# Stanton Energy Center Combined Cycle Unit A

010142.EM

# **Need for Power Application**

**Kissimmee Utility Authority – Volume 1C** 

January 29, 2001



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#### 1C.1.0 Overview and Summary

#### 1C.1.1 Overview

Stanton A is planned as a new combined cycle addition to the existing Stanton Energy Center site, located 12 miles southeast of Orlando, Florida. The Stanton Energy Center site was originally certified for an ultimate capacity of approximately 2,000 MW based on four coal fired units. The existing Stanton Unit 1 is a 444 MW net coal fired facility and Stanton 2 is a 446 MW net coal fired generating facility. Stanton 1 was placed in operation on July 1, 1987 followed by Stanton 2 which was placed in operation on June 1, 1996. Stanton A will provide very economical power for the Kissimmee Utility Authority (KUA) with a minimal environmental impact. Stanton A will be a  $2 \times 1$ GE 7FA combined cycle unit. The net output of the unit is estimated to be 633 MW at 70° F under new and clean conditions and will be jointly owned by KUA, Orlando Utilities Commission (OUC), Florida Municipal Power Agency (FMPA) and Southern-Florida. KUA will be a 10 percent joint owner of the 35 percent (221.6 MW) capacity to be owned by the utility applicants. KUA's ownership portion of generation from Stanton A will be approximately 22 MW. KUA will also receive 10 percent of the 65 percent capacity owned by Southern-Florida and supplied under a power purchase agreement (PPA). Details specific to the project are presented in Volume 1A. This volume, Volume 1C, 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 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.

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, KUA, 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 Stanton A. Stanton A will burn natural gas as the primary fuel with Selective Catalytic Reduction providing a very clean burning, highly efficient unit.

As discussed in the remainder of this application, KUA has evaluated appropriate alternatives to Stanton A to determine if they are lower in cumulative present worth revenue requirements.

KUA believes that Stanton 2 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, Stanton A has proven to be KUA's most costeffective alternative through exhaustive evaluations as well as a thorough test of the marketplace.

# 1C.1.2 Summary

KUA historically has been one of the fastest growing utilities in the United States with a 5.7 percent annual growth rate in peak demand over the last 10 years. Rapid growth is projected to continue with a 3.7 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) in KUA's service territory is projected to contribute significantly to KUA's load growth. 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. 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, if necessary, as the Expo Center loads develop. In 2004, 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-side and supply-side alternatives to meet capacity requirements. The low cost of Stanton A precludes demand-side alternatives from being cost-effective. Stanton A was found to be the least-cost alternative under both base and sensitivity conditions.

## 1C.2.0 Description of System

# 1C.2.1 KUA Structure

The first recorded mention of electric lights, in what was at the time called Kissimmee City, was made during a City Council meeting held December 17, 1891. An Electric Light Committee was formed and notified the Council that a plan had been prepared showing the location of proposed lights for the town. However, in order for the plan to be a success, requests for 300 lights would be required to secure the first electric light plant in the area. During the years to follow, discussions about electric lighting persisted. By April 9, 1892, a proposal was made that a bond issue for \$23,000 be implemented to provide for a public works department and electric lights. On April 18, 1893, a ballot was taken and the bonding request was approved by a vote of 41 to 5.

On December 4, 1900, Kissimmee City entered into a contract with W. C. Maynard, a citizen of the town, doing business as Kissimmee Light Co. The contract with Mr. Maynard gave him the exclusive right and franchise to erect and maintain an electric light plant in Kissimmee City for a period of 20 years. Initially, Kissimmee Light Co. agreed to supply consumers with electricity at a cost of  $3\phi$  per night for each sixteen candle power incandescent light and \$7.50 per month for arc lights of standard power.

During a City Council meeting held June 28, 1901, a resolution was passed and Kissimmee City purchased Kissimmee Light Co. from Mr. Maynard for \$4,293.59. A committee was appointed by the City Council to manage the company.

The decades that span the 1900s to the 1980s were spent laying the operational groundwork and infrastructure KUA relies upon so heavily today. The utility's initial purchase, in 1901, was a 16 kilowatt generator. In the 1920s, three diesel engines were added to the system, providing electricity to approximately 200 customers. The 1930s marked the pioneer interconnection between St. Cloud and Kissimmee, and during the 1940s and 1950s the utility worked diligently to increase its distribution capacity. The 1970s proved monumental when Kissimmee and St. Cloud interconnected with the rest of the continental United States through Florida Power Corporation at Lake Bryan.

From 1972 to 1982, the utility experienced multiple management changes, including five different Utility Directors. In 1982, James C. Welsh, the current President and General Manager, replaced Don Hornak as Utility Director. As KUA settled in with a new Director, many accomplishments were realized. One such accomplishment occurred when KUA became joint owners in the St. Lucie nuclear power plant with Florida Power & Light. Additionally, KUA marked its first entry into combustion turbine technology. KUA also reentered the steam electric generation business with the

installation of a 50 MW combined cycle unit after many years of sole dependence on diesel type units.

The year 1983 marked the turning point in the making of what KUA is today. During 1983, the City Commission established an Ad-Hoc Committee to explore the concept of making the electric utility department of the City into a separate authority. The Committee also investigated the best way to manage the utility. The conclusion was that an independent board consisting of individuals with strong business backgrounds would best run the authority. In 1984, the Ad-Hoc Committee presented its recommendation of making the electric utility department of the City into a separate authority. Subsequently, the City Commission reappointed the Ad-Hoc Committee members to a Charter Committee. This latter committee had the difficult task of developing a charter for the utility. 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 five-member Board of Directors plus the mayor of the City of Kissimmee who serves as a nonvoting member. In addition, KUA acts as a billing and customer service agent for the Water and Sewer and Refuse Departments of the City of Kissimmee. Its service area covers the City of Kissimmee and some unincorporated areas, totaling approximately 85 square miles. The primary goal of KUA is to provide reliable electric service to its customers at the lowest possible cost in the best environmentally acceptable method. In order to accomplish this, KUA has diversified its power supply resources, which are based on KUA's own generation, offsite generation through joint participation projects, and through long- and short-term purchase power contracts. 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.

# 1C.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 1C.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 18 to 42 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

1C.2.0 Description of System

			Kissi	mmee U	tility Aut	1 able 10 hority Ex	cisting Ge	enerating Fa	cilities			
				H	lel	Fuel Tran	sportation	Commercial	Expected	Generator	Net Cap	ability
Plant	Unit No.	Location (County)	Type	Primary	Alternate	Primary	Alternate	In-Service (Month/Year)	Retirement (Month/Year)	Maximum Nameplate (MW)	Summer (MW)	Winter (MW)
Hansel	8	Osceola	25	ĐN N	FO2 FO7	Id Ia	TK TV	02/59	-/98	3.00		
	1 4		25	D Č	102 102	12	TK	7/70	20/10	10.7	<b>٦</b> ٢	7 6
	19		20	DN CN	F02	1 E	TK	71/70 71/70	20/10	2.07	40	7 6
	17		30	DN N	F02	: 12	H H	02/72	01/02	2.07	1 14	1 14
	18		S	NG	F02	PL	TK	02/72	01/02	2.07	5	10
	19		29	F02	ł	TK	ł	02/83	01/13	2.50		<b>m</b> 1
	07		<u>ບ</u> ະ	70 UN	1		H I	02/83	01/13	2.50	بر و ا	
	22		STS	HM		21	1 1	02/83	01/13	10.00	10 70	701
Plant Total	23		ST	HM	1	1	1	02/83	01/13	10.00 73 35	10 67	01
Crystal River	3	Citrus	z	UR	1	TK		03/77	Unknown	890.46	e(1)	e(1)
Ē									,		,	
Plant Total										890.46	6	9
Stanton Energy	_	Orange	ST	BIT	I	RR		07/87	Unknown	464.58	21 <sup>(2)</sup>	21 <sup>(2)</sup>
Plant Total										464.58		-
											21	21
Indian River	۲ ۲	Brevard	CT	DN	FO2	PL DI	TK	62/20	Unknown	41 40	4.5 <sup>(3)</sup>	5.5 <sup>(3)</sup>
Plant Total	<u>م</u>		5	D Z	1-07	17	41	0//89	Unknown	82.80	9.5 9	E E
Cane Island	1	Osceola	CT	DN	F02	PL	TK	01/95	Unknown	40.00	15 <sup>(4)</sup>	20 <sup>(4)</sup>
	2		S	ŊĊ	F02	PL	TK	06/95	Unknown	122.00	54 <sup>(4)</sup>	60 <sup>(4)</sup>
Plant Total										162	69	80
System Total as	of January 1	, 2000									172	189
Notes:												
(1)KUA'S 0.6/54 (2)KUA's 4 8193	percent porti	ion of joint ownersh rshin nortion	ġ.									
(3)KUA's 12.2 pc	recent portion	of joint ownership.										
(4)KUA's 50 perc	cent ownershi	p portion										

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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 and FMPA have also committed to build Cane Island Unit 3, which is a nominal 250 MW combined cycle unit. This unit is currently under construction with an expected commercial operation date of June 28, 2001. KUA's 50 percent ownership share of the Cane Island Units is 206 MW (nameplate).

KUA owns a 0.6754 percent interest, or 6 MW (nameplate), in the 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 the 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.

### 1C.2.3 Purchase Power Resources

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 15 other members of the FMPA. KUA's entitlement share of this unit, based on a power purchase contract and adjusted for transmission losses, is 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 a 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 also has a contract with OUC to purchase up to 40 MW from the Stanton 2 plant. The contract ends in December 2000. KUA has a 1.80725 percent (7.9 MW) entitlement share of Stanton 1 through the FMPA Stanton 1 Project and a 7.6628 percent (33.3 MW) share of Stanton 2 through the FMPA Stanton 2 Project. The Stanton 2 percentage includes entitlement acquired from

Homestead and Lake Worth totaling 3.8314 percent. Table 1C.2-2 presents KUA's purchase power resources.

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

# 1C.2.4 Transmission Systems

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 autotransformer 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.

### 1C.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, 2001, KUA served approximately 48,115 electric customers. Of these, 40,172 were residential, 7,272 were general service nondemand, and the remaining 671 were general service demand customers. KUA's electric service area, shown on Figure 1C.2-1, is entirely located in Osceola County.

		Table 1	IC.2-2		
	ļ	KUA's Purc	hase Power <sup>*</sup>		
		Utility/Un	it (MW)		
сү	St. Lucie 1 & 2	Stanton 1 <sup>2</sup>	Stanton 2 <sup>3</sup>	OUC <sup>4</sup>	Annual Total
2000	6.9	7.9	33.3	60	108.1
2001	6.9	7.9	33.3	20	68.1
2002	6.9	7.9	33.3	20	68.1
2003	6.9	7.9	33.3	20	68.1
2004	6.9	7.9	33.3	0	48.1
2005	6.9	7.9	33.3	0	48.1
2006	6.9	7.9	33.3	0	48.1
2007	6.9	7.9	33.3	0	48.1
2008	6.9	7.9	33.3	0	48.1
2009	6.9	7.9	33.3	0	48.1
2010	6.9	7.9	33.3	0	48.1
2011	6.9	7.9	33.3	0	48.1
2012	6.9	7. <del>9</del>	33.3	0	48.1
2013	6.9	7.9	33.3	0	48.1
2014	6.9	7.9	33.3	0	48.1
2015	6.9	7.9	33.3	0	48.1
2016	6.9	7.9	33.3	0	48.1
2017	6.9	7.9	33.3	0	48.1
2018	6.9	7.9	33.3	0	48.1
2019	6.9	7.9	33.3	0	48.1

Notes:

<sup>1</sup>No reserves are supplied by the selling utility. KUA provides for 15 percent reserves.

<sup>2</sup>KUA share of Stanton 1 through FMPA Stanton 1 Project is 1.80725 percent.

<sup>3</sup>KUA share of Stanton 2 through FMPA Stanton 2 Project is 7.6628 percent. Total percentage represents KUA's original purchase percentage plus the sum of recently acquired Homestead and Lake Worth purchase percentages equal to 3.8314 percent. <sup>4</sup>20 MW Schedule D and 40 MW short-term purchase in 2000.



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# 1C.3.0 Evaluation Criteria

KUA as a municipal utility is structured similarly to OUC. For evaluation purposes, the economic criteria for OUC are used for KUA. These evaluation and economic criteria are presented in Section 1A.5.0.

# 1C.4.0 Forecast of Power Demand and Energy Consumption

# 1C.4.1 Introduction

Annually, KUA prepares a detailed long-term electric load and energy forecast using econometric techniques. This detailed forecast is developed on a fiscal year basis (October through September), and serves as a primary driver in annual planning activities. The information presented has been summarized in calendar year format in accordance with FRCC guidelines.

The following sections describe KUA's general forecasting approach. Each of the forecasting models is explained, and the summary results of the forecasts are presented.

# 1C.4.2 Forecast Modeling Approach

Econometric forecast models have been used to project monthly sales by customer class. The econometric models and associated statistical relationships were developed to forecast annual changes in electricity consumption by rate classification as a function of demographic, weather and economic factors such as income, temperature and real price of electricity. The models were developed using statistical relationships between historical, economic, weather, and electric system data.

The statistical estimating technique used in the development of the models was ordinary least squares multiple regression. This method is used to determine the linear relationship between a dependent variable, such as 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<sub>i</sub> = 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<sub>DIST</sub>). The third measure is the T statistic, which is a test for multi-collinearity of the independent variables. This test is performed by determining the calculated T statistic (T<sub>CALC</sub>) and comparing this value with the corresponding value of the T distribution (T<sub>DIST</sub>). 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 Bayesian Information Criterion (BIC). The BIC serves as a guide to the selection of the number of terms in an equation by placing a penalty on additional coefficients.

# 1C.4.3 Econometric Data and Projections

This section 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.

#### 1C.4.3.1 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 1999. Additional data including temperature, population, employment, households, real personal income, and total housing starts was also compiled. The econometric data used was obtained from BEBR data applicable to the Metropolitan Statistical Area (MSA) in which Kissimmee is located. MSAs are defined by the census bureau for various regions within each state. Kissimmee is located within the Orlando MSA. The Orlando MSA also includes Lake, Orange, Osceola and Seminole 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.

#### 1C.4.3.2 Econometric Projections

The BEBR has estimated that during the next 15 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 3.0 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 1.6 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.

Due to publication delays, KUA was forced to use 1998's Long-Term Economic Forecast for economic data. However, the 1999 population forecast was available and was used in the projection of economic data beyond 2010.

#### 1C.4.3.3 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 monthly 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 2000 sales forecast is the inclusion of estimated annual rate increases scheduled for implementation beginning in October 2000. Currently, rate increases are scheduled as shown in Table 1C.4-1.

Schee	Table 1C.4-1 duled Rate Increases
Effective Date	Average Across-the-Board Rate Increase
10/2000	1.6505%
10/2001	1.6508%

# 1C.4.4 Sales Forecast

#### 1C.4.4.1 Residential Sales

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

**1C.4.4.1.1 Residential Customers.** In the development of the 1999 econometric model for residential customers, Osceola County population (POPA) estimates were used as a potential explanatory variable. Based on KUA's statistical evaluation, POPA outperformed Osceola County total housing starts (TS) in representing the fluctuations in residential customers. Auto-regressive (AR) factors were introduced 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 and statistics are shown in Table 1C.4-2.

**1C.4.4.1.2 Residential Energy Use Per Customer.** Residential electricity use per customer was based on the relationship between historical income per household, the previous year's real price of electricity and weather impacts. The resulting equation and statistics are shown in Table 1C.4-2.

**1C.4.4.1.3** 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.

Table 1C.4-2 Sales Forecast Equations and	nd Statistics	
RSCUSTT = 246.750*POPA + 0.487*_AUTO[-1] + 0.441*AUTO[-2]	Kev Statistics:	
RSCUSTT: Total Residential CustomersPOPA: Total Population in Osceola CountyAUTO[-1]: First Order Auto-Regressive TermAUTO[-2]: Second Order Auto-Regressive Term	Adjusted R <sup>2</sup> : 0.9982 Durbin-Watson: 2.097 Bayesian Information	70 1 Criterion: 270
RSUPC = - 8.562*PRICERES[-12] + 21.805*INCPERHH + 1.367*BM_CDD + 2. + 0.534*BM_CDD[-1] + 0.806*BM_HDD[-1] + 0.431*_AUTO[-1]	2.295*BM_HDD Kev Statistics:	
RSUPC :Residential Use Per Customer PRJCERES :Residential Real Price of Electricity INCPERHH :Real Personal Income Per Household	Adjusted R <sup>2</sup> : 0.9201 Durbin-Watson: 2.071 Bayesian Information	/8 n Criterion: 68.19
BM_CDD :Billing Month Adjusted Cooling Degree Days BM_HDD :Billing Month Adjusted Heating Degree Days ATTOF.11 :First Order Auto-Regressive Term		
GSNCUSTT = 146.836*POPA + 0.994* AUTO[-1] GSNCUSTT : Total General Service Nondemand Customers POPA : Total Population in Osceola County	Key Statistics: Adjusted R <sup>2</sup> : 0.9981 Durbin-Watson: 1.93	36 n Criterion: 04 86
AUTO[-1] :First Order Auto-Regressive Letm GSNKWHT = - 69023.372*PRICEGSN(-12) + 5956.965*RYTOT + 9159.405*BI 6367.537*BM_HDD + 5359.291*BM_CDD(-1) + 4364.508*BM_] 0.324*_AUTO[-1]	BM_CDD + L_HDD(-1) +	
GSNKWHT: Total General Service Nondemand Energy SalesPRICEGSN: General Service Nondemand Real Price of ElectricityPRICEGSN: General Service Nondemand Real Price of ElectricityRYTOT: Real Personal Income Osceola CountyBM_CDD: Billing Month Adjusted Cooling Degree DaysBM_HDD: Billing Month Adjusted Heating Degree Days	Adjusted R <sup>2</sup> : 0.9539 Adjusted R <sup>2</sup> : 0.9539 Durbin-Watson: 1.93 Bayesian Information 6.905e+005	34 on Criterion:
AUTOI-11 :First Order Auto-Regressive Term		

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By aligning the sales and degree days, the model became more responsive to changes in temperature.

#### 1C.4.4.2 General Service Nondemand Forecast

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

**1C.4.4.2.1 General Service Nondemand Customers.** Osceola County population was used as the basis for forecasting the number of general service nondemand customers. The resulting equation and statistics that were developed to forecast the number of general service nondemand customers are shown in Table 1C.4-2.

**1C.4.4.2.2 General Service Nondemand Electricity Sales.** The general service nondemand model for annual electricity sales is primarily driven by the real price of electricity and real personal income. Weather is also a strong influence on general service nondemand sales. Last year, the model included a variable to reflect the impact of a rate reclassification in October 1990 on customers and sales. This year the model was developed by excluding data prior to October 1991, thereby bypassing the rate reclassification completely. The resulting equation, used to forecast the energy sales in kilowatt-hours for the general service nondemand customer class, is shown in Table 1C.4-2.

#### 1C.4.4.3 General Service Demand Forecast

For the purposes of this load forecast, general service demand comprises GSD, GSDT, GSLD, Interruptible, and Contract Rate classifications. General service demand represents approximately 30 percent of total energy sales with approximately 760 customers. Because general service demand represents such a large percentage of total energy consumption, assumptions, and models used to forecast have a significant impact on the overall energy forecast.

The number of customers in the general service demand rate classification (GSD) has continued to decline over the course of the last several years. The initial, and most abrupt, decrease occurred as a result of a shift in rate classification (October 1990) which encouraged the migration of smaller GSD customers to the nondemand classification (GSND). However, the decline did not stop there. In fact, since the beginning of 1992, the net gain in customers is two.

Generally, the general service demand class is a more diversified mix of customers, and are typically fewer in number. Because of class diversity, the general service demand rate classification is also less amenable to statistical methods.

The general service demand customer forecast was evaluated using Box-Jenkins and exponential smoothing models. The historical series for GSD customers does not increase linearly and uniformly or vary with seasons or regularity. The exponential smoothing model forecasts the number of customers to be level at 763 with no projected increase over the forecast horizon.

The forecast of no growth is reasonable given the unexplained variation in GSD customers. Though the net gain in customers since the beginning of 1992 is two, the fluctuations in customers have been as great as 9 percent in 3 months. This size of a drop in general service demand is certainly suspicious. Without understanding the reasons behind data volatility, it is difficult to forecast. Meetings with key personnel have brought no additional insight to this situation, and until it is better understood, forecasting no customer growth for general service demand customers is recommended.

Using OLS, a model was prepared for general service demand energy sales. The final model fit the historical data well, but when used to forecast, it produced unreasonable results. Because a model for general service demand customers had already been determined, the OLS model for general service demand energy sales was theoretically indicating that the use per customer would double over the forecast horizon. This conclusion is unreasonable.

KUA's Manager of Distribution and planners from the City of Kissimmee were subsequently consulted regarding future large customer expansions. In addition to the information provided by City planners and KUA staff, a review of the energy sales growth rates in GSD shows the smallest increase in energy sales to be approximately 1 percent. Based on conversations with KUA staff and City planners and review of past performance, an annual energy sales increase of 1 percent is recommended for the forecast horizon. It is important to note that the World Expo Center energy sales are in addition to this projected annual growth of 1 percent.

#### 1C.4.4.4 Outdoor Lighting Forecast

Street lighting, vapor lighting, and outdoor lighting were combined into one class for forecasting purposes. This year, the best prediction of future outdoor lighting is simply a linear trend. Because outdoor lighting's contribution to total energy sales is stable and represents less than 0.8 percent, this method of forecasting is both acceptable and relatively accurate.

# **1C.4.5** Net Energy for Load and Peak Demand Forecast *1C.4.5.1* Net Energy for Load

During the past several years, net energy for load (NEL) was projected by applying an efficiency factor of 95 percent to the projection of total sales. During 1997, 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 1C.4-3 through 1C.4-5 present KUA's base, high and low case NEL forecasts. Net energy for load is projected to grow at an average annual rate of 3.5 percent from 1999 through 2019 compared to 5.4 percent from 1989 through 1998.

#### 1C.4.5.2 Peak Demand Forecast

The forecast of 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 also sensitive to other variables such as cloud cover, humidity, and barometric pressure.

Table 1C.4-6 presents KUA's winter and summer base-, high-, and low-case peak demand forecasts. A 3.7 percent annual summer peak demand growth rate is projected for 2000 through 2019. This growth rate is lower than KUA's historical annual growth rate of 5.7 percent during the last 10 years.

### 1C.4.6 High and Low Sensitivities

In addition to the base-case load forecast, projections were developed for highand low-load growth scenarios based on high and low population estimates published by the Bureau of Economic and Business Research (BEBR).

The high and low load 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.

