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Utilities Commission
City of New Smyrna Beach, Florida

Conceptual Review of Internal Generation for Power Supply and Generation Strategy Plan

- Final Report -

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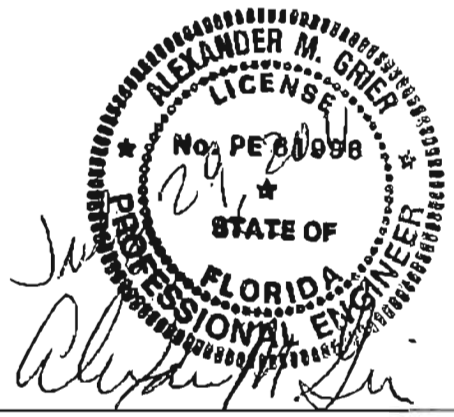
CERTIFICATION

The technical material and data contained in these documents were prepared under the supervision and direction of the undersigned, whose seal as a Professional Engineer is affixed below.



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Section 1

SECTION 1 – EXECUTIVE SUMMARY

1.1 Generation Status and Replacement Alterative

Downes Associates, Inc. (DAI) has investigated and analyzed the Generation Strategy (2007) and the current generation status of UCNSB. Due to the recent RICE NESHAP regulations, UCNSB must upgrade or risk losing its air emissions permit for Smith Street, Smith Street peaking, and Swoope Power Plant by May of 2013. As provided in the companion report "Assessment of Existing Reciprocating Electrical Generation – Smith Street and Swoope Generating Facilities – May 6, 2011" (Assessment), DAI has recommended retirement and decommissioning of those facilities. According to the 2007 Generation Strategy, this retirement has been anticipated as well as a need for up to 50MW of replacement internal generation by 2016. This report substantiates the 2007 Generation Strategy and provides: a conceptual level project development; a capital budget; operating costs; major equipment identification and performance; site location and development; savings value based on historical operations; and potential for other hard and soft values for the UCNSB.

DAI reports that:

1. The Generation Strategy (2007) can be met. (See Strategy Bullet 4 quoted in Section 2.2 and Exhibit A)
2. The value from current and anticipated capacity and energy savings can potentially cover the debt service and produce a net improvement with UCNSB power supply cost.
3. Numerous major equipment alternatives are available.
4. The UCNSB West site offers more than adequate space and infrastructure to support development of the generation facility.
5. The nature of the major equipment and the site offer opportunity for a staged development for an initial 18MW replacement of existing generation as well as 28MW or more of expansion generation.
6. The UCNSB can provide a minimum of 18MW of replacement generation by May 2013 if the project development continues upon acceptance of this report. Delay of several months to move to the preliminary design and development stage will threaten the May 2013 milestone.

1.2 Power Supply Impact and Opportunity Summary and Revenue Projects

DAI has undertaken an assessment of the economic viability of on-site generation within the City of New Smyrna Beach. The Assessment consisted of a review regarding the existing status of "at risk" generation, along with the determination of the necessary capital investment required to restore this generation to reliable operation compliant with environmental permit regulations. Further, DAI assessed the viability of installing new generation as replacement as well as the opportunity for additional generation beyond the replacement of at-risk generation. This new generation consists of modern resources that meet the necessary environmental permitting regulations. These new generation resources also would have significantly better operating

efficiencies than the existing on-site generation. New generation has advantages such as warrantees, access to manufacturer's service support, and parts inventory that should be available for many years. Also new generation should have a longer service life expectation than the restored existing on-site generation.

Regardless of the decision UCNSB makes to either move forward with capital investment to restore its existing generation or to move forward with new generation (or combination of both options), there appears to be significant economic opportunity for the UCNSB and the electric customers of UCNSB to provide reliable on-site generation in an economic manner. Both options provide to UCNSB significant benefits related to avoidance of expensive capacity purchase to meet the UCNSB capacity obligations, offset of some expensive spot market energy purchases, avoidance of some firm transmission costs, and offset of some transmission losses from energy purchased from off-site sources.

While the capacity and transmission value that UCNSB could receive from either option (restore existing generation or addition of new generation) is understood, the new more efficient generation produces opportunity to avoid energy purchases and associated transmission losses. Further, the new generation also creates a hedge related to the risk of purchasing firm transmission rights and advantages of short term energy contracts.

Summary

- The cost of restoration of existing 17.775MW of generation is estimated to be between $12.9M to $17.1M.
- The cost of 18.68MW of new replacement generation is estimated to be $25.8M. The cost of 28.0MW of new replacement and additional generation is estimated to be $37.0M.
- The incremental net cost or net value of the new generation of 18.68MW versus the repair of existing 17.75MW is from $595,875/year (cost) to $560,572/year (gain) based upon recent 12 month historic values. (see section 4.5 and 4.6)
- The incremental net cost or net value of the replacement generation of 28.0MW versus the repair of existing 17.75MW is from $327,997/year (cost) to $1,278,752/year (gain) based upon recent 12 month historic values. (see section 4.5 and 4.6)

Since the breakeven point for each of the two new generation scenarios (18.68MW and 28.0MW) fall within the above range of net cost/net value (plus there are other significant potential benefits of new more efficient generation), it is recommended that a Phase II analysis of new generation should be pursued.

Section 2

SECTION 2 - BACKGROUND

2.1 Internal Generating Reciprocating Engines

The Utilities Commission, City of New Smyrna Beach (UCNSB) has historically supplied varying levels of capacity and energy from internally generated sources. In the past, oil fired reciprocating engines at Smith Street and Swoope have driven generators to produce base load, intermediate and peaking power. Prior to 1980, the Swoope site produced steam for electric turbine generated base load using natural gas. More recently oil fired, simple cycle combustion turbines have provided capacity and peaking power to offset economic energy purchases. As various generations of the generating equipment has worn out and been replaced, UCNSB has altered types of equipment and considered various fuel alternatives.

DAI has completed an "Assessment of Existing Reciprocating Electrical Generation Equipment – Smith Street and Swoope Generating Facilities" (Assessment) dated May 6, 2011 for UCNSB. This Assessment was requested in response to the 2010 Reciprocating Internal Combustion Engine – National Emission Standards for Hazardous Air Pollutants (RICE NESHAP) regulation requirements. The RICE NESHAP requires existing permitted reciprocating engines to meet new standards to reduce emissions of hazardous air pollutants. The Assessment was made to determine which if any of the existing reciprocating engine generator units are valuable enough to consider for applying new exhaust treatment equipment to comply with RICE NESHAP or be retired from Title V EPA air emission permitted operations.

The Assessment has found that all but two engine generator sets should be retired from service. The two remaining engines with reasonable service life would require $1,200,000 for probable repairs and $300,000 to $500,000 of building upgrades to leave them in a Category 1 hurricane storm surge site. These two engine generator sets could be moved to the UCNSB West site or other suitable location. Such a move would require $2 million to $3 million for site work, building, substation, new permits and required SCR emissions treatment for NO_x. This relocation to obtain a long term site solution and engine upgrade costs would therefore cost between $3.5 million to $5 million plus contingencies. For this capital investment UCNSB would only achieve a 4800KW reliable power plant which operates at an undesirably high heat rate and on highly variable-priced fuel. The energy efficiency of the generation would provide few opportunities to operate for energy value similar to the Field Street combustion turbines.

2.2 Internal Generation Alternatives

DAI has been in contact with UCNSB since 2005, discussing opportunities and experiences with large – medium speed reciprocating engines and industrial or aero derivative combustion turbines for use as local generation drivers. DAI contributed background information which UCNSB included in its January 11, 2007 "City and Utilities Commission's Joint Workshop – Generation and Supply Discussion." The workshop presented the UCNSB "Generation Strategy 2007-2016" (Strategy). The fourth bullet (Exhibit A) of that Strategy is:

"Secure additional multi-unit, multi-fuel local peaking and intermediate contract-hedge power (50MW) or joint ownership facility and replacing (20MW) of existing units with new fuel efficient heavy duty simple cycle turbine or lean-burn, low emission reciprocating engines."

DAI contributed to the workshop papers a comparison performed during an evaluation of multiple units, dual fuel, local peaking and intermediate contract hedge generation for a 60MW municipal utility in Pennsylvania in 2002. This comparison of engineer, procure, construct (EPC) (or Turnkey) bids utilized prime movers from: GE small industrial turbines, Solar industrial turbines (two sizes), MAN dual fuel reciprocating engines, and Wartsila dual fuel reciprocating engines. DAI has investigated and updated the major equipment suppliers who provide equipment that meets the Strategy bullet for criteria as recently as fall 2009. Exhibit B is a comparison list of most major suppliers of gas fired reciprocating engines or turbines. Based upon this information and the vast recent experience of Wartsila supplying generation in the US market, DAI chose Wartsila as the representative of this type of equipment. However, when referring to this specific Wartsila generation it can be thought of, with little modification, as representing this whole class of generation resources.

2.3 Air Emissions Permits

For this conceptual study, no direct contact has been made with Florida DEP to research a specific UCNSB permit for the UCNSB West site. Based upon the current permits and the regulations regarding air emissions permits, a Title V USEPA permit or a Florida State Implementation Plan (SIP) permit could be procured for the site. The permit particulars would require emissions treatment for NO_x, CO, and NESHAP pollutants. The treatment equipment is well understood and budget capital and operating costs include air emissions treatment.

2.4 Transmission System Interconnection

The UCNSB West Substation currently interconnects Florida Power & Light (FP&L) and Progress Energy's 115KV transmission lines to UCNSB's 115KV internal transmission system. The UCNSB West site also provides two distribution circuits through a step down transformer for distribution service to the western side of the UCNSB service territory. The generation produced, 18MW, 25MW, or 50MW would be injected into the 115KV UCNSB line and protected by means acceptable to Florida Reliability Coordinating Council (FRCC), FP&L, and PE. The layout envisioned for the generation facility would provide dual parallel transformers sized to provide for full or nearly full generation output through one transformer at 65°C FFA rating. Normal operation would provide nominal nameplate 55°C rise on each transformer.

The means of disconnection and the relay protection scheme would not allow the generation to adversely affect the Bulk Power Systems as regulated by FRCC, NERC, and FERC.

The layout of the site is not envisioned to provide direct feed at distribution voltage to the circuits currently emanating from the substation.

The generator breakers are envisioned to be indoor metal clad construction with station service gear in one room and a separate battery room. Relay, engine, and SCR control panels will be in the power plant control room with SCADA communication to the UCNSB main control room.

2.5 Power Plant

The Power Plant building will house the switchgear, batteries, station service transformers, control room, air compressors, maintenance and storage areas, and the engine room. The building will be of pre-engineered metal design meeting the local building codes for ventilation, fire protection, and wind resistance. The site will be secured by fencing and cameras with gated access from the existing roads.

2.6 Current Power Supply

Capacity

The Utilities Commission, City of New Smyrna Beach (UCNSB) currently has a diversified portfolio of power supply sources and assets. These resources include: Crystal River-3 (CR-3), St. Lucie (SL-FMPA), UCNSB Onsite Generation (UCNSB-OS), Interchange Power (IP) purchases, and Progress Energy (PE-NSBA). Two of the UCNSB power supply assets are firm base load resources owned in syndication. These two resources (CR-3 and SL-FMPA) represent approximately 12MW of the 92MW of UCNSB capacity (13%), and provided approximately 20.5% of the energy requirement of UCNSB in 2010. The UCNSB-OS generation includes approximately 55MW of the 92MW of UCNSB capacity (59.7%), and provides approximately 0.25% of the energy requirement of UCNSB. The UCNSB capacity during 2010 was provided by the following sources:

UCNSB Capacity Resource Sources - 2010

Source	Capacity (MW)	Percentage	Status
CR-3	4.817	5.24	UCNSB Ownership
SL-FMPA	7.207	12.8	UCNSB Ownership
UCNSB-OS	54.9	59.72	UCNSB Ownership
Interchange	0	0.0	Contract Energy Only
PE-UCNSBA	25	27.2	Contract Capacity
	91.924	**100**	**Existing Capacity**

During 2010 the UCNSB System Load was reported as follows:

UCNSB System Monthly Peak Load - 2010

2010	Max. Net System Load (MW)	Date	Time of Day	Load Management (MW)	Total	Total with 15% Reserve Capacity
A	B	C	D	E	F (B+E=F)	G (Fx1.15=G)
January	109	1/12	8:00	0	109	125
February	90	2/14	8:00	0	90	103
March	78	3/5	8:00	3	81	93
April	57	4/25	18:00	0	57	66
May	73	5/8	17:00	0	73	84
June	87	6/16	16:00	0	87	100
July	91	7/29	17:00	5	96	110
August	86	8/3	17:00	3	91	105
September	84	9/4	17:00	0	84	97
October	67	10/27	17:00	0	67	77
November	53	11/3	17:00	0	53	61
December	97	TBD	TBD	5	102	117

Current Capacity Deficiency

UCNSB has a 15% reserve capacity margin goal above forecasted peak demand levels. During 2010 the UCNSB system was deficient in meeting its 15% reserve capacity goal during eight of twelve months based on actual peak demand levels. Further, during 2010 the UCNSB system was deficient in meeting its actual peak load capacity (PLC) obligation in two months (January and December) due to extreme weather events. Without Load Management resources, UCNSB would have been deficient in meeting actual peak load capacity obligation for the additional month of July. To restore a 15% reserve capacity margin, the UCNSB system would have required an additional 33 MW of capacity (125MW capacity obligation in January [with 15% reserve], less 92MW of capacity available = 33MW deficiency) based on actual peak demand levels for that period.

