the list of unique plans.

Analysis of Plan Robustness

A *robust* plan is a plan that consistently performs well over all of the futures. This step of the risk analysis assesses the relative robustness of the unique resource strategies.

A plan's robustness is determined by the number of futures which "support the plan." A future is said to support a plan only if the plan's attributes are within the tolerance levels of the corresponding attributes for all the other plans simulated for that same future.

The analysis of plan robustness is systematically accomplished as follows:

1) Examine the attributes for each plan under future #1.

2) Identify the plans for which each attribute is lowest under future #1. It is likely that two different plans will have the lowest values for the different attributes.

3) Calculate the incremental deltas in attribute values between the plans identified in step 2 and other plans for future #1. These deltas measure the "inferiority" of each plan as compared to the plans identified in step 2, assuming future #1 were to occur. If the deltas for all attributes of a given plan are within the defined tolerance levels, then future #1 supports that plan.

4. Repeat steps 1-3 for each of the remaining futures.

The more futures that support a plan, the more robust that plan is deemed.

VI. PREFERRED PLANS

A total of twenty-five plans were evaluated in the risk analysis, seven of which were the optimal (i.e. the lowest cost plan from each of the seven futures) and the remaining eighteen being sub-optimal plans (higher cost plans). The sub-optimal plans were evaluated to investigate timing and resource mix considerations. These plans were considered in order to cover a wide spectrum of resource plans that were not entirely based upon the lowest present worth revenue requirements over a fifty year period. For example, the municipal solid waste unit was never chosen in any of the seven optimal plans, however, it may have had advantages to KUA due to fuel diversity concerns. Volume 2: Technical Report (Section IV) discusses the methodology and results of the sensitivity and risk analysis in detail.

The desired outcome of the risk analysis is to obtain the preferred plan or plans for KUA. The preferred plan(s) will be the ones which support the most futures (i.e. are the most robust) using the defined attributes which are contained in Table V-1 of this report. In determining the most robust plan, certain planning alternatives appeared with greater regularity than the others. The resources that are selected the most frequently in the most robust plans are the most robust resources. This result provides justification for them to be preferred over other resources. The most robust resources are shown in Table VI-1. Other than purchases, the most favored resources across all plans are: Hansel refurbishing, Cane Island combustion turbine, and 80 MW combined-cycle, the residential appliances DSM program, and the commercial cooling DSM program.

Table VI-1
The Most Robust Resources

Planning Alternative	Capacity (MW)
Commercial Cooling DSM	2.8
Residential Appliance	1.0
OUC Base Purchases (1997-2000)	10 - 40
Hansel CC Repower	58
Cane Island CT	80
CC 80 MW (32% Ownership)	80
FPC Base Purchases (2001-2010)	10
TECO Peak Purchases (2001-2007)	10
FPC Base Purchases (2007-2010)	10

Based upon the RISKMIN evaluation, there were ten plans which were supported in 100% of the futures. The plans contained in this group are considered to be the most robust plans. The lowest cost plan within the robust group is the plan derived for the "Increased Regulation" future and is described in Table VI-2. This plan is characterized as the most robust plan.

Table VI-2
Resource Additions of the Most Robust Plan
(Preferred Plan 1)

Planning Alternative	Capacity (MW)	Year
DSM Commercial Cooling DSM Residential Appliances DSM Residential Load Control	Variable Variable Variable	1996
Base Purchase (OUC)	30	1998
Hansel CC Repower Base Purchase (OUC)	58 30	1999
Base Purchase (OUC)	40	2000
Combined Cycle (32% Ownership)	80	2001
Peak Purchase (TECO)	30	2004
Peak Purchase (TECO)	40	2005
Peak Purchase (TECO)	50	2006
Combined Cycle (32% Ownership)	80	2007
Peak Purchase (TECO)	10	2009
Peak Purchase (TECO)	20	2010
Total Capacity Added **Total Maximum Summer DSM Added**	**218** **46**	

This plan contains many of the most robust planning alternatives contained in Table VI-1. One important difference between this most robust plan and the other plans is that it incorporates the residential direct load control in lieu of increased purchases and a combustion turbine at Cane Island. By improving KUA's fuel mix, the addition of the direct load control program helps offset the impact associated with the over-subscribed gas market future.