Table 1C.4-3

1C.4.0 Forecast of Power Demand and Energy Consumption

			Ba	se Case Lo.	ad Forecasi	t (Include:	s World Ex	po Center)			
	Resid	lential	GS Non	demand	GS De	mand					
	Average		Average		Average		Outdoor	Total	Total KUA	Energy	Net Energy
,	Accounts	Sales	Accounts	Sales	Accounts	Sales	Lighting	Customer	Sales	Losses	for Load
Year	Billed	(MWh)	Billed	(WMW)	Billed	(WMh)	(WMV)	Accounts	(MWh)	(MWh)	(MWh)
2000	39,766	525,936	8,818	164,977	763	358,262	8,899	49,347	1,058,073	55,688	1,113,762
2001	41,082	554,147	9,146	174,282	763	375,902	9,367	50,991	1,113,699	58,616	1,172,314
2002	42,357	579,853	9,474	183,376	763	402,493	9,853	52,954	1,175,575	61,872	1,237,448
2003	43,642	607,124	9,808	193,098	763	426,550	10,354	54,213	1,237,126	65,112	1,302,238
2004	44,949	637,861	10,148	203,911	763	452,011	10,870	55,861	1,304,653	68,666	1,373,319
2005	46,255	668,996	10,488	214,877	763	467,880	11,388	57,506	1,363,141	71,744	1,434,885
2006	47,427	697,487	10,795	224,938	763	472,438	11,855	58,985	1,406,717	74,038	1,480,755
2007	48,064	726,408	11,102	235,132	763	475,954	12,324	60,468	1,449,818	76,306	1,526,124
2008	49,808	756,254	11,413	245,641	763	479,505	12,805	61,984	1,494,204	78,642	1,572,847
2009	51,041	787,063	11,730	256,479	763	483,092	13,298	63,535	1,539,931	81,049	1,620,980
2010	52,293	818,629	12,050	267,570	763	486,715	13,798	65,107	1,586,712	83,511	1,670,223
2011	53,518	849,962	12,362	278,548	763	490,374	14,287	66,643	1,633,172	85,956	1,719,128
2012	54,763	882,095	12,678	289,794	763	494,069	14,785	68,204	1,680,744	88,460	1,769,204
2013	56,036	915,207	12,999	301,382	763	497,802	15,295	66,799	1,729,686	91,036	1,820,722
2014	57,340	949,329	13,326	313,326	763	501,571	15,816	71,429	1,780,043	93,686	1,873,729
2015	58,662	984,218	13,656	325,540	763	505,379	16,345	73,081	1,831,482	96,394	1,927,876
2016	59,953	1,018,762	13,978	337,610	763	509,225	16,861	74,694	1,882,458	99,077	1,981,534
2017	61,264	1,054,117	14,304	349,964	763	513,109	17,385	76,331	1,934,575	101,820	2,036,395
2018	62,603	1,090,481	14,635	632,684	763	517,032	17,921	78,002	1,988,118	104,638	2,092,756
2019	63,972	1,127,884	14,973	375,784	763	520,994	18,469	79,708	2,043,131	107,533	2,150,664

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1C.4.0 Forecast of Power Demand and Energy Consumption

												_	_											
				Net Energy for Load (MWh)	1,153,462	1,236,272	1,336,703	1,437,869	1,528,807	1,630,312	1,720,292	1,805,172	1,894,828	1,989,557	2,088,566	2,187,487	2,290,878	2,399,699	2,514,260	2,633,663	2,753,069	2,877,552	3,008,165	3,145,233
			Energy	Losses (MWh)	57,673	61,814	66,835	71,893	76,440	81,516	86,015	90,259	94,741	99,478	104,428	109,374	114,544	119,985	125,713	131,683	137,653	143,878	150,408	157,262
			Total KUA	Sales (MWh)	1,095,789	1,174,458	1,269,868	1,365,975	1,452,367	1,548,797	1,634,277	1,714,914	1,800,087	1,890,079	1,984,137	2,078,112	2,176,334	2,279,714	2,388,547	2,501,980	2,615,415	2,733,674	2,857,756	2,987,972
	o Center)		Total	Customer Accounts	49,973	52,184	54,428	56,777	59,237	61,771	64,197	66,696	69,301	72,016	74,812	77,542	80,355	83,278	86,316	89,437	92,495	95,640	98,900	102,278
Table 1C.4-4 High Load Forecast (Includes World Exp	World Exp		Outdoor	Lighting (MWh)	9,652	10,599	11,435	12,278	13,155	14,056	14,918	15,807	16,735	17,704	18,702	19,677	20,682	21,728	22,816	23,934	25,030	26,157	27,326	28,539
	(Includes	emand		Sales (MWh)	361,869	385,493	424,631	459,300	476,681	500,758	516,098	523,288	530,622	538,103	454,733	553,516	561,454	569,551	577,810	586,235	594,828	603,592	612,532	621,651
	GS Do	Average	Accounts Billed	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	763	
	High Loa	demand		Sales (MWh)	187,849	204,252	222,597	242,726	265,066	288,592	311,561	335,707	361,403	388,759	417,525	446,254	476,545	508,467	542,410	577,995	613,591	650,907	690,322	731,960
		GS Non	Average	Accounts Billed	8,990	9,487	9,990	10,514	11,061	11,623	12,160	12,711	13,285	13,883	14,497	15,097	15,713	16,354	17,019	17,703	18,371	19,059	19,772	20,510
		ential		Sales (MWh)	536,419	574,115	611,205	651,672	697,465	745,391	791,700	840,111	891,327	945,514	1,002,178	1,058,666	1,117,744	1,179,968	1,245,511	1,313,816	1,381,967	1,453,018	1,527,576	1,605,821
		Resid	Average	Accounts Billed	40,220	41,934	43,675	45,500	47,413	49,385	51,274	53,221	55,252	57,370	59,551	61,682	63,878	66,161	68,533	70,971	73,361	75,818	78,365	81,005
				Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019

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Table 1C.4-5

1C.4.0 Forecast of Power Demand and Energy Consumption

	Resid	ential	GS Non	demand	GS De	puem					
	Average		Average		Average	NIMIL	Outdoor	Total	Total KIIA	Fnerav	Nat Fnarmy
	Accounts	Sales	Accounts	Sales	Accounts	Sales	Lighting	Customer	Sales	Losses	for Load
Year	Billed	(MWh)	Billed	(MWh)	Billed	(MWh)	(MWh)	Accounts	(MWh)	(MWh)	(MWh)
2000	38,633	506,234	8,590	153,483	763	351,048	8,003	47,986	1,018,768	53,619	1,072,387
2001	38,724	513,320	8,686	147,813	763	359,689	7,718	48,174	1,028,541	54,134	1,082,675
2002	38,840	517,859	8,785	148,818	763	372,497	7,653	48,387	1,046,828	55,096	1,101,924
2003	38,968	523,321	8,882	151,368	763	384,662	7,682	48,612	1,067,033	56,160	1,123,192
2004	39,107	531,152	8,978	155,002	763	396,225	7,754	48,848	1,090,133	57,375	1,147,509
2005	39,213	538,190	9,061	158,289	763	401,027	7,824	49,037	1,105,330	58,175	1,163,505
2006	39,100	540,843	9,085	159,728	763	403,708	7,796	48,948	1,112,075	58,530	1,170,605
2007	38,963	542,910	9,099	160,874	763	403,708	7,757	48,825	1,115,249	58,697	1,173,946
2008	38,833	544,940	9,112	161,982	763	403,708	7,719	48,708	1,118,349	58,860	1,177,209
2009	38,709	546,931	9,124	163,050	763	403,708	7,682	48,596	1,121,371	59,020	1,180,391
2010	38,550	548,091	9,125	163,766	763	403,708	7,627	48,438	1,123,192	59,115	1,182,307
2011	39,192	545,194	9,071	162,823	763	403,708	7,476	48,027	1,119,202	58,905	1,178,107
2012	37,813	541,765	9,010	161,653	763	403,708	7,314	47,586	1,114,439	58,655	1,173,094
2013	37,440	538,315	8,949	160,483	763	403,708	7,152	47,152	1,109,658	58,403	1,168,061
2014	37,074	534,845	8,887	159,315	763	403,708	6,992	46,724	1,104,859	58,150	1,163,010
2015	36,668	530,444	8,814	157,795	763	403,708	6,812	46,245	1,098,759	57,829	1,156,589
2016	36,034	521,410	8,680	154,474	763	403,708	6,524	45,477	1,086,116	57,164	1,143,280
2017	35,380	511,920	8,539	150,993	763	403,708	6,225	44,682	1,072,846	56,466	1,129,312
2018	34,740	502,578	8,400	147,613	763	403,708	5,932	43,903	1,059,830	55,781	1,115,611
2019	34,113	493,382	8,263	144,331	763	403,708	5,644	43,139	1,047,064	55,109	1,102,172

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Table 1C.4-6 Summary of Gross Peak Demand							
V	Winte	r Peak Dema	and (MW)	Summer Peak Demand (MW)			
Year	Base	High	Low	Base	High	Low	
2000	243	250	237	252	260	246	
2001	254	266	237	264	277	246	
2002	272	293	243	282	304	253	
2003	290	321	250	301	333	260	
2004	307	345	257	319	358	267	
2005	321	367	261	333	380	271	
2006	334	389	264	346	403	274	
2007	344	407	264	356	422	275	
2008	354	427	265	367	443	275	
2009	364	447	266	378	464	276	
2010	375	469	266	389	486	277	
2011	386	491	266	400	509	276	
2012	397	513	265	412	532	275	
2013	408	537	264	423	557	274	
2014	419	562	262	435	583	272	
2015	431	588	261	448	610	271	
2016	443	614	259	460	637	268	
2017	455	641	256	472	665	265	
2018	467	669	253	485	694	262	
2019	480	699	250	498	725	259	

# 1C.4.7 Major Additional Loads

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

Phase I of the current plan, slated to be completed by the first part of 2000, includes a 2.4 million square foot exposition hall, 1.3 million square foot outside parking area, and 8.6 million square foot parking garage. Phase 1A, scheduled to be completed by the first part of 2001, includes a 1.0 million square foot hotel, 1.3 million square foot county convention center, and 79,000 square feet of commercial office space.

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

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

At this time, the World Expo Center team is still engaged in planning and negotiating, and plans to build are not yet certain. However, if completed in accordance with current plans, 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 this facility. Due to the lack of data on facilities of this magnitude, demand and energy consumption per square foot from similar-use facilities were used as planning-level estimates.

Table 1C.4-7 shows the base, high and low case annual peak demand and energy forecasts for the World Expo Center. For the current forecast, this project has been delayed 1 year from the original construction plans. This assumption is based on delays which have already taken place, and seem likely to continue.

Table 1C.4-7 World Exposition Center Load Forecast Annual Peak Demand and Energy							
	Lov	v Forecast	Bas	e Forecast	Hig	h Forecast	
Year	Peak (MW)	Energy (MWh)	Peak (MW)	Energy (MWh)	Peak (MW)	Energy (MWh)	
2002	4.0	5,710	6.6	12,850	10.0	22,355	
2003	7.6	10,956	12.9	22,952	19.8	39,703	
2004	9.9 15,019 17.5 31,160 27.6 54,195						
2005	11.0 20,229 19.6 47,245 30.8 73,398						
2006	2006 12.4 23,804 22.3 48,680 35.4 84,453						
2007-2019 12.4 23,804 22.3 48,680 35.4 84,453							
Source: 1998 reduced by 50 Business (7/9	Source: 1998 Cane Island 3 Need for Power Application Table 1B.5-3, delayed 2 years, and reduced by 50 percent based on revised projections shown in the Journal of Osceola County Business (7/99)						

## 1C.5.0 Demand-Side Programs

According to Section 403.519, Florida Statutes, in its determination of need, the Florida Public Service Commission (FPSC) must take into consideration conservation measures that could mitigate or delay the need of the proposed plant. Based on this requirement, Kissimmee Utility Authority (KUA) has tested potential demand-side management (DSM) measures for cost-effectiveness. Measures were evaluated using the FPSC approved Florida Integrated Resource Evaluator (FIRE) model. The FIRE model evaluates the economic impact of existing and proposed conservation measures by determining the relative cost-effectiveness of the measures versus an avoided supply-side resource. The FIRE model was designed by Florida Power Corporation and is used by several utilities in Florida.

# 1C.5.1 Existing Conservation Programs

KUA is committed to conservation and load management programs and will continue 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.

KUA's conservation programs were originally established for the City of Kissimmee under the Florida Energy Efficiency and Conservation Act (FEECA) program. KUA is no longer classified as a FEECA utility. The following is a list of conservation programs outlined in KUA's submission to the FPSC when KUA was subject to FEECA:

- Residential energy audit.
- Commercial and industrial energy analysis.
- Fix up program KUA will assist or arrange to have installed in residences:
  - Electrical outlet gaskets.
  - Solar screen/reflective film.
  - Water heater jackets.
  - Water flow restrictors.
  - Weatherstripping.
  - Caulking.
  - Energy conserving lamps.

- Duct tape.
- Pool timers.
- Clock thermostats.
- Water heater thermostat set-back.
- Hot water pipe insulation.
- Water heater timers.
- Ceiling insulation.
- High-pressure sodium street lighting/private area lighting conversion (from mercury vapor and incandescent).
- Water heater conversion from resistance heating to:
  - Dedicated heat pump water heaters.
  - Natural gas.
  - Solar.
  - Air conditioning/heat pump.
- Elimination of electric strip heating.
- Public awareness programs.
- Natural gas.
- Cogeneration plans.

The following sections discuss the DSM programs KUA now has in place.

#### 1C.5.1.1 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 conditions, electric water heaters, and electric space heaters to reduce KUA's system peak demand. The SAVE program was administered to over 4,891 customers as of September 30, 2000. The program is 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 1C.5-1 shows KUA's historical and forecasted estimate of peak demand reductions resulting from this load management program.

Table 1C.5-1     KUA Load Management Impact							
Vear	Average Active	Low Case Load Management Impact	Base Case Load Management Impact	High Case Load Management Impact (MW)			
1993	1.914	-	3.16	-			
1994	5,040	-	8.32	-			
1995	7,213	-	11.90	-			
1996	7,648	-	12.62	-			
1997	6,870	-	11.98	-			
1998	6,201	-	12.15	-			
1999	5,532	-	12.00	-			
2000	-	8.9	11.00	13.1			
2001	-	7.9	10.00	12.1			
2002	-	7.9	10.00	12.1			
2003	-	7.9	10.00	12.1			
2004	-	7.9	10.00	12.1			
2005	-	7.9	10.00	12.1			
2006	-	7.9	10.00	12.1			
2007	-	7.9	10.00	12.1			
2008	-	7.9	10.00	12.1			
2009	-	7.9	10.00	12.01			

**1C.5.1.1.1 Delivery Strategy.** The approach for delivering the program is based on two design components: (i) promoting the program to existing 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 1C.5-2.

SAVE Prog	Table 1C.5-2 ram, Load Management	Credits	
Appliance	Control Period	Monthly Credit	With Water Heater Control
Water Heater	Year Round	\$2.50	
Central AC (15 minutes per 1/2 hour)	April-October	\$4.50	\$7.00
Central heating (15 minutes per 1/2 hour)	November-March	\$4.50	\$7.00

**1C.5.1.1.2** 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.

#### 1C.5.1.2 Residential Appliance Efficiency

The Residential Appliance Efficiency Program is designed to encourage the specification and installation of energy efficient appliances such as high efficiency central air conditioners, heat pumps, and pool pumps.

Promotion of these high efficiency residential appliances helps to reduce residential cooling loads, which contribute to KUA's system peak. Additionally, since the useful lifetime estimates of these appliances are relatively long (15 years or greater), this program serves to address "lost opportunities," particularly in the new construction market.

The program is targeted to residential homeowners in the replacement and new construction market. Customers include those who currently have standard air conditioners, heat pumps, and/or pool pumps. When applicable equipment requires replacement, customers become candidates for an upgrade to high efficiency systems.

#### 1C.5.1.3 Commercial Cooling

The Commercial Cooling Program is designed to use customer and trade ally information and education to encourage the specification and installation of energy efficient cooling systems in the commercial markets.

The promotion of these high efficiency commercial systems helps to reduce commercial cooling loads which contribute to KUA's system peak. Additionally, since

the useful lifetime estimates of these systems are relatively long (15 years or greater), this program serves to address "lost opportunities," particularly in the new construction market.

Although difficult to estimate, KUA's energy and summer demand are reduced with this program.

#### 1C.5.1.4 Residential Fix Up

This program is designed to make residential dwellings more efficient, focusing on the thermal envelope. This includes the following measures for existing residential buildings:

- Ceiling insulation.
- Duct leak repair (also for new homes).
- Hot water saving measures.

Duct leak repair is recommended for new homes because inspections often reveal installation problems that cause significant inefficiencies. Although difficult to estimate, this program achieves energy savings and some peak reduction in both the summer and winter.

# 1C.5.2 Analysis of Demand-Side Management Alternatives

KUA used the FIRE model to evaluate the most cost-effective DSM measures from FPL's 2000 Demand-Side Management Plan as discussed in Section 1A.8.0. For the residential sector, KUA is already implementing the following three DSM measures which were found to be the most cost-effective based on the Rate Impact Test in FPL's 2000 Demand-Side Management Plan:

- Residential Load Control--Existing Construction.
- Residential Load Control--New Construction.
- Ceiling Insulation R0 R19--Existing Construction.

Therefore, KUA analyzed the next most cost-effective residential DSM measure in FPL's 2000 Demand-Side Management Plan which is the BuildSmart EPI less than 90 for new construction. The results of that analysis follow along with the analysis of the commcial off-peak battery charging measure.

### 1C.5.2.1 FIRE Model Output Analysis

KUA requires all measures to pass the Rate Impact Test to be considered costeffective. Of the potential DSM measures tested, none passed the Rate Impact Test. Thus, KUA has concluded that there are no cost-effective DSM measures available that

Table 1C.5-3 FIRE Model Results						
Program Description	Rate Impact Test	Participant's Test	Total Resource Cost Test			
Residential	Residential					
BuildSmart - EPI Less Than 90 - New Construction	BuildSmart - EPI Less Than 90 - New Construction0.440.710.07					
Commercial						
Off-Peak Battery Charging	0.37	0.04	0.48			

would avoid or defer the need for Stanton A. Table 1C.5-3 presents the FIRE model results of the DSM analysis.

The results of the DSM analysis are not surprising due to the previously performed analyses for similarly situated utilities. The failing cost-effectiveness of DSM has been exhibited in the Need for Power Dockets for KUA and FMPA for Cane Island Unit 3 (Docket No. 980802) and Lakeland Electric's conversion of McIntosh Unit 5 (Docket No. 990023), and in recent Demand-Side Management Ten Year Plans for OUC (Docket No. 990722-EG) and JEA (Docket No. 990720-EG).

The decrease in the cost-effectiveness of the DSM measures can be attributed to the decreased price of installing new generation, the higher efficiency of new generation, relatively low interest rates, and the general increase in the efficiency of appliances and dwellings.

# 1C.6.0 Reliability Criteria

Prudent utility practices require a utility to plan for sufficient capacity resources to meet its peak demand plus maintain an additional margin of capacity should unforeseen events result in higher system demand or lower than anticipated availability of capacity. This section presents the development of the reliability criteria used by KUA.

# 1C.6.1 Development of Reliability Criteria

A number of methods are used in the electric utility industry to calculate a utility's system reliability. Two basic methods, known as the Traditional Reserve Margin and the Loss of Load Probability, apply deterministic and probabilistic methods, respectively, to calculate the reliability of a system. The methods are discussed below.

### 1C.6.1.1 Traditional Reserve Margin

The most commonly used deterministic method is the Traditional Reserve Margin method, which is calculated as follows:

System Net Capacity – System Net Peak Demand System Net Peak Demand

From the equation, it is seen that should the net capacity or net peak demand deviate from the predicted levels, the actual reserve margin will vary. For a relatively small or isolated utility system, an unanticipated plant outage or higher than expected growth in system demand can quickly reduce or eliminate the planned reserve margin. A weakness with the formula is that it does not indicate what the appropriate reserve margin is for a given system; the appropriate reserve level must be determined elsewhere.

In establishing the appropriate reserve margin levels, KUA considers the Florida Reliability Coordinating Council (FRCC) minimum planned reserve margin criteria of 15 percent. The Florida Public Service Commission (FPSC) has also established a minimum planned reserve margin criterion of 15 percent in 25-6.035 (1) Fla. Admin. Code, for the purposes of sharing responsibility for grid reliability. Consequently, KUA has established a 15 percent minimum planned reserve margin criteria for both the summer and winter periods

### 1C.6.1.2 Loss of Load Probability

The second commonly used method of calculating the reliability of a utility system is the Loss of Load Probability (LOLP) method. This method has the advantage in that it can result in a measure of how much capacity and reserves are needed to meet a target level of reliability (most utilities adopt a LOLP of one day in 10 years). Given the
nature of KUA's relatively small, high interconnected system, LOLP for KUA's system is driven almost entirely by the interconnections. Since the reliability of the interconnections is driven by the capacity from other systems available to the interconnection, the reliability of interconnections is difficult to predict and is generally out of the control of KUA. For these reasons, KUA does not use LOLP as the reliability criterion and instead uses the reserve margin criterion. LOLP is much better suited for measuring reliability of large systems such as FRCC.

# 1C.6.2 Reliability Need

KUA's need for capacity is driven by the summer peak demand which exceeds the winter peak demand as shown in Table 1C.4-6. KUA's available capacity is also less in the summer than the winter as shown in Table 1C.2-1.

Table 1C.6-1 compares KUA's net system capacity with summer peak demand during the forecasting period. The reserve margins displayed in the table assume no capacity additions beyond Cane Island 3, from which KUA will receive 120 MW. The capacity required in order for KUA to achieve its summer reserve margin requirements is also shown.

1C.6.0 Reliability Criteria

					Table	1C.6-1				
				Projected I	keserve Margi	ins – Summer	/ Base Case			
					System Peak I	Demand (MW)	Reserve N	largin (%)	Excess / (Defic 15 % Reserve	it) to Maintain Margin (MW)
<del></del>	Net	Net	Net	Net	Before	After	Before	After	Before	After
	Generating	System	System	System	Interruptible	Interruptible	Interruptible	Interruptible	Interruptible	Interruptible
Year	(MW)	Purchases (MW)	Sales	Capacity	& Load Manacement	& Load Management	& Load Management	& Load Management	& Load Management	& Load Management
2000	176	108.1	0	284	252	241	12.7	17.8	(6)	
2001	297	68.1	0	365	264	254	38.8	43.7	61	73
2002	297	68.1	0	365	282	272	29.4	34.2	41	52
2003	297	68.1	0	365	301	291	21.3	25.4	19	30
2004	297	48.1	0	345	319	309	8.2	11.7	(22)	(11)
2005	297	48.1	0	345	333	323	3.6	6.8	(38)	(27)
2006	297	48.1	0	345	346	336	(0.3)	2.7	(53)	(42)
2007	297	48.1	0	345	356	346	(3.1)	(0.3)	(65)	(53)
2008	297	48.1	0	345	367	357	(0.0)	(3.4)	(11)	(99)
2009	297	48.1	0	345	378	368	(8.7)	(6.3)	(06)	(78)
2010	297	48.1	0	345	389	379	(11.3)	(0.0)	(103)	(16)
2011	297	48.1	0	345	400	390	(13.8)	(11.5)	(115)	(104)
2012	297	48.1	0	345	412	402	(16.3	(14.2)	(129)	(118)
2013	297	48.1	0	345	423	413	(18.4)	(16.5)	(142)	(130)
2014	297	48.1	0	345	435	425	(20.7)	(18.8)	(155)	(144)
2015	297	48.1	0	345	448	438	(23.0)	(21.2)	(170)	(159)
2016	297	48.1	0	345	460	450	(25.0)	(23.3)	(184)	(173)
2017	297	48.1	0	345	472	462	(26.9)	(25.3)	(198)	(187)
2018	297	48.1	0	345	485	475	(28.9)	(27.4)	(213)	(201)
2019	297	48.1	0	345	498	488	(30.7)	(29.3)	(228)	(216)
Note: ( ) inc	licates a negati	ve value.								

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## 1C.7.0 Economic Analysis

The economic analysis for the cost-effectiveness of the project consists of several evaluations to arrive at the least-cost supply plan to meet the growing needs of KUA's customers. The methodology of the analyses, the expansion candidates evaluated, and the results of the base case evaluations are discussed in detail in this section.

A four phase economic analysis was conducted to determine KUA's optimum capacity expansion plan. The four phases included supply-side evaluations, demand-side evaluations, proposal evaluations, and sensitivity analyses. The results of the supply-side analyses are included in this section and discussed in detail. The results of the demand-side evaluation analyses are presented in Section 1C.5.0. The proposal evaluations are presented in Section 1A.6. The sensitivity analyses are discussed in Section 1C.8.0.

## 1C.7.1 Methodology

The supply-side evaluations of generating unit alternatives were performed using POWROPT, an optimal generation expansion model. Black & Veatch developed POWROPT as an alternative to other optimization programs. POWROPT has been benchmarked against other optimization programs and has proven to be an effective modeling program and has been used in several other Need for Power proceedings before the FPSC. The program operates on an hourly chronological basis and is used to determine a set of capacity expansion plans based on capacity requirements, simulate the operation of each of these plans, and select the most desirable plan based on cumulative present worth revenue requirements. POWROPT evaluates all combinations of available generating unit alternatives and purchase power options to maintain user-defined reliability criteria. The reserve requirement utilized was a minimum reserve margin of 15 percent. All capacity expansion plans were analyzed over a twenty-year period from 2000 to 2019.

After the optimal generation expansion plan was selected using POWROPT, Black & Veatch's detailed chronological production costing program, POWRPRO, was used to obtain the annual production cost for the expansion plan.

# 1C.7.2 Expansion Candidates

The expansion candidates for the POWROPT evaluation represent the conventional alternatives presented in Section 1A.7.0. Table 1C.7-1 summarizes the expansion alternatives considered for KUA in the optimization study for supply-side alternatives.

1C.7.0 Economic Analysis

	Summary	of KUA G	eneration.	Table 1C Alternativ	.7-1 'es (2000 \$,	unless other	wise noted	(þ	
			O&M Cost	ts		Full Load	Forced		
Description	Capital Costs	Capacity <sup>1</sup>	Variable	Fixed	Fuel Type	Heat Rate (HHV) <sup>1</sup>	Outage Rate	Scheduled Maintenance	First Year Available
	\$1,000	MM	\$/MWh	\$/kW-yr		Btu/kWh	percent	days/year	
Pulverized Coal (25%) <sup>3</sup>	128,291	111.5	3.73	14.17	Coal	9,979	3.0	30	2006
LM 6000 SC	36,778	35.7	2.53	13.92	Nat. Gas	9,621	5.0	14	2003
7FA SC	73,877	156	2.24	3.63	Nat. Gas	10,940	1.96	L	2005
7FA SC (50 %)	36,939	78	2.24	3.63	Nat. Gas	10,940	1.96	7	2005
WH 501 F 1x1 (50%) <sup>3</sup>	74,736	125	2.49	4.66	Nat. Gas	7,128	2.86	15	2005
7FA 2x1 CC (self-build) <sup>3</sup>	29,021 <sup>4</sup>	61			Nat. Gas		4.0		2003 <sup>5</sup>
7FA 2x1 CC (joint development) <sup>3</sup>		21			Nat. Gas				2003 <sup>5</sup>
<ol> <li>At 70 - 72 °F, depend</li> <li>(2003 \$)</li> <li>Reflects KUA's porti</li> <li>Mixed year dollars to</li> <li>October 1, 2003.</li> </ol>	ding on the g on of total g	eneration alte eneration alte mercial opera	ernative (after srnative caps tion date of	er degradatio teity. October 1, 3	on). 2003.				

#### 1C.7.3 Results of Economic Analysis

The economic evaluation was first conducted for a base case scenario of the future, which assumed the base case load forecast, base case fuel price forecast, and planned reserve margins. The evaluations were based upon the cost and performance characteristics described in detail in Section 1A.7.0 and summarized in Table 1C.7-1. Production costs were modeled at temperatures which closely approximate (within 2 degrees) the average annual temperature for KUA. Winter and summer unit ratings were used to determine capacity requirements. KUA has not made a final decision regarding joining GridFlorida, the proposed regional transmission organization (RTO). For evaluation purposes, it is assumed that KUA joins GridFlorida and as a result transmission wheeling costs and losses are not included in the economic evaluations because they are assumed to be the same in all plans.