Further, if the at-risk generation of 17.775MW is added to the above 33MW capacity shortfall, the resultant 50.775MW is virtually identical to 50MW target in the fourth bullet (Exhibit A) of the "Generation Strategy 2007-2016."

Energy

UCNSB has five primary sources of power in its power supply portfolio. These sources are: Crystal River-3 (CR-3), St. Lucie-FMPA (SL-FMPA), UCNSB On-Site Generation (UCNSB-OS), Interchange Power (IP), and Progress Energy-NSBA (PE-NSBA). For 2010, these energy sources produced the following power supply portfolio results for UCNSB:

2010	CR-3 (MWH)	SL-FMPA (MWH)	UCNSB-OS (MWH)	IP (MWH)	PE-NSBA (MWH)	Sales (MWH)	System (MWH)
January	0	5,400	709.944	25,158	7,307	0	38,574.944
February	3,171	4,932	-17.938	21,503	3,742	0	33.330.062
March	3,623	5,245	-15.891	18,430	1,713	0	28,995.109
April	3,509	2,197	-17.602	20,626	0	0	26,314.398
May	3,510	2,761	-18.262	21,315	7,164	0	34,731.738
June	1,716	2,762	-12.790	25,812	10,652	0	40,929.210
July	3,588	4,695	-20.767	25,837	10,758	0	44,857.233
August	2,346	4,706	-9.248	26,100	9,731	0	42,873.752
September	1,890	4,906	-15.141	22,977	8,496	0	38,253.859
October	3,186	5,402	-10.548	18,401	2,055	0	29,033.452
November	3,186	5,266	-19.177	15,633	436	0	24,501.823
December	2,714	5,455	512.373	21,164	7,463	0	37,308.373
Totals	**32,439**	**53,727**	**1,064.953**	**262,956**	**69,517**	**0**	**419,703.953**
% Totals	**7.73**	**12.8**	**0.25**	**62.65**	**16.57**	**0**	**100**

The largest sources of power for UCNSB are Interconnection Power (IP) purchases and Progress Energy-NSBA (PE-NSBA). These two sources represent 62.65% and 16.57% of 2010 energy sources respectively or a total of 79.22% of all energy sources.

During 2010, UCNSB purchased Interchange Power from several sources (nine counterparties in 2010) and has therefore diversified its procurement options. One of these counterparties, Cargill Energy Marketing (CEM), provided over 40% of the UCNSB power supply in 2010. Two of these counterparties, Cargill Energy Marking and The Energy Authority (TEA), combined to provide almost 57% of the UCNSB power supply in 2010.

Below is a list of 2010 power supply counterparty results:

UCNSB Interchange Power (IP) Energy Source Summary - 2010

	TEA	CEM	C of T	REM	PE	RC	FLP	FLP-A	TECO	SEC	Totals
January	6,676	12,799	16	462	316	1,589	2,800	500	0	0	25,158
February	3146	13,660	5	205	641	108	3,639	0	99	0	21,503
March	1874	15,075	27	142	562	5	701	0	44	0	18,430
April	14,732	3,846	72	163	87	0	1,649	0	77	0	20,626
May	15,414	5,481	58	157	52	3	92	0	58	0	21,315
June	7,814	15,372	0	2,141	97	98	0	0	10	280	25,812
July	4,763	18,024	0	2,587	349	17	0	0	12	85	25,837
August	4,677	17,835	0	2,537	958	0	0	0	3	90	26,100
September	4,083	17,944	30	10	230	41	11	0	628	0	22,977
October	532	15,817	0	185	251	50	15	0	1,535	16	18,401
November	337	15,045	5	0	54	0	43	0	109	0	15,633
December	1,372	17,434	0	510	0	911	574	0	363	0	21,164
Total	**65,460**	**168,332**	**213**	**9,099**	**3,597**	**2,822**	**9,524**	**500**	**2,938**	**471**	**262,956**
% IP	**24.89**	**64.0**	**.08**	**3.46**	**1.37**	**1.07**	**3.62**	**.19**	**1.12**	**.36**	**100.16**
% System	**15.6**	**40.1**	**.05**	**2.17**	**.86**	**.67**	**2.27**	**.12**	**.7**	**.11**	**62.65**

Summarizing the components of the UCNSB Power Supply portfolio for 2010:

UCNSB Beach System Energy & Capacity Source Summary - 2010

Source	Energy (MWH)	Energy (%)	Capacity (MW)	Capacity (%)
CR-3	32,439	7.73	4.817	5.24
SL-FMPA	53,727	12.8	7.207	7.84
UCNSB-GEN	1064.953	0.25	54.9	59.72
IP	262,956	62.65	0.0	0.0
PE-NSBA	69,517	16.57	25	27.2
Totals	**419,703.953**	**100**	**91.924**	**100**

Summary

The 2010 Power Supply portfolio results for UCNSB are interesting in that UCNSB's load exceeded its capacity available. The UCNSB system apparently leaned on the grid for capacity to meet system peak loads during 2010. This capacity shortfall was largely due to extraordinary growth in UCNSB peak load levels. Fortunately, there was not a capacity deficiency charge or cost as a result of any unavailability of self supplied capacity, nor of any capacity obligated to UCNSB. In the event of unavailability of any of the capacity obligated to UCNSB, the overall UCNSB capacity deficiency would be even greater. The tenuous nature of this capacity deficiency position is further amplified by the condition of the at-risk UCNSB on-site generation. Review of this UCNSB-OS generation indicates major re-investment in upgrade or replacement

of up to 18MW of UCNSB-OS generation is necessary. In either case, near-term attention to the UCNSB capacity obligation is required. Further, regarding the UCNSB power supply portfolio, reliance on spot-market purchases for 62.65% of the energy requirement of UCNSB has the effect of exposing UCNSB to market price volatility to a very large degree. Risk management and/or hedging tolerances should be examined and additional tools employed to seek to reduce and manage this risk. Concern for this capacity condition is further heightened in that the major capacity source for UCNSB is its on-site generation (54.9MW of a total of 91.924 MW or almost 60% of total capacity). This UCNSB-OS generation had a fuel dispatch cost range for 2010 of a low of $280/MWH to a high of over +$400/MWH. This fuel dispatch cost range does not provide energy hedging value. The inadequacy of this energy hedge becomes especially clear when considered with the poor condition, age, and service record of some of these UCNSB-OS generation units.

2.7 Overview of Function of Generation- Economics

Elsewhere in this report, types of modern generation resources are described that would be candidates to replace some of the existing UCNSB on-site generation (UCNSB-OS). There is approximately 18MW of existing UCNSB-OS generation resources that are deemed to be in need of major upgrade or replacement. For incremental determinations, replacement capacity is identified as 18.68MW. This replacement capacity has a heat rate much lower than existing on-site generation and the replacement generation is natural gas fueled. These two features (improved heat rate and use of lower cost natural gas) are major economic and environmental improvements over the existing UCNSB-OS generation.

For purposes of examining additional options available to UCNSB in upgrading on-site generation capabilities, a second replacement capacity is identified as 28MW. This second replacement capacity level is the incremental step in sizing additional on-site generation above the 18.68MW level. The economic impact of both the replacement capacity of 18.68MW and the incremental next step capacity of 28MW are examined in this report in the Analysis - Section 4.

From a functional perspective, this replacement capacity of 18.68MW (or 28MW) has several other advantages over the existing on-site UCNSB generation:

- Replacement generation heat rates are much lower than existing on-site generation and therefore provide a significant improvement in the fuel to electricity production ratio.

- Forecasted natural gas supplies predict increased price stability due to a number of factors including: recent domestic shale gas reserve exploration and great increase in proven reserves, completion of major gas pipeline expansions, Canadian gas sources providing significant domestic injection, and (somewhat surprisingly) the Renewable Energy Portfolio Standards in many states.

- Natural gas has an active and highly liquid futures market that provides options for fuel hedging that provide additional opportunities for energy price spark-spread hedging.

- Modern replacement on-site generation fueled with natural gas would reduce the UCNSB dispatch strike price. This UCNSB-OS generation would still only produce a small portion of the total magnitude of the UCNSB power supply. However, the lower strike price of this new generation should serve to provide a significant cap on the magnitude of these expensive energy purchases of Interconnection Power.

- Further, use of modern replacement on-site generation fueled with natural gas would reduce dispatch of existing UCNSB on-site inefficient turbine generation fueled by oil. This should serve to reduce use of these turbines and improve overall operational efficiencies.

- Natural gas emissions have significant environmental advantages over other fossil fuels and are easier to permit, site and operate.

- The replacement capacity has the ability to "remote start" and "fast start" which would provide potential operational and economic benefits to UCNSB over existing on-site generation.

- Obviously, new capacity would have improved operational reliability and access to replacement parts and modern service capabilities that do not exist with some of the existing on-site generation.

- Additional capacity (beyond 28MW) can be added incrementally when needed.

- Reliable on-site generation would serve to reduce UCNSB exposure to capacity shortfall.

Summary

The preservation or expansion of on-site generation through either upgrade of existing generation (to protect and preserve 17.775MW of at-risk existing on-site generation), replacement of existing generation (at 18.68MW of new generation), or expansion of generation (at 28MW of new generation) should be a high priority for the UCNSB. Interconnection Power advantages of new, modern on-site replacement generation would include: much improved energy hedge, replacement of at-risk capacity, more economic operation and environmental improvements, a model concept and location suited for future expandability, and immediate operational advances in use of the on-site generation. Other attributes that would inure to UCNSB such as repositioning the location of generation to more suited sites, incorporating storm hardening reliability features, and other potential advantages, are discussed elsewhere in this report.

Section 3

SECTION 3 - DATA

3.1 Sources of Equipment Data and Costs

As described in the Section 2 - Background, there are many reciprocating engines and combustion turbines which can provide UCNSB the requirements set forth in the fourth bullet (Exhibit A) the UCNSB "Generation Strategy 2007-2016". As mentioned in the Assessment, the new type of replacement candidate for use as replacement generation would be similar to the Wartsila 20V34SG. This generation provides a proven platform and design with numerous installations in the U.S. The design has recently been updated to a 9341 KW generator terminal output and a 7379 BTU/KWH LHV heat rate. DAI has been in contact with Wartsila representatives for recent budget pricing, performance values, 3 engine plant layout, operation costs and maintenance costs. We have received capital costs and itemized supply list for a three engine plant with a cost per unit. From these values we have created the Summary of Capital Cost entry for "Purchase Cost" for benefit of UCNSB. Wartsila has provided a maintenance program cost based upon fixed and variable costs per hour of operation, list and cost for spare parts, usage rates for lubricating oil, urea, and other marginal cost values associated with operation of these engines. Based upon the fuel usage (heat rate), the projected range of fuel, and other direct operation costs, we have developed a series of dispatch costs for these engines to compare with energy purchases made by UCNSB in a representative 12 month period.

3.2 Use of Liquid Fuel Oil (LFO)

Currently the UCNSB on-site generators use LFO fuel. The recent costs provided for use in this study was from a purchase made December 30, 2010. The full cost including fees and tax is $2.686/gallon or $20.98/MM BTU LHV for API 39 fuel oil. The delivered natural gas cost at $8.50 per MM BTU is $9.435/MM BTU LHV (45% of the December 2010 LFO cost).[1] The current forward price curves for gas at Henry Hub is between $5.00 to $8.00 per MM BTU. At $5.00 commodity per MM BTU plus $0.50 (estimated) delivery cost, the cost per MM BTU LHV = $6.105 or 29.5% of the LFO cost. So for the study's range of natural gas prices the LFO is twice to three times the cost of gas per MM BTU LHV. The prices of LFO are fluctuating due to the uncertain world oil market so this price ($2.686/gallon) will continue to be volatile. These engines are required to burn ultra low sulfur fuel, which is transportation fuel. The current retail price for transportation fuel is above $4.00/gallon.

DAI has elected to not analyze LFO, as the high marginal cost to produce energy (over $200/MWH) produces no energy value to UCNSB power supply.

[1] LHV is the lower heat content available for the work performed in an engine or turbine. The balance of the heat is consumed as vaporizing heat for the water (H_2O) produced from the combustion. The cost of LFO per BTU LHV is $20.75/MM BTU.

If UCNSB were to elect to exclusively utilize natural gas fueled generation, fuel management and risk management could likely require procurement of some level of firm gas supply. DAI has confirmed that this firm source of gas supply exists but does not have firm prices at this time. Please see Section 6 – Recommendations of this report. If firm gas is not elected and only interruptible supply is elected, a future evaluation of dual fuel equipment should be performed.