The implementation of the direct load control program does not effect the near term capacity expansion alternatives being proposed for the Hansel repowering in 1999 or the Cane Island Combined Cycle in 2001. The impact of the direct load control program is to reduce the near-term

and mid-term level of purchases required; and, to also avoid adding a combustion turbine in the 2004 timeframe. If the level of residential direct load control does not materialize then preferred Plan 2 described in Table VI-3 should be implemented.

Table VI-3
Resource Additions of Preferred Plan 2

Planning Alternative	Capacity (MW)	Year
DSM Commercial Cooling DSM Residential Appliances	Variable	1996
Base Purchase (OUC)	10	1997
Base Purchase (OUC)	50	1998
Base Purchase (OUC) Hansel Repowering	40 58	1999
Base Purchase (OUC)	60	2000
Combined Cycle (32% Ownership)	80	2001
Peaking Purchase (TECO)	10	2002
Peaking Purchase (TECO)	30	2003
Cane Island CT	80	2004
Peaking Purchase (TECO)	10	2005
Base Purchase (FPC)	20	2006
Combined Cycle (32% Ownership)	80	2007
Base Purchase (FPC)	10	2010
Cane Island CT	80	2011
Base Purchase (FPC)	20	2015

VII. ACTION PLAN

As a result of the IRP process, it is recommended that KUA pursue the following short-term action plan:

- Develop the implementation plan for the new residential direct load control program which provides up to 78 MW (winter) and 41 MW (summer).
- Pursue development of the implementation plan for the residential appliances program.
- Finalize the purchase power agreement with OUC and negotiate the contract to extend through the year 2000 instead of the currently proposed date of 1999.
- Initiate an engineering study to refine the cost of repowering the Hansel combined cycle. Repowering of the unit needs to be completed in early 1999.
- Enter into discussions with FMPA or another party to build a 250 MW combined cycle at Cane Island for installation in early 2001.
- Initiate competitive bid evaluation for the 250 MW combined cycle unit.
- Conduct customer surveys at both the residential and commercial levels to gather information to develop end-use forecasts.

In addition to the recommended short-term action plan, the following intermediate-to-long-term action plan should be undertaken:

- Continued monitoring of the purchase power market for the 2001 and onward time frame.
- Review and periodically assess municipal solid waste tipping fees. As tipping fees approach $50/ton this alternative becomes economic to KUA and also provides fuel diversity.
- Review after 1-2 years the results of the residential direct load control program to determine if the program is being accepted at the level modeled. If the program is smaller than expected then that program will need to be reevaluated and possibly eliminated. Preferred Plan 2 described in Table VI-3 can quickly be implemented if the direct load control program does not meet expectations.

VIII. RECOMMENDATIONS FOR KUA IRP PROCESS

The development of an IRP is not a one-time event, in fact it must be a living process. In today's utility environment the key to maintaining a healthy company is the ability to quickly recognize and adapt to changing conditions. The IRP process should be used to take the pulse of the utility environment on an on-going basis in order to assure the continued health of KUA. The IRP process provides the fundamental mechanism by which future power purchase bids, capacity bids and special projects will be evaluated. To this end Stone & Webster recommends that KUA implements the following actions to support and improve the IRP process.

- Conduct customer surveys to provide the necessary information to develop end-use forecasts.
- Obtain necessary modeling tools to effectively analyze DSM. COMPASS, DSManager or Resource Planning Guide are candidates.
- Obtain the necessary modeling tools to be able to dynamically evaluate the financial impact associated with the plans developed under the IRP. Stone & Webster recommends Finance+ be obtained.
- Obtain database for in-house investigation of the cost and performance of the full range of planning alternatives. Stone & Webster's Cost & Performance Database or EPRI's Technical Assessment Guide (TAG) are good examples.
- Increased KUA staff involvement in the ongoing IRP process. In addition to increased involvement by Planning staff, involvement of Finance and Operations is desirable.