The expansion plan outlined in Table 1C.7-2 shows that the joint development project with Southern-Florida is the least-cost capacity addition plan for KUA under the base case scenario. For comparison purposes, Table 1C.7-3 displays the least-cost expansion capacity addition plan for KUA that does not include the joint-development project with Southern-Florida, while Table 1C.7-4 displays the least-cost expansion capacity addition plan if KUA decides not to participate in the Stanton A project as either a joint development project with Southern-Florida or as a self build project. Table 1C.7-5 displays the least cost expansion plan if the extension of the Southern-Florida PPA for an additional five years is not an option. The units and power purchases comprising the expansion plans are listed in the tables according to their year of commercial operation. Tables 1C.7-6 and 1C.7-7 present the summer capacity balances for the expansion plans presented in Tables 1C.7-2 and 1C.7-3, respectively. For both capacity expansion plans in Tables 1C.7-2 and 1C.7-3, KUA is assumed to sell the excess capacity presented in Table 1C.7-8 to OUC. For the joint development expansion plan in Table 1C.7-2, the excess capacity is sold to OUC at the rates contained in the PPA and for the self build expansion plan the excess capacity is sold at KUA's carrying costs. In essence, KUA's entitlement is merely reduced and transferred to OUC in the 3 years in which Stanton A would provide excess capacity to KUA. Appendix 1C.B presents tables showing the fuel, O&M, and capital costs for expansion plans on an annual basis.

It is clear from a comparison of Tables 1C.7-2, 1C.7-3, and 1C.7-4 that the joint development project with Southern-Florida provides the most cost-effective solution to satisfy KUA's forecast capacity requirements. The joint development project with Southern-Florida results in a projected \$1.621 million in cumulative present worth savings over the self build alternative and over \$20 million in cumulative present worth savings if Stanton A were not available as a self build alternative. Since participation in

Stanton A as a self build option would not be an alternative for KUA if the Southern-Florida joint development project is implemented, the realistic savings for KUA for participation in the Southern-Florida joint development project are \$20 million. Finally, since decisions to extend the Southern-Florida PPA for the additional five year options must be made collectively by OUC, KUA, and FMPA, Table 1C7-5 indicates that not extending the PPA increases KUA's cost \$6.4 million which is still \$13.6 million less thant if Stanton A were not available. In addition, involvement in the joint development project provides KUA with the flexibility and strategic advantages discussed in Section 1A.6.4.

	Table 1C.7-2 KUA Least-Cost Base Case Expansion	Plan	
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		75,105	141,705
2002		56,466	190,116
2003		52,923	232,128
2004	21 MW Joint Development with Southern – Florida (10/03)	47,478	267,026
	40 MW Southern – Florida Power Purchase (10/03)		
2005		49,187	300,501
2006		53,765	334,382
2007		58,157	368,316
2008	78 MW (50%) GE 7FA Simple Cycle (06/08)	63,915	402,848
2009		70,042	437,886
2010		73,457	471,911
2011		81,044	506,669
2012		82,915	539,596
2013	Terminate 40 MW Southern – Florida Power Purchase (11/13)	87,942	571,932
	Extend 40 MW Southern-Florida Power Purchase (11/13)		
2014	36 MW GE LM6000 Simple Cycle (06/14)	95,845	604,564
2015		103,434	637,170
2016	36 MW GE LM6000 Simple Cycle (06/16)	111,101	669,600
2017		119,133	701,798
2018	36 MW GE LM6000 Simple Cycle (06/18)		
	Terminate 40 MW Southern-Florida Purchase (11/18)	127,578	733,724
2019	36 MW GE LM6000 Simple Cycle (06/19)	136,554	765,365
Note:	Capacity is stated at average annual temperature for KUA.		

	Table 1C.7-3	' DI	
	KUA Least-Cost Runner-Up Base Case Ex	pansion Pla	n
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		75,105	141,705
2002		56,466	190,116
2003		52,791	232,023
2004	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	48,982	268,026
2005		49,618	301,795
2006		53,228	335,338
2007		57,854	369,095
2008	78 MW (50%) GE 7FA Simple Cycle (06/08)	63,802	403,565
2009		69,769	438,467
2010		73,306	472,422
2011		80,840	507,093
2012		82,790	539,971
2013		87,789	572,250
2014	36 MW GE LM6000 Simple Cycle (06/14)	95,468	604,754
2015		102,931	637,202
2016	36 MW GE LM6000 Simple Cycle (06/16)	110,566	669,475
2017		118,723	701,562
2018	78 MW (50%) GE 7FA Simple Cycle (06/18)	130,679	734,265
2019		141,217	766,986
Note: (	Capacity is stated at average annual temperature for KUA.		

	Table 1C.7-4	<b> </b>	
J	KUA Least-Cost Second Runner-Up Base	Case Expar	nsion Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		75,105	141,705
2002		56,466	190,116
2003		52,040	231,427
2004	36 MW GE LM6000 Simple Cycle (06/04)	50,305	268,403
2005		52,632	304,223
2006	36 MW GE LM6000 Simple Cycle (06/06)	57,444	340,423
2007		62,528	376,907
2008		65,805	412,459
2009	36 MW GE LM6000 Simple Cycle (06/09)	71,300	448,127
2010		76,488	483,556
2011	36 MW GE LM6000 Simple Cycle (06/11)	82,262	518,836
2012		88,774	554,090
2013		92,902	588,250
2014	78 MW (50%) GE 7FA Simple Cycle (06/14)	100,914	622,607
2015		108,481	656,805
2016	36 MW GE LM6000 Simple Cycle (06/16)	114,498	690,226
2017		119,751	722,591
2018		126,780	754,317
2019	36 MW GE LM6000 Simple Cycle (06/16)	134,025	785,373
Note: C	Capacity is stated at average annual temperature for	or KUA.	

KUA	Table 1C.7-5           A Joint Development Without PPA Extension Option Ba	se Case Expa	nsion Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		75,105	141,705
2002		56,466	190,116
2003		52,923	232,128
2004	21 MW Joint Development with Southern – Florida (10/03)	47,478	267,026
	40 MW Southern – Florida Power Purchase (10/03)		
2005		49,187	300,501
2006		53,765	334,382
2007		58,157	368,316
2008	78 MW (50%) GE 7FA Simple Cycle (06/14)	63,915	402,848
2009		70,042	437,886
2010		73,457	471,911
2011		81,044	506,669
2012		82,915	539,596
2013	Terminate 40 MW Southern – Florida Power Purchase (11/13)	88,116	571,996
2014	257 MW (50%) WH 501F 2x1 Combined Cycle (06/14)	98,457	605,517
2015		110,184	640,252
2016		116,082	674,135
2017		121,780	707,048
2018		129,520	739,460
2019	36 MW LM 6000 Simple Cycle (06/19)	139,208	771,717
Note:	Capacity is stated at average annual temperature for KUA.		

1C.7.0 Economic Analysis

		KUA Sı	ummer Cap	acity Balan	Table 1C ce (After Ex <sub>l</sub>	0.7-6 pansion Plan	Outlined in Ta	able 1C.7-2)	
	Retail Peak	Eim Coloo	Total	Installed		Available	Available	Required	Excess/(Deficit) to Maintain 15%
Year	(MW)	rum sales (MW)	Sales (MW)	(MW)	Purchases (MW)	Capacity (MW)	Keserves (MW)	(MW)	(MW)
2000	241	0	241	176	108.1	284	43	36.2	7
2001	254	0	254	297	68.1	365	111	38.1	73
2002	272	0	272	297	68.1	365	93	40.8	52
2003	291	0	291	297	68.1	365	74	43.7	30
2004	309	40	349	318	86.8	364	55	52.4	3
2005	323	24	347	318	86.8	380	57	52.1	5
2006	336	10	346	318	86.8	394	58	51.9	6
2007	346	0	346	318	86.8	404	58	51.9	6
2008	357	0	357	388	86.8	474	117	53.6	64
2009	368	0	368	388	86.8	474	106	55.2	51
2010	379	0	379	388	86.8	474	95	56.9	38
2011	390	0	390	388	86.8	474	84	58.5	26
2012	402	0	402	388	86.8	474	72	60.3	12
2013	413	0	413	388	86.8	474	61	62.0	(1)
2014	425	0	425	421	86.8	507	82	63.8	19
2015	438	0	438	421	86.8	507	69	65.7	4
2016	450	0	450	454	86.8	540	90	67.5	23
2017	462	0	462	454	86.8	540	78	69.3	6
2018	475	0	475	487	86.8	573	98	71.3	27
2019	488	0	488	520	48.1	568	80	73.2	6

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1C.7.0 Economic Analysis

		KUA Su	ımmer Cap	acity Balanc	Table 1C ce (After Exp	.7-7 ansion Plan	Outlined in Ta	able 1C.7-3)	Angen and an and a second second
	Retail Peak		Total	Installed		Available	Available	Required	Excess/(Deficit) to Maintain 15%
Year	Demand (MW)	Firm Sales (MW)	Sales (MW)	Capacity (MW)	Purchases (MW)	Capacity (MW)	Reserves (MW)	Reserves (MW)	Reserve Margin (MW)
2000	241	0	241	176	108.1	284	43	36.2	7
2001	254	0	254	297	68.1	365	111	38.1	73
2002	272	0	272	297	68.1	365	93	40.8	52
2003	291	0	291	297	68.1	365	74	43.7	30
2004	309	40	349	356	48.1	364	55	52.4	£
2005	323	24	347	356	48.1	380	57	52.1	5
2006	336	10	346	356	48.1	394	58	51.9	6
2007	346	0	346	356	48.1	404	58	51.9	6
2008	357	0	357	426	48.1	474	117	53.6	64
2009	368	0	368	426	48.1	474	106	55.2	51
2010	379	0	379	426	48.1	474	95	56.9	38
2011	390	0	390	426	48.1	474	84	58.5	26
2012	402	0	402	426	48.1	474	72	60.3	12
2013	413	0	413	426	48.1	474	61	62.0	(1)
2014	425	0	425	459	48.1	507	82	63.8	19
2015	438	0	438	459	48.1	507	69	65.7	4
2016	450	0	450	492	48.1	540	60	67.5	23
2017	462	0	462	492	48.1	540	78	69.3	6
2018	475	0	475	562	48.1	610	135	71.3	64
2019	488	0	488	562	48.1	610	122	73.2	49

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Excess KUA	Fable 1C.7-8         Entitlement Sold to OUC	
Period	MW <sup>1</sup>	
10/01/03-09/30/04	40	
10/01/04-09/30/05	24	
10/01/05-09/30/06	10	
1. Based on 633 MW rating	, at 70° F.	

## 1C.8.0 Sensitivity Analysis

KUA performed several sensitivity analyses to measure the impact of key assumptions on the least-cost plan. The sensitivity analyses are presented in Sections 1C.8.1 through 1C.8.7 and includes high and low fuel escalation as well as three additional fuel price scenarios. Two were based on the AEO fuel price projections. One uses the actual AEO projections and the other applies the AEO escalation rates to the actual 2000 OUC prices. Finally, a fuel price that assumes the actual OUC 2000 fuel prices remain constant in real terms is analyzed. High load and energy growth and low load and energy growth scenarios were also evaluated. For each sensitivity analysis, the two least-cost plans over the planning horizon are 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.

## 1C.8.1 High Fuel Price Escalation

The high fuel price scenario applies an annual escalation rate that is 2.0 percentage points higher than that used for the base case forecast. The high fuel price forecast is provided in Table 1A.5-6. Table 1C.8-1 displays the results of the economic evaluation for the least-cost expansion plan for the high fuel price escalation sensitivity and Table 1C.8-2 presents the runner-up expansion plan. The plan including the self build alternative on a cumulative present worth basis over a 20 year planning horizon is only \$200,000 lower than the plan with the joint development project.

# 1C.8.2 Low Fuel Price Escalation

The low fuel price scenario applies an annual growth rate that is 2.0 percentage points lower than that used for the base case forecast. The low fuel price forecast is provided in Table 1A.8-7. Table 1C.8-3 displays the results of the economic evaluation for the least-cost expansion plan for the low fuel price escalation sensitivity and Table 1C.8-4 presents the runner-up expansion plan. Comparing the two plans indicates the plan with the joint development project continues to be the lowest cost with a \$0.8 million cumulative present worth savings over the self build plan.

# 1C.8.3 AEO Fuel Price Projections

This sensitivity analysis utilizes the fuel forecast provided by AEO as presented in Table 1A.5-10. The results of the economic evaluation for the least-cost expansion plan using the AEO fuel price forecast are shown in Tables 1C.8-5 and Table 1C.8-6 presents

the runner-up expansion plan. Under this screen, the expansion plan with the joint development project is \$2.1 million lower in cumulative present worth cost.

#### 1C.8.4 OUC 2000 Fuel Costs with 2001 AEO Escalation

This sensitivity analysis is based on the 2001 AEO fuel price escalation rates being applied to OUC's actual 2000 fuel costs as presented in Table 1A.5-11. Table 1C.8-7 presents the results of the economic evaluation for the least cost expansion plan and Table 1C.8-8 presents the runner-up expansion plan. With these higher fuel prices, the plan with the joint development project shows a \$0.4 million savings over the plan with the self build project.

#### 1C.8.5 Constant 2000 Fuel Price Projections

This sensitivity analysis utilizes the fuel forecast resulting from escalating OUC's average 2000 fuel prices at the general inflation rate as presented in Table 1A.5-8. The results of the economic evaluation for the least-cost expansion plan using the constant 2000 fuel price forecast are shown in Table 1C.8-9 and Table 1C.8-10 presents the runner-up expansion plan. Again, the plan with the joint development project represents the lowest cost by \$2.9 million.

## 1C.8.6 High Load and Energy Growth

The high load and energy growth scenario provides insight into the effect of resource decisions made in an environment where load and energy growth is greater than the base case forecast. The high load and energy growth scenario requires the addition of more generation and therefore an increase in cumulative present worth for the least-cost capacity addition plan. The high load and energy growth scenario is based upon the high load and energy growth forecast presented in Section 1C.4. Table 1C.8-11 indicates the summer need for capacity based upon the high load and energy forecast.

As indicated in Table 1C.8-11, the high load and energy growth scenario results in a minimal 4 MW capacity shortfall in the summer of 2003 growing to a 53 MW shortfall in 2004. It has been assumed that KUA will purchase power on the spot market to make up the resultant deficit in 2003.

Table 1C.8-12 displays the results of the economic evaluation for the least-cost expansion plan for the high load and energy growth sensitivity and Table 1C.8-13 presents the runner-up expansion plan. Comparing the two plans indicates that the plan including the joint development project is \$5.4 million lower in cost than the plan including self build alternative.

#### 1C.8.7 Low Load and Energy Growth

The low load and energy growth scenario provides insight into the effect of resource decisions made in an environment where load and energy growth is less than the base case forecast. The low load and energy growth scenario requires less generation resources than the base case forecast. The low load and energy growth scenario is based upon the low load and energy growth forecast presented in Section 1C.4.0. Table 1C.8-14 indicates the summer need for capacity based upon the low load and energy forecast.

Capacity additions are not required for the low load and energy forecast, however, for evaluations the effect of adding the joint development project and the self build project are presented in Tables 1C.8-15 and 1C.8-16, respectively.

Table 1C.8-15 displays the results of the economic evaluation for the least-cost expansion plan for the low load and energy growth sensitivity and Table 1C.8-16 presents the runner-up expansion plan. Again, the plan with the joint development project is least cost by \$6.0 million in cumulative present worth cost over the 20 year period.

## 1C.8.8 Sensitivity Analysis Summary

The plan with the Southern-Florida joint development project is the lowest cost in all but one of the sensitivity analyses. In several of these analyses, the extension of the PPA for an additional five years is part of the expansion plan. Since extension of the PPA must be done collectively, it may not be possible for KUA to obtain the five year extension. Costs would then increase for the plans with the joint development project. However, a more realistic comparison would be to compare a plan that does not include participation in any project at Stanton Energy Center. For that comparison there would be substantial savings associated with the Southern-Florida joint development project.

	Table 1C.8-1 KUA High Fuel Price Escalation Expar	nsion Plan	
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		75,945	142,482
2002		58,330	192,491
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	55,134	236,258
2004		52,393	274,769
2005		53,463	311,155
2006		58,080	347,755
2007		64,441	385,356
2008	36 MW LM6000 Simple Cycle (06/08)	70,300	423,337
2009		77,383	462,047
2010		82,516	500,268
2011	36 MW LM6000 Simple Cycle (06/11)	92,858	540,093
2012		99,036	579,422
2013	36 MW LM6000 Simple Cycle (06/13)	107,486	618,944
2014		117,083	658,807
2015		125,664	698,421
2016	36 MW LM6000 Simple Cycle (06/16)	135,677	738,024
2017		147,901	777,997
2018	36 MW LM6000 Simple Cycle (06/18)	161,858	818,502
2019		174,712	858,985
Note: (	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-2	· D1	····
	KUA High Fuel Price Escalation Runner Up Ex	pansion Pla	n
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		75,945	142,482
2002		58,330	192,491
2003	21 MW Joint Development with Southern-Florida (10/03)	55,251	236,351
	40 MW Southern-Florida Power Purchase (10/03)		
2004		50,776	273,673
2005		52,967	309,721
2006		58,544	346,614
2007		64,405	384,194
2008	78 MW 7FA Simple Cycle (06/08)	71,372	422,754
2009		78,956	462,252
2010		84,118	501,215
2011		94,251	541,637
2012		97,760	580,459
2013	Terminate 40 MW Southern-Florida Power Purchase (11/13)	105,300	619,177
	Extension of 40 MW Southern-Florida Power Purchase (11/13)		
2014	36 MW LM6000 Simple Cycle (06/14)	115,693	658,566
2015		126,525	698,452
2016	36 MW LM6000 Simple Cycle (06/16)	136,912	738,415
2017			
2018	36 MW LM6000 Simple Cycle (06/18)	148,923	778,665
	Terminate 40 MW Southern–Florida Power Purchase (11/18)	160,795	818,904
2019	36 MW LM6000 Simple Cycle (06/19)	173,713	859,155
Note:	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-3 KUA Low Fuel Price Escalation Expansio	on Plan	
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		74,370	141,024
2002		54,486	187,737
2003	21 MW Joint Development with Southern-Florida (10/03)	50,186	227,576
	40 MW Southern-Florida Power Purchase (10/03)		
2004		44,908	260,585
2005		45,684	291,677
2006		49,457	322,843
2007		52,975	353,753
2008	78 MW 7FA Simple Cycle (06/08)	57,608	384,877
2009		62,455	416,120
2010		64,847	446,157
2011		70,494	476,391
2012		71,114	504,631
2013	Terminate 40 MW Southern-Florida Power Purchase (11/13)	74,479	532,017
	Extension of 40 MW Southern-Florida Power Purchase (11/13)		
2014	36 MW LM6000 Simple Cycle (06/14)	80,276	559,348
2015		86,031	586,468
2016	36 MW LM6000 Simple Cycle (06/16)	91,895	613,291
2017		97,631	639,678
2018	36 MW LM6000 Simple Cycle (06/18)	104,038	665,713
	Terminate 40 MW Southern-Florida Power Purchase (11/18)		
2019	36 MW LM6000 Simple Cycle (06/19)	111,040	691,443
Note:	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-4	m • 1	<b>N</b> 1
	KUA Low Fuel Price Escalation Runner-Up.	Expansion I	Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,163	72,163
2001		74,370	141,024
2002		54,486	187,737
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	50,050	227,467
2004		46,423	261,590
2005		46,092	292,960
2006		48,902	323,776
2007		52,675	354,512
2008	78 MW 7FA Simple Cycle (06/08)	57,488	385,571
2009		62,157	416,665
2010		64,692	446,630
2011		70,273	476,768
2012		70,967	504,950
2013		74,322	532,278
2014	36 MW LM6000 Simple Cycle (06/14)	79,835	559,459
2015		85,500	586,412
2016	36 MW LM6000 Simple Cycle (06/16)	91,341	613,074
2017		97,153	639,331
2018	78 MW 7FA Simple Cycle (06/18)	106,187	665,905
2019		113,472	692,198
Note: C	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-5				
	AEO Fuel Price Projection Expansion	n Plan			
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)		
2000		54,063	54,063		
2001		46,179	96,821		
2002		42,078	132,896		
2003	21 MW Joint Development with Southern-Florida (10/03)	48,077	171,061		
	40 MW Southern-Florida Power Purchase (10/03)				
2004		49,471	207,424		
2005		53,768	244,018		
2006		58,427	280,837		
2007		63,154	317,687		
2008	78 MW 7FA Simple Cycle (06/08)	68,896	354,909		
2009		75,314	392,585		
2010		79,130	429,237		
2011		87,394	466,719		
2012		89,126	502,112		
2013	Terminate 40 MW Southern-Florida Power Purchase (11/13)	94,343	536,802		
	Extension of 40 MW Southern-Florida Power Purchase (11/13)				
2014	36 MW LM6000 Simple Cycle (06/14)	102,349	571,648		
2015		110,563	606,502		
2016	36 MW LM6000 Simple Cycle (06/16)	118,357	641,050		
2017		126,967	675,365		
2018	36 MW LM6000 Simple Cycle (06/18)	136,061	709,414		
	Terminate 40 MW Southern-Florida Power Purchase (11/18)				
2019	36 MW LM6000 Simple Cycle (06/19)	146,296	743,312		
Note: C	apacity is stated at average annual temperature for KUA.				

	Table 1C.8-6		~1
	KUA AEO Fuel Price Projection Runner-Up	Expansion	Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		54,063	54,063
2001		46,179	96,821
2002		42,078	132,896
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	48,013	171,010
2004		50,841	208,380
2005		54,241	245,296
2006		57,723	281,671
2007		62,981	318,420
2008	78 MW 7FA Simple Cycle (06/08)	69,004	355,701
2009		75,156	393,297
2010		79,042	429,909
2011		87,185	467,301
2012		89,086	502,679
2013		94,265	537,340
2014	36 MW LM6000 Simple Cycle (06/14)	101,954	572,051
2015		110,154	606,776
2016	36 MW LM6000 Simple Cycle (06/16)	117,890	641,187
2017		126,771	675,449
2018	78 MW 7FA Simple Cycle (06/18)	139,838	710,444
2019		150,942	745,419
Note: C	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-7		
	OUC 2000 + 2001 AEO Escalation Fuel Price Project	ion Expansi	on Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,958	72,958
2001		64,161	132,366
2002		59,619	183,480
2003	21 MW Joint Development with Southern-Florida (10/03)	67,899	237,380
1	40 MW Southern-Florida Power Purchase (10/03)		
2004		70,271	289,032
2005		76,250	340,926
2006		82,215	392,736
2007		88,883	444,598
2008	112 MW Pulverized Coal (06/08)	96,814	496,903
2009		106,897	550,378
2010		110,984	601,785
2011		119,186	652,902
2012		121,684	701,224
2013	Terminate 40 MW Southern-Florida Power Purchase (11/13)	128,605	748,512
	Extension of 40 MW Southern-Florida Power Purchase (11/13)		
2014		136,325	794,925
2015		144,060	840,339
2016		152,392	884,821
2017	36 MW LM6000 Simple Cycle (06/17)	164,319	929,231
2018	Terminate 40 MW Southern-Florida Power Purchase (11/18)	176,803	973,476
2019	78 MW 7FA Simple Cycle (06/19)	191,457	1,017,839
Note: (	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-8		
OUC	2000 + 2001 AEO Escalation Fuel Price Projection	Runner Up	Expansion Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,958	72,958
2001		64,161	132,366
2002		59,619	183,480
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	67,775	237,282
2004		71,709	289,990
2005		76,700	342,191
2006		81,646	393,642
2007		88,614	445,348
2008	112 MW Pulverized Coal (06/08)	96,479	497,472
2009		106,833	550,915
2010		110,787	602,231
2011		119,032	653,282
2012		121,558	701,554
2013		128,304	748,731
2014		135,902	795,000
2015		143,464	840,226
2016	36 MW LM6000 Simple Cycle (06/16)	154,494	885,322
2017		166,477	930,315
2018		176,409	974,461
2019	36 MW LM6000 Simple Cycle (06/19)	189,113	1,018,281
Note: (	Capacity is stated at average annual temperature for KUA.		_

	Table 1C.8-9		
	OUC Constant 2000 Fuel Price Projection Exp	ansion Plar	1
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,957	72,957
2001		62,899	131,197
2002		57,961	180,889
2003	21 MW Joint Development with Southern-Florida (10/03)	64,881	232,394
	40 MW Southern-Florida Power Purchase (10/03)		
2004		65,887	280,822
2005		71,296	329,345
2006		76,525	377,569
2007		82,100	425,474
2008	78 MW 7FA Simple Cycle (06/08)	88,299	473,179
2009		95,686	521,046
2010		99,875	567,307
2011		109,396	614,225
2012		110,759	658,209
2013	Terminate 40 MW Southern-Florida Power Purchase (11/13)	116,444	701,025
	Extension of 40 MW Southern-Florida Power Purchase (11/13)		
2014	36 MW LM6000 Simple Cycle (06/14)	124,728	743,490
2015		132,312	785,200
2016	36 MW LM6000 Simple Cycle (06/16)	139,525	825,927
2017		147,465	865,782
2018	36 MW LM6000 Simple Cycle (06/18)	154,721	904,501
	Terminate 40 MW Southern-Florida Power Purchase (11/18)		
2019	36 MW LM6000 Simple Cycle (06/19)	163,339	942,348
Note: 0	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-10 OUC Constant 2000 Fuel Price Projection Runner	-Up Expans	ion Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		72,957	72,957
2001		62,898	131,196
2002		57,961	180,889
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	64,735	232,277
2004		67,382	281,805
2005		71,828	330,690
2006		76,052	378,616
2007		81,875	426,389
2008	78 MW 7FA Simple Cycle (06/08)	88,273	474,080
2009		95,446	521,827
2010		99,797	568,053
2011		109,258	614,911
2012		110,758	658,895
2013		116,399	701,695
2014	36 MW LM6000 Simple Cycle (06/14)	124,528	744,091
2015		131,855	785,658
2016	36 MW LM6000 Simple Cycle (06/16)	139,069	826,251
2017		147,135	866,017
2018	78 MW 7FA Simple Cycle (06/18)	159,363	905,897
2019		169,780	945,237
Note:	Capacity is stated at average annual temperature for KUA.		