3.3 Natural Gas Pipeline

As described in Section 5 – Budget, DAI has contacted Florida Public Utilities Company (FPUC) which provides gas in the vicinity of New Smyrna Beach. FPUC has investigated a gas connection along SR44 approximately 2 miles east of the site. This service may be adequate for two generators totaling 18MW nominally but further generation would cause negative gas pressure in the service area. Therefore, a more robust source has been located to the north and west of the site approximately 4 miles along public road right of way. This source can supply gas at 600psi and at least 420 MCF/hr or sufficient supply for 5 engines at 9.3MW each (46.6MW). The pipeline can be shortened by nearly half, if it can be located in one of the 115KV transmission rights of way. FPUC has given an estimate of the capital cost for purposes of our budget and analysis.

3.4 Fuels – Natural Gas (gas)

You will note the focus of Exhibit B is natural gas fueled equipment. The market place for natural gas fuel has had metamorphosis in recent years, decoupling the price of natural gas from liquid diesel fuel #2. For decades, gas prices have followed or led #2 fuel oil due to the significant ability of "fuel-switching" of one fuel for another in commercial/industrial boilers, dual fuel capable reciprocating engines and combustion turbines. The DAI equipment comparison included in the Strategy was for dual fuel capable prime movers since gas and LFO were interchangeable and prices and availability fluctuated significantly.

With the exploitation of the shale gas across Texas, the Midwest, and the Northeast providing large volumes of domestic gas, gas now is the more stable, more available fuel for the foreseeable future. Additionally, the current cost per BTU of LFO is two or three times the cost of gas.

The capital cost, reduced performance, and increased complexity of a dual fuel system has been deemed for this level of study as unnecessary since there is little energy value using LFO. If right of way for firm reliable supply gas is not available, then LFO fueled equipment can be purchased and installed as an alternate to provide capacity and emergency power only.

Section 4

SECTION 4 - ANALYSIS

4.1 Data Development and Organization

UCNSB and Downes Associates Inc. (DAI) have jointly developed a database of information utilized to investigate and analyze the power supply portfolio of the UCNSB. On-site investigation and follow-up phone and email communications have provided most of the information necessary to conduct this power supply analysis. UCNSB has provided information and data including historic reports such as:

- System Operation Report for January 2010 through March 2011
- Hourly purchase with pricing for January, June, September, December 2010, and January 2011.
- Monthly Interchange Power invoices for January 2010 through March 2011
- Progress Energy-NSBA (PE-NSBA) invoices for January 2010 through March 2011
- Agreement for Sale and Purchase of Capacity and Energy Between Florida Power Corporation Doing Business as Progress Energy Florida, Inc and Utilities Commission, City of New Smyrna Beach, Florida, Dated April 22, 2008
- Hourly load data for December 2010, December 2009, and December 2008
- Examples of current Daily Load Forecast and System Update reports
- Examples of current Daily OS Block Purchased Power reports
- History and Forecast of Energy Consumption and Number of Customers by Customer Class (January 1, 2011)
- FRCC Form 5.0, History and Forecast of Summer Peak Demand (MW) as of January 1, 2011
- FRCC Form 6.0, History and Forecast of Winter Peak Demand (MW) as of January 1, 2011
- FRCC Form 7.0, History and Forecast of Annual Net Energy For Load (GWH) as of January 1, 2011
- Monthly Budget Breakdown for FY 2009/2010 and FY 2010/2011
- St. Lucie Project, Monthly Budget Breakdown report, FY 2010/2011 and FY 2009/2010
- Information on CR-3 capacity cost and payments of debt service
- Information on reserve margin requirements
- UCNSB-0S turbine fuel pricing and strike dispatch costs 2010 and 2011 YTD
- Information on balancing and power accounting
- UCNSB FPPCAC information and status
- City and Utilities Commissions Joint Workshop, January 11, 2007, Generation and Supply Discussion
- Other miscellaneous information and responses.

DAI has taken much of the quantitative information from the above and created electronic databases for interactive quantitative analysis and further sensitivity analysis. Several of these interactive database models are included in this report.

4.2 Analysis

DAI produced database models of the hourly Interchange Power (IP) purchases and examined the re-dispatch of the UCNSB power supply with natural gas fueled strike prices based on the heat rates of new generation. DAI utilized this information to determine potential energy value that would accrue from the addition of new efficient, modern replacement generation. The modeled strike prices were utilized during periods where hourly price data was available. The strike price from this new generation was utilized to offset IP purchases in a "top down" method. The energy value of replacement generation was determined utilizing this method. Further a larger incremental energy value of additional generation (beyond replacement of the at-risk 17.775MW only) was also determined to aid in assessment of increasing the size of new on-site generation.

The value of retaining the existing 17.775MW of capacity (either by major upgrade or by replacement with 18.68MW of new generation) was estimated by use of recent spot market offerings of capacity received by UCNSB. These capacity values were taken from three sources: Term Sheet for Peaking Capacity, Term Sheet for Peaking and Intermediate Capacity, and Progress-Energy-NSBA Capacity and Energy Agreement (PE-NSBA). These three sources were utilized to estimate a potential future capacity value for UCNSB generation.

4.3 Capacity Value

UCNSB has received market based prices for bilateral capacity purchase. For purpose of this Phase I analysis we have used these competitive market based values as benchmarks for the current and future value of the UCNSB generation capacity. These values are:

1. System Average Peaking: Term Sheet of purchase for 12 to 15MW, price valid January 1, 2010 to December 31, 2012. Cost of $3.75/KW-month plus related transmission estimated at $1.50/KW-month. Total peaking capacity purchase of $5.25/KW-month. Effective price of offering is higher due to estimated fuel cost $120/MWH.

2. Heat Rate Call Option for Peaking Capacity and Energy: Term Sheet for 10MW to 200MW, price valid January 1. 2010 to December 31. 2013. Cost of $4.25/KW-month plus related transmission estimated at $1.50/KW-month. Total peaking capacity purchase of $5.75/KW-month. Effective price of offering is higher due to estimated fuel cost and heat-rate of 9.6 MMBTU/MWH, plus $1,000 for each schedule of energy. Also price adder for minimum term of 13 consecutive months and the ratio of highest monthly capacity quantity to the lowest monthly capacity quantity must not be greater than two (2) during any calendar year.

3. Heat Rate Call Option for Intermediate Capacity and Energy: Term Sheet for 10MW to 200MW, price valid January 1, 2010 through December 31, 2021. Cost of $10.25/KW-month (and 4% annual escalator), plus related transmission estimate at $1.50/KW-month. Effective offering price is higher due to estimated fuel cost and heat-rate of 7.9 MMBTU/MWH, plus minimum run time of 16 hours, plus $1,500 for each schedule of energy. Also price adder for minimum term of 13 consecutive months and the ratio of highest monthly capacity quantity to the lowest monthly capacity quantity must not be greater than 2 during any calendar year.

4. Agreement for Sale and Purchase of Capacity and Energy: (PE-NSBA) for 25MW, price valid January 1, 2009 through December 31, 2013. Cost of $12.50/KW-month (2011), $12.75/KW-month (2012) and $13.00/KW-month (2013), plus cost of transmission at $47,700/month ($1.91/KW-month). Calendar year 2010 fuel cost for energy from PE-NSBA source was $52.69/MWH plus non-fuel cost of $5.65 for a total energy cost of $58.34/MWH.

4.4 Generic Replacement Resource Capacity Value

In Assessment of Existing Reciprocating Electrical Generation Equipment, generic replacement generation with new efficient generation is considered. Selected as prototypical replacement generation new 9.34MW natural gas fueled generation prime mover with the following general characteristics were considered:

- Heat-rate of 7.379 MMBTU/MWH. This heat-rate is better than the heat-rate of capacity Option #2 Heat Rate Call Option for Peaking Capacity and Energy at 9.6 MMBTU/MWH. This replacement generation also has a better heat-rate than capacity Option #3 Heat Rate Call Option for Intermediate Capacity and Energy at 7.9 MMBTU/MWH.

- Based on the 7.379 MMBTU/MWH heat-rate of the new generation, with an assumed delivered fuel cost of $7/MMBTU, the estimated fuel cost of the new generation is $57.40. This fuel cost (at $7 natural gas) is close but slightly higher than the $52.69/MWH average 2010 fuel only cost of the PE-NSBA energy. The estimated new generation fuel cost is 9% higher than the 2010 average fuel only cost for PE-NSBA, but this difference may be tempered somewhat by anticipated favorable forward price curves for natural gas through 2025 and beyond.

- This generic replacement generation resource is intended for extended continuous operation, but is capable of remote fast start operation, in a continuous diurnal cycle of operation. It is not atypical for the new generation to operate well over 6,000 hours per year when utilized in circumstances when extended operation is required.

Summary

With a favorable heat-rate and capability of extended hours of continuous use, the replacement generation resources have characteristics more like those of capacity Options #3 and #4 in Section 4.3. While a range of capacity values are used for sensitivity analysis ($5.25/KW-month to $14.91/KW-month), it is expected that the capacity value of replacement generation performs more similarly to the upper half of the available market based capacity prices available. For these reasons, while capacity values in future years may be in the $10/KW-month to $15/KW-month, we have chosen to focus our attention on the mid-range of current capacity values received by UCNSB for a range of $8/KW-month to $12/KW-month.

4.5 Incremental Analysis

The capital cost of restoring the existing 17.775MW of at-risk generation to allow the UCNSB to preserve the current economics of operation and maintain the economic status quo is at an estimated cost of $12.9M to $17.1M.

The estimated capital cost of 18.68MW of replacement new efficient generation is $25.8M or an incremental capital cost of $8.7M to 12.9M more than restoring the existing 17.775MW of at-risk generation.

The estimated cost of 28MW of replacement new efficient generation is $37.0M, or an incremental capital cost of $19.9M to $24.1M more than restoring the existing 17.775MW at-risk generation.

Assuming the debt is financed utilizing tax-exempt financing at 5¼%, amortized for 20 years, the incremental cost of each scenario over restoring the existing 17.775MW at-risk generation is estimated as:

- Replacement with 18.68MW of new efficient generation = $713,000 to $1,057,207/year
- Replacement with 28MW of new efficient generation = $1,630,873 to $1,975,072/year

The value of replacing the existing at-risk generation with new more efficient generation would be to preserve the status quo of current power supply economics, and also provide additional energy, capacity, and transmission values. The incremental value of new generation, above restoring the existing 17.775MW of at-risk generation, is estimated to be:

1. For new generation of 18.68MW to replace the 17.775MW of at-risk existing generation, the incremental value, is estimated to be:

    a. Capacity- 0.9MW of capacity incremental addition at $96,000 to $144,000/MW-year[1] = $86,400 to $129,600/year.

[1] At future capacity value range of $8.00/KW-month to $12.00/KW-month

b. Energy- Dispatch of more efficient new generation over existing restored generation = $1,082.077 for Calendar Year 2010, and $318,439 for period February 2010 through January 2011.
c. Transmission- Assume 1.0MW of firm transmission no longer required, then 1.0MW x $1,908/MW-month[2] x 12months/year = $22,896/year
d. Transmission losses- Dispatch at 600 to 700 hours per year produces between 11,200MWH and 13,000MWH. At 2% transmission losses and value of approximately $150/MWH during peak periods, total value is only $33,600 to $39,000/year.

Total incremental value: $461,335 to $1,273,572/year

2. For new generation of 28MW to replace the 17.775MW of at-risk existing generation plus add an increment of additional new generation, the incremental value is estimated to be:

a. Capacity- 10.3MW of incremental capacity addition (28MW – 17.7MW = 10.3MW) at $96,000 to $144,000/MW-year[3] = $988,800 to $1,483,200/year
b. Energy- Dispatch of more efficient new generation over existing restored generation- $1,131,797 for calendar year 2010, and $372,047 for period February 2010 through January 2011.
c. Transmission- Assume 10.3MW of firm transmission no longer required, then 10.3MW x $1,908/MW-month[4] x 12 month/year = $235,828/year
d. Transmission losses- Dispatch at 600 to 700 hours produces between 16,800MWH and 19,600MWH. At 2% transmission losses and value of approximately $150/MWH during peak periods, the total value is only $50,400 and $58,800/year.

Total incremental value (above status quo): $1,647,075 to $2,909,625/year

The range of net cost (Replace at-risk existing generation with 18.68MW or 28.0MW) is in a range of the value from adding new more efficient generation. It is recommended that a Phase II analysis of new generation should be pursued.

4.6 Discussion of Incremental Analysis

Capacity

Use of an avoided capacity cost of $8.00/KW-month to $12.00/KW-month, fixed at what is estimated to be a mid-range of UCNSB's currently received offer of capacity cost without utilization of an escalator, should serve to estimate the capacity value over the 20 year forecasted

[2] PE-NSBA transmission at $47,700/month for 25 MW = $1.91/KW-month

[3] At future capacity value range of $8.00/KW-month to $12.00/KW-month

[4] PE-NSBA transmission at $47,700/month for 25 MW = $1.91/KW-month

periods and hopefully keep this evaluation of new generation below the actual cost-of-new-entry ("CONE") for future generation capacity. Since current and forecasted CONE revenue requirement for combined cycle combustion turbines is in the $163 to $310/MW-day the avoided capacity cost range appears to be in reasonable range.