1C.8.0 Sensitivity Analysis

		KUA S	ummer Res	serve Requ	Table 1C irements - Hi	.8-11 gh Load ano	l Energy Grow	th Scenario	
Year	Retail Peak Demand (MW)	Firm Sales (MW)	Total Sales (MW)	Installed Capacity (MW)	Purchases (MW)	A vailable Capacity (MW)	Available Reserves (MW)	Required Reserves (MW)	Excess/ (Deficit) to Maintain 15% Reserve Margin (MW)
2000	247	0	0	176	108.1	284	37	37	0
2001	265	0	0	297	68.1	365	100	40	60
2002	292	0	0	297	68.1	365	73	44	29
2003	321	0	0	297	68.1	365	44	48	(4)
2004	346	0	0	297	48.1	345	0	53	(53)
2005	368	0	0	297	48.1	345	0	78	(78)
2006	391	0	0	297	48.1	345	0	105	(105)
2007	410	0	0	297	48.1	345	0	127	(127)
2008	431	0	0	297	48.1	345	0	151	(151)
2009	452	0	0	297	48.1	345	0	175	(175)
2010	474	0	0	297	48.1	345	0	200	(200)
2011	497	0	0	297	48.1	345	0	227	(227)
2012	520	0	0	297	48.1	345	0	253	(253)
2013	545	0	0	297	48.1	345	0	282	(282)
2014	571	0	0	297	48.1	345	0	312	(312)
2015	598	0	0	297	48.1	345	0	343	(343)
2016	625	0	0	297	48.1	345	0	374	(374)
2017	653	0	0	297	48.1	345	0	406	(406)
2018	682	0	0	297	48.1	345	0	439	(439)
2019	713	0	0	297	48.1	345	0	475	(475)

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Table 1C.8-12           KULA Uist Load and Energy Crowth Exponsion Plan				
:	KUA High Load and Energy Growth Expa	nsion Plan		
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)	
2000		76,013	76,013	
2001		80,875	150,897	
2002		61,970	204,026	
2003	21 MW Joint Development with Southern-Florida (10/03)	59,209	251,028	
	40 MW Southern-Florida Power Purchase (10/03)	54,817	291,320	
2004	36 MW LM6000 Simple Cycle (06/04)	62,223	333,668	
2005	78 MW 7FA Simple Cycle (06/05)	70,369	378,012	
2006		76,554	422,680	
2007		81,721	466,832	
2008		89,568	511,638	
2009	36 MW LM6000 Simple Cycle (06/09)	98,818	557,410	
2010	36 MW LM6000 Simple Cycle (06/10)	109,719	604,467	
2011		116,344	650,668	
2012	36 MW LM6000 Simple Cycle (06/12)	126,625	697,228	
2013	36 MW LM6000 Simple Cycle (06/13)	137,302	743,974	
	Terminate 40 MW Southern-Florida Power Purchase (11/13)	149,361	791,059	
2014	78 MW 7FA Simple Cycle (06/14)	160,972	838,045	
2015	36 MW LM6000 Simple Cycle (06/15)	172,454	884,654	
2016	36 MW LM6000 Simple Cycle (06/16)	185,799	931,150	
2017	36 MW LM6000 Simple Cycle (06/17)	203,166	978,226	
2018	36 MW LM6000 Simple Cycle (06/18)			
;	Terminate 40 MW Southern–Florida Power Purchase (11/18)			
2019	78 MW 7FA Simple Cycle (06/19)			
Note: 0	Capacity is stated at average annual temperature for KUA.			

	Table 1C.8-13				
	KUA High Load and Energy Growth Runner-U	p Expansion	n Plan		
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)		
2000		76,013	76,013		
2001		80,875	150,897		
2002		61,970	204,026		
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	59,114	250,953		
2004	36 MW LM6000 Simple Cycle (06/04)	56,249	292,298		
2005	78 MW 7FA Simple Cycle (06/05)	62,535	334,858		
2006		69,686	378,772		
2007		76,349	423,321		
2008		81,604	467,409		
2009	36 MW LM6000 Simple Cycle (06/09)	89,408	512,135		
2010	36 MW LM6000 Simple Cycle (06/10)	98,585	557,799		
2011		109,371	604,707		
2012	36 MW LM6000 Simple Cycle (06/12)	115,988	650,767		
2013	36 MW LM6000 Simple Cycle (06/13)	127,355	697,595		
2014	78 MW 7FA Simple Cycle (06/14)	140,771	745,522		
2015		152,841	793,704		
2016	36 MW LM6000 Simple Cycle (06/16)	163,127	841,319		
2017	36 MW LM6000 Simple Cycle (06/17)	175,725	888,812		
2018	36 MW LM6000 Simple Cycle (06/18)	189,140	936,145		
2019	36 MW LM6000 Simple Cycle (06/19)	204,936	983,631		
Note: C	Capacity is stated at average annual temperature for KUA.				

**1C.8.0 Sensitivity Analysis** 

		KUA S	ummer Res	erve Requi	Table 1C. irements - Lo	.8-14 w Load and	Energy Grow	th Scenario	
Year	Retail Peak Demand (MW)	Firm Sales (MW)	Total Sales (MW)	Installed Capacity (MW)	Purchases (MW)	Available Capacity (MW)	Available Reserves (MW)	Required Reserves (MW)	Excess/(Deficit) to Maintain 15% Reserve Margin (MW)
2000	237	0	0	176	108.1	284	47	36	11
2001	238	0	0	297	68.1	365	127	36	91
2002	245	0	0	297	68.1	365	120	37	83
2003	252	0	0	297	68.1	365	113	38	75
2004	259	0	0	297	48.1	345	86	39	47
2005	263	0	0	297	48.1	345	82	39	42
2006	266	0	0	297	48.1	345	79	40	39
2007	267	0	0	297	48.1	345	78	40	38
2008	267	0	0	297	48.1	345	78	40	38
2009	268	0	0	297	48.1	345	77	40	36
2010	269	0	0	297	48.1	345	76	40	35
2011	268	0	0	297	48.1	345	77	40	36
2012	267	0	0	297	48.1	345	78	40	38
2013	266	0	0	297	48.1	345	79	40	39
2014	264	0	0	297	48.1	345	81	40	41
2015	263	0	0	297	48.1	345	82	39	42
2016	260	0	0	297	48.1	345	85	39	46
2017	257	0	0	297	48.1	345	88	39	49
2018	254	0	0	297	48.1	345	91	38	53
2019	251	0	0	297	48.1	345	94	38	56

Black & Veatch

8-17

	Table 1C.8-15	nion Dlon	
	KUA Low Load and Energy Growin Expan		
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		68,424	68,424
2001		67,713	131,121
2002		50,042	174,024
2003	21 MW Joint Development with Southern-Florida (10/03)	45,187	209,895
	40 MW Southern-Florida Power Purchase (10/03)		
2004		41,431	240,348
2005		42,026	268,950
2006		44,718	297,130
2007		46,696	324,377
2008		48,112	350,370
2009		49,486	375,125
2010		50,945	398,723
2011		53,364	421,610
2012		54,278	443,164
2013	Terminate 40 MW Southern-Florida Power Purchase (11/13)	54,739	463,292
2014		53,210	481,408
2015		54,930	498,724
2016		56,028	515,078
2017		57,482	530,613
2018		59,263	545,444
2019		60,249	559,404
Note: (	Capacity is stated at average annual temperature for KUA.		

	Table 1C.8-16		
	KUA Low Load and Energy Growth Runner-U	p Expansion	Plan
Year	Generation Addition (month/year)	Annual Costs (\$1000)	Cumulative Present Worth (\$1000)
2000		68,424	68,424
2001		67,713	131,121
2002		50,042	174,024
2003	61 MW Self Build GE 7FA 2x1 Combined Cycle (10/03)	45,017	209,760
2004		42,677	241,129
2005		42,243	269,878
2006		43,900	297,542
2007		46,321	324,570
2008		47,659	350,319
2009		49,017	374,840
2010		50,479	398,221
2011		52,909	420,913
2012		53,934	442,331
2013		55,067	462,579
2014		56,657	481,868
2015		58,612	500,345
2016		60,030	517,867
2017		61,718	534,548
2018		63,238	550,373
2019		64,947	565,422
Note: C	Capacity is stated at average annual temperature for KUA.		

## 1C.9.0 Financial Analysis

KUA has not made a final decision regarding financing KUA's 3.5 percent equity share of Stanton A. The relatively small amount of equity required may come from a number of sources including retained earnings, tax exempt bond proceeds from either existing or future issues, short term commercial paper or similar instruments, or even the FMPA Pooled Loan Project. For evaluation purposes, a weighted average cost of capital of approximately 8 percent was used.

KUA's strong financial position will support any of the above methods of finance. In Fiscal 1999, KUA operating revenues were \$79.7 million with an operating income of \$12.0 million. KUA's debt service coverage was 1.81 for Fiscal 1999. Appendix 1C.A Economic Evaluation Spreadsheets

Case Scenario Southern-Florida Basi								
Scenario Southern-Florida Basi						Economic		
	e Case					CPW Discoun Capital Escala Base Year for	t Rate ttion Rate \$	8 0% 2 5% 2000
Generation Additions								
						Finance		
Unit Size (MW)	2000 Capital Cost (\$1,000)	Construction Period (months)	Year Installed (year)	Installed Cost (\$1,000)	Levelized Cost (\$1,000)	Fixed Charge	Rate	11 19%
Southern 21	1		2003 833		-	Interest During	3 Const.	%9
Joint 7FA SC 7E	8 36,939	12	2008 417	46,242	5,175	Finance Term	(yrs)	20
LLM 6000 36	6 36,778	8	2014 417	53,095	5,941	Plant Life		30
LM 6001 34	6 36,778 6 36,778	00 0	2016 417	55.783 59.607	6.242			
LM 6002 36 LM 6003 36	6 36,778 6 36,778	000	2019 417 2019 417	58.6U/ 60,072	6.722			
Fuel and				Total	Total	Total	Cumulative Present	
Energy	80	Ŵ	Fees and	Production	Capital	System	Worth	
Year Cost <sup>1</sup>	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(000,1\$)	
2000 67,945	5 4,218	0	0	72,163	0	72,163	72,163	
2001 71,138	3.968	0	0	75,105	0	75,105	141,705	
2002 52,644	1 3,823	0	0	56,466	0	56,466	190,116	
2003 47,624	4.214	807	(6) (3E)	52,635 46 227	288	52,923 47.478	232.128	
2004 41.700 2005 41.846	6 4,30/	1.306	(35)	48,035	1,151	49,187	300.501	
2006 44,969	5,226	2,453	(35)	52,614	1,151	53,765	334,382	
2007 48,305	5.524	3,212	(32)	57,006	1,151	58,157	368,316	
2008 50,583	5,780	3,417	(34)	59,745	4,170	63,915 30,015	402,848	
2009 54,101 2010 57 152	6.078	3,5/2	(34)	63,/10 67 131	0,320 6 326	73 457	437,911	
2010 20,103	6.747	3.596	(34)	74.718	6.326	81,044	506,669	
2012 65,852	7,162	3,609	(34)	76,589	6,326	82,915	539,596	
2013 70,412	7,554	3,684	(34)	81,616	6,326	87,942	571,932	
2014 73,833	3 7,839	4,415	(34)	86,053	9,792	95,845	604,564	
2015 78.153	8.311	4.736	(34)	91,167	12,267	103,434	637,170	
2016 81,433	8,593	5,201	(34)	95,193	15,908	111,101	669,600	
2017 2018 86.048	9,051	5,557	(33)	100,624	18.509	119,133	96/ 10/	
	9,001 0 958	3.471	(33)	107 566	28.989	136,554	765,365	

Kissimmee	Utility	Authority							
Case				<b></b>			Economic		
Scenario Self Buil	d KUA Base						CPW Discour Capital Escala Base Year for	nt Rate ation Rate \$	8 0% 2 5% 2000
Generation Addition	ي م								
							Finance		
Unit	Size	2000 Capital Cost	Construction Period	Year Installed	Installed Cost	Levelized Cost			
	(MM)	(\$1,000)	(months)	(year)	(\$1,000)	(\$1,000)	Fixed Charge	Rate	11 19%
Self Build	63			2003 833	31,458	3,520	Finance Term	g Const (yrs)	50 50
Joint 7FA SC	8/	36,939	12	2008 417	46,242	5,175	Plant Life		30
LM 6000	36	36,778	8	2014 412	53,089	5,941			
LM 6000 Joint 7FA SC	36 78	36,778	8 5	2016412 2018412	55,776 59.187	6,241 6,623			
	Fuel and				Total	Total	Total	Cumulative Present	
	Energy	õ	ŠM	Fees and	Production	Capital	System	Worth	
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	67,945	4,218	0	0	72,163	0	72,163	72,163	
2001	71.138	3,968	0	0	75,105	Ģ	75,105	141,705	
2002	52,644	3,823	0	0	56.466	0 0	56,466	190,116	
2003	47,606 41 BBA	4,211	82	13	51,911 45,462	3 520	52,/91 48 982	232,023	
2005	42,069	4,923	(947)	53	46,098	3,520	49,618	301,795	
2006	45,290	5,222	(857)	54	49,708	3,520	53,228	335,338	
2007	48,397	5,523	358	55	54,334	3,520 C E20	57,854	369,095	
5009	54.211	6.075	2/0	58	61.075	8,695	69.769	438,467	
2010	57,387	6,416	749	29	64,611	8,695	73,306	472,422	
2011	64,570	6,748	767	61	72,146	8,695	80.840	507,093	
2012	66,085	7,162	786	62	74,096	8,695	82.790	539,971	
2013	74 105	7,556	806	64 55	79,094	8,695	87.789 06.420	572,250 604 764	
2015	78,354	800.7 806.8	1 567	00 67	900,000 BR 296	14 635	102 931	637.202	
2016	81,599	8,583	2,038	69	92,290	18,276	110.566	669,475	
2017	86,331	9,043	2,402	71	97,847	20,877	118,723	701,562	
2018	93,641	9,504	2,721	72	105.939	24,740	130,679	734,265	
2019	100,702	9,964	2,977	74	113,717	27,500	141,217	766,986	
Notes (1) Includes start	turn costs								
(2) Fixed costs a	re included or	IV for new units							
(3) Includes fees	for site lease	as well as credit	for services and	1 cooling water					
Kissimmee	Utility	Authority							
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Case							Economic		
Scenario Base Ca	se Second R	unner Up					CPW Discour	at Rate	80%
							Capital Escald Base Year for	ation Hate	2000
Generation Addition	2								
							Finance		
Unit	Size	2000 Capital Cost (\$1 000)	Construction Period (months)	Year Installed (vear)	Installed Cost (\$1 000)	Levelized Cost (\$1,000)	Fixed Charge	Bate	11 19%
I M 6000	144.14	1/201/10/1	lennioni)	DUDAU/	11 47 A	4 641	Interest Durin	n Const	201
LM 6000	96	36.778		2006 417	43.578	4.876	Finance Term	9 (VIS)	50
LM 6000	36	36,778	0.00	2009 417	46.928	5.251	Plant Life		30
LM 6000	36	36,778	80	2011 417	49 304	5 517			
Joint 7FA SC LM 6000	78 36	36,939 36,778	12	2014 417 2019 417	53,627 60.072	6.722			
	Fuel and				Total	Total	Total	Cumulative Present	
	Energy	0	8.M	Fees and	Production	Capital	System	Worth	
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
	(\$1,000)	(\$1.000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	67,945	4,218	0	0	72,163	0	72,163	72,163	
2001	71,138	3,968	0	0	75,105	0	75.105	141,705	
2002	52,644	3,823	0	0	56,466	0	56.466	190,116	
2003	47,871	4,169	0	0	52,040	0	52,040	231,427	
2004	42,857	4.420	322	00	47,598	2.707	50,305 52,632	304 223	
E007	44,100	4,03	914 914	0	49,958	7.486	57,444	340,423	
2007	46,652	5,177	1,181	Ö	53,010	9.518	62,528	376,907	
2008	49,598	5,478	1,211	0	56,287	9,518	65,805	412,459	
2009	51,454	5,660	1,605	0 0	58,719	12,581	71,300	448,127	
2010	53,872	5,938	1,908	0 0	61,/19 64.775	14,7097	/0,488 00,060	463,000 510 026	
	96/'99 720 03	0,137	2,330 2,879		0/7'HQ	105,11	202'20 88 774	554 090	
2012	110'ac 63 112	6.764	2.740	00	72.616	20,286	92,902	588,250	
2014	67,101	6,983	3,043	0	77.127	23,787	100,914	622,607	-
2015	71,544	7,361	3.289	0	82,194	26,287	108,481	656,805	-
2016	77,096	7,744	3.372	0	88,211	26,287	114,498	690,226	
2017	81,889	8,119	3,456	0 (	93,464	26,287	119,751	722,591	
2018	88,413	8,538	3.542	0 0	100,493	26,287	126./80	15,461	
2019	30,996	CZ/'8	4'09/	5	102,017	2017/02	020,401	6/0'00/	
(1) Includes start	t-up costs								
(2) Fixed costs a	re included or	nly for new units							
(3) Includes fees	for site lease	e as well as credi	t for services and	d cooling water					

Kissimmee	Utility .	Authority							
Case							Economic		
Scenario KUA Jo	int Develop	sment without	PPA extensio	n option			CPW Discour Capital Escal	it Rate: ation Rate	8.0% 2.5%
							Base Year fo	r S	2000
Ceneration Addit	lons				2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				
							Finance		
Unit	Size	2000 Capital Cost	Construction	Year Installed	Installed Cost	Levelized Cost	;		
	(MM)	(\$1,000)	(months)	(year)	(\$1,000)	(\$1,000)	Fixed Charge	e Rate: Ind Const	11.19% 60%
Southern	21			2003.833			Finance Teri	n (yrs)	30
Joint 7FA SC	75	36.939	12	2008.417	46,242	5.175	Plant Life:		30
Joint WH 501F 1X LM 6000	1 125 36	5 74,736 5 36,778	23 8	2014 417 2019 417	110.182 60 072	12.329 6.722			
	Fuel and				Total	Total	Total	Cumulative Present	
	Energy	õ	SM.	Fees and	Production	Capital	System	Worth	·
Year	cost	Variable	Fixed <sup>2</sup>	Credits	Cost	Cost	Cost	Cost	
	(\$1,000)	(\$1.000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	67.945	4.218	0	D	72.163	0	72 163	72,163	
2001	71,138	3,968	¢	0	75,105	0	75,105	141,705	
2002	52,644	3,823	0	0	56.466	0	56,466	190.116	
2003	47,624	4,214	807	(6)	52,635	288	52,923	232.128	
2004	41,706 41 846	4.567	89 1 306	(35)	40,327	1,151	47,475	300,501	
2006	44,969	5,226	2.453	(35)	52,614	1,151	53,765	334,382	
2007	48,305	5,524	3.212	(32)	57,006	1,151	58,157	368,316	
2008	50,583	5,780	3,417	(34)	59,745	4,170	63,915 70,042	402,848	
2009	54,101 57 163	6,078 6.419	3,572 3,584	(34) (34)	63,/16 67,131	6.326	73.457	471.911	
2011	64,409	6,747	3,596	(34)	74,718	6,326	81,044	506,669	
2012	65,852	7,162	3,609	(34)	76,589	6,326	82.915	539,596	
2013	71,171	7,547	3,106	(34)	81,790	6,326	88,116	571,996	
2014	76,450	7,490	1,033	(34)	84.939	13,518	98,457	605,517	
2015	82,412	7,743	1,408	(34)	91,529	18.055	110,184	527 12E	
2010	0C0'/0 780 26	8 595	1 479	(33)	103.125	18,655	121.780	707.048	
2018	100.304	9.077	1.516	(33)	110,865	18,655	129,520	739,460	
2019	105,169	9,476	2.020	(33)	116,632	22.576	139,208	771.717	
Notes									
(2) Fixed costs	are include	id only for new	/ units						-
(3) Includes fet	es for site le	ease as well as	credit for serv	rices and coolir	ng water.				

Kissimmee	Utility	Authority							
Case				_			Economic		
Scenario Self Buil	ld KUA High F	leu					CPW Discoun Capital Escals	it Rate <sup>.</sup> ation Bate	80%
							Base Year for	\$	2000
Generation Addition	SU								
							Finance		
Unit	Size	2000 Capital Cost (\$1 000)	Construction Penod (months)	Year Installed Ivear	Installed Cost (\$1 000)	Levelized Cost (\$1 000)	Fixed Charge	Rate	11.19%
Colf Build	Contraction (Contraction)	(000,14)		1/year) 2002 222	31 458	3 520	Interest During	n Conet	8%
	5 6	36 77B	α	2003.033	014,10 45,784	5,122	Finance Term	y corrist (vre)	°, C
LM 6000	స స స	36,778	0 00	2011 417	49,304	5,517	Plant Life	6.6	3 8
LM 6000	Ж	36,778	8	2013 417	51,800	5,796			
LM 6000	ж ж	5 36.778 36.778	ω α	2016 417 2018 417	55,783 58.607	6,242 6,558			
	Fueland		r 		Total	Total	Total	Cumulative Present	
	Energy	0	&M M	Fees and	Production	Capital	System	Worth	
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1.000)	
2000	67.945	4.218	C	0	72.163	0	72.163	72.163	
2001	71.976	3.969	0	0	75,945	0	75,945	142,482	
2002	54,507	3,823	0	0	58,330	0	58,330	192,491	
2003	49,942	4,217	82	13	54,254	880	55,134	236,258	
2004	45,268	4,591	(1,037)	51	48,873	3,520	52,393	274,769	
2005	45.921	4,916	(947)	23	49,943	3,520	53,463 59,463	311,155	
2006	50,143	5,542	(857) 358	55 55	54,560 60.921	3,520	58,U8U 64,441	347,755 385.356	
2008	57,241	5,771	722	57	63,791	6,509	70,300	423,337	
2009	61,615	6'069	266	58	68,740	8,643	77,383	462,047	
2010	66,372	6,420	1,022	59	73,873	8,643	82,516	500,268	
2011	72,851	6,654	1,430	61	80,996	11,862	92,858 oo ooc	540,093	
2012	/6,031 80.385	7 308	1,/42	62 64	64,875 89,945	17 542	99,030 107 486	224'6'C	
2014	806'98	7.619	2.532	66	97,126	19,957	117,083	658,807	
2015	94,913	8,131	2,596	67	105,707	19,957	125,664	698,421	
2016	100,546	8,371	3,093	69	112,079	23,598	135,677	738,024	
2017	109,305	8,844	3,483	12	121,702	26,199	147,901	777,997	
8105	210,811	9,224	4,UZD 454 A	71 71	131,833	30,U25	0C8'   0   612 721	858 985	
Notes	21.121	000'6			576° 1 1	76-1-01		200.000	
(1) Includes star	t-up costs								
(2) Fixed costs a	are included o	nly for new units							
(3) Includes tees	s for site lease	e as well as credi	t for services and	d cooling water					

x.

Cleare         Economic         Economic           Centerintin Additions         Canter Florida High Fuel         Period         Period <td< th=""><th>Kissimmee</th><th>Utility .</th><th>Authority</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	Kissimmee	Utility .	Authority							
Secretoro         Southerm-Florida High Fuel         CPVV Discount Rate         2 5%           Generation Additons         Central Escalation Flare         2 5%           Generation Additons         Central Cost         Constituent         North         2 5%           Durit         Sus         Candia Cost         Constituent         North         2 5%           Durit         Sus         Candia         Cost         Cost         5 5%         2 5%           Description         Site 200         Site 200         Site 200         Site 200         2 5%         2 5%           Description         Site 200         Site 200         Site 200         Site 200         2 5%         2 5%           Description         Site 200         Site 200         Site 200         Site 200         2 5%           Description         Site 200         Site 200         Site 200         Site 200         2 5%           Description         Site 200         Site 200         Site 200         Site 200         Site 200 <td>Case</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Economic</td> <td></td> <td></td>	Case							Economic		
Centration Additions         Construction Vear         Finance         Finance           Umr         Zoo         Size         Construction Vear         Finance         Finance           Umr         Size         Construction Vear         Installed         (s1.000)         Finance         Finance         1113%           Join than         21         Size         Size         Size         Construction Vear         (s1.000)	Scenario Southerr	-Florida High	Fuel				<u></u>	CPW Discount Capital Escalal Base Year for '	l Rate tton Rate \$	8 0% 2 5% 2 000
Umr         Same         Z000         Construction         Year         Freaction	Generation Addition	2								
Umt         Same         Cattor         Name         Construction         Name         Construction         Name			0000	Construction	Voor	Inetallad	l avalizad	Finance		
Southern         21         2003 833         12         2003 837         12         2003 817         46.242         5175         Finance Term (vs)         20           LM 6000         36         36.778         8         2014 417         55.08         5.41         Finance Term (vs)         20           LM 6000         36         36.778         8         2014 417         55.08         5.41         Finance Term (vs)         20           LM 6000         36         36.778         8         2014 417         55.08         5.41         Finance Term (vs)         20           LM 6000         36         36.778         8         2014 417         55.08         5.41         Finant Lie         20           LM 6000         36         36.778         8         2014 417         55.07         5.52         20         20           LM 6000         36         36.779         8         2014 417         55.07         5.52         20         20           LM 6000         36         41         70at         70at         70at         70at         70at         70at         70at         70at         72.163         72.163         72.163         72.163         72.163         72.163	Unit	Size (MW)	Capital Cost (\$1.000)	Period [months]	rear Installed (year)	Cost (\$1,000)	Cost (\$1,000)	Fixed Charge	Rate.	11 19%
Junt TFA SC         78         56/33         12         2006 417         55.783         5.941 Plant Lile         30.           LM 6000         36         36.778         8         2016 417         55.783         5.242         Cumulative         30.           LM 6000         36         36.778         8         2016 417         55.783         5.242         Cumulative         30.           LM 6000         36         36.778         8         2016 417         55.783         5.242         Cumulative         30.           LM 6000         36         36.778         8         2019 417         50.071         6.526         Cumulative         30.           LM 6000         36         36.778         8         2016 417         55.783         5.242         Cumulative         30.           LM 6000         36         36.778         8         2019 417         55.361         25.261         25.261         25.261         25.261         25.261         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61         25.61	Southern	51			2003 833	10.010	c 170	Interest During Evence Term	J Const //rs)	%9 20
LM 6000         36         36,778         8         2016 417         55,783         6,242           LM 6000         36         36,778         8         2016 417         55,783         6,525           LM 6000         36         36,778         8         2019 417         56,607         5,556           LM 6000         36         36,778         8         2019 417         56,007         5,556           LM 6000         36         36,778         8         2019 417         56,007         5,556           LM 6000         36         36,778         8         2019 417         70al         70al         70al           Fuel and         Cost         Cost         Cost         70al         70al         70al           Z010         57 365         396         0         7,1976         396         0         72,163           Z000         57 365         3963         0         7,1976         396,365         73,452           Z000         57 365         5,1000         (\$1,000)         (\$1,000)         (\$1,000)         (\$2,462           Z000         57 36         3,105         (\$1,000)         (\$1,000)         (\$1,000)         (\$2,462         72,458	Joint 7FA SC	97 95	3 36,939 36,778	20	2014 417	40,242 53,095	5,941	Plant Life	leikl	30
LM 6000         36         36,778         8         2019,417         36,072         6,558           LM 6000         36,773         8         2019,417         60,072         6,558           Fuel and Energy         5,720         6,772         6,773         8         2019,417         60,072         5,728           Fuel and Energy         Cost <sup>1</sup> Variable         Frixed <sup>2</sup> Creatis         70 <i>i</i> 41         System         Worth           2000         67,945         4,218         0         7,1,976         36,1,000)         (51,000)         (51,000)         (51,000)           2000         67,945         4,219         807         (0)         7,2,163         72,16	LM 6000	క న	36,778	α	2016 417	55,783	6,242			
Total         Total         Total         Total         Total         Cumulative           Fuel and         08M         Frees and         Productor         Cast         System         Vorth           Year         Cost         Variable         Frved <sup>2</sup> Credits         System         Vorth           Year         Cost         (\$1,000)         \$1,000	LM 6000	3 3 3	5 36,778 36,778	αο α.	2018 417 2019 417	58.607 60.072	6,558 6.722			
Year         Oight         Fees and (\$1,000)         Frees and (\$1,000)         Freed 7 (\$1,000)         System         Worth (\$1,000)           2000         67,945         4,218         0         7,197         5,1000)         (\$1,000) <t< td=""><td></td><td>Final and</td><td></td><td></td><td></td><td>Total</td><td>Total</td><td>Total</td><td>Cumulative Present</td><td></td></t<>		Final and				Total	Total	Total	Cumulative Present	
Year         Cost         Cost         Cost         Cost         Cost         Cost         Cost         St.1000         (\$1,000)         (\$		Energy	Ö	8M	Fees and	Production	Capital	System	Worth	
(51,000)         (51,000)	Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
2000         67,945         4,218         0         0         72,163         72,163         72,153         72,252         72,252         72,252         72,252         72,253         74,153         74,153         74,253         74,153         74,153         74,245         74,154         72,252         72,252         72,252         72,252         72,252         72,253         74,154         72,553         74,243         74,154         74,253         74,244		(\$1,000)	(\$1,000)	(\$1.000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2001         71.976         3,969         0         75.945         142.462         142.462           2002         54,507         3,823         0         0         56,251         142.462           2003         49,946         4,219         807         (9)         54,963         288         55,251           2004         44,972         4,5199         89         (35)         51,816         1,151         23,6351           2005         45,527         4,917         1,306         (35)         57,393         1,151         52,967         309,721           2006         49,750         5,246         3,212         (35)         57,393         1,151         52,967         309,721           2007         54,463         3,212         (35)         57,393         1,151         52,967         309,721           2008         53,46         3,212         (33)         67,202         4,170         71,372         42,405           2001         67,417         3,417         (34)         77,602         63,465         42,551           2010         67,413         3,596         (34)         91,434         63,252         44,118           2011         77,603	2000	67.945	4,218	0	0	72,163	0	72,163	72,163	
2002         54,507         3,823         0         0         56,330         0         95,351           2003         49,946         4,219         807         (9)         54,963         288,340         192,441           2004         44,972         4,599         807         (9)         54,963         288,55,51         239,3453           2005         45,577         4,317         1,306         (35)         57,393         1,151         52,967         309,721           2005         5,546         3,212         (35)         57,393         1,151         52,967         309,721           2007         54,633         5,740         3,417         (35)         57,393         1,151         52,967         309,721           2007         54,63         3,212         (35)         57,393         1,151         52,867         309,721           2008         5,780         3,417         (34)         77,562         54,405         54,194           2010         67,815         3,584         (34)         77,563         63,4614         52,252           2011         77,603         6,126         3,417         (34)         77,563         64,405         54,163	2001	71,976	3,969	0	0	75,945	0	75,945	142,482	
2003         49.946         4.219         BU/         (9)         34.903         5.000         49.956         7.200         20.001         7.001 <th7< td=""><td>2002</td><td>54,507</td><td>3,823</td><td>0</td><td>0 (</td><td>58,330</td><td>0 000</td><td>58,330 66.261</td><td>192,491 236 351</td><td></td></th7<>	2002	54,507	3,823	0	0 (	58,330	0 000	58,330 66.261	192,491 236 351	
2004         45,67         4,917         1,306         (35)         51,816         1,151         52,967         309,721           2005         49,750         5,546         3,212         (35)         57,393         1,151         58,544         346,14           2007         54,530         5,546         3,212         (35)         57,393         1,151         58,544         346,14           2008         58,039         5,780         3,417         (34)         67,202         4,170         71,372         342,53           2009         6,084         3,417         (34)         67,202         4,170         71,372         42,275           2010         67,1815         6,427         3,594         (34)         91,434         6,326         42,1537           2011         77,608         6,326         3,418         501,215         42,1537           2011         77,608         6,344         34,614         501,215         541,637           2011         77,608         6,344         34,614         501,215         541,637           2011         77,608         6,344         34,91         67,202         61,418         501,215           2013         81,418 <td>2003</td> <td>49,946</td> <td>4,219</td> <td>709 89</td> <td>(a) (35)</td> <td>34,903 49,625</td> <td>1,151</td> <td>50,776</td> <td>273,673</td> <td></td>	2003	49,946	4,219	709 89	(a) (35)	34,903 49,625	1,151	50,776	273,673	
2006         49,750         5,224         2,453         (35)         57,393         1,151         58,544         346,64           2007         54,530         5,546         3,212         (33)         63,253         1,151         58,544         346,64           2008         56,033         5,780         3,417         (34)         67,202         4,170         71,55         384,194           2010         67,1815         6,427         3,584         (34)         77,792         6,326         46,225         422,255           2011         77,608         6,576         (34)         91,434         6,326         94,118         501,215           2011         77,608         6,765         3,596         (34)         91,434         6,326         94,218         501,215           2013         87,764         7,560         3,694         (34)         91,434         6,326         94,251         54,637           2014         93,665         7,165         3,694         (34)         91,434         6,326         94,251         54,637           2014         10,1,194         8,756         3,493         16,341         105,601         61,177           2014         10,1,114 </td <td>2005</td> <td>44,372</td> <td>4,917</td> <td>1,306</td> <td>(35)</td> <td>51,816</td> <td>1,151</td> <td>52,967</td> <td>309,721</td> <td></td>	2005	44,372	4,917	1,306	(35)	51,816	1,151	52,967	309,721	
2007         54,530         5,546         3,212         (35)         63,253         1,151         04,403         364,153           2008         56,039         5,780         3,417         (34)         67,202         4,170         71,372         362,53         1,151         04,403         3647           2009         63,009         6,084         3,417         (34)         67,202         4,170         71,372         4227         3572           2010         67,1815         6,427         3,594         (34)         77,792         6,326         94,251         54,637           2011         77,609         6,084         (34)         91,434         6,326         94,251         54,637           2013         87,760         3,696         (34)         91,434         6,326         94,251         54,637           2014         80,695         7,465         3,699         (34)         105,901         9,760         580,455           2015         101,194         8,365         7,165         3,694         (34)         105,901         9,760         580,455           2014         101         91,434         6,326         105,300         619,177         203,456         204,455 </td <td>2006</td> <td>49,750</td> <td>5,224</td> <td>2,453</td> <td>(32)</td> <td>57,393</td> <td>1,151</td> <td>58,544</td> <td>346.614</td> <td></td>	2006	49,750	5,224	2,453	(32)	57,393	1,151	58,544	346.614	
2008         56,039         5,700         5,417         (34)         72,530         5,326         462,222           2009         6,309         6,084         3,572         (34)         77,792         6,326         94,118         501,215           2011         77,609         6,084         3,572         (34)         91,434         6,326         94,251         541,637           2011         77,609         6,084         3,596         (34)         91,434         6,326         94,251         541,637           2011         77,609         6,084         3,596         (34)         91,434         6,326         94,251         541,637           2013         87,764         7,560         3,694         (34)         91,434         6,326         94,455           2014         93,665         7,560         3,694         (34)         105,901         9,792         115,693         69,477           2015         101,194         8,362         4,415         (34)         116,268         117,665         54,455           2014         107,160         8,676         5,415         (34)         121,004         15,903         138,912         738,415           2015         107,16	2007	54,530	5,546	3,212	(35)	63,253 £7 202	131,1	54,4U5	472.754	
2010         6,727         3,584         (34)         77,792         6,326         84,118         501,215           2011         77,608         6,755         3,596         (34)         87,925         6,326         94,251         541,637           2012         80,695         7,165         3,596         (34)         87,925         6,326         94,251         541,637           2013         87,764         7,560         3,694         (34)         91,434         6,326         97,760         580,439           2014         83,665         7,560         3,684         (34)         91,434         6,326         94,455           2014         93,665         7,560         3,684         (34)         105,901         9,792         115,693         69,455           2014         93,665         7,865         (34)         102,901         9,792         116,693         69,455           2015         107,160         8,676         5,447         (34)         121,044         18,509         136,912         738,415           2016         1107,160         8,676         5,557         (33)         130,414         18,509         148,923         778,665           2016         <	2008	58,039	007'C 1	3.572	(34)	72,630	6,326	78,956	462,252	
2011         77,608         6,755         3,596         (34)         87,925         6.326         94,251         541,637           2012         80,695         7,165         3,609         (34)         91,434         6.326         97,760         580,459           2013         87,764         7,560         3,639         (34)         91,434         6.326         97,760         580,459           2014         93,665         7,855         4,415         (34)         10,5901         9,792         115,633         658,566           2014         10,194         8,362         4,415         (34)         114,258         12,267         156,693         658,566           2015         101,194         8,362         4,776         (34)         114,258         12,267         78,415           2016         107,160         8,676         5,487         (33)         130,414         18,509         148,923         778,665           2017         115,750         9,402         5,487         (33)         130,414         18,509         148,923         778,665           2019         123,605         9,374         3,471         (33)         130,414         18,509         136,9155	2010	67,815	6,427	3.584	(34)	77,792	6,326	84,118	501,215	
Z012         B0.695         7.165         3.609         (34)         91.434         6.326         97.760         500.439           2013         B7.764         7.560         3.634         (34)         91.434         6.326         97.760         500.439           2014         93.665         7.560         3.634         (34)         105.901         9.792         115.693         65.56           2015         101,194         8.362         4.415         (34)         115.631         12.655         69.455           2016         107,160         8.676         5.201         (34)         121.04         15.908         136.912         738.415           2017         115.750         9.140         5.521         (33)         130.414         18.509         148.923         778.665           2018         123.605         9.402         5.487         (33)         130.414         18.509         148.923         778.665           2019         121.912         9.3471         (33)         130.414         22.335         160.795         818.904           2019         121.912         9.374         3.471         (33)         130.414         28.939         173.713         859.155	2011	77,608	9 6,755	3,596	(34)	87,925	6.326	94,251	541,637	
2013         87.764         7.560         3.684         (34)         95.974         6.326         103.300         0111           2014         93.665         7.850         3.684         (34)         105.901         9.792         115.693         654.566           2015         101,194         8.362         4.415         (34)         105.901         9.792         115.693         69.452           2015         107,160         8.676         5.201         (34)         121.004         15.908         36.912         738.415           2017         115.750         9.140         5.557         (33)         130.414         18.509         148.923         778.665           2018         125.3605         9.402         5.487         (33)         130.414         18.509         148.923         778.665           2019         121.912         9.374         3.471         (33)         130.414         22.335         160.795         818.904           2019         121.912         9.374         3.471         (33)         134.4124         28.939         173.713         859.155	2012	80.695	5 7,165	3,609	(34)	91,434	6,326	97,760 105,700	580,459	
2014         93.665         7.855         4.415         (34)         105.901         9.792         17.053         99.452           2015         101,194         8.362         4.736         (34)         114.258         12.657         699.452           2016         107,160         8.676         5.201         (34)         114.258         126.575         699.452           2017         115,750         9.140         5.527         (33)         130.414         18.509         148.923         778.665           2017         115,750         9.402         5.487         (33)         130.414         18.509         148.923         778.665           2019         123.605         9.402         5.487         (33)         130.414         22.335         160,795         818.904           2019         131.912         9.374         3.471         (33)         144.724         28.989         173.113         859.155	2013	87,764	t 7.560	3,684	(34)	98,974	6,326 0,700	005,601	619,111	
2015         101,194         8.362         4,736         (34)         114,200         1.200         384.15           2016         107,160         8.676         5.201         (34)         114,200         15,908         138,912         738,415           2017         115,750         9,140         5.527         (33)         130,414         18,509         148,923         778,665           2018         123,605         9,402         5.487         (33)         130,414         18,509         148,923         778,665           2019         123,605         9,407         (33)         138,416         22,335         160,795         818,904           2019         131,912         9,374         3,471         (33)         144,724         28,989         173,713         859,155	2014	93.665	5 7.855	4.415	(34)	108,801	76/16	106 505	698 452	
ZUIB         TUT, FOU         SUID         TUT, FOU         SUID         TR665           2017         115,750         9,140         5,557         (33)         130,414         18,509         149,923         778,665           2018         123,605         9,402         5,487         (33)         130,414         18,509         148,923         778,665           2018         123,605         9,402         5,487         (33)         138,461         22,335         160,795         818,904           2019         131,912         9,374         3,471         (33)         144,724         28,989         173,713         859,155           2019         131,912         9,374         3,471         (33)         144,724         28,989         173,713         859,155	2015	101,194	t 8.362	4,730 5,201	(34)	121.004	15.908	136,912	738,415	
2018         123.605         9.402         5.487         (33)         138.461         22.335         160.795         818.904           2019         121.912         9.374         3.471         (33)         144.724         28.989         173.713         859.155	2012	101,101	0140	5.557	(33)	130,414	18,509	148,923	778,665	
2019 131.912 9.374 3.471 (33) 144.724 28.989 173.713 859,155	2018	123.605	9.402	5,487	(93)	138,461	22,335	160,795	818,904	
	2019	131.912	9.374	3,471	(33)	144,724	28,989	173,713	859,155	
	(2) Fixed costs	are included	only for new units							
(2) Fixed costs are included only for new units	(3) Includes fee	is for site leas	e as well as cred	lit for services ar	nd cooling water					

Kissimmee	Utility /	Authority							
Case							Économic		
Scenario Southerr	-Florida Low	Fuel					CPW Discoun Capital Escala Base Year for	t Rate tton Rate. \$	8 0% 2 5% 2000
Generation Addition	IS								
							Finance		
Unit	Size (MW)	2000 Capital Cost (\$1,000)	Construction Period (months)	Year Installed (vear)	Installed Cost (\$1,000)	Levelized Cost (\$1,000)	Fixed Charge	Rate	11 19%
Southern	21			2003 833			Interest Durine	g Const	%9
Joint 7FA SC	78	36,939	12	2008 417	46,242	5,175	Finance Term	(yrs)	20
LM 6000	36	36,778	æ	2014 417	53,095	5,941	Plant Life		30
LM 6000	99 99 99	36,778 36,778	80 90	2016 417 2018 417	55,783 58.607	6,242 6.558			
LM 6000	36	36,778	0	2019 417	60,072	6,722			
	Fuel and				Total	Total	Total	Cumulative Present	
	Energy	Ő	&M	Fees and	Production	Capital	System	Worth	-
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1.000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	67.945	4.218	0	0	72,163	0	72,163	72,163	
2001	70,404	3,965	0	0	74,370	0	74,370	141,024	
2002	50,657	3,828	0	0	54,486	0	54,486	187,737	
2003	44,884	4,217	807	(6)	49,899	288	50,186	227,576	
2004	39,104	4,599	89	(35)	43,757	1,151	44,908	260,585	
2005	38,342	4,920	1,306	(35)	44.533	1,151	45,684	291,677	
2006	40,659	5,228	2,453	(35)	48.306 51 823	161,1	49,457 52 975	322,843	
2008	44.281	5.774	3.417	(34)	53,438	4,170	57,608	384.877	
2009	46.518	6,074	3.572	(34)	56,130	6 326	62 455	416,120	
2010	48,538	6,433	3,584	(34)	58,521	6.326	64,847	446,157	
2011	53,875	6,731	3,596	(34)	64,168	6,326	70,494	476,391	
2012	54.066	7,147	3,609	(34)	64,789	6,326	71.114	504,631	
2013	56,957	7,547	3,684	(4E)	68,154 20.104	0.320 0.700	9/4'4/9	110,250	
2014	8/2'86 922 09	CZB'/	4,410	(40) (704)	73 764	10.057	9/2/09	586 468	
2016	62.217 62.217	8.602	5.201	(34)	75,986	15,908	91,895	613,291	
2017	64,546	9,052	5,557	(33)	79,122	18,509	97,631	639,678	
2018	66,916	9,333	5,487	(33)	81,703	22,335	104,038	665.713	
2019	69,336	9,278	3,471	(33)	82,051	28,989	111,040	691,443	
Notes	ation conste								
(2) Fixed costs a	re included or	nlv for new units							
(3) Includes fees	for site lease	as well as credit	t for services and	d cooling water				-	