Transmission

Transmission costs have been modeled as current in purchases made by UCNSB. The magnitude of transmission costs paid today by UCNSB has not been increased for forecasted future values. The transmission cost currently paid by UCNSB are reduced the prorated amount to indicate that firm transmission is no longer necessary for the increased amount of on-site generation. Since existing generation (17.775MW) is at risk, the potential increase in cost of transmission necessary to restore firm power delivery is included.

Transmission Losses

In several analyses, transmission losses are reduced due to increased dispatch of more efficient on-site generation. The reduction in transmission losses and the corresponding savings are small but are included in this analysis.

Sensitivity

Sensitivity analysis in several scenarios was evaluated including:

- Generation size (replacement capacity at 18.685MW and replacement & additional generation at 28MW)
- Capacity prices from $8.00/KW-month to $12.00/KW-month
- Fuel at $5.00/MMBTU to $9.00/MMBTU delivered
- Dispatch strike price from $50/MWH to $280/MWH

Limitations

Limitations of this current analysis include:

- Limited historic hourly price data
- Limited gas delivery data
- Limited investigation into gas hedging resources and opportunities
- Analysis period confined to period of negative economic impact (2008-2011)
- No load growth included in analysis
- No cost escalators or value escalators included
- Cost of capital not broadly defined (fixed at 5.25 %) nor use of equity component considered
- Cost or value of salvage of existing generation not included in the cost of options

- Other assumptions utilized in order to provide a broad representation of the conditions that may impact the decision related to on-site generation

Summary of Incremental Analysis (Compare Restructuring of Existing Generation versus New Generation)

Replacement of existing at-risk 17.775MW of generation with 18.68MW of new efficient generation produces an incremental debt service of between $713,000 and $1,057,207/year and potential incremental value range of $461,335 to $1,273,572/year. The net cost and net value range from <$595,875> (cost) to $560,572/year (gain).

Replacement of existing at-risk 17.775MW of existing generation plus additional generation with 28.0MW of new efficient generation produces an incremental debt service of between $1,630,873 to $1,975,072/year, and potential range of incremental savings of $1,647,075 to $2,909,625/year. The net cost and net value range from <$327,997> (cost) to $1,278,752/year (gain).

Since the breakeven point for each of the two new generation scenarios fall within the above range of net cost and net value, and there are other significant potential benefits of new more efficient generation, then a Phase II analysis of new generation should be pursed.

4.7 Historic Significance and Future Applicability

UCNSB has historically relied on some portion of its Power Supply portfolio to be provided by on-site generation. Off-site generation has historically been provided by syndicated purchase of base load resources. This off-site generation has been base load generation resources fueled by nuclear or coal. Nuclear or coal fuels require construction of large centralized plants. Both nuclear and coal fueled generation resources require massive investment for development of this base load generation and there are much more difficult and lengthy permitting and construction obstacles than for as fueled generation. Whether the obstacle to development of nuclear or coal fueled generation is: risk assessment of technology, spent fuel or ash disposal, large size of initial capital investment, site selection and permitting, environmental issues, perceived future environmental compliance challenges, anticipated future carbon tax, or other, the construction of modern utility sized nuclear or coal fuel resources is very challenging. In the past decade electric utilities have relied more and more on new gas-fueled generation. The current model of gas fueled generation is favored due to a number of reasons, including but not limited to:

- Initial cost is favorable, lower per MW cost of installed capacity
- Modular in size aides construction
- Incrementally able to be expanded in future
- Availability to procure and hedge fuel (robust natural gas “futures” market)
- Favorable forward price curves for natural gas due to recent development of shale gas resources and improved pipeline capacity
- Environmentally preferred fuel

- Relative ease in permitting & site selection versus other fuel generation
- More predictable construction cycle makes the development of natural gas resources easier to finance (bondholders are much more comfortable with securitization of this asset)
- Remote start capabilities allow for more operational flexibility
- Fast start capabilities particularly reciprocating resources are more valuable and necessary for compatibility with the intermittency of renewable energy sources
- Fast start capabilities are helpful during outages and for black start restoration
- Maintenance is typically less costly and more operator friendly
- Highly skilled and trained maintenance staff is historically more readily available from military and commercial sources
- Modular nature lends itself to distributed generation technology
- Resources are often capable of Combined Heat & Power (CHP) operation. CHP operation produces even more favorable energy economics

UCNSB has historically relied on fossil fuel liquids (LFO) to fuel its on-site generation. The addition of a natural gas option would provide another level of fuel diversity. At one time LFO and natural gas were largely linked in their pricing of future commodity. This price linkage is no longer as direct and in some respects the two energy markets work in independent fashion. Whether LFO and natural gas futures price converge again in the future is difficult to predict. It does appear that the relationship between the BTU value of natural gas and the BTU value of electricity will continue to converge as more and more of the future electric generation utilizes natural gas. This phenomenon, known as "spark-spread" management should produce opportunities for reduction in price volatility associated with favorable heat rate natural gas generation. There are significant opportunities for fuel and electricity hedging. Additionally, natural gas generation with favorable heat rate and access to firm natural gas delivery would potentially have ongoing value as a tolling resource to further hedge the energy positions of utilities and/or energy marketers.

For these reasons and others, it is expected that natural gas generation will continue to have a place and a growing role in the electric utility industry. DAI believes natural gas resources should play a significant future role in the power supply portfolio of the UCNSB.

4.8 Value of New Resources Beyond Replacement

In one scenario (28.0MW), additional capacity beyond the replacement of the immediately at-risk 17.775MW of existing generation is examined. In this scenario, an additional increment of on-site gas fueled generation is modeled. The effect of this incremental amount of capacity is to provide to UCNSB additional on-site capacity and to produce a favorable economic impact on the UCNSB power supply portfolio. This reduction in power supply cost is assumed through four sources:

- Reduction in Capacity Costs
- Reduction in Energy Costs
- Reduction in Firm Transmission

- Reduction in Transmission Losses

These four power supply cost reductions are assumed though the following:

Capacity: Assuming that the future market price for capacity is between the mid-range of current capacity offerings, values of between $8.00 and $12.00/KW-month of capacity cost was utilized. UCNSB has a negotiated capacity cost with PE-NSBA of $12.50/KW-month (2011), $12.75/KW-month (2012), and $13.00/KW-month (2013). The annual capacity cost estimated to be "avoided" by utilization of the range of $8.00 and $12.00/KW-month for this analysis is between $96,000/MW-year and $144,000/MW-year.

Energy: The value of energy cost avoided by utilizing more efficient lower cost to operate modern gas fueled generation will be at its highest for the initial generation capacity installed. As more and more gas fueled generation is installed more of the most expensive to procure electricity is offset in a "top-down" displacement algorithm. That is with each increased MW of new generation, the opportunity to offset high cost energy purchases and/or high cost self-generation production from the expensive UCNSB fossil fueled generation is reduced. Once enough gas fueled generation is installed, all of the more costly procured generation is offset and the incremental energy cost avoidance of additional new generation is reduced to zero. Based on 2010 UCNSB power supply procurement costs, there was significant energy cost avoidance ($1,131,797) available to make it potentially economically attractive to add incremental capacity cost beyond only the replacement of at-risk generation with gas fueled generation. This high energy cost avoidance for 2010, was greatly impacted by the very high cost of spot market energy in January 2010. For purposes of making a more cautious analysis, 2010 was assumed to be the high energy offset value and an undated period (that excluded January 2010) was utilized as a lower energy offset value. Both energy offset values were used to demonstrate a range of potential energy offset values.

Firm Transmission: It has been necessary for UCNSB to procure firm transmission in order to deliver firm capacity and energy to meet the UCNSB capacity obligation. The assumption is that once reliable on-site generation with a more favorable heat rate is installed that the requirement for firm transmission would be reduced. The value of this reduced firm transmission was benchmarked based on the Progress Energy Florida, Inc. PE-NSBA agreement value. While firm transmission costs may have increased since the PE-NSBA agreement was reached in 2008, there is nevertheless significant cost avoidance by assuming the current price for firm transmission of $47,700/month for 25MW of PE-NSBA capacity. This PE-NSBA contracted price represents $1,908/MW-month ($1.91/KW-month) of firm capacity. While the price for firm capacity may be higher when the PE-NSBA agreement terminates, for purposes of this analysis we have used $1,908/MW-month ($1.91/KW-month) for firm transmission cost avoided by additional efficient new on-site generation.

Firm Transmission Losses: The magnitude of current transmission losses for all power delivered to UCNSB is between 1% and 2.5%. Due to the limits of economic dispatch of the new gas fueled generation there is a limited amount of additional cost avoidance due to reduced transmission losses. The 2010 production of power by UCNSB-OS resources was only 1,065MWH (or 0.25% of total power supply). Even with a significant increase in energy dispatch by the utilization of more efficient new gas fueled generation there would be only a small percentage increase in the UCNSB on-site generation of power supply. At transmission losses of 2%, the avoided cost of the reduced transmission losses will only be a small incremental value. This value is estimated in one of the scenarios in the report as less than $50,000/year of avoided cost. This is a helpful reduction in transmission losses, but still represents only a small portion of the overall quantity of the energy in the total UCNSB power supply utilizing transmission services.

4.9 Results

The following cost avoidance values result from the above assumptions and are used in the analysis for a 28MW replacement capacity:

- Capacity at $8.00 to $12.00/KW-month produces an incremental increase in avoided cost of $988,800 to $1,483,200/year.
- Energy through "top-down" avoidance of procurement ("displaced" energy value through re-dispatch) produces an avoided cost of approximately $1,131,797 for 2010 or $372,047 for period February 2010 through January 2011.
- Firm Transmission at $1,908/MW-month produces an avoided cost of $235,828/year for the incremental addition of 10.3MW of new capacity above the replacement of "at-risk" existing 17.775MW (28.0MW-17.775MW=10.3MW).
- Transmission Losses at 2% on the amount of new, efficient, gas fueled generation produces a value approaching $50,000/year.

This total avoided cost analysis for 2010 would have produced gross savings of $1,647,075 to $2,909,625.

4.10 Summary

The avoided cost resultant from 28.0MW of new generation, (replacement generation capacity of 17.775MW and additional generation capacity of 10.3MW for a total of 28.0MW) was estimated utilizing 2010 test year energy data and the capacity values from arms-length capacity and energy term sheets obtained by UCNSB. The value of capacity energy, firm transmission, and reduced transmission losses were utilized to provide the various scenario results. Future need for capacity and/or transmission was assumed to be available in the marketplace and available at today's prices. The assumption of adequate market resources for UCNSB to procure capacity and energy in the future is not an assumption to be taken lightly. The 2010 avoided cost for replacement generation is a significant potential value to UCNSB and as such, additional steps (Phase II) should be pursued by UCNSB to further determine the feasibility of additional on-site natural gas generation capacity.

Section 5

SECTION 5 - BUDGET

5.1 Capital Budget

DAI has provided analysis as described elsewhere for the capacity and energy replacement for the existing 17,775KW reciprocating engines and power supply cost savings for additional increments of generation based on 2 and 3 Wartsila 20V34SG engine generator units. These 20 cylinder spark gas reciprocating engines operate at 75-90 psi gas pressure direct from the pipeline. The heat rate and output have improved since Exhibit B was produced in 2009. The electric output at the generator terminals has increased to 9341KW and the heat rate reduced to 7379 BTU/KW LHV. The capital cost used in the analysis is summarized in the Exhibit P. The line items of the Exhibit P are explained below.

The Purchase Cost is the budget estimate for the purchase of the engine, generator, specific gas fuel equipment, SCR injection and catalyst reactor, oxidizing catalyst reactor, silencers, radiators, filters, compressors, pressure storage vessels, installation engineering supervision for electrical and mechanical installation, and startup engineering with equipment testing.

The Engineering Cost includes design, construction administration, site observation, and startup observation.

The Site Work includes the excavation, grading, concrete, required for the building, substation, storm water management, oil and area storage, drainage, roadways, and fencing. The power plant superstructure is also included.

The Rigging is the delivery and offloading of the major equipment to its permanent location.

The Chemical Treatment is the systems to treat water for use in the engines, cooling system, and emissions control system.

The Mechanical Work is the piping, hangers, pumps, valves, and labor required to install the connections of auxiliary equipment fuel, air, and exhaust to the engines.

The Electrical Work is the material, conductors, cable tray, duct bank, connectors, and labor required to connect the auxiliary and engine equipment to power and control connections.

The Switchgear, Relays, Controls, and SCADA hardware is required for the power connecting and protection, control and communication of the power plant to control room, substation, and main UCNSB control room.

The Substation includes the cable trench, transformers, structural steel, bus work, disconnect switches, arrestors, ground grid, air break switches, materials, and labor to install.

The Gas Line Expansion cost is the engineering, materials, and labor for the tapping, pipelines, valves, safety devices, pressure reducing station, and metering required for connection to the 600 psi FPUC distribution pipeline along the public right of way. This connection is approximately 4 miles in length. A shorter route may be available if negotiations with the electric utility (FP&L) will allow the use of the existing 115KV transmission right of way to the site from the north saving 2 miles and reducing the cost.