Class         Economic           Cases         Concertant         Self Burld KUA Low Fuel         Economic         Economic         Beset Year Int s         Beset Yea	Kissimmee	Utility	Authority							
Sterraruo         Self Buult KUA Low Fuel         CPW Discount Rate:         2           Generation Additions         Gaptal Escalation Rate:         2           Generation Additions         Capital Escalation Rate:         2           Generation Additions         Capital Escalation Rate:         2           Generation Additions         Set 78         2         2003           Juni TA SC         78         35.93         11,458         2           Set fauld         (MM)         (g1,000)         35.93         31,458         3.500         11119           Juni TA SC         78         35.93         12         2003 033         31,458         3.500         11119           Joint TA SC         78         35.93         12         2003 033         31,458         3.500         11119         2         2           Joint TA SC         78         3.500         Interest Unrup Scinst         2	Case							Economic		
Generation Additions         Construction         Veal         Finance         Finance<	Scenarro Self Buil	d KUA Low F	lei					CPW Discour Capital Escala Base Year for	rt Rate ation Rate: \$	8 0% 2.5% 2000
Unit         Sze         Construction         Vear         Installed         Lowelized         Freed Charge Flate         1119           Self Build         52.6         Canstruction         Vear         (51,000)         (51,0	Generation Addition	SL								
Unit         Size         Construction (NW)         Team         Construction (s1,000)         Team         Construction (s1,000)         Texed Charge Flate         1119           Joint/FA SC         78         56,000         [s1,000)			0000					Finance		
(IVV)         [S1,000)         [R1,000)         [S1,000)         [S1,000)         [S1,000)         [S1,000)         [S1,000]         [S1,000] <t< td=""><td>Unit</td><td>Srze</td><td>ZUUU Capital Cost</td><td>Period</td><td>r ear Installed</td><td>Cost</td><td>Cost</td><td></td><td></td><td></td></t<>	Unit	Srze	ZUUU Capital Cost	Period	r ear Installed	Cost	Cost			
Sett Build         63         5333         1,438         3,520         Finance Turne Tur		(MM)	(\$1,000)	(months)	(year)	(\$1,000)	(\$1,000)	Fixed Charge	Rate	11 19%
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Self Build	9			2003 833	31.458	3.520	Interest Uurin Finance Term	g Const · (vrs).	50 %
LM 6000         36         36.778         B         2014.412         53.089         5.941           Joint 7A SC         78         36.778         B         2014.412         55.776         6.241           Joint 7A SC         78         36.778         B         2016.412         55.776         6.241           Joint 7A SC         78         36.778         17.014         7.014         7.014         Present           Joint 7A SC         78.1000         161.000         17.014         7.014         7.014         Present           Vear         Cost         Cost         7.014         87.9500         161.000         161.000         161.000           2001 A12         55.716         0.627         7.016         7.1060         161.000         161.000           751.000         161.000         161.000         161.000         161.000         161.000         161.000           2001         70.44         3965         0.601         161.000         161.000         161.000         161.000           2002         57.160         161.000         161.000         161.000         161.000         161.000         161.000           2001         161.0107         161.000         161.000	Joint 7FA SC	1 82	3 36.939	12	2008.417	46,242	5,175	Plant Life		30
Contrived         Fuel and cost         Cost cost	LM 6000 LM 6000		36,778 36,778	ဆဆင္	2014 412 2016 412 2019 412	53,089 55,776 50,107	5,941 6,241 6,241			
Fuel and Energy         Cost (\$1,000)         Total (\$1,000)         Present (\$1,000)         Presen (\$1,000)         Presen (\$1,000)	201111112			2	214,0102	101.00	0,00		Cumulative	
Year         Cost (\$1,000)         Variable (\$1,000)         Fixed <sup>2</sup> (\$1,000)         Creatis (\$1,000)         Cost (\$1,000)         Cost (		Fuel and			Eege and	Total Production	Total	Total	Present	
Total         (\$1,000) <t< td=""><td>Voor</td><td></td><td></td><td>Calvi Fived <sup>2</sup></td><td></td><td>Cost</td><td>Capriar Cost</td><td>Cost</td><td>Cost</td><td></td></t<>	Voor			Calvi Fived <sup>2</sup>		Cost	Capriar Cost	Cost	Cost	
2000         67.945         4.218         0         7         7.163         7.2,163		(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000         70,404         3,965         0         74,370         0         74,370         141,024           2002         50,657         3,828         0         0         54,486         0         54,486         187,737           2003         44,861         4,214         82         13         49,170         880         56,050         227,467           2004         38,542         4,2924         (1,037)         51         42,903         3,520         46,092         292,960           2005         43,562         5,523         (857)         54         45,382         3,520         46,092         229,60           2006         43,168         5,523         (857)         54         45,382         3,520         46,692         245,571           2007         43,188         5,573         55,949         6,539         57,488         385,571           2008         44,552         5,770         570         55,949         6,539         57,488         385,571           2001         54,271         730         556         49,156         6,539         57,488         385,571           2011         54,717         749         56         49,156 <t< td=""><td>UUUC</td><td>67 945</td><td>A 17 A</td><td>c</td><td>C</td><td>72 163</td><td>C</td><td>72.163</td><td>72.163</td><td></td></t<>	UUUC	67 945	A 17 A	c	C	72 163	C	72.163	72.163	
2002         50,657         3,828         0         0         54,486         0         54,486         187,737           2003         44,861         4,214         82         13         49,170         880         50,050         227,467           2004         39,233         4,566         (1,037)         51         42,903         3,520         46,092         292,600           2005         39,542         4,924         (947)         53         42,572         3,520         46,092         292,600           2006         40,963         5,523         (857)         54         45,382         3,520         46,092         292,600           2007         43,168         5,573         54,43         385,571         552,43         385,571         552,653         55,571         552,653         55,571         27,488         385,571           2008         44,552         5,770         570         553         55,463         57,71         71,47         730         55,945         55,463         55,571         54,512         26,456         27,466         27,466         27,466         27,466         27,466         27,467         26,453         25,453         25,453         25,571         27,56<	2001	70.404	3,965	0	0	74,370	0	74,370	141,024	
2003         44.861         4.214         82         13         49.170         880         50.050         227,467           2004         39.203         4.566         (1.037)         51         42.903         3.520         46.423         281,590           2005         39.542         4.924         (947)         53         42.572         3.520         46.092         29260           2006         40.963         5.223         (857)         54         45.382         3.570         46.092         292.600           2007         43.196         5.523         3557         55         49.572         3.520         46.092         292.600           2008         44.552         5.770         570         57         50.949         6.539         57.488         385.71           2009         46.603         6.071         730         55         55.945         56.467         56.95         35.716           2010         54.017         7.49         56         55.945         55.716         36.571         27.68         26.657         36.571           2011         730         57.218         8.695         6.7467         76.768         76.652         56.457         36.571 <td>2002</td> <td>50,657</td> <td>3,828</td> <td>0</td> <td>0</td> <td>54,486</td> <td>0</td> <td>54,486</td> <td>187,737</td> <td></td>	2002	50,657	3,828	0	0	54,486	0	54,486	187,737	
2004         39,203         4,566         (1,037)         51         42,903         3,520         46,423         261,590           2005         38,542         4,924         (947)         53         42,572         3,520         46,423         261,590           2006         40,963         5,543         3657)         54         45,382         3,520         46,092         292,960           2007         43,196         5,573         3543         3657)         54         45,552         3,571         8695         57,488         385,571           2009         46,603         6,071         730         57         50,949         6,539         57,488         385,571           2010         54,017         6,733         767         61         61,578         8,695         74,655         354,571           2011         54,217         7,147         709         59         55,997         86,95         74,655         352,716           2013         54,217         7,147         749         59         55,9459         76,655         54,957         364,571         76,768         20,965         76,552         364,571         76,768         76,758         76,768         76,758	2003	44,861	4,214	82	13	49,170	880	50,050	227,467	
2000         40.965         5.223         (857)         5.4         45.322         46.902         323.776           2006         40.965         5.543         358         55         49.155         3.520         48.902         323.776           2007         43.196         5.543         358         55         49.155         3.520         48.902         323.776           2008         44.552         5.770         570         57         50.949         6.539         57.488         385.571           2009         46.603         6.071         7.30         58         53.463         6.539         57.488         385.571           2010         54.277         7.147         730         58         53.463         6.539         57.486         385.571           2011         54.277         7.147         749         59         56.665         54.512         50.4950           2012         54.277         7.147         766         61         65.628         8.695         70.273         446.630           2013         57.211         7.547         806         66         65.628         8.695         70.223         53.2276           2013         57.211	2004	39,293 39,547	4.596	(1,037)	51 53	42,903	3,520 3,520	46,423 46.092	261,590	
2007         43 198         5,543         358         55         49,155         3,520         52,675         354,512           2008         44,552         5,770         570         57         50,949         6,539         57,488         385,571           2009         46,603         6,071         730         58         53,463         6,573         354,512           2010         46,603         6,071         730         58         53,463         6,571         416,665           2011         54,717         7,147         706         51         61,578         8,695         64,632         446,630           2011         54,277         7,147         706         62         62,578         8,695         70,373         476,768           2013         57,211         7,547         806         64         65,628         8,695         74,322         532,278           2014         58,571         7,885         1,238         6,955         74,322         532,278           2015         60,392         8,302         1,567         67         70,875         12,160         73,322         532,278           2016         60,328         6,695         74,322	2006	40,963	5.223	(857)	5.42	45,382	3,520	48,902	323,776	
2008         44,552         5,770         570         57         50,949         6,539         57,488         385,571           2009         46,603         6,071         730         58         53,463         6,539         57,488         385,571           2010         48,756         6,071         730         58         53,463         6,559         57,488         385,571           2011         54,017         6,431         749         59         55,997         8,695         6,027         476,768           2013         57,211         7,147         786         61         61,578         8,695         70,273         476,768           2013         57,211         7,547         806         62         62,272         8,695         70,373         50,950           2014         58,507         7,865         1,277         8,695         74,322         532,278           2014         58,567         66         67,675         12,160         79,325         559,459           2015         60,329         8,302         1,567         67         67         67         67         67         67         67         66         67         67         66 <t< td=""><td>2007</td><td>43.198</td><td>5,543</td><td>358</td><td>55</td><td>49,155</td><td>3,520</td><td>52,675</td><td>354,512</td><td></td></t<>	2007	43.198	5,543	358	55	49,155	3,520	52,675	354,512	
2009         46,603         6,071         730         58         53,463         6,695         62,157         416,665           2010         54,76         6,431         749         55         55,997         8,695         6,692         446,630           2011         54,277         7,147         786         61         61,578         8,695         64,692         446,630           2012         54,277         7,147         786         62         62,528         8,695         70,373         476,768           2013         57,211         7,547         806         64         65,628         8,695         74,322         532,278           2014         58,567         7,865         1,277         8,695         74,322         532,278           2014         58,567         7,865         1,267         67         70,865         18,500         386,412           2015         60,929         8,302         1,567         67         70,865         18,500         386,412           2016         62,365         8,695         74,322         539,459         2074           2016         64,761         9,043         2,031         67,675         12,160         73,315 <td>2008</td> <td>44,552</td> <td>5,770</td> <td>570</td> <td>57</td> <td>50,949</td> <td>6,539</td> <td>57,488</td> <td>385,571</td> <td></td>	2008	44,552	5,770	570	57	50,949	6,539	57,488	385,571	
2010         54,700         677         61         61,578         8,695         70,273         476,768           2011         54,277         7,147         786         61,578         8,695         70,273         476,768           2012         54,277         7,147         786         62         62,272         8,695         70,273         476,768           2013         57,211         7,547         806         64         65,628         8,695         74,322         532,278           2014         59,547         7,824         1,238         66         67,675         12,160         79,835         559,459           2015         60,929         8,302         1,567         67         70,865         18,6412         533,074           2016         62,365         8,695         73,065         18,276         91,341         613,074           2017         64,761         9,043         2,702         71         76,376         86,476         653,074           2016         64,761         9,043         2,721         72         81,412         633,074           2017         64,761         9,043         2,721         72         81,470         106,187         659	2009	46,603	6,071 6,424	740	58	53,463 55,007	8,695 8,695	62,157 64 692	416,665 446,630	
2012         54,277         7,147         786         62         62,272         8,695         70,967         504,950           2013         57,211         7,547         806         64         65,628         8,695         74,322         532,278           2014         59,547         7,824         1,238         66         67,675         12,160         79,335         559,459           2015         60,929         8,302         1,567         67         70,865         14,635         86,412           2016         60,929         8,302         1,567         67         70,865         18,276         91,341         613,074           2017         64,761         9,043         2,003         69         73,065         18,276         91,341         613,074           2018         69,170         9,453         2,702         71         76,277         20,877         91,315         659,905           2019         72,977         9,455         2,977         74         85,973         27,500         113,472         665,905           2019         72,977         9,455         2,977         74         85,973         27,500         113,472         692,198	2011	54.017	6.733	292	9.6	61,578	8,695	70,273	476,768	
2013         57,211         7,547         806         64         65.628         8,695         74,322         532.278           2014         59,547         7,824         1,238         66         67,675         12,160         79,835         559,459           2015         60,929         8,302         1,567         67         70,865         14,635         86,412           2016         60,929         8,302         1,567         67         70,865         18,276         91,341         613,074           2017         64,761         9,043         2,2038         69         73,065         18,276         97,157         653,074           2017         64,770         9,043         2,702         71         76,177         20,877         97,157         653,903           2018         69,170         9,455         2,721         72         81,477         20,877         655,905           2019         72,977         9,455         2,977         74         85,973         27,500         113,472         659,905	2012	54,277	7,147	786	62	62,272	8,695	70,967	504,950	
2014         59,547         7,824         1,238         66         67,675         12,160         79,835         559,459           2015         60,929         8,302         1,567         67         70,865         14,635         86,500         586,412           2016         62,365         8,592         2,038         69         73,065         18,276         91,341         613,074           2017         64,761         9,043         2,203         69         73,065         18,276         91,515         639,331           2017         64,771         9,043         2,7402         71         76,877         20,187         665,903           2018         69,170         9,453         2,721         72         81,447         20,877         665,905           2019         72,977         9,455         2,977         74         85,973         27,500         113,472         665,905           2018         72,977         9,455         2,977         74         85,973         27,500         113,472         692,198	2013	57,211	7,547	806	64	65,628	8,695	74,322	532,278	
2015         60.929         8.302         1.567         61         /0.865         14,635         65,500         366,412           2016         62,365         8,592         2,038         69         73,065         18,276         91,341         613,074           2017         64,761         9,043         2,402         71         7         78,277         20,175         659,903           2018         69,170         9,483         2,721         72         81,447         24,740         106,187         655,905           2019         72,977         9,453         2,721         72         81,447         24,740         106,187         655,905           2019         72,977         9,455         2,977         74         85,973         27,500         113,472         692,198	2014	58,547	7,824	1,238	99	67,675	12,160	79,835	559,459	
2010         64,701         9,032         2,000         0,032         2,000         0,031         0,033         0,034 <th< td=""><td>2015</td><td>60,929 62 365</td><td>8,302 8,502</td><td>1,36,1 2,038</td><td>/9 9</td><td>C08,U/ 73,065</td><td>14,035</td><td>91,341</td><td>513.074</td><td></td></th<>	2015	60,929 62 365	8,302 8,502	1,36,1 2,038	/9 9	C08,U/ 73,065	14,035	91,341	513.074	
2016         69,170         9,483         2,721         72         81,447         24,740         106,187         665,905           2019         72,977         9,945         2,977         74         85,973         27,500         113,472         692,198	2012	64.761	9.043	2.402	5 F	76.277	20.877	97,153	639,331	
2019 72.977 9.945 2.977 74 85.973 27,500 113,472 692,198	2018	69,170	9,483	2,721	72	81,447	24,740	106,187	665,905	
	2019	72,977	9,945	2,977	74	85,973	27,500	113,472	692,198	
	(2) Includes fees	are included o s for site lease	nry tor new units as well as credi	t for services and	d cooling water					

Clase         Economic           Case         Cervi Olicocuri Faio           Scenario Sourinen-Florida AEO         Economic           Generation Additors         Economic           Case         Conomic           Generation Additors         2000           Unit         Base           Sourisen-Florida AEO         Constitution           Unit         Base           Sourisen-Florida         Economic           Unit         Base           Sourisen         2000           Unit         Base           Distributed         Locat           Unit         Base           Distributed         Locat           Unit         Base           Distributed         Locat           Unit         Base           Unit         Base           Unit         Base           Unit         Bas	
Class         Economic           Scenario Southern-Florida AEO         Scenario Southern-Florida AEO         Economic         Economic           Scenario Southern-Florida AEO         Scenario Southern-Florida AEO         Economic         Economic         Economic           Generation Southern-Florida AEO         Base Yaar 10; S         Economic         Economic         Economic           Generation Southern-Florida AEO         2000         Const         Economic         Economic         Economic           Generation Additoris         2000         260         Const         Economic         Economic           Generation Additoris         2000         26         Const         Economic         Economic           Southern         21         2000         1         Economic         Economic         Economic           Southern         21         2000         26         261         Froit Arrai         Economic           Southern         21         2003         261 417         261 417         261 417         261 417           Live floor         36         367 78         8         2019 417         551 73         511 71         713           Live floor         36         367 78         8         2019 417         5007	
Serrario         Sourtem: Florida AED         CPW Discourt Researcher           Generation Additions         CPM Discourt Researcher         CPW Discourt Researcher           Generation Additions         2000         Sea 778         Eventsoon           Mint         Size         Construction         Near         Eventsoon           Mint         Size         Construction         Near         Eventsoon           Mint         Size         Construction         Near         Near         Eventsoon           Mint         Size         Construction         Near         Near         Construction         Near           Mint         Size         Size         Size         Size         Size         Construction         Near         Construction         Near         Near         Construction         Near	onomic
Generation Additions         Ease Year for \$           Generation Additions         2000           Unit         3rsa           Southern         21           Fuel         21           Monoo         36           Southern         201           Live dool         36           Southern         20 <td>W Discount Rate. pital Escalation Rate</td>	W Discount Rate. pital Escalation Rate
Generation Additions         Construction         Year         France         France           Unit         Size         2000         (51,100)         (51,100)         (51,100)         (51,100)           Jum TFA SC         23         57.73         56.933         12         2006         Freat Charge Flate           Jum TFA SC         70         56.933         12         2006         (51,100)         (51,100)         (51,100)           Jum TFA SC         73         56.933         12         2006         12         2006         (71)           Jum TFA SC         73         56.933         12         2006         141         55.783         6.242         5.175         Flatence           Jum 6000         36         36.778         8         2014.417         55.783         6.242         70m         70m           Jum 6000         36         77.783         6.725         6.175         70m         70m         70m         70m           Jum 6000         36         7.763         6.725         6.175         70m         <	se Year for \$
Definition         Construction         Year         Installed         Level Charge frage           Unt         Size         2000         55 33         213         2000         Freat Charge frage           Unt         Size         2000         55 33         217.5         Construction         Netalled         Levelized           Joint/TA.S.C         70         55 333         2016 417         55.05         5.415         France           Joint/TA.S.C         70         55.783         5.415         France         France           Joint/TA.S.C         36         35.778         8         2016 417         55.783         5.42         Dring Con           Joint/TA.S.C         36         35.778         8         2016 417         55.783         5.42         Dring Con           Joint/TA.S.C         36         35.778         8         2016 417         55.783         5.41         Dring Con           Joint/TA.S.C         36         35.778         8         2016 417         55.783         5.41         Dring Con           Joint/TA.S.C         0000         36         37.781         5.781         6.722         5.42         Dring Con           Joint/TA.S.C         00016         55	
Unt         State         2000         Construction         Year         Circlicate         Construction         Year         Construction         State         Circlicate         Construction         Year         Construction         Construction <thconstruction<< td=""><td>ance</td></thconstruction<<>	ance
Southern         21         2003 833         45.242         Finance Term (yrs)           Juni /FA SC         70         36.339         12         2016 417         55.783         65.41         Finance Term (yrs)           Juni /FA SC         70         36.778         8         2016 417         55.783         6.242         Finance Term (yrs)           LM 6000         36         36.778         8         2016 417         55.783         6.242         Finance Term (yrs)           LM 6000         36         36.778         8         2016 417         55.783         6.242         Cum (yrs)           LM 6000         36         7728         8         2016 417         55.783         6.242         Cum (yrs)           LM 6000         36         7728         8         2016 417         55.783         6.242         Cum (yrs)           LM 6000         36         7714         7044         7044         7044         Print Life         Print Life         Print Life         Cum         Print Life	ed Charge Rate 11.1
LM 6000         36         36.778         8         2014 417         53.085         5.341         Plant Lufe           LM 6000         36         36.778         8         2016 417         55.783         6.242         Plant Lufe           LM 6000         36         36.778         8         2016 417         55.783         6.242         Plant Lufe           LM 6000         36         36.778         8         2019 417         56.783         6.722         Cum           LM 6000         36         36.778         8         2019 417         56.783         6.722         Cum           Fereigy         Varrable         O&M         Park         Cost         Cost         Cost         Cum           2000         49 846         4.217         0         0         54.063         59481         Production         Cost         Cost <td< td=""><td>erest During Const 6% lance Term (yrs)</td></td<>	erest During Const 6% lance Term (yrs)
LM 6000         36         35.778         8         2016 417         55.783         6.242           LM 6000         36         35.778         8         2016 417         56.607         6.556           LM 6000         36         35.778         8         2016 417         56.607         6.556           LM 6000         36         35.778         8         2016 417         56.607         6.556           Rerery         Cost         0.000         0.01         (\$1,000)         0.01         (\$1,000)         (\$1,0100)	ant Life 30
LM 6000         36         35.778         8         2019 417         60.072         6.722         Lotal         Free           Fuel and Energy         Fuel and Energy         Evel and Energy         0.8         Total         Total         Total         Free           7         Cost	
Fuel and Energy         Cost (\$1,000)         Cost (\$1,000)         Total (\$1,000)         Total (\$1,000) <tht>Total (\$1,000)         Total (</tht>	Cumulative
Year         Cost         Vaniable         Fixed <sup>2</sup> Credits <sup>3</sup> Cost         Cost <thcost< th=""> <thcost< th=""> <thcost< th=""></thcost<></thcost<></thcost<>	Total Present System Worth
2000         49,846         4,217         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         26,078         1151         54,077         22           2003         42,769         46,179         0         0         46,179         0         48,077         2           2004         46,419         4,925         1,306         (35)         57,276         1,151         53,768         2         3         7         3	Cost Cost (\$1.000) (\$1.000)
2000         49.846         4,217         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,063         0         54,053         0         54,053         0         54,053         0         54,053         0         54,053         0         54,053         0         24,179         0         0         46,179         0         46,179         0         46,179         0         42,078         1807         19,077         12         2007         25,556         5,537         807         19,077         12         24,077         23,169         5,557         13,517         63,768         24,77         23,768         24,77         23,768         23,768         23,768         23,768         23,768         23,768         23,768         24,772         24,772         24,772         24,772         24,772 <th< td=""><td></td></th<>	
2001 $42.158$ $4.021$ $0$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $46.179$ $0$ $42.078$ $1$ $1151$ $53.078$ $1$ $1151$ $53.078$ $2$ $20077$ $1$ $1151$ $53.078$ $2$ $24.077$ $1$ $1151$ $53.078$ $2$ $24.077$ $1$ $1151$ $53.078$ $23.077$ $1$ $1151$ $53.078$ $23.077$ $23.075$ $23.075$ $1151$ $53.078$ $23.077$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.077$ $23.075$ $23.075$ $23.077$ $23.075$ $23.077$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.075$ $23.056$ $23.076$ $23.056$ $23.076$ $23.056$ $23.076$ $23.076$ $23.0$	54,063 54,063
2002         38.243         3.835         0         0         47,789         288         48.077         2           2003         42,769         4,926         1,306         4,3789         288         48.077         2           2005         44,19         4,926         1,306         (35)         57,276         1,151         53,768         2           2006         49,620         5,557         3,212         (35)         57,276         1,151         53,768         2           2008         55,556         5,787         3,212         (35)         57,276         1,151         53,768         3           2009         59,360         6,091         3,512         3,514         3         53,768         3,5154         3           2010         55,556         5,787         3,212         (35)         57,276         1,170         68.896         3           2011         70,737         6,769         3,512         3,566         (34)         6,326         79,304         4           2012         70,737         6,769         3,566         (34)         84,726         170         6           2013         76,791         6,706         6,326	46,179 96,821
2004         43 664         4 602         89         (35)         48.320         1.151         59.471         2           2005         46,419         4,926         1,306         (35)         55.617         1.151         53.768         2           2006         49,620         5,537         2,453         (35)         57.276         1.151         53.768         2           2007         55,556         5,787         3,417         (35)         57.276         1,170         68.966         3           2008         55,556         5,787         3,417         (34)         64.726         4,170         68.896         3         54.27         2           2009         55,556         5,787         3,417         (34)         64.726         4,170         68.896         3         54.27         2           2001         72,909         6,091         3,512         3,512         (34)         75,314         3           2011         70,737         6,769         3,569         3,417         (24)         72,805         6,326         97,394           2012         72,906         73,418         3,569         3,415         (34)         92,557         9,7326	48,077 171,061
2005         46,419         4,926         1,306         (35)         52,617         1,151         53,768         2           2006         49,620         5,537         2,453         (35)         57,276         1,151         53,768         2           2008         55,556         5,787         3,212         (35)         57,276         1,151         53,768         3           2008         55,556         5,787         3,212         (35)         57,276         1,151         53,768         3           2009         59,360         6,091         3,526         5,787         3,417         (35)         57,276         1,151         58,427         2           2009         59,360         6,091         3,526         (3,4)         64,726         4,170         68,896         3           2011         70,737         6,769         3,584         (3,4)         72,805         6,326         75,314         3           2012         75,71         0,341         72,805         6,326         9,343         7         7,326         89,130         6,326         94,343           2012         76,71         7,530         93,018         6,2200         6,326         94,34	49,471 207,424
2006         49.620         5.23/         2.453         2.453         2.453         0.57         0.57         0.57         0.57         0.57         0.57         0.57         0.57         0.57         0.51         0.57         0.57         0.51         0.57         0.51         0.57         0.51	53,768 244,018 59,477 290,827
200         5.556         5.787         3.417         (34)         6.4,726         4,170         68,896         3           2008         55,556         5,787         3,417         (34)         64,726         4,170         68,896         3           2009         59,560         6,091         3,572         (34)         64,726         4,170         68,896         3           2010         62,822         6,433         3,556         (34)         81,068         6,326         79,130         4           2011         70,737         6.769         3,556         (34)         81,068         6,326         79,130         4           2012         72,805         6,743         3,556         7,415         (34)         81,068         6,326         94,343         5           2013         76,791         7,577         3,569         (34)         82,000         6,326         94,343         5           2014         80,288         7,879         94,415         (34)         82,600         6,326         94,343         5           2015         85,229         8,642         7,876         110,56         102,498         118,357         2         2         2,722	63,154 317,687
2009         59,360         6,091         3,572         (34)         68,968         6,326         75,314         3           2010         E2,822         6,433         3,584         (34)         72,805         6,326         79,130         4           2011         70,737         6,769         3,584         (34)         72,805         6,326         79,130         4           2012         72,045         7,180         3,566         (34)         81,068         6,326         79,130         4           2012         72,045         7,180         3,566         (34)         81,068         6,326         94,343         6           2013         76,791         7,577         3,684         (34)         92,557         9,4343         5           2015         88,039         8,612         8,415         (34)         92,267         10,2349         5           2015         88,539         8,642         5,201         (34)         102,448         15,908         118,357         6           2016         88,03         9,099         5,557         (33)         103,426         10,569         6         7           2016         93,355         9,099	68,896 354,909
2010       62,822       6,433       3,534       (34)       7,200       5,220       77,100         2011       70,737       6,769       3,596       (34)       81,068       6,326       91,26       534,30         2012       72,045       7,180       3,609       (34)       81,068       6,326       94,443       5         2014       80,298       7,180       3,684       (34)       92,557       9,792       102,349       5         2015       85,229       8,365       4,415       (34)       92,557       9,792       102,349       5         2015       85,229       8,642       5,201       (34)       92,557       9,792       102,349       5         2016       88,639       8,642       5,201       (34)       92,557       9,792       102,349       5         2016       88,639       8,642       5,201       (34)       92,557       9,792       12,968       116,357       6         2016       98,673       9,099       5,557       (33)       113,726       22,335       136,061       7         2019       104,493       9,376       3,471       (33)       113,727       28,989       146,	75,314 392,585
2011       72,045       7,100       3,509       (34)       82,800       6,326       89,126       5         2012       76,791       7,577       3,694       (34)       82,800       6,326       94,343       5         2013       76,791       7,879       7,879       7,879       7,879       9,792       102,349       5         2014       80,296       7,879       7,879       4,415       (34)       92,557       9,792       102,349       5         2015       85,229       8,365       9,365       4,715       (34)       96,296       12,267       110,563       6         2016       88,639       8,642       5,201       (34)       96,296       12,267       110,563       6         2016       98,635       9,099       5,201       (34)       102,448       15,908       118,357       6         2017       93,835       9,099       5,557       (33)       113,726       22,335       136,061       7         2019       104,493       9,376       3,471       (33)       117,307       28,989       146,296       7	87,394 466,719
2013         76,791         7,577         3.684         (34)         88,018         6,326         94,343         5           2014         80,298         7,879         4,415         (34)         92,557         9,792         102,349         5           2015         85,229         8,365         4,716         (34)         92,557         9,792         102,349         5           2016         88,639         8,642         5,201         (34)         98,296         12,267         110,563         6           2017         93,835         9.099         5,557         (33)         102,448         15,908         118,357         6           2018         98,873         9,399         5,557         (33)         113,726         22,335         136,061         7           2019         104,493         9,376         3,471         (33)         117,307         28,989         146,296         1	89,126 502,112
2014         80,298         7.879         4,415         (34)         92.557         9,792         102,349         5           2015         85,229         8,365         4,736         (34)         98,296         12,267         110,563         6           2016         88,639         8,642         5,201         (34)         98,296         12,267         110,563         6           2016         88,639         8,642         5,201         (34)         102,448         15,908         118,357         6           2017         93,835         9,099         5,557         (33)         108,458         18,509         126,967         6           2018         98,873         9,399         5,5487         (33)         113,726         22,335         136,061         7           2019         104,493         9,376         3,471         (33)         117,307         28,989         146,296         1	94,343 536,802
2015         85,229         8,365         4,730         (34)         102,448         15,908         118,357         6           2016         88,639         8,642         5,201         (34)         102,448         15,908         118,357         6           2017         93,835         9.099         5,557         (33)         108,458         18,509         126,967         6           2018         98,873         9,399         5,487         (33)         113,726         22,335         136,061         7           2019         104,493         9,376         3,471         (33)         117,307         28,989         146,296         7	102,349 5/1,548
ZU10     00.003     0.042     0.042     0.042       2017     93,835     9.099     5,557     (33)     108,458     18,509     126,967     7       2018     98,873     9,399     5,487     (33)     113,726     22,335     136,061     7       2019     104,493     9,376     3,471     (33)     117,307     28,989     146,296     7	118.357 641.050
2018         98.873         9.399         5.487         (33)         113,726         22,335         136.061         7           2019         104,493         9.376         3.471         (33)         117,307         28,989         146.296         7	126,967 675,365
2019 104,493 9,376 3,471 (33) 117,307 28,989 146,296 7	136.061 709,414
	146,296 743,312
Notes (1) Includes start-up costs. (2) Fixed costs are included only for new units	
(3) Includes fees for site lease as well as credit for services and cooling water	

Kissimmee	Utility .	Authority							
Case							Economic		
Scenario Self Buil	d KUA AEO						CPW Discour Capital Escala Base Year for	it Rate ation Rate \$	8 0% 2 5% 2000
Generation Addition	S								
							Finance		
Unit	Size (MW)	2000 Capital Cost (\$1,000)	Construction Period (months)	Year Installed (year)	Installed Cost (\$1,000)	Levelized Cost (\$1,000)	Fixed Charge	Rate <sup>.</sup>	11 19%
							Interest During	g Const	6% 9
Self Build	63 78	36.939	10	2003 833 2008 417	31,458 46.242	3.520	Plant Life	(yrs)	 R 8
LM 6000 LM 6000	36.36	36.778	ισο	2014 412 2016 412	53,089 55,776	5,941			
Joint 7FA SC	78	36,939	5	2018 412	59,187	6,623			
	Fuel and				Total	Total	Total	Cumulative Present	
	Energy	0	ßM	Fees and	Production	Capital	System	Worth	
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cast	Cost	Cost	Cost	
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	49,846	4,217	0	0	54,063	0	54,063	54,063	
2001	42,158	4,021	0	0	46,179	0	46,179	96,821	
2002	38,243	3,835	0	0	42,078	0	42,078	132.896	
2003	42,818	4,220	82 14 032)	13	47,133	880 3 520	48,013 50 841	010,171 208,380	
2005	43,700 46,687	4,601	(750,11) (947)	53	47,321 50,721	3,520	54,241	245,296	
2006	49,768	5,238	(857)	54	54,203	3,520	57,723	281,671	
2007	53,488	5,559	358	55	59,461	3.520	62,981	318,420	
2008	56,054 50 5 6 5	5,785 6 0 0 0	5/0	5/ 28	62,465 66,461	6,539 8,605	55,156	107,005 393,297	
2010	63,108	6,432	749	69	70,348	8,695	79,042	429,909	
2011	70,895	6,767	767	61	78,490	8,695	87,185	467,301	
2012	72,362	7,181	786	62	80,392	8,695	89,086	502,679	
2013	77,121	7,579	806	64	85,570	8,695	94,265	537,340	-
2014	80.614 or 500	7,876	1,238	66	89,794 95 540	12,160	101,954	572.051 606.776	
2015	22C.CD AR A75	0,000 8,631	2038	/9	90'0'9 00 614	18.276	117.890	641.187	
2017	94.329	9.092	2.402	27	105.894	20,877	126,771	675,449	
2018	102,742	9,562	2,721	72	115,098	24,740	139,838	710,444	
2019	110,345	10,047	2,977	74	123,442	27,500	150,942	745,419	
Notes (1) Includes star	tun costs								
(2) Fixed costs a	are included or	nlv for new units							
(3) includes fees	s for site lease	e as well as credi	t for services and	d cooling water	5				