The Currency and Other Contingency are for the unknowns of material, equipment, and labor costs whose fluctuation are unpredictable until an agreement is signed. Also the fluctuation in the currency exchange rate for the major equipment bought overseas is a potential factor.

Section 6

SECTION 6 – RECOMMENDATIONS

6.1 Reliability and Performance

A. DAI has reviewed
   1. UCNSB documents relating to power supply purchases and dispatch of internal generation.
   2. Marketplace for major equipment suitable to meet the fourth bullet (Exhibit A) in the "Generation Strategy 2007-2016,"
   3. Fuel supply issues particularly natural gas.
   4. Physical site adjacent to UCNSB Smyrna Substation.

B. DAI has prepared
   1. A conceptual site development plan.
   2. Capital and operating budget costs for that concept.
   3. A range of energy savings estimates using various fuel prices and generating capacities based upon recent dispatch data for UCNSB.

C. DAI recommends the following
   1. Prepare a follow up joint workshop with the City and Utilities Commission on generation and supply using updated information, the DAI "Assessment," and this report as background.
   2. Develop a Generation Strategy to address
      a. Update or retire Smith Street and Swoope Power Plants
      b. Develop new generation at UCNSB West
      c. List of issues to be addressed by Generation Strategy
         i. Internal intermediate capacity generation goals and steps
         ii. Use of fuels, LFO and natural gas interruptible; natural gas exclusively; or LFO only
         iii. Investigate new pipeline at 600 psi and gas supply market, develop risk assessment
         iv. Schedule and milestones
         v. Air permit issues, develop up to application to DEP
         vi. Investigate capacity requirements (FRCC) and marketplace costs
         vii. Design-bid-build strategy or EPC strategy
         viii. Operations by UCNSB or outside contractor
      d. Develop method of valuation for project economics and size.
         i. Use risk evaluation for C.2.c.i, C.2.c.ii, and C.2.c.iv (above)
         ii. Value of reliability and stability, storm hardening, hedges and other values to community.
   3. Pursue strategy and schedule for well developed preliminary design by end of 3rd quarter 2011.

6.2 Economic

UCNSB currently has significant exposure to both capacity obligation deficiency and energy price volatility. Addressing capacity obligation deficiency through major improvements in existing generation will provide only a preservation of the current level of capacity deficiency and will provide no additional benefit. Addressing capacity obligation through modern replacement generation (at 18.68MW level) will provide preservation of the current level of capacity deficiency and will provide some reduction in exposure to energy price volatility. Addressing capacity obligation through modern replacement generation at 28MW will provide both preservation of current level of capacity and reduce the capacity deficiency by an additional amount (10.3MW). Because the new generation has a much better heat rate, this increase in on-site generation capacity would also serve to provide additional reduction in exposure to energy price volatility. Additional on-site generation capacity at the UCNSB West site would provide other additional potential benefits as identified elsewhere in this report. Based on the apparent critical need for additional capacity, and the desire to provide additional energy price hedges and reduced power supply price volatility, it is recommended that UCNSB move forward with additional steps related to on-site generation capacity and proceed to a Phase II analysis.

6.3 Phase II Recommendations

It is recommended that UCNSB proceed with Phase II investigations related to on-site generation to include:

- Site investigations at west-UCNSB
- Development of conceptual design
  - Layout
  - Budget
  - Timeline & schedule
- Permitting & environmental compliance issues identified
- Pipeline conceptual and pipeline options identified
- Transmission interconnection issues identified
- Evaluation of incremental additions to on-site options (existing sites and/or west-UCNSB site)
- Recommendation of major improvement to existing (17.775MW) at-risk generation or salvage existing sites(s) for brown site reclamation
- Natural gas options available for hedging and/or option for capacity value and further potential “tolling” value
- Option to determine improvement in hedging (reduction in energy price volatility) from current power supply portfolio status.

6.4 Summary

The preservation or expansion of on-site generation through either upgrade of existing generation (to protect and preserve 17.775MW of at-risk existing on-site generation), replacement of existing generation (at 18.68MW of new), or expansion of generation (at 28MW of new) should be a high priority for the UCNSB. Advantages of new, modern on-site replacement generation would include a; much improved energy hedge, replacement of at-risk capacity, provide more economic operation and environmental improvements, provide a model and location suited for future expandability, and provide for immediate operational advances in use of the generation. Other attributes that would inure from installation of new, modern on-site replacement generation, such as repositioning the location of generation to more suited sites, incorporating storm hardening reliability features, and other potential advantages, are discussed elsewhere in this report.

City and Utilities Commissions Joint Workshop

January 11, 2007

Generation and Supply Discussion

Coronado Civic Center, 223 Flagler Avenue

Draft Information--Validation in Process

Generation Strategy 2007-2016 *

- Improve transmission reliability employing a 230 kV source.
- Secure local or grid contract for additional (20MW) base load power or equity ownership of base load in low risk, low cost plant.
- Secure additional (40 MW) intermediate contracts, 7 X 16 strips short-term, for flexible schedule or seasonal non-firm load.
- Secure additional multi-unit, multi-fuel local peaking and intermediate contract-hedge power (50MW) or joint ownership facility and replacing (20MW) of existing units with new fuel efficient heavy duty simple cycle turbine or lean-burn, low emission reciprocating engines.
- Secure up to (80MW) of local renewable and/or water co-product generation that can load-follow and be classed as firm-dispatch through local private ownership with a UC purchase option or partnership generation contract with the intention to replace or complement intermediate contracts based on generation dispatch capability.
- Sell excess as available.

* ~2016 Outcome: Base load- 40MW, Intermediate flexible contracts- 40-80MW, Peaking-- 100MW, Renewable-- 80MW.

	Total Operating Hours Of:	3,000	Gas Price @:	$5.70	Diesel Price @:	$0.85
Operating Temperature(F)	100	*OPTION 1*	*OPTION 2*	*OPTION 3*	*OPTION 4*	*OPTION 5*
Type of Unit(s)		GE10B	MAN 32/40	Taurus 60	Taurus 70	Wartsila 32DF
Number of Units:		2	4	4	3	4
MW of Output		18.53	26.88	19.32	19.51	23.28
Capital Costs		$23,157,000	$38,966,000	$18,427,925	$19,551,052	$20,336,000
Operating Hours (Gas):		2,500	2,500	2,500	2,500	2,500
Operating Hours (Diesel):		500	500	500	500	500
Number of Units:		2	4	4	3	4
Total MW-hr Produced Per Year:		55,602	80,640	57,960	58,536	69,828
Total Fuel Gas Used Per Yr. (MCF):		601,554	612,492	631,030	557,283	504,984
Total Fuel Oil Used Per Yr. (Gals):		861,112	858,713	902,244	750,009	733,154
Total Cost of Gas Used Per Yr:		$3,428,860	$3,491,207	$3,596,869	$3,176,510	$2,878,407
Gas @	$5.70					
Total Cost of Diesel Used Per Yr:		$731,945	$729,906	$766,907	$637,508	$623,181
Diesel @	$0.85					
Total Fuel Cost per Year		$4,160,805	$4,221,113	$4,363,776	$3,814,018	$3,501,588
5 Yr Debt Service**		$9,491,475	$15,971,189	$7,553,146	$8,013,487	$8,335,218
Operating Costs for first 5 years		$21,588,315	$24,595,200	$23,040,090	$20,091,653	$20,693,430
Idle Costs for first 5 yrs		$57,600	$172,800	$57,600	$57,600	$172,800
Total Project Cost - 5 Yrs		$31,137,390	$40,739,189	$30,650,836	$28,162,740	$29,201,448
Cost/ MW-hr - Total		$112	$101	$106	$96	$84
Cost/ MW-hr - Operation Only		$78	$61	$80	$69	$60

Source: Downes and Associates

Utility Commision, City of New Smyrna Beach

Gen Set Options [1]

May 2011

Manufacturer	Model	Type	Fuel	Electrical	Heat Rate	NOx Emissions	Indicative Costs	
				MW/Unit @ ISO	(BTU/kWh)	(g/hphr - Untreated)	Capital ($/kW)[2]	Operating ($/MWh)[3]
Wartsila	20V34SG	Recip	Gas	8.4	7700	0.52	$675	$43
Wartsila	18V50DF	Recip	Gas/Diesel	16.6	7218	1.05	$735	$40
Solar	Mercury 50	Turbine	Gas	4.6	8863	0.06	$758	$48
GE	LM6000 Sprint	Turbine	Gas	47.3	8457	0.30	$540	$45
Caterpillar	G16CM34	Recip	Gas	6.5	7765	0.60	$730	$43
Solar	Taurus 60	Turbine	Gas	5.3	11774	0.51	-	$68
Solar	Taurus 70	Turbine	Gas	7.2	10210	0.36	$556	$58
MAN	12-32/40 PGI	Recip	Gas	5.0	7336	0.50	-	$48
MAN	18-32/40 PGI	Recip	Gas	7.5	7336	0.50	$1,202	$47
MAN	18V51DF	Recip	Gas/Diesel	17.5	7404	1.12	-	$42
Siemens	SGT-100	Turbine	Gas	5.2	11199	0.45	$610	$65
Siemens	SGT-300	Turbine	Gas	7.9	10930	0.42	$658	$61

1. Data collected October 2009

2. Equipment purchase costs (excluding emissions equipment) based on 2009 proposals from suppliers.

3. Based on fuel and maintenance cost assumptions for 2009. Useful for comparative purposes only.

Progress Energy Purchase Summary

Mth-Yr	Energy Purchase	Total Fuel & Nonfuel Costs		True-Up Adjustment	Demand Charges	Transmission Charges	Other Charges	Total Costs	
	MWh	$	$/MWh		$	$	$	$	$/MWh
Jan-10	7,465	$431,402.35	$57.79	($1,200.00)	$306,250.00	$52,652.46	$21,682.45	$810,787.26	$108.61
Feb-10	3,820	$283,596.80	$74.24	$122,799.25	$306,250.00	$52,653.00	$19,584.15	$784,883.20	$205.47
Mar-10	1,750	$96,792.50	$55.31	($72,312.60)	$306,250.00	$52,653.00	$21,695.30	$405,078.20	$231.47
Apr-10	0	$0.00	$0.00	($6,982.50)	$306,250.00	$53,429.66	$20,398.00	$373,095.16	$0.00
May-10	7,315	$382,208.75	$52.25	$0.00	$306,250.00	$52,653.00	$80,346.50	$821,458.25	$112.30
Jun-10	10,875	$613,458.75	$56.41	$30,430.40	$306,250.00	$55,503.00	$23,506.98	$1,029,149.13	$94.63
Jul-10	10,980	$658,800.00	$60.00	$39,041.25	$306,250.00	$59,512.70	$24,290.54	$1,087,894.49	$99.08
Aug-10	9,935	$610,704.45	$61.47	$16,140.60	$306,250.00	$59,512.70	$24,290.54	$1,016,898.29	$102.36
Sep-10	8,680	$542,326.40	$62.48	$10,034.35	$306,250.00	$61,365.19	$21,737.17	$941,713.11	$108.49
Oct-10	2,100	$116,004.00	$55.24	($62,843.20)	$306,250.00	$59,512.70	$24,290.54	$443,214.04	$211.05
Nov-10	445	$25,347.20	$56.96	$3,612.00	$306,250.00	$59,511.05	($89,953.48)	$304,766.77	$684.87
Dec-10	7,620	$380,314.20	$49.91	($3,137.25)	$306,250.00	$59,512.70	($53,095.46)	$689,844.19	$90.53
Totals:	**70,985**	**$4,140,955.40**	**$58.34**	**$75,582.30**	**$3,675,000.00**	**$678,471.16**	**$138,773.23**	**$8,708,782.09**	**$122.68**
Jan-11	4,690	$300,066.20	$63.98	$107,213.40	$312,500.00	$59,482.79	$14,231.54	$793,493.93	$169.19
Feb-11	1,305	$70,509.15	$54.03	($46,665.50)	$312,500.00	$59,481.87	$21,939.85	$417,765.37	$320.13
Mar-11	610	$31,616.30	$51.83	($2,871.00)	$312,500.00	$59,482.79	$24,273.01	$425,001.10	$696.72