Kissimmee	Utility	Authority							
Case							Economic		
Scenario Southeri	n-Florida 200	0 + AEO					CPW Discoun Capital Escala	t Rate ttion Rate	8 0% 2.5%
							Base Year for	φ	2000
Generation Addition	s								
							Finance		
Unit	Size	2000 Capital Cost	Construction	Year Instailed	Installed Cost	Levelized Cost			
	(MM)	(\$1.000)	(months)	(year)	(\$1,000)	(\$1.000)	Fixed Charge	Rate	11 19%
Southern	÷ ÷	1 128 201	67	2003 833	167 486	18 742	Interest Durinç Finance Term	g Const (vrs)	%9 20
LM 6000	3 <u>7</u>	6 36,778	9 60 t	2017 417	57,178	6.398	Plant Life.	12.6	3 6
Joint 7FA SC	ĸ	0 36,939	12	2019 417	60,674	6,789			
	Fuel and				Total	Total	Total	Cumulative Present	
	Energy	õ	3M	Fees and	Production	Capital	System	Worth	
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	68,741	4,217	0	0	72,958	0	72,958	72,958	
2001	60,154	4,007	0	0	64,161	0	64,161	132,366	
2002	55,784	3,836	0	0	59.619	0	59,619	183,480	
2003	62,586	4,227	807	(6)	67,611 60,110	288	67,899 70.971	237.380	
2005	64,463 68.896	4,603	1.306	(35) (35)	75,099	1,151	76,250	340,926	
2006	73,407	5,238	2,453	(35)	81,064	1,151	82,215	392,736	
2007	78,996	5,558	3,212	(35)	87.731	1,151	88,883 of 011	444,598	
2008	74,221	6.735	4,343 5,191	(34) (34)	84.730 87.004	12,064	90,014 106,897	550,378	
2010	78,743	7,138	5,244	(34)	91,091	19,893	110,984	601,785	
2011	86,566	7,464	5,298	(34)	99,293	19,893	119,186	652,902	
2012	88,577	7,895	5,353	(34)	101.791	19,893	121,684 128.605	748 512	
2013	94,930 101 926	8.705	5.835	(34)	116,432	19,893	136,325	794,925	
2015	109,103	9,203	5,894	(34)	124,167	19.893	144,060	840,339	
2016	116,879	9,698	5,956	(34)	132,499	19,893	152,392	884,821	
2017	124,153	10,113	6,461 6 200	(33)	140,694 150 512	23.625 26 291	164,319 176,803	929,231	
2019 2019	133,037	11,071	3,754	(33)	161,205	30,252	191,457	1,017,839	
Notes						İ			
(1) Includes star	t-up costs vio included o	why for new units							
(3) Includes fees	s for site least	e as well as credit	for services and	d cooling water					

Kissimmee	Utility	Authority							
Case							Economic		
Scenario Self Buil	4 KUA 2000 -	+ AEO		Γ			CPW Discoun	it Rate	8 0%
							Capital Escal: Base Year for	ation Rate \$	2.5%
Generation Addition	5							5	
							Finance		
Unit	Size	2000 Capital Cost	Construction Period	Year Installed	Installed Cost	Levelized Cost			
	(MM)	(\$1,000)	(months)	(year)	(\$1,000)	(\$1,000)	Fixed Charge	Hate:	11 19%
Sett Build	69			2003 833	31.458	3.520	Finance Term	g Const (vrs)	<b>6</b> %
Joint 7FA SC	32	36,939	12	2008 417	46,242	5,175	Plant Life		8
LM 6000	Ř	36,778	8	2014 412	53,089	5,941			
LM 6000 Joint 7FA SC	35	5 36,778 36.939	8 12	2016 412 2018 412	55.776 59.187	6,241 6,623			
	Fuel and				Total	Total	Total	Cumulative Present	
-	Energy	0	\&M	Fees and	Production	Capital	System	Worth	
Year	Cost	Variable	Fixed <sup>2</sup>	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	-
	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1.000)	(\$1,000)	(\$1,000)	
2000	68.741	4,217	Ö	0	72,958	Ð	72,958	72,958	-
2001	60,154	4,007	0	0	64,161	0	64,161	132,366	
2002	55.784	3.836	0	0	59,619	0	59,619	183,480	
2003	62.574 e4 e70	4.226	82	13	66,895 cu 100	980 3 5 2 0	67,775 74 700	237,282	
2005	69,146	4,928	(1947)	2.0	73,180	3,520	76,700	342,191	
2006	73,689	5,240	(857)	54	78,126	3,520	81,646	393,642	
2007	79,125	5,556	358	55	85,094	3,520	88,614	445,348	
2008	74,276	6,197	1,496	57	82,026	14,453	96,4/9 106.873	49/,4/2 550.015	
2010	78 920	0.128	2,408	6 6 5	88.525	22,262	110.787	602/231	-
2011	86,783	7,458	2,469	61	96,770	22,262	119,032	653,282	
2012	88,816	7,888	2,530	62	99,296	22,262	121,558	701,554	
2013	95,070	8,315	2,593	64	106,042	22,262	128,304	748,731	
2014	102,214	8,702	2,658	66	113,640	22,262	135,902	795,000	
2015	109,208	9,202	2,725	67	121,202	22,262	143,464	840,226	
2010	1 10,000 104 100	100 CF	0,220 2,610	21	150,021	20,504	166.477	930,315	
2018	133,488	10.635	3.709	72	147,905	28,504	176,409	974,461	
2019	141,229	11,117	4,268	74	156,688	32,425	189,113	1,018,281	
Notes									
(1) Includes star	reprose reincluded o	ulv for new units							
(3) Includes fees	for site lease	e as well as credi	it for services and	d cooling water					

Kissimmee	• Utility	Authority							
Case							Economic		
Scenario Souther	n-Florida No F	3eat					CPW Discoun Capital Escala Base Year for	t Rate titon Rate \$	8 0% 2 5% 2000
Generation Additio	S								
Unit	Size	2000 Capital Cost	Construction Period	Year Installed	installed Cost	Levelized Cost (#1.000)			1100
Southern Joint 7FA SC	21	36,939	12	2003 833 2008 417 2008 417	46,242	5,175	Interest During Finance Term	g Const · (yrs)	6% 50 20
LM 6000 LM 6000 LM 6000	888	36,778 36,778 36,778	α α α	2014 417 2016 417 2018 417	53,095 55,783 58,607	5,941 6,242 6,558	Plant Life		30
	Fuel and	30,//8	α		Total	Total	Total	Cumulative Present	
Year	Energy Cost <sup>1</sup> (\$1,000)	Variable (\$1,000)	4M Fixed <sup>2</sup> (\$1,000)	Fees and Credits <sup>3</sup> (\$1000)	Production Cost (\$1,000)	Capital Cost (\$1.000)	System Cost (\$1,000)	Vorth Cost (\$1,000)	-
0000	011.00		C	C		c	130 CF		
2001	58,924	3,974	00	00	62,899	00	62,899	131,197	
2002	54,123 59.577	3.838 4.218	0807	0 (6)	57,961 64.593	0 288	57,961 64.881	180,889 232.394	
2004	60,114	4.567	68 590	(35)	64.735	1,151	65,887 71 205	280,822	
2005	67,720	4,323 5,235	2,453	(35)	75,374	1,151,1	76,525	377,569	
2007 2008	72,218 74.933	5,554 5,813	3,212 3,417	(35)	80,949 84.129	1151 4.170	82,100 88,299	425,474 473,179 :	
2009	79,681	6,142	3,572	(34)	89,360 93 549	6.326 6.326	95,686 99,886	521,046 567 307	
2011	92,684	6,824	3.596	(34)	103,070	6,326	109,396	614,225	
2012	93.614 09.026	7,244	3,609	(34)	104,433	6,326 6 326	110,759 116 444	658,209 701.025	
2014	90,020 102,592	7,963	3,004 4,415	(34)	114,936	9,792	124,728	743,490	
2015	106,911	8,432	4.736	(34)	120,045	12,267	132,312 130 606	785,200	
2017	114,267	9,164	5,557	(33) (133)	128,955	18.509	147,465	865,782	
2018	117,509	9,423	5,487	(33)	132,387	22.335	154,721	904,501	-
2019	121,515	9.398	3.471	(33)	134,350	28,989	163,339	942.348	
(1) Includes star	t-up costs								
(2) Fixed costs a	are included of	nly for new units	for contract and	t cooling water					
(c) ILICIDURS IEC	S TOT SILE IEASE	as well as credit	TOT SELVICES AN	3 COULTRY WALET					

Kissimmee	Utility	Authority							
Case							Economic		
Scenario Self Build	I KUA No Re	al					CPW Discoun	it Rate	8 0%
							Capital Escala Base Year for	stion Rate \$	2 5%
Generation Addition	S								
						,	Finance		
Unit	Size	2000 Capital Cost	Construction	Year Installed	Installed Cost	Levelized Cost	Curod Chordo	5 5 1 0	11 10%
	(MM)	(\$1,000)	(months)	(year)	(21,000)	(21,000)	rixed Criarge	nale A Const	2°6'
Self Build	60	Ť		2003 833	31,458	3.520	Finance Term	g correc i (yrs)	20
Joint 7FA SC	75	36,939	12	2008 417	46,242	5,175 E 041	Plant Life		0E
LM 6000	881	5 36,778 5 36,778	ααζ	2016 412 2016 412 2048 442	55,776 55,776	6,241 6,241			
JOINT / FA SU		202 20 <sup>1</sup> 222	2	71 - 0107	Total	Total	Total	Cumulative Present	
	Fuel and		- AM	Fees and	Production	Capital	System	Worth	
Vear		Variable	Fixed 2	Credits <sup>3</sup>	Cost	Cost	Cost	Cost	
3	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
	01 7 10	2101	c	C	72 957	C	72.957	72.957	_
	00'.40 E 0.74	1,2,1	o c		62 898	0	62.898	131,196	
2002	50'864 54 123	9,9,4	00	0	57,961	0	57,961	180,889	
2003	59,546	4,215	82	13	63,855	880	64,735	232,277	
2004	60,283	4,565	(1,037)	51	63,862	3,520	67,382	281,805	
2005	64,268	4,934	(147)	53	68,308	3,520	71,828	330,690	
2006	68,105 77,207	5,231	(857) 358	- 54 55	78.354	3,520	200,07 81,875	426.389	
2005	75.296	5.812	570	57	81,734	6,539	88,273	474,080	
2009	79,822	6,141	730	58	86,752	8,695	95,446	521,827	
2010	83,796	6,499	749	28	91,103 100 EC3	8,695 0 605	191,197 100 768	550,895	
2011	92,910	6,825	767	61 63	100,001	0,090 A 695	110 758	658.895	
2012	93,903 00 189	7 646	R06	02 64	107.704	8,695	116,399	701,695	
2014	103.101	7.963	1,238	99	112,368	12,160	124,528	744,091	
2015	107,156	8 430	1,567	67	117,220	14,635	131,855	785,658	
2016	109,975	8 710	2.038	69	120.793	18,276	139,069	826,251	
2017	114,629	9,157	2.402	17	126,259	20.877	147,135 147,135	10,908	
2018	122.177	9.652	2 721	27	134 623	047.42		100,000	
2019	129,093	10,136	2,977	/4	142,200	000,12	001'001	10310-0	
11) Includes star	tun costs								
(1) Fixed costs a	are included o	only for new units							
(3) Includes fees	s for site leas	e as well as cred	it for services an	d cooling water					

Cate         Exercision         Exercision <th>Kissimmee</th> <th>Utility</th> <th>Authority</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Kissimmee	Utility	Authority							
Chementary         Communication         Communicati	Case Scenario Souther	n-Ftorida High	Load		F			Economic CPW Discour	it Rate	8 0%
Generation Additions         Contention         Contention <thcontention< th="">         Contention         <t< th=""><th></th><th>,</th><th></th><th></th><th></th><th></th><th>·</th><th>Capital Escal Base Year foi</th><th>ation Rate r\$</th><th>2 5%</th></t<></thcontention<>		,					·	Capital Escal Base Year foi	ation Rate r\$	2 5%
Unit         Same         2000         Constituction         Vew         Vew         Vew	Generation Additio	su								
Unit         Same         Control         Neurosciención         Transmerto         Leventado           Southern         21         2000         21000         100000         10000         10000 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>Finance</td> <td></td> <td></td>							-	Finance		
Suthern         21         2003 433         6         2003 433         6         6           MM M000         56         36 77         4         4         7         4         4         7         4         4         7         4         4         7         4         4         7         4         4         7         4         4         7         4         4         7         4         4         7         4         4         7         4         7         4         7         4         7         4         7         4         7         4         7         4         7         5	Unit	Size (MW)	2000 Capital Cost (\$1 000)	Construction Period (months)	Year installed (year)	Cost (\$1,000)	Levelized Cost (\$1,000)	Fixed Charge	Rate	11 19%
Ministre         Solution		Ċ			559 EUUC			Interest Durin	ig Const	6% 90
Juni //A SC         78         36339         12         2006 4/7         4,261         4,605           UM 6000         36         36778         8         2014 17         5,385         5,385           UM 6000         36         36778         8         2014 17         5,180         5,585           UM 6000         36         36,778         8         2014 17         5,733         5,395           UM 6000         36         36,778         8         2014 17         5,733         6,395           UM 6000         36         36,778         8         2014 17         5,733         6,395           UM 6000         36         36,778         8         2019 17         5,733         6,395           UM 6000         36         36,774         8         2019 417         55,733         6,395           UM 6000         36         36,714         8         2019 417         5,733         6,395           UM 6000         36         36,774         8         2019 417         5,733         6,395           UM 6000         36,714         419         2019 417         5,733         6,295         5,9100           UM 6000         36,417         5,	LM 6000	ч Ж	5 36778	θ	2004 417	41478	4 641	Plant Life	10-161 -	30
UM 6000         36         35/78         8         2010 417         45.251         5.511           UM 6000         36         35/78         8         2010 417         5.651         5.511           UM 6000         36         36/78         8         2013 417         5.613         5.514           UM 6000         36         36/78         8         2014 417         5.523         5.619           UM 6000         36         36/78         8         2014 417         5.733         5.619           UM 6000         36         36/78         8         2014 417         5.733         5.619           UM 6000         36         36/78         8         2014 417         5.733         5.619           UM 6000         36         36/78         8         2016 417         5.733         5.619           UM 6000         36         3018 417         5773         6.242         0         0           UM 6000         36         3018 417         5573         6.591         0         0           UM 6000         36         3108 417         5573         6.591         0         0         0         0           UM 7010         5100101	Joint 7FA SC	75	36,939	12	2005 417	42,941	4,805			
Unitation         Sol (377)         Sol (377) <t< td=""><td>LM 6000</td><td>88</td><td>5 36,778 36,778</td><td>60 GC</td><td>2009 417</td><td>46.928 48 102</td><td>5,251</td><td></td><td></td><td></td></t<>	LM 6000	88	5 36,778 36,778	60 GC	2009 417	46.928 48 102	5,251			
Lum 5000         36         36 776         8         2013 417         51 800         5,766           Lum 5000         36         38/78         3         2013 417         51,733         6.242           LM 6000         36         36/78         3         2013 417         51,733         6.342           LM 6000         36         36/78         3         2014 417         51,733         6.342           LM 6000         36         36/78         3         2014 417         51,733         6.342           LM 6000         36         36,778         3         2014 417         51,733         6.342           LM 6000         36         36,778         3         2014 417         51,733         6.342           LM 6000         36         36,778         3         2014 417         51,733         51,900           LM 6000         36         36,700         37,104         7044         7044         7044           LM 6000         36         36,1000         31,1000         31,000         31,000         35,013           LM 744         56         36,1000         31,1000         31,000         31,000         35,013           LM 744         56,1000 <td>LM 6000</td> <td>5 N</td> <td>5 36,778</td> <td>) 60</td> <td>2012 417</td> <td>50,537</td> <td>5,655</td> <td></td> <td></td> <td></td>	LM 6000	5 N	5 36,778	) 60	2012 417	50,537	5,655			
UM 6000         36 <t< td=""><td>LM 6000</td><td>З</td><td>5 36,778</td><td>œ</td><td>2013 417</td><td>51,800</td><td>5,796</td><td></td><td></td><td></td></t<>	LM 6000	З	5 36,778	œ	2013 417	51,800	5,796			
LM 6000         36         36/17         5 - 0.03         0.0411         5 - 7.13         5 - 0.02           LM 6000         36         36.778         8         2019 417         5 - 7.17         6 - 38           LM 6000         36         36.778         8         2019 417         5 - 7.17         6 - 38           Jun 77A SC         7         36         36.778         8         2019 417         5 - 7.17         6 - 38           Jun 77A SC         7         7         7         6 - 39         7 - 7.17         6 - 7.14         7 - 7.14           Ver         Errory         -0.01         (7 - 7.17)         6 - 7.01         7 - 7.14         7 - 7.14           Ver         Errory         -0.01         (7 - 7.17)         6 - 7.01         7 - 7.14         7 - 7.14           Ver         Errory         -0.01         (7 - 7.17)         6 - 7.01         7 - 7.14         7 - 7.14           2000         7 - 7.14         Frees and         7 - 7.01         5 - 7.00         7 - 7.01         7 - 7.01         7 - 7.01           2001         (7 - 7.01)         (7 - 7.10)         (7 - 7.10)         (7 - 7.10)         7 - 7.01         7 - 7.01         7 - 7.01         7 - 7.01         7 - 7.01	Joint 7FA SC	32	36,939	<u></u>	2014 417	53.627 54 402	6,001 8,000			
LM 6000         36         60,171         5,170         6,356         6,356           Jun TrA SC         78         367,76         8         2016 417         5,56         5,56           Jun TrA SC         78         367,76         8         2016 417         5,56         5,56           Jun TrA SC         78         39399         12         2019 417         5,56         5,56           Jun TrA SC         78         39399         12         2019 417         5,56         5,56           Jun TrA SC         764         510         7044         7044         7044         7044           Year         Could         Vinubio         Fixed 3         Cont         7064         7044           Year         Freigy         Vinubio         Fixed 3         Cont         7064         7064           Year         Fixed 3         Cont         95,950         939209         25,100         55,100           2001         7,167         41,15         0         0         6,1300         55,100         55,100           2001         7,103         41,15         0         0         6,1300         55,100         25,100           2001         5,1000 </td <td></td> <td>500</td> <td>0,770 26,770</td> <td></td> <td>714 CINZ</td> <td>04,423 FF 783</td> <td>0,030</td> <td></td> <td></td> <td></td>		500	0,770 26,770		714 CINZ	04,423 FF 783	0,030			
Life and Life and Life and Vear         36, 778         3, 6, 778         3, 2019, 417         56, 607         6, 555         555           Journ TrA, SC         720         39939         12         2019, 417         56, 67         5, 555           Journ TrA, SC         7201         7, 704         7, 704         7, 704         7, 704           Year         Cost <sup>1</sup> Variable         F, ward         0, 81, 000         5, 100         7, 104         Cost         Cost           2000         71 674         4, 134         0         7, 617         6, 617         5, 556         2, 20, 937         76, 013         76, 013           2000         71 674         4, 339         0         76, 013	LM 5000	56	36.778	α	2017 417	57 178	9,242			
Juni, Tch, SC         Tel         39539         12         2019, 417         60, 514         6, 7b9           Vear         Every         O&M         Amulative         Total         Total         Present           Vear         Every         OAM         Amulative         Total         Present         Vear         Cost	LM 6000	. స	36,778	00	2018 417	58,607	6,558			
Fuel         Fuel         Total         Total         Total         Total         Total         Present           Year         Can         Year         Can         Total         Production         Cantal         Total         Present           Year         Cost         Variable         Frees and         Production         Can         System         Worth           2001         75 631         Variable         Frees and         Cost         Can         System         Worth           2001         75 631         4184         0         75.030         151.000 <td>Joint 7FA SC</td> <td>76</td> <td>36939</td> <td>12</td> <td>2019 417</td> <td>60,674</td> <td>6 7 89</td> <td></td> <td></td> <td></td>	Joint 7FA SC	76	36939	12	2019 417	60,674	6 7 89			
Fuel         Fuel         Total         T									Current Catalog	
Feregy         Cost         Cost <thcost< th="">         Cost         Cost         <t< td=""><td></td><td>Fuel and</td><td></td><td></td><td></td><td>Total</td><td>Total</td><td>Total</td><td>Present</td><td></td></t<></thcost<>		Fuel and				Total	Total	Total	Present	
Vear         Cost         Cost <thcost< th="">         Cost         Cost         <thc< td=""><td></td><td>Energy</td><td>0</td><td>ßM</td><td>Fees and</td><td>Production</td><td>Capital</td><td>System</td><td>Worth</td><td></td></thc<></thcost<>		Energy	0	ßM	Fees and	Production	Capital	System	Worth	
Z000         71         67         4         339         0         76.013	Year	Cost (\$1 000)	Variable (\$1 000)	(\$1 000)	Credits <sup>3</sup> (\$1000)	Cost (\$1.000)	Cost (\$1.000)	Cast (\$1.000)	Cost (\$1.000)	
2000         71 674         4.339         0         7 6013		(222:4)	(2221.2)							
2001       1/63       4,173       0       0       61,370       21,028         2003       53,429       4,175       0       0       61,370       21,028         2004       45,519       5,063       46,94       86       21,028       233,568       54,317       231,028         2005       46,519       5,063       46,94       86       70       6,956       53,565       233,568         2006       56,473       6,379       410       (35)       55,65       265       10,598       70,383       333,668         2007       55,473       6,379       4139       (35)       56,956       10,598       70,383       333,668         2007       55,473       6,379       4139       (35)       56,956       10,598       72,548       42,566         2010       66,0132       6,861       7,728       43,47       211,538       57,410         2011       74,862       8,097       5,552       (34)       10,119       36,194       37,302       64,467         2013       81,121       57,410       74,374       690,668       57,410       57,410       57,410       57,410       57,410       57,410       57,410 <td>2000</td> <td>71 674</td> <td>4 339</td> <td>00</td> <td>00</td> <td>76,013</td> <td>00</td> <td>76,013</td> <td>76,013</td> <td></td>	2000	71 674	4 339	00	00	76,013	00	76,013	76,013	
2003         53 429         4 694         BC7         (9)         56 921         286         59,208         251,028           2005         46 100         5,506         2,056         3,515         55,026         251,028         3859         54,817         221,320           2005         56 4100         5,506         2,056         (35)         55,727         16 596         7,326         33,66           2007         55 473         6 378         4 139         (35)         55 77         10 598         76 554         422,660           2008         66 0132         6 861         4 165         (34)         71 124         10 598         76 554         422,660           2011         74,882         8,087         7 256         (34)         71 124         10 598         75 554         427,400           2011         74,882         8,087         5,552         (34)         71 124         10 599         168 185         57,410           2013         81,17         731         81,18         57,410         57,236         16,328         23,236           2013         81,17         51         73,236         13,37         73,374         53,740           2013	2002	57,795	4,104	00	00	61,970 61,970	00	61,970 61,970	204,026	
2004         45,519         5,063         410         (35)         50,568         3,859         54,817         231,320           2005         54,010         5,506         2,056         (35)         53,627         8,596         732,333,658           2005         56,473         6378         4139         (35)         53,557         10,599         76,564         422,660           2005         56,473         6378         4155         (34)         7112,4         10,599         76,564         422,660           2009         66,007         7,275         5,522         (34)         73,907         13,61         555,410           2010         74,852         8,697         4,555         (34)         75,907         13,66         59,740           2011         74,852         8,697         5,522         (34)         91,813         24,566         697,477           2011         74,852         8,617         73,30         34,973         34,973         34,373         37,305           2011         74,867         9,6,357         30,268         137,302         743,374           2012         2013         101,119         9,445         109,719         64,467 <t< td=""><td>2003</td><td>53 429</td><td>4 694</td><td>807</td><td>(6)</td><td>58 921</td><td>288</td><td>59.209</td><td>251,028</td><td></td></t<>	2003	53 429	4 694	807	(6)	58 921	288	59.209	251,028	
2003       55 473       5 378       323       3360.12         2006       55 473       6 378       4 135       (5)       55 972       10 598       70 553       3360.12         2006       55 473       6 378       4 135       (3)       71 124       10 598       70 553       3680.12         2003       66 907       7 226       4 556       (3)       71 124       10 598       70 553       3681.12         2010       66 907       7 727       5 522       (3)       73 461       3651.84       4556       425.660         2011       74,862       8.067       (3)       71 124       10 591       66 4467       455         2011       74,862       8.077       5,522       (3)       10,119       361.84       557.410         2011       74,862       8.077       5,522       (3)       10,1119       361.64       577.40         2011       71,155       8.616       6.266       (3)       10,1179       361.64       179.105         2014       81,121       9,021       6.246       (3,4)       107.125       48.415       109.775       89.045         2015       97,051       9,633       107.119	2004	45,519	5,063	410	(35)	50 958 52 577	3 859	54,817	291,320 333 666	
2007       55 473       6 378       4 139       (35)       65 956       10 598       75 54       422.660         2008       60 132       6 861       4 165       (34)       71 124       10 598       71 21       466 832         2009       66 907       7 727       5.229       (34)       73 961       81 721       466 832         2010       66 907       7 727       5.229       (34)       78 9829       189.89       98 179       557 410         2011       74 862       8.067       5.229       (34)       91 81 21       20.616       557 410         2011       74 862       8.077       5.522       (34)       91 81 21       24.530       116.344       557 410         2012       77 155       8 646       6.005       (34)       107 119       36.184       17.03       517 30         2013       81,121       9.021       6.246       (34)       107 119       36.184       17.03       517 30         2014       81,257       34,017       107,119       36.184       107 155       743,928         2015       97,051       9,683       5,657       (34)       107,155       743,915       50,915	2005	46,1UU 50.490	0,000 5,958	2,000 3,358	(35) (35)	720 00	0 598	70 369	378.012	
2008         60 132         6 861         4 165         (34)         71 124         10 598         81 721         466 832           2010         66 907         7 227         5.229         (34)         75 907         13 661         99.568         511.638           2011         74,862         8.087         7 227         5.522         (34)         88 487         21 232         199.719         60.467           2011         74,862         8.087         5.522         (34)         88 487         21 232         199.719         60.447           2012         77 155         8.686         6.005         (34)         91.813         24.530         116.344         650.668           2013         81.121         9.021         6.246         (34)         107.155         48.415         109.719           2014         81         81.21         4.994         (34)         107.155         48.415         109.772         839.045           2015         97.051         9.683         5.857         (34)         107.155         48.415         109.972         839.045           2017         100 919         10.061         67.59         (37)         117.705         54.740         175.616	2007	55 473	6378	4 139	(35)	65 956	10 598	76 554	422,680	
2009       64 099       7 286       4 556       (34)       7 5 907       3651       39 568       511.538         2010       66 907       7 727       5 229       (34)       7 829       18,969       98 517 510       55710         2011       74,862       8.067       5 229       (34)       7 829       18,969       98 517       557410         2011       74,862       8.066       6 005       (34)       91,813       24,530       116,344       650,568         2013       81,121       9,021       6,248       (34)       91,813       24,530       116,344       650,568         2014       87       8,377       4,295       (34)       107,119       36,184       177,305       697,326         2014       87       9,311       107,155       42,256       143,361       791059         2015       97,051       9,683       5,857       (34)       107,155       42,256       894,654         2017       100919       10,061       6759       (33)       117,756       54,415       160,972       830,45         2018       115,834       109,396       7,403       (33)       112,557       48,415       160,972 <t< td=""><td>2008</td><td>60 132</td><td>6 861</td><td>4 165</td><td>(34)</td><td>71 124</td><td>10 598</td><td>81 721</td><td>466 832</td><td></td></t<>	2008	60 132	6 861	4 165	(34)	71 124	10 598	81 721	466 832	
2010       74,682       8,047       5,552       (34)       88,487       21,232       109,719       604,467         2012       77       155       8,686       6,006       (34)       91,313       24,530       116,344       650,668         2013       81,121       9,021       6,246       (34)       96,357       30,268       116,344       650,668         2014       88       81,77       4,994       (34)       107,119       36,184       13,361       73974         2014       88       877       4,994       (34)       107,155       42,236       143,361       79169         2015       97,051       9,683       5,857       (34)       107,155       42,415       160,972       838,045         2017       100,919       10,061       67,59       (33)       117,705       54,748       175,69       91,150         2018       106,603       10,0912       8,490       (33)       117,705       54,748       175,79       93,150         2019       115,834       10,932       8,490       (33)       112,755       48,415       160,972       838,045         2018       1056,603       10,942       8,490       (3	2009	64 099 66 007	7 286	4 5 5 6	(34) (34)	708 d7 74 A24	13 661 18 989	89.208 98.818	557 410	
2012       77       155       8 686       6 006       (34)       91,813       24,530       116,344       650,668         2013       81,121       9,021       6,246       (34)       96,357       30,268       166,625       697,228         2014       87,733       9,391       4,995       (34)       107,119       36,164       137,602       74126       731261       74127         2015       97,051       9,683       5,857       (34)       107,155       42,256       149,361       791059         2017       100 919       10,061       6,759       (33)       117,705       54,415       160,972       838,045         2019       10,061       6,759       (33)       112,557       48,415       160,972       838,045         2019       10,061       6,759       (33)       112,705       54,749       175,059       931,150         2019       10,663       10,663       7,703       (33)       112,755       54,415       160,972       838,045         2019       115,634       10,935       33)       135,233       67,933       203,166       916,526         Notes       11,164       112,557       48,415       160,972	2011	74.882	8.087	5,552	(34)	88 487	21 232	109,719	604,467	
2013       81.121       9.021       6.246       (34)       96.357       30.266       126.625       697.226         2014       877       9.391       4,295       (34)       107.119       36.164       137.302       743.974         2015       97.73       9.391       4,295       (34)       107.119       36.164       137.302       743.974         2015       97.051       9.683       5.857       (34)       107.155       42.236       149.361       7436         2017       100.919       10.061       6.759       (33)       117.705       54.74       884.654         2018       105.603       10.962       8.490       (33)       112.557       48.415       160.972       838.045         2019       115.834       10.942       8.490       (33)       112.553       67.933       203 166       978.226         Notes       1       10.15.834       10.942       8.490       (33)       135.233       67.933       203 166       978.226         Notes       1       115.63       74.960       61.245.606       978.226       166       978.226         Notes       1       10.15.533       203 166       978.226       167 <td>2012</td> <td>77 155</td> <td>8 686</td> <td>6 006</td> <td>(34)</td> <td>91,813</td> <td>24,530</td> <td>116,344</td> <td>650,668</td> <td></td>	2012	77 155	8 686	6 006	(34)	91,813	24,530	116,344	650,668	
2014       87/8       8.97/       4.295       (34)       107.119       35.184       743.94         2015       92.51       9.391       4.294       (34)       107.125       42.236       149.361       71959         2015       97.051       9.633       5.857       (34)       107.125       42.236       149.364         2017       100.919       10.061       6.759       (33)       117.705       54.748       7454       884.654         2018       105.603       10.061       6.759       (33)       117.705       54.748       72.35       884.654         2019       115.834       10.942       8.490       (33)       135.233       67.933       203 166       978.226         Notes       11.15.834       10.942       8.490       (33)       135.233       67.933       203 166       978.226         Notes       11.16.0455 start-up costs       10.6503       10.942       81.490       (33)       135.233       67.933       203 166       978.226         Notes       (1) Includes start-up costs       10.6404       01% for new units       (33)       135.233       67.933       203 166       978.226         (3) Includes tees for site lease as well as credit for	2013	81,121	9,021	6,248	(34)	96,357	30,268	126,625	697,228	
2016       97,051       9,633       5,857       (34)       112,557       48,415       160,972       838,045         2017       100 919       10,061       6,759       (33)       117,705       54,748       172,454       884,654         2018       106 503       10,061       6,759       (33)       124,560       61,240       185,799       931,150         2019       115,834       10,942       8,490       (33)       135,233       67,933       203 166       978,226         Notes       (1) Includes start-up costs       (1) Includes start-up costs       (33)       135,233       67,933       203 166       978,226         Notes       (3) Includes start-up costs       (3) Includes start-up costs       (3) Includes tees for site lease as well as credit for services and cooling water       (3) Includes tees for site lease as well as credit for services and cooling water	2014	88.78 038.77 277 20	8,977	C62'4 705 1	(34)	107 125	30,184 42,236	149.361	791 059	
2017       100 919       10.061       6 759       (33)       117.705       54 748       12 454       084.654         2018       106 503       10.386       7.703       (33)       124 560       61 240       185.799       931.150         2019       115.834       10 942       8.490       (33)       135.233       67 933       203 166       978.226         Notes       (1) Includes start-up costs       (1) Includes start-up costs       (3) Includes tees for site lease as well as credit for services and cooling water       (3) Includes tees for site lease as well as credit for services and cooling water	2016	97,051	9,683	5.857	(34)	112,557	48,415	160,972	838,045	
2018         106 503         10.386         7.703         (33)         124 560         61 240         155.799         931,150           2019         115.834         10 942         8.490         (33)         135.233         67 933         203 166         978,226           Notes         (1) Includes start-up costs         (2) Fixed costs are included only for new units         (3) Includes fees for site lease as well as credit for services and cooling water         (3) Includes fees for site lease as well as credit for services and cooling water	2017	100 919	10,061	6 7 5 9	(33)	117,705	54 748	172 454	884,654	
Notes (1) includes start-up costs (2) Fixed costs are included only for new units (3) includes fees for site lease as well as credit for services and cooling water	2018	106 503	10,386	7.703	(33)	124 560	61 240 67 933	185.799 203 166	931,150 978 226	
<ol> <li>Includes start-up costs</li> <li>Fixed costs are included only for new units</li> <li>includes fees for site lease as well as credit for services and cooling water</li> </ol>	Notes									
(3) Includes fees for site lease as well as credit for services and cooling water	(1) Includes sta. (2) Fixed costs	rt-up costs are included o	onty for new units							
	(3) Includes fee	s for site lease	e as well as cred	It for services an	id cooling water					
			1	l						

Case         Case           Scenario         Self Build KUA High Load           Generation         Generation Additions           Generation         2000           Unit         Size           Self Build         21           LM 6000         36           Joint 7FA SC         78           Joint 7FA SC         36           LM 6000         36           Joint 7FA SC         78           LM 6000         36           LM 6000         36           LM 6000         36           Joint 7FA SC         78           LM 6000         36           Joint 7FA SC         78           Joint 7FA SC         78           Joint 7FA SC         78           Joint 7FA SC         78	T 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Year (year) (year) (year) (year) (year) 2003 833 2003 417 2003 417 2003 417 2003 417 2004 417 2014 410	nstalled natalled natalled natalled (1) (51,000) (51,000) (51,600) (51,600) (51,600) (51,600) (51,600) (52,783)	Levelized Cost 3:520 3:520 4:641 5:2655 5:3835 5:555	Economic Copy Discount Copital Escala Base Vear for Finance Finance Finance Finance Finance Finance Finance	t Rate thon Rate	
Scenario         Self Build KuA High Load           Generation Additions         22000           Unit         Size           LM 6000         36           Joint 7FA SC         36           Joint 7FA SC         36           LM 6000         36           Joint 77 SC         78           LM 6000         36           Joint 74         36	78 78 78 78 78 78 78 88 77 88 77 88 77 88 77 88 88	Year Installed (Year) (Year) 2003 833 2005 417 2005 417 2005 417 2005 417 2010 417 2010 417 2013 417 2014 417 2	nstalled 20st 20st 31,458 41,478 48,102 50,537 50,537 53,580 53,580 53,580 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 53,783 54,178 55,783 54,178 55,783	Levelized (Cost (51,000) 3,520 4,641 4,641 4,641 5,251 5,333 5,555 5,555 5,555	CPW Discount Capital Escala Base Year for Base Year for Finance Finance Finance Filant Life	t Rate thon Rate \$	
Generation Additions         2000           Unit         Size         2000           Unit         Size         2000           Unit         Size         2000           LM 6000         36.9         36.7           Joint 77 SC         78         36.3           LM 6000         36         36.7           LM 6000         36.7         36.7           LM 6000         36.7         36.7	T Construction Construction (months) (m	Year Installed (year) (year) 2003 633 2006 417 2005 417 2003 417 2003 417 2014 417 2014 417 2014 417 2016 417 2016 417 2018 417 2018 417 2018 417	nstatied nstatied 31 458 41 478 42,941 42,928 48,102 50,537 50,537 55,783 55,783 55,783	Levelized Cost (51,000) (51,000) 4,641 4,641 5,251 5,353 5,555 5,555	Base Year for Finance Fixed Charge Interest Dum Plant Life	t <del>2</del>	80% 25%
Generation Additions         2000           Unit         Sze         2000           Unit         Sze         2000           Self Build         Sze         36.7           Unit TA SC         78         36.3           Unit FA SC         78         36.3           UM 6000         36         36.7           UM 6000         36.36.7         36.7           UM 6000         36.36.7         36.7           UM 6000         36.7         36.7           UM 6000         36.7         36.7           UM 6000         36.7         36.7	T Construction Period (months)	Year Installed (year) 2003 833 2004 417 2005 417 2005 417 2005 417 2013 417 2013 417 2013 417 2013 417 2016 417 2018 417 2018 417	nstalled nstalled [1] 20st 31 458 31 458 41 478 42,941 42,928 48,102 50,537 51,800 53 783 55 783 55 783	Levellzed (51,000) (51,520 4,641 4,641 4,641 5,265 5,383 5,383 5,655 5,655	Finance Fixed Charge Interest Dumr Finance Term Plant Life		2000
Out         Size         2000           Unt         Size         2000           Unt         Size         2000           Set Build         Size         2000           Joint 75 SC         36         36.9           LM 6000         36         36.9           LM 6000         36         36.3           LM 6000         36         36.7	T Construction Construction (months) (months) (78 8 8 778 8 778 8 8 128 8 8 128 8 8 128 8 8 128 8 8 128 8 8 128 8 8 128 8 8 128 8 128 8 12	Year Year (year) 2003 833 2005 417 2003 417 2005 417 2005 417 2010 417 2013 417 2014 417 2014 417 2014 417 2018 417 2018 417 2018 417	Anstalled 1 Anstalled 1 20st 20st 31 458 41 478 42 478 42,941 48,102 50,537 51,800 53,620 55,783 55,783 55,783	Levelized Cost (51,000) (51,000) 4,641 4,641 4,805 5,251 5,533 5,555 5,555	Finance Fixed Charge Interest Dumr, Finance Term Plant Life		
Unit         Size         2000           Unit         Size         Cantal Cost           Self Build         Size         Cantal Cost           LM 6000         36         36.9           Joint 7A SC         78         36.3           LM 6000         36         36.7           LM 6000         36.7         36.7           LM 6000         36.7         36.7	T Period (months) (months) 78 78 78 78 88 77 88 88 88 77 88 88 88	Year installed (year) 2003 833 2005 417 2005 417 2005 417 2005 417 2013 417 2013 417 2013 417 2014 417 2016 417 2018 417 2	nstalled [1] 20st [1] 31 458 41 478 42 478 42,941 48,928 50,537 50,537 51,78 55 783 55 783	Leveltzed Cost (51,000) 3,520 4,641 4,641 4,805 5,251 5,655 5,655	Fixed Charge interest During Finance Term Plant Life		
Self Buuld         21           Land 77A SC         36           Joint 77A SC         78           LM 6000         36           LM 6000         36           LM 6000         36           LM 6000         36           Joint 77A SC         78           LM 6000         36           Joint 77A SC         78           LM 6000         36           Joint 77A SC         78           LM 6000         36           LM 6000         36           LM 6000         36           LM 6000         36           Joint 77A SC         78           LM 6000         36           LM 6000         36           Joint 77         36	7 26 9 7 7 7 7 7 7 7 7 8 8 9 7 8 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8	2003 833 2005 417 2005 417 2005 417 2005 417 2005 417 2015 417 2013 417 2013 417 2014 417 2014 417 2015 417 2015 417	31 458 31 458 41 478 42,941 48,928 48,928 48,928 50,537 50,537 51,883 53,627 53,627 53,783	3,520 3,520 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,281 5,291 5,291 5,200 5,201 5,20015000000000000000000000000000000000	Interest During Finance Term Plant Life	Rate	11 19%
Lase Buuid 21 Land 7A SC 78 36.7 Lun 6000 36 78 36.7 Lun 6000 36 78 36.7 Lun 6000 36 36.7 Lun 6000 36 36.7 Lun 77 SC 78 36.3 Lun 77 SC 78 36.7 Lun 6000 36 36.7 Lun 77 SC 75.7 Lun 75.7 Lu	128 128 128 128 128 128 128 128 128 128	2003 833 2004 417 2004 417 2009 417 2010 417 2010 417 2012 417 2014 417 2014 417 2014 417 2014 417 2018 417 2018 417	31 458 41 478 42 941 46.928 46.928 46.928 50.537 50.537 50.830 51.800 53.627 53.627 53.783 53.627 55.178	3.520 4.641 5.864 5.383 5.383 5.655 7.6557 7.6557 7.6557 7.65577 7.655777 7.6557777777777	Finance Term Plant Life	g Const	6%
(Joint 7FA SC 78 36.9 (LM 6000 36 36.7 (LM 6000 36.7)(LM 6000	12 778 77 778 778 778 778 778 778 778 778	2005 417 2009 417 2010 417 2010 417 2012 417 2013 417 2016 417 2016 417 2017 417	42.941 46.928 46.928 50.537 51.800 53.627 53.783 55.783 55.783	4,805 5,251 5,655 7,655 7,065		(yrs)	8 8
LLM 6000 36 736 736 736 736 736 736 736 736 736	778 778 778 778 778 778 778 788 778 788 778 788 777 788 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 778 777 788 777 788 777 788 777 788 777 788 787 778 788 787 778 788 787 778 788 787 778 788 787 788 787 788 788 787 788 787 788 787 788 787 788 788 787 788 78	2009 417 2010 417 2012 417 2013 417 2014 417 2016 417 2016 417 2016 417 2018 417	46,928 48,102 50,537 51,800 53,627 55,783 55,783	5 251 5 383 5,655			
LM 6000 36 36 7 LM 6000 7 LM 7 LM 6000 7 LM 7 LM 7 LM 7 LM 7 LM 7 LM 7 LM 7 LM	7389 7389 7899 7899 7899 7899 7899 7899	2012 417 2013 417 2013 417 2016 417 2016 417 2017 417	50,537 51,800 53,627 55,783 57,178 57,178	5,655			
LM 6000 36 36.7 Juni 77A SC 78 36.9 LM 6000 36 36.7 LM 6000 36 36.7 LM 6000 36 36.7 LM 6000  36.7 LM 60000 36.7 LM 60000 36.7 LM 6000000000000000000	78 129 78 8 78 8 8 8 8 8 8 8 8	2013 417 2014 417 2016 417 2017 417 2017 417	51,800 53,627 55 783 57 178 57 178	5 706			
Joint 7FA SC 78 36.9 LM 6000 36 36.7 LM 6000 36 36.7 LM 6000 36 36.7 LM 6000 35 36.767	12 78 12 78 8 78 8 78 8 8	2014 417 2016 417 2017 417 2018 417	53.627 55.783 57.178 57.178	06/0	-		
LLM 6000 36 36 36 76 76 76 16 16 16 16 16 16 16 16 16 16 16 16 16	78 78 28 9	2016 417 2017 417 2018 417	55 783 57 178 59 507	6 001			
LW 6000 36 36,7 1 M 6000 36 36,7 36 367	2 8 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	2018 417		6242			
11 M 6000 36 367			20 00	6 558			
	78 8	2019 417	60,072	6,722			
						Cumulative	
Fuel and			Total Production	Total	Total	Present	
Energy	- C& V						
Year Cost Variable (\$1 000) (\$1 000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1.000)	(\$1,000)	
2000 71 674 4.3	0 68	0	76 013	0	76,013	76,013	
2001 76,691 41	64 0	0	80,875	0	80,875	150 897	
2002 57 795 41	75 0	•	61970	0	61,970	204 026	
2003 53,445 46	194 82 63 (716)	5 L A	58 234 50 022	999 F 228	59 114 Ar 249	250 955	
2005 46 212 55	02 (197)	. CS	51 570	10 964	535 62 535	334 858	
2006 50 663 5.9	155 48	54	56 719	12 967	69 686	378 772	
2007 55 670 6.3	1286	99 1	63 383	12.967	76,349	423 321	
2008 60,408 68	1,318 78 1,715	~α 6 ¥	73.376	16 030	69,408	512 135	
2010 67 067 7.7	08 2.394	) 6) 9)	77,228	21,358	98,585	557 799	
2011 74 914 8,0	72 2.723	61	85 771	23,600	109,371	604 707	
2012 77 184 8,6	58 3,183	62	89,088	26,899	115,988	650 767	
2013 61.500 9.1 2014 89.057 9.5	00 0.340 24 4.572	99	102.218	38 552	140 771	745,522	
2015 96 615 102	51 4 856	67	111 789	41,053	152 841	793 704	
2016 102,321 10.6	5 410	69 1	118,433	44 694	163 127	841 319	
2017 107,176 11.1 2010 107,176 11.1	50 6301	17	124 698	51 027	27/ 5/1 189140	666.145 936.145	
2019 120,418 12.0	162 8,209	74	140,764	64 172	204 936	983,631	:

Kissimmee	Utility .	Authority							
Case							Economic		
Scenario Southerr	-Florida Low	Load					CPW Discoun Capital Escala Base Year for	t Rate tton Rate \$	8 0% 2 5% 2000
Generation Addition	S						Finance		
Unit	Size (MW)	2000 Capital Cost (\$1,000)	Construction Period (months)	Year Installed (year)	Installed Cost (\$1,000)	Levelized Cost (\$1,000)	Fixed Charge	Rate	11 19%
Southern	21			2003 833			Interest Durinç Finance Term	g Const (yrs)	6% 20
							Plant Life		90
								Cumulative	
	Fuel and Energy	0	ן אא	Fees and	Production	rotal Capital	System	Worth	
Year	Cost <sup>1</sup> (\$1.000)	Variable (\$1,000)	Fixed <sup>2</sup> (\$1,000)	Credits <sup>3</sup> (\$1000)	Cost (\$1,000)	Cost (\$1,000)	Cost (\$1,000)	Cost (\$1,000)	
UUUC	64 345	4 N79	C	C	68 424	C	68 424	68 424	
2001	64,062	3,650	0	00	67,713	• •	67,713	131 121	
2002	46.675	3,367	0	0	50,042	0	50,042	174.024	
2003	40,487	3,615	807	(6)	44,899	288	45,187	209,895	
2005	35.577 35.577	3.842	1.306	(35) (35)	40,250	1,151	41,431	268,950	
2006	36,982	4,166	2,453	(35)	43,567	1,151	44,718	297,130	
2007	38,122	4,246	3,212	(35)	45,545 46 060	1,151 1 151	46,696 48 112	324,377	
2009	39,402 40,684	4,370	3,218	(34)	48,335	1,151	49,486	375,125	
2010	41,998	4,609	3,221	(34)	49,794	1,151	50,945	398,723	
2011	44,333	4,690 4 844	3,225	(34)	52,213 53 127	1,151	53,364 54 278	421,610	
2013	46.030	4,876	2.716	(34)	53,588	1,151	54,739	463,292	
2014	47.104	4 839	149	(34)	52.058	1,151	53.210	481,408	
2015	48,710	4,949	153	(34)	53.778	1,151	54,930	498,724	
2016	49,764	4,990	157	(34)	54.877 EE 201	1,151	56,028 57 482	515,078 520,613	
102	01.130 52.841	3,000 5,130	101	(cc) (33)	58 112	151.1	59.263	545,444	
2019	53,824	5,138	169	(33)	59,098	1,151	60,249	559,404	
Notes (1) Includes star	t-up costs								
(3) Includes feet	s for site lease	as well as credi	It for services and	d cooling water				, ,	

Kissimmee	Utility	Authority							
Case							Economic		
Scenario Self Buil	d KUA Low L	bad					CPW Discour Capital Escala Base Year for	rt Rate ation Rate \$	8 0% 2 5% 2000
Generation Addition	S								
		2000	Construction	Year	Installed	Levelized	Finance		
Curt	Size (MW)	Capital Cost (\$1.000)	Perrod (months)	Installed (year)	Cost (\$1,000)	Cost (\$1,000)	Fixed Charge	Rate	11 19%
Seif Build	ũ			2003 833	31,458	3,520	Interest Durm Finance Term Plant Life	g Const <sup>.</sup> (yrs)	6% 30 30
	Fuel and				Total	Total	Total	Cumulative Present	
2007	Cont <sup>1</sup>	D oldorovi C	GMI CLOOM 2		Production	Capital	System		
- 49	(\$1,000)	(\$1,000)	(\$1,000)	(\$1000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	
2000	64,345	4,079	D	0	68,424	0	68,424	68,424	
2001	64,062	3,650	Q I	0	67,713	0	67,713	131,121	
2002	46 675 40 432	3,367 3,610	0	0 4	50,042 44 137	0 BRD	50.042 45.017	209 760	
2004	36,308	3,834	(1.037)	51	39,156	3,520	42,677	241,129	
2005	35,601	4,015	(647)	53	38,722	3,520	42,243	269,878	
2007	37,025 38,146	4,158	(857) 358	55 55	40,380	3,520	43,900 46,321	297,542 324,570	
2008	39,346 40,004	4,369	367	57	44,138 45,403	3,520	47,659	350,319	
2010	40,004 41,916	4,430	386	20	40,497	3,520	50,479	398,221	
2011	44,251	4,681	395	61	49,389	3,520	52,909	420,913	
2012	45,112	4,833	405	62	50,413	3,520	53,934	442,331	
2013	46,163 47 663	4,904 4,983	415 426	64 66	51.547 53 137	3,520 3,520	55,067 56,657	462,579 481.868	
2015	49,469	5,119	437	67	55 092	3 520	58,612	500,345	
2016	50.830	5,164	447	69 2	56.510	3.520	60,030 01 71 0	517,867	
2017	52,401 53 864	5,267	459 470	62	59.198 59.718	3.520	61,/18 63,238	550.373	
2019	55,496	5,375	482	74	61,427	3,520	64,947	565,422	
Notes (1) Includes star (2) Fixed costs a (3) Includes fees	t-up costs. are included o	nly for new units see well as crede	t for services and	t conline water					
	101 2112 101 0		1101 001/100 1011						