Interchange Resources Energy Purchase Summary

Mth-Yr	Energy Purchase	Total Energy Costs		Demand Charges	Transmission Charges	Other Charges	Total Costs	
	MWh	$	$/MWh	$	$	$	$	$/MWh
Jan-10	25,158	$2,068,829.50	$82.23	$7,450.00	$5,776.48	$0.00	$2,082,055.98	$82.76
Feb-10	21,503	$1,056,676.79	$49.14	$0.00	$571.74	$0.00	$1,057,248.53	$49.17
Mar-10	18,430	$884,739.00	$48.01	$0.00	$165.76	$0.00	$884,904.76	$48.01
Apr-10	20,626	$960,859.00	$46.58	$0.00	$272.32	$0.00	$961,131.32	$46.60
May-10	21,315	$993,098.25	$46.59	$0.00	$177.26	$0.00	$993,275.51	$46.60
Jun-10	25,812	$1,534,682.00	$59.46	$0.00	$544.50	$0.00	$1,535,226.50	$59.48
Jul-10	25,837	$1,493,497.50	$57.80	$0.00	$117.20	$0.00	$1,493,614.70	$57.81
Aug-10	26,100	$1,560,984.50	$59.81	$0.00	$0.00	$0.00	$1,560,984.50	$59.81
Sep-10	22,977	$1,228,273.50	$53.46	$0.00	$880.60	$0.00	$1,229,154.10	$53.49
Oct-10	18,401	$960,391.00	$52.19	$0.00	$275.00	$0.00	$960,666.00	$52.21
Nov-10	15,633	$840,059.00	$53.74	$0.00	$13.10	$0.00	$840,072.10	$53.74
Dec-10	21,164	$1,328,619.00	$62.78	$0.00	$4,539.21	$0.00	$1,333,158.21	$62.99
Totals:	**262,956**	**$14,910,709.04**	**$56.70**	**$7,450.00**	**$13,333.17**	**$0.00**	**$14,931,492.21**	**$56.78**
Jan-11	20,472	$1,190,936.10	$58.17	$0.00	$205.60	$0.00	$1,191,141.70	$58.18
Feb-11	19,073	$1,051,404.00	$55.13	$0.00	$7.86	$0.00	$1,051,411.86	$55.13
Mar-11	19,677	$1,089,660.50	$55.38	$0.00	$401.50	$0.00	$1,090,062.00	$55.40

Interchange Resources Energy Supply Summary

Mth-Yr	Energy Authority		Cargill Energy		City of Tallahassee		Rainbow Energy		Progress Energy		Reedy Creek		Tampa Electric		Seminole Electric Coop		FPL & FPL Schedule A	
	MWh	$	MWh	$	MWh	$	MWh	$	MWh	$	MWh	$	MWh	$	MWh	$	MWh	$
Jan-10	6,676	$900,854.00	12,799	$601,866.50	16	$812.52	462	$112,425.00	316	$14,622.00	1,589	$207,843.96	0	$0.00	0	$0.00	3,300	$243,632.00
Feb-10	3,146	$179,812.00	13,660	$646,477.00	5	$250.90	205	$13,460.00	641	$34,523.04	108	$6,790.84	99	$5,296.00	0	$0.00	3,639	$170,638.75
Mar-10	1,874	$109,223.00	15,075	$704,233.00	27	$1,460.86	142	$6,438.00	562	$30,869.00	5	$400.90	44	$2,144.00	0	$0.00	701	$30,136.00
Apr-10	14,732	$703,490.00	3,846	$174,990.00	72	$2,758.32	163	$7,595.00	87	$3,257.00	0	$0.00	77	$3,135.00	0	$0.00	1,649	$65,906.00
May-10	15,414	$738,459.25	5,481	$233,076.00	58	$2,288.88	157	$10,231.00	52	$2,246.00	3	$181.38	58	$3,007.00	0	$0.00	92	$3,786.00
Jun-10	7,814	$479,637.50	15,372	$832,857.50	0	$0.00	2,141	$181,640.00	97	$5,630.00	98	$7,071.50	10	$550.00	280	$27,840.00	0	$0.00
Jul-10	4,763	$280,818.50	18,024	$968,571.00	0	$0.00	2,587	$219,128.00	349	$16,059.00	17	$1,116.30	12	$572.00	85	$7,305.00	0	$0.00
Aug-10	4,677	$275,892.50	17,835	$961,976.00	0	$0.00	2,537	$247,786.00	958	$65,256.00	0	$0.00	3	$174.00	90	$9,900.00	0	$0.00
Sep-10	4,083	$224,639.80	17,944	$951,150.00	30	$1,044.60	10	$850.00	230	$9,753.00	41	$2,514.70	628	$38,728.00	0	$0.00	11	$474.00
Oct-10	532	$23,149.00	15,817	$846,786.00	0	$0.00	185	$10,705.00	251	$9,621.00	50	$3,175.00	1,535	$66,230.00	16	$480.00	15	$520.00
Nov-10	377	$15,367.00	15,045	$815,574.00	5	$238.10	0	$0.00	54	$2,196.00	0	$0.00	109	$5,066.00	0	$0.00	43	$1,631.00
Dec-10	1,372	$123,024.00	17,434	$948,704.00	0	$0.00	510	$101,925.00	0	$0.00	911	$110,149.46	363	$23,495.75	0	$0.00	574	$25,860.00
Totals:	**65,460**	**$4,054,366.55**	**168,332**	**$8,686,261.00**	**213**	**$8,854.18**	**9,099**	**$912,183.00**	**3,597**	**$194,032.04**	**2,822**	**$339,244.04**	**2,938**	**$148,397.75**	**471**	**$45,525.00**	**10,024**	**$542,583.75**
Jan-11	18,605	$1,051,374.00	541	$27,934.00	0	$0.00	650	$78,710.00	255	$10,777.10	39	$5,965.60	7	$322.00	0	$0.00	375	$16,059.00
Feb-11	17,225	$975,425.00	935	$36,860.00	3	$121.86	80	$3,790.00	244	$9,541.00	0	$0.00	109	$5,279.00	0	$0.00	477	$20,395.00
Mar-11	17,931	$1,014,208.00	250	$9,549.00	73	$3,401.50	895	$39,985.00	138	$5,720.50	0	$0.00	302	$13,716.00	0	$0.00	88	$3,482.00

System Operations Report Summary

Mth-Yr	Operations & Costs	Onsite & Remote Generation			Purchased Power		Energy Sales	Overall System	System Load (MW)	
		CR-3	S.L. FMPA	Onsite	Interchange	Progress Energy			Max	Min
Jan-10	Gross Generation (kWh)	0	5,520,908	733,053	25,170,000	7,465,000	0	**38,888,961**	109	21
	Transmission or Station Service Losses (kWh)	0	(120,908)	(23,109)	(12,000)	(158,000)	0	**(314,017)**		
	Net Energy for Load (kWh)	0	5,400,000	709,944	25,158,000	7,307,000	0	**38,574,944**		
	Fuel & Purchased Pwr Costs ($)	$9,312.22	$72,333.00	$293,694.21	$2,082,055.98	$810,787.26	$0.00	**$3,268,182.67**		
	Fuel & Purchased Pwr Costs ($/MWh)	$0.00	$13.40	$413.69	$82.76	$110.96	-	**$84.72**		
Feb-10	Gross Generation (kWh)	0	5,042,429	0	21,515,000	3,820,000	0	**30,377,429**	90	23
	Transmission or Station Service Losses (kWh)	0	(110,429)	(17,938)	(12,000)	(78,000)	0	**(218,367)**		
	Net Energy for Load (kWh)	3,171,000	4,932,000	(17,938)	21,503,000	3,742,000	0	**33,330,062**		
	Fuel & Purchased Pwr Costs ($)	$9,312.31	$72,333.00	$59,926.39	$1,057,248.53	$784,883.20	$0.00	**$1,983,703.43**		
	Fuel & Purchased Pwr Costs ($/MWh)	$2.94	$14.67	-	$49.17	$209.75	-	**$59.52**		
Mar-10	Gross Generation (kWh)	0	5,362,437	900	18,430,000	1,750,000	0	**25,543,337**	78	21
	Transmission or Station Service Losses (kWh)	0	(117,437)	(16,791)	0	(37,000)	0	**(171,228)**		
	Net Energy for Load (kWh)	3,623,000	5,245,000	(15,891)	18,430,000	1,713,000	0	**28,995,109**		
	Fuel & Purchased Pwr Costs ($)	$9,312.31	$72,333.00	$60,108.00	$884,904.76	$405,078.20	$0.00	**$1,431,736.27**		
	Fuel & Purchased Pwr Costs ($/MWh)	$2.57	$13.79	-	$48.01	$236.47	-	**$49.38**		
Apr-10	Gross Generation (kWh)	0	2,246,192	0	20,626,000	0	0	**22,872,192**	57	22
	Transmission or Station Service Losses (kWh)	0	(49,192)	(17,602)	0	0	0	**(66,794)**		
	Net Energy for Load (kWh)	3,509,000	2,197,000	(17,602)	20,626,000	0	0	**26,314,398**		
	Fuel & Purchased Pwr Costs ($)	$9,447.67	$36,167.00	$59,926.39	$961,131.32	$373,095.16	$0.00	**$1,439,767.54**		
	Fuel & Purchased Pwr Costs ($/MWh)	$2.69	$16.46	-	$46.60	$0.00	-	**$54.71**		
May-10	Gross Generation (kWh)	0	2,822,820	0	21,315,000	7,315,000	0	**31,452,820**	73	25
	Transmission or Station Service Losses (kWh)	0	(61,820)	(18,262)	0	(151,000)	0	**(231,082)**		
	Net Energy for Load (kWh)	3,510,000	2,761,000	(18,262)	21,315,000	7,164,000	0	**34,731,738**		
	Fuel & Purchased Pwr Costs ($)	$19,843.38	$36,167.00	$59,926.39	$993,275.51	$821,458.25	$0.00	**$1,930,670.53**		
	Fuel & Purchased Pwr Costs ($/MWh)	$5.65	$13.10	-	$46.60	$114.66	-	**$55.59**		
Jun-10	Gross Generation (kWh)	0	2,823,842	8,740	25,812,000	10,875,000	0	**39,519,582**	87	29
	Transmission or Station Service Losses (kWh)	0	(61,842)	(21,530)	0	(223,000)	0	**(306,372)**		
	Net Energy for Load (kWh)	1,716,000	2,762,000	(12,790)	25,812,000	10,652,000	0	**40,929,210**		
	Fuel & Purchased Pwr Costs ($)	$9,872.96	$72,333.00	$62,537.79	$1,535,226.50	$1,029,149.13	$0.00	**$2,709,119.38**		
	Fuel & Purchased Pwr Costs ($/MWh)	$5.75	$26.19	-	$59.48	$96.62	-	**$66.19**		
Jul-10	Gross Generation (kWh)	0	4,800,123	1,834	25,837,000	10,980,000	0	**41,618,957**	91	33
	Transmission or Station Service Losses (kWh)	0	(105,123)	(22,601)	0	(222,000)	0	**(349,724)**		
	Net Energy for Load (kWh)	3,588,000	4,695,000	(20,767)	25,837,000	10,758,000	0	**44,857,233**		
	Fuel & Purchased Pwr Costs ($)	$10,571.77	$72,333.00	$60,784.39	$1,493,614.70	$1,087,894.49	$0.00	**$2,725,198.35**		
	Fuel & Purchased Pwr Costs ($/MWh)	$2.95	$15.41	-	$57.81	$101.12	-	**$60.75**		
Aug-10	Gross Generation (kWh)	0	4,811,369	5,868	26,100,000	9,935,000	0	**40,852,237**	86	32
	Transmission or Station Service Losses (kWh)	0	(105,369)	(15,116)	0	(204,000)	0	**(324,485)**		
	Net Energy for Load (kWh)	2,346,000	4,706,000	(9,248)	26,100,000	9,731,000	0	**42,873,752**		
	Fuel & Purchased Pwr Costs ($)	$10,571.77	$72,333.00	$61,773.31	$1,560,984.50	$1,016,898.29	$0.00	**$2,722,560.87**		
	Fuel & Purchased Pwr Costs ($/MWh)	$4.51	$15.37	-	$59.81	$104.50	-	**$63.50**		
Sep-10	Gross Generation (kWh)	0	5,015,847	0	22,979,000	8,680,000	0	**36,674,847**	84	27
	Transmission or Station Service Losses (kWh)	0	(109,847)	(15,141)	(2,000)	(184,000)	0	**(310,988)**		
	Net Energy for Load (kWh)	1,890,000	4,906,000	(15,141)	22,977,000	8,496,000	0	**38,253,859**		
	Fuel & Purchased Pwr Costs ($)	$11,693.80	$72,333.00	$59,926.39	$1,229,154.10	$941,713.11	$0.00	**$2,314,820.40**		
	Fuel & Purchased Pwr Costs ($/MWh)	$6.19	$14.74	-	$53.49	$110.84	-	**$60.51**		
Oct-10	Gross Generation (kWh)	0	5,522,953	0	18,402,000	2,100,000	0	**26,024,953**	67	22
	Transmission or Station Service Losses (kWh)	0	(120,953)	(10,548)	(1,000)	(45,000)	0	**(177,501)**		
	Net Energy for Load (kWh)	3,186,000	5,402,000	(10,548)	18,401,000	2,055,000	0	**29,033,452**		
	Fuel & Purchased Pwr Costs ($)	$10,571.77	$90,561.00	$59,926.39	$960,666.00	$443,214.04	$0.00	**$1,564,939.20**		
	Fuel & Purchased Pwr Costs ($/MWh)	$3.32	$16.76	-	$52.21	$215.68	-	**$53.90**		
Nov-10	Gross Generation (kWh)	0	5,383,908	0	15,634,000	445,000	0	**21,462,908**	53	22
	Transmission or Station Service Losses (kWh)	0	(117,908)	(19,177)	(1,000)	(9,000)	0	**(147,085)**		
	Net Energy for Load (kWh)	3,186,000	5,266,000	(19,177)	15,633,000	436,000	0	**24,501,823**		
	Fuel & Purchased Pwr Costs ($)	$146,381.83	$90,561.00	$59,926.39	$840,072.10	$304,766.77	$0.00	**$1,441,708.09**		
	Fuel & Purchased Pwr Costs ($/MWh)	$45.95	$17.20	-	$53.74	$699.01	-	**$58.84**		
Dec-10	Gross Generation (kWh)	0	5,577,139	543,105	21,185,000	7,620,000	0	**34,925,244**	97	24
	Transmission or Station Service Losses (kWh)	0	(122,139)	(30,732)	(21,000)	(157,000)	0	**(330,871)**		
	Net Energy for Load (kWh)	2,714,000	5,455,000	512,373	21,164,000	7,463,000	0	**37,308,373**		
	Fuel & Purchased Pwr Costs ($)	$26,156.17	$90,561.00	$212,296.33	$1,333,158.21	$689,844.19	$0.00	**$2,352,015.90**		
	Fuel & Purchased Pwr Costs ($/MWh)	$9.64	$16.60	$414.34	$62.99	$92.44	-	**$63.04**		
Jan-11	Gross Generation (kWh)	0	2,932,216	19,443	20,473,000	4,690,000	0	**28,114,659**	93	23
	Transmission or Station Service Losses (kWh)	0	(64,216)	(19,413)	(1,000)	(95,000)	0	**(179,629)**		
	Net Energy for Load (kWh)	3,422,000	2,868,000	30	20,472,000	4,595,000	0	**31,357,030**		
	Fuel & Purchased Pwr Costs ($)	$26,150.95	$90,561.00	$67,590.72	$1,191,141.70	$793,493.93	$0.00	**$2,168,938.30**		
	Fuel & Purchased Pwr Costs ($/MWh)	$7.64	$31.58	-	$58.18	$172.69	-	**$69.17**		
Feb-11	Gross Generation (kWh)	0	2,532,461	20,701	19,076,000	1,305,000	0	**22,934,162**	80	21
	Transmission or Station Service Losses (kWh)	0	(55,461)	(16,455)	(3,000)	(27,000)	0	**(101,916)**		
	Net Energy for Load (kWh)	3,304,000	2,477,000	4,246	19,073,000	1,278,000	0	**26,136,246**		
	Fuel & Purchased Pwr Costs ($)	$23,841.99	$45,281.00	$67,939.34	$1,051,411.86	$417,765.37	$0.00	**$1,606,239.56**		
	Fuel & Purchased Pwr Costs ($/MWh)	$7.22	$18.28	-	$55.13	$326.89	-	**$61.46**		
Mar-11	Gross Generation (kWh)	0	2,790,103	0	19,677,000	610,000	0	**23,077,103**	59	21
	Transmission or Station Service Losses (kWh)	0	(61,103)	(17,488)	0	(12,000)	0	**(90,591)**		
	Net Energy for Load (kWh)	3,653,000	2,729,000	(17,488)	19,677,000	598,000	0	**26,639,512**		
	Fuel & Purchased Pwr Costs ($)	$27,305.35	$90,561.00	$62,823.55	$1,090,062.00	$425,001.10	$0.00	**$1,695,753.00**		
	Fuel & Purchased Pwr Costs ($/MWh)	$7.47	$33.18	-	$55.40	$710.70	-	**$63.66**		

System Operations Monthly Energy Output Report Summary

Mth-Yr	Onsite & Remote Generation							Purchased Power						Energy Sales	Overall System	System Load	
	CR-3	S.L. FMPA			Onsite Generation			Interchange			Progress Energy NSBA					Max	Min
	Net (kWh)	Gross (kWh)	Losses (kWh)	Net (kWh)	Gross (kWh)	Losses (kWh)	Net (kWh)	Gross (kWh)	Losses (kWh)	Net (kWh)	Gross (kWh)	Losses (kWh)	Net (kWh)	kWh	kWh	MW	MW
Jan-10	0	5,520,908	(120,908)	5,400,000	733,053	(23,109)	709,944	25,170,000	(12,000)	25,158,000	7,465,000	(158,000)	7,307,000	0	**38,574,944**	**109**	**21**
Feb-10	3,171,000	5,042,429	(110,429)	4,932,000	0	(17,938)	(17,938)	21,515,000	(12,000)	21,503,000	3,820,000	(78,000)	3,742,000	0	**33,330,062**	**90**	**23**
Mar-10	3,623,000	5,362,437	(117,437)	5,245,000	900	(16,791)	(15,891)	18,430,000	0	18,430,000	1,750,000	(37,000)	1,713,000	0	**28,995,109**	**78**	**21**
Apr-10	3,509,000	2,246,192	(49,192)	2,197,000	0	(17,602)	(17,602)	20,626,000	0	20,626,000	0	0	0	0	**26,314,398**	**57**	**22**
May-10	3,510,000	2,822,820	(61,820)	2,761,000	0	(18,262)	(18,262)	21,315,000	0	21,315,000	7,315,000	(151,000)	7,164,000	0	**34,731,738**	**73**	**25**
Jun-10	1,716,000	2,823,842	(61,842)	2,762,000	8,740	(21,530)	(12,790)	25,812,000	0	25,812,000	10,875,000	(223,000)	10,652,000	0	**40,929,210**	**87**	**29**
Jul-10	3,588,000	4,800,123	(105,123)	4,695,000	1,834	(22,601)	(20,767)	25,837,000	0	25,837,000	10,980,000	(222,000)	10,758,000	0	**44,857,233**	**91**	**33**
Aug-10	2,346,000	4,811,369	(105,369)	4,706,000	5,868	(15,116)	(9,248)	26,100,000	0	26,100,000	9,935,000	(204,000)	9,731,000	0	**42,873,752**	**86**	**32**
Sep-10	1,890,000	5,015,847	(109,847)	4,906,000	0	(15,141)	(15,141)	22,979,000	(2,000)	22,977,000	8,680,000	(184,000)	8,496,000	0	**38,253,859**	**84**	**27**
Oct-10	3,186,000	5,522,953	(120,953)	5,402,000	0	(10,548)	(10,548)	18,402,000	(1,000)	18,401,000	2,100,000	(45,000)	2,055,000	0	**29,033,452**	**67**	**22**
Nov-10	3,186,000	5,383,908	(117,908)	5,266,000	0	(19,177)	(19,177)	15,634,000	(1,000)	15,633,000	445,000	(9,000)	436,000	0	**24,501,823**	**53**	**22**
Dec-10	2,714,000	5,577,139	(122,139)	5,455,000	543,105	(30,732)	512,373	21,185,000	(21,000)	21,164,000	7,620,000	(157,000)	7,463,000	0	**37,308,373**	**97**	**24**
Totals:	32,439,000	54,929,967	(1,202,967)	53,727,000	1,293,500	(228,547)	1,064,953	263,005,000	(49,000)	262,956,000	70,985,000	(1,468,000)	69,517,000	0	**419,703,953**	-	-
Jan-11	3,422,000	2,932,216	(64,216)	2,868,000	19,443	(19,413)	30	20,473,000	(1,000)	20,472,000	4,690,000	(95,000)	4,595,000	0	**31,357,030**	**93**	**23**
Feb-11	3,304,000	2,532,461	(55,461)	2,477,000	20,701	(16,455)	4,246	19,076,000	(3,000)	19,073,000	1,305,000	(27,000)	1,278,000	0	**26,136,246**	**80**	**21**
Mar-11	3,653,000	2,790,103	(61,103)	2,729,000	0	(17,488)	(17,488)	19,677,000	0	19,677,000	610,000	(12,000)	598,000	0	**26,639,512**	**59**	**21**

System Operations Monthly Energy Purchase Summary

Mth-Yr	CR-3			S.L. FMPA			Onsite Generation			Purchased Power: Interchange			Purchased Power: Progress Energy NSBA			Energy Sales	Overall System	
	Net (kWh)	Fuel & PP Cost ($)	Fuel & PP Cost ($/MWh)	Net (kWh)	Fuel & PP Cost ($)	Fuel & PP Cost ($/MWh)	Net (kWh)	Fuel & PP Cost ($)	Fuel & PP Cost ($/MWh)	Net (kWh)	Fuel & PP Cost ($)	Fuel & PP Cost ($/MWh)	Net (kWh)	Fuel & PP Cost ($)	Fuel & PP Cost ($/MWh)	kWh	Sum of Fuel & PP Cost ($)	$/Net MWh
Jan-10	0	$9,312.22	-	5,400,000	$72,333.00	$13.40	709,944	$293,694.21	$413.69	25,158,000	$2,082,055.98	$82.76	7,307,000	$810,787.26	$110.96	0	**$3,268,182.67**	**$84.72**
Feb-10	3,171,000	$9,312.31	$2.94	4,932,000	$72,333.00	$14.67	(17,938)	$59,926.39	-	21,503,000	$1,057,248.53	$49.17	3,742,000	$784,883.20	$209.75	0	**$1,983,703.43**	**$59.52**
Mar-10	3,623,000	$9,312.31	$2.57	5,245,000	$72,333.00	$13.79	(15,891)	$60,108.00	-	18,430,000	$884,904.76	$48.01	1,713,000	$405,078.20	$236.47	0	**$1,431,736.27**	**$49.38**
Apr-10	3,509,000	$9,447.67	$2.69	2,197,000	$36,167.00	$16.46	(17,602)	$59,926.39	-	20,626,000	$961,131.32	$46.60	0	$373,095.16	-	0	**$1,439,767.54**	**$54.71**
May-10	3,510,000	$19,843.38	$5.65	2,761,000	$36,167.00	$13.10	(18,262)	$59,926.39	-	21,315,000	$993,275.51	$46.60	7,164,000	$821,458.25	$114.66	0	**$1,930,670.53**	**$55.59**
Jun-10	1,716,000	$9,872.96	$5.75	2,762,000	$72,333.00	$26.19	(12,790)	$62,537.79	-	25,812,000	$1,535,226.50	$59.48	10,652,000	$1,029,149.13	$96.62	0	**$2,709,119.38**	**$66.19**
Jul-10	3,588,000	$10,571.77	$2.95	4,695,000	$72,333.00	$15.41	(20,767)	$60,784.39	-	25,837,000	$1,493,614.70	$57.81	10,758,000	$1,087,894.49	$101.12	0	**$2,725,198.35**	**$60.75**
Aug-10	2,346,000	$10,571.77	$4.51	4,706,000	$72,333.00	$15.37	(9,248)	$61,773.31	-	26,100,000	$1,560,984.50	$59.81	9,731,000	$1,016,898.29	$104.50	0	**$2,722,560.87**	**$63.50**
Sep-10	1,890,000	$11,693.80	$6.19	4,906,000	$72,333.00	$14.74	(15,141)	$59,926.39	-	22,977,000	$1,229,154.10	$53.49	8,496,000	$941,713.11	$110.84	0	**$2,314,820.40**	**$60.51**
Oct-10	3,186,000	$10,571.77	$3.32	5,402,000	$90,561.00	$16.76	(10,548)	$59,926.39	-	18,401,000	$960,666.00	$52.21	2,055,000	$443,214.04	$215.68	0	**$1,564,939.20**	**$53.90**
Nov-10	3,186,000	$146,381.83	$45.95	5,266,000	$90,561.00	$17.20	(19,177)	$59,926.39	-	15,633,000	$840,072.10	$53.74	436,000	$304,766.77	$699.01	0	**$1,441,708.09**	**$58.84**
Dec-10	2,714,000	$26,156.17	$9.64	5,455,000	$90,561.00	$16.60	512,373	$212,264.33	$414.28	21,164,000	$1,333,158.21	$62.99	7,463,000	$689,844.19	$92.44	0	**$2,351,983.90**	**$63.04**
Totals:	32,439,000	$283,047.96	$8.73	53,727,000	$850,348.00	$15.83	1,064,953	$1,110,720.37	-	262,956,000	$14,931,492.21	$56.78	69,517,000	$8,708,782.09	$125.28	0	**$25,884,390.63**	**$61.67**
Jan-11	3,422,000	$26,150.95	$7.64	2,868,000	$90,561.00	$31.58	30	$67,590.72	-	20,472,000	$1,191,141.70	$58.18	4,595,000	$793,493.93	$172.69	0	**$2,168,938.30**	**$69.17**
Feb-11	3,304,000	$23,841.99	$7.22	2,477,000	$45,281.00	$18.28	4,246	$67,939.34	-	19,073,000	$1,051,411.86	$55.13	1,278,000	$417,765.37	$326.89	0	**$1,606,239.56**	**$61.46**
Mar-11	3,653,000	$27,305.35	$7.47	2,729,000	$90,561.00	$33.18	(17,488)	$62,823.55	-	19,677,000	$1,090,062.00	$55.40	598,000	$425,001.10	$710.70	0	**$1,695,753.00**	**$63.66**

Onsite Generation Summary

Field Street Generation

Mth-Yr	Generation Production: Gross (kWh)	Losses (kWh)	Net (kWh)	Generation Costs: Fuel Costs ($)	Other Costs ($)	Total Costs ($)	Cost ($/Gross MWh)	Cost ($/Net MWh)
Jan-10	733,053	(16099)	716954	$233,767.82	$59,926.39	$293,694.21	$400.65	$409.64
Feb-10	0	(10548)	(10548)	$0.00	$59,926.39	$59,926.39	-	-
Mar-10	0	(9241)	(9241)	$0.00	$59,926.39	$59,926.39	-	-
Apr-10	0	(10582)	(10582)	$0.00	$59,926.39	$59,926.39	-	-
May-10	0	(10732)	(10732)	$0.00	$59,926.39	$59,926.39	-	-
Jun-10	8,740	(13530)	(4790)	$2,611.40	$59,926.39	$62,537.79	$7,155.35	-
Jul-10	1,834	(16001)	(14167)	$858.00	$59,926.39	$60,784.39	$33,143.07	-
Aug-10	5,868	(8316)	(2448)	$1,846.92	$59,926.39	$61,773.31	$10,527.15	-
Sep-10	0	(10841)	(10841)	$0.00	$59,926.39	$59,926.39	-	-
Oct-10	0	(10248)	(10248)	$0.00	$59,926.39	$59,926.39	-	-
Nov-10	0	(9077)	(9077)	$0.00	$59,926.39	$59,926.39	-	-
Dec-10	543,105	(21332)	521773	$152,337.94	$59,926.39	$212,264.33	$390.83	$406.81
Totals:	**1,292,600**	**(146547)**	**1146053**	**$391,422.08**	**$719,116.68**	**$1,110,538.76**	**$859.15**	**$969.01**
Jan-11	19,443	(12113)	7330	$7,664.33	$59,926.39	$67,590.72	$3,476.35	$9,221.11
Feb-11	20,701	(9645)	11056	$8,012.95	$59,926.39	$67,939.34	$3,281.94	$6,145.02
Mar-11	0	(9758)	(9758)	$0.00	$62,823.55	$62,823.55	-	-

Smith Street Generation

Mth-Yr	Generation Production: Gross (kWh)	Losses (kWh)	Net (kWh)	Generation Costs: Fuel Costs ($)	Other Costs ($)	Total Costs ($)	Cost ($/Gross MWh)	Cost ($/Net MWh)
Jan-10	0	0	0	$0.00	$0.00	$0.00	-	-
Feb-10	0	0	0	$0.00	$0.00	$0.00	-	-
Mar-10	0	0	0	$0.00	$0.00	$0.00	-	-
Apr-10	0	0	0	$0.00	$0.00	$0.00	-	-
May-10	0	0	0	$0.00	$0.00	$0.00	-	-
Jun-10	0	0	0	$0.00	$0.00	$0.00	-	-
Jul-10	0	0	0	$0.00	$0.00	$0.00	-	-
Aug-10	0	0	0	$0.00	$0.00	$0.00	-	-
Sep-10	0	0	0	$0.00	$0.00	$0.00	-	-
Oct-10	0	0	0	$0.00	$0.00	$0.00	-	-
Nov-10	0	0	0	$0.00	$0.00	$0.00	-	-
Dec-10	0	0	0	$0.00	$0.00	$0.00	-	-
Totals:	**0**	**0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**-**	**-**
Jan-11	0	0	0	$0.00	$0.00	$0.00	-	-
Feb-11	0	0	0	$0.00	$0.00	$0.00	-	-
Mar-11	0	0	0	$0.00	$0.00	$0.00	-	-

Swoope Generation

Mth-Yr	Generation Production: Gross (kWh)	Losses (kWh)	Net (kWh)	Generation Costs: Fuel Costs ($)	Other Costs ($)	Total Costs ($)	Cost ($/Gross MWh)	Cost ($/Net MWh)
Jan-10	0	(7,010)	(7,010)	$0.00	$0.00	$0.00	-	-
Feb-10	0	(7,390)	(7,390)	$0.00	$0.00	$0.00	-	-
Mar-10	900	(7,550)	(6,650)	$181.61	$0.00	$181.61	$201.79	-
Apr-10	0	(7,020)	(7,020)	$0.00	$0.00	$0.00	-	-
May-10	0	(7,530)	(7,530)	$0.00	$0.00	$0.00	-	-
Jun-10	0	(8,000)	(8,000)	$0.00	$0.00	$0.00	-	-
Jul-10	0	(6,600)	(6,600)	$0.00	$0.00	$0.00	-	-
Aug-10	0	(6,800)	(6,800)	$0.00	$0.00	$0.00	-	-
Sep-10	0	(4,300)	(4,300)	$0.00	$0.00	$0.00	-	-
Oct-10	0	(300)	(300)	$0.00	$0.00	$0.00	-	-
Nov-10	0	(10,100)	(10,100)	$0.00	$0.00	$0.00	-	-
Dec-10	0	(9,400)	(9,400)	$0.00	$0.00	$0.00	-	-
Totals:	**900**	**(82,000)**	**(81,100)**	**$181.61**	**$0.00**	**$181.61**	**$201.79**	**-**
Jan-11	0	(7,300)	(7,300)	$0.00	$0.00	$0.00	-	-
Feb-11	0	(6,810)	(6,810)	$0.00	$0.00	$0.00	-	-
Mar-11	0	(7,730)	(7,730)	$0.00	$0.00	$0.00	-	-

Generation Division Summary

Mth-Yr	Generation Production: Gross (kWh)	Losses (kWh)	Net (kWh)	Generation Costs: Fuel Costs ($)	Other Costs ($)	Total Costs ($)	Cost ($/Gross MWh)	Cost ($/Net MWh)
Jan-10	733,053	(23,109)	709,944	$233,767.82	$59,926.39	$293,694.21	$400.65	$413.69
Feb-10	0	(17,938)	(17,938)	$0.00	$59,926.39	$59,926.39	-	-
Mar-10	900	(16,791)	(15,891)	$181.61	$59,926.39	$60,108.00	$66,786.67	-
Apr-10	0	(17,602)	(17,602)	$0.00	$59,926.39	$59,926.39	-	-
May-10	0	(18,262)	(18,262)	$0.00	$59,926.39	$59,926.39	-	-
Jun-10	8,740	(21,530)	(12,790)	$2,611.40	$59,926.39	$62,537.79	$7,155.35	-
Jul-10	1,834	(22,601)	(20,767)	$858.00	$59,926.39	$60,784.39	$33,143.07	-
Aug-10	5,868	(15,116)	(9,248)	$1,846.92	$59,926.39	$61,773.31	$10,527.15	-
Sep-10	0	(15,141)	(15,141)	$0.00	$59,926.39	$59,926.39	-	-
Oct-10	0	(10,548)	(10,548)	$0.00	$59,926.39	$59,926.39	-	-
Nov-10	0	(19,177)	(19,177)	$0.00	$59,926.39	$59,926.39	-	-
Dec-10	543,105	(30,732)	512,373	$152,337.94	$59,926.39	$212,264.33	$390.83	$414.28
Totals:	**1,293,500**	**(228,547)**	**1,064,953**	**$391,603.69**	**$719,116.68**	**$1,110,720.37**	**$858.69**	**$1,042.98**
Jan-11	19,443	(19,413)	30	$7,664.33	$59,926.39	$67,590.72	$3,476.35	$2,253,024.00
Feb-11	20,701	(16,455)	4,246	$8,012.95	$59,926.39	$67,939.34	$3,281.94	$16,000.79
Mar-11	0	(17,488)	(17,488)	$0.00	$62,823.55	$62,823.55	-	-

Estimated Energy Cost Savings Based on 2 New Generation Units - CY 2010						
Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
18.68	$60.30	$5.00	Jan-10	$968,898	$51,868	533
			Feb-10	$1,377	$74	17
			Mar-10	$99	$5	1
			Apr-10	$0	$0	0
			May-10	$764	$41	9
			Jun-10	$98,637	$5,280	389
			Jul-10	$66,152	$3,541	144
			Aug-10	$108,258	$5,795	192
			Sep-10	$4,625	$248	165
			Oct-10	$160	$9	3
			Nov-10	$0	$0	0
			Dec-10	$192,586	$10,310	143
			Totals:	$1,441,556	$77,171	1596
18.68	$68.50	$6.00	Jan-10	$887,226	$47,496	533
			Feb-10	$0	$0	0
			Mar-10	$58	$3	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$64,182	$3,436	280
			Jul-10	$44,136	$2,363	144
			Aug-10	$79,179	$4,239	141
			Sep-10	$432	$23	26
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$176,757	$9,462	127
			Totals:	$1,251,970	$67,022	1252
18.68	$76.80	$7.00	Jan-10	$804,558	$43,071	533
			Feb-10	$0	$0	0
			Mar-10	$17	$1	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$35,505	$1,901	256
			Jul-10	$21,943	$1,175	144
			Aug-10	$57,326	$3,069	141
			Sep-10	$82	$4	1
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$162,646	$8,707	107
			Totals:	$1,082,077	$57,927	1183

Estimated Energy Cost Savings Based on 2 New Generation Units - CY 2010						
Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
18.68	$85.00	$8.00	Jan-10	$772,888	$41,375	533
			Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$17,824	$954	149
			Jul-10	$785	$42	5
			Aug-10	$35,736	$1,913	141
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$148,999	$7,976	104
			Totals:	$976,232	$52,261	932
18.68	$93.30	$9.00	Jan-10	$640,218	$34,273	533
			Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$5,165	$276	77
			Jul-10	$690	$37	1
			Aug-10	$13,883	$743	141
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$135,364	$7,246	101
			Totals:	$795,320	$42,576	853
18.68	$101.50	$10.00	Jan-10	$558,546	$29,901	533
			Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$2,301	$123	2
			Jul-10	$675	$36	1
			Aug-10	$2,013	$108	5
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$122,886	$6,578	91
			Totals:	$686,421	$36,746	632

Denotes calculations based on detailed monthly power purchase data.

Estimated Monthly Energy Cost Savings Based on 2 New Generation Units						
Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
18.68	$60.30	$5.00	Feb-10	$1,377	$74	17
			Mar-10	$99	$5	1
			Apr-10	$0	$0	0
			May-10	$764	$41	9
			Jun-10	$98,637	$5,280	389
			Jul-10	$66,152	$3,541	144
			Aug-10	$108,258	$5,795	192
			Sep-10	$4,625	$248	165
			Oct-10	$160	$9	3
			Nov-10	$0	$0	0
			Dec-10	$192,586	$10,310	143
			Jan-11	$53,059	$2,840	60
			Totals:	**$525,717**	**$28,143**	**1123**
18.68	$68.50	$6.00	Feb-10	$0	$0	0
			Mar-10	$58	$3	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$64,182	$3,436	280
			Jul-10	$44,136	$2,363	144
			Aug-10	$79,179	$4,239	141
			Sep-10	$432	$23	26
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$176,757	$9,462	127
			Jan-11	$46,885	$2,510	55
			Totals:	**$411,629**	**$22,036**	**774**
18.68	$76.80	$7.00	Feb-10	$0	$0	0
			Mar-10	$17	$1	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$35,505	$1,901	256
			Jul-10	$21,943	$1,175	144
			Aug-10	$57,326	$3,069	141
			Sep-10	$82	$4	1
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$162,646	$8,707	107
			Jan-11	$40,920	$2,191	51
			Totals:	**$318,439**	**$17,047**	**701**

Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
18.68	$85.00	$8.00	Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$17,824	$954	149
			Jul-10	$785	$42	5
			Aug-10	$35,736	$1,913	141
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$148,999	$7,976	104
			Jan-11	$35,228	$1,886	48
			Totals:	**$238,572**	**$12,772**	**447**
18.68	$93.30	$9.00	Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$5,165	$276	77
			Jul-10	$690	$37	1
			Aug-10	$13,883	$743	141
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$135,364	$7,246	101
			Jan-11	$29,741	$1,592	41
			Totals:	**$184,843**	**$9,895**	**361**
18.68	$101.50	$10.00	Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$2,301	$123	2
			Jul-10	$675	$36	1
			Aug-10	$2,013	$108	5
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$122,886	$6,578	91
			Jan-11	$24,729	$1,324	40
			Totals:	**$152,604**	**$8,169**	**139**

Denotes calculations based on detailed monthly power purchase data.

Estimated Monthly Energy Cost Savings Based on 3 New Generation Units - CY 2010						
Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
28.02	$60.30	$5.00	Jan-10	$968,898	$34,579	355
			Feb-10	$1,377	$49	11
			Mar-10	$99	$4	1
			Apr-10	$0	$0	0
			May-10	$764	$27	6
			Jun-10	$110,487	$3,943	389
			Jul-10	$66,152	$2,361	96
			Aug-10	$108,258	$3,864	128
			Sep-10	$4,625	$165	165
			Oct-10	$160	$6	2
			Nov-10	$0	$0	0
			Dec-10	$244,364	$8,721	143
			Totals:	$1,505,184	$53,718	1296
28.02	$68.50	$6.00	Jan-10	$887,226	$31,664	355
			Feb-10	$0	$0	0
			Mar-10	$58	$2	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$72,112	$2,574	280
			Jul-10	$44,136	$1,575	95
			Aug-10	$79,179	$2,826	94
			Sep-10	$432	$15	26
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$225,337	$8,042	127
			Totals:	$1,308,480	$46,698	978
28.02	$76.80	$7.00	Jan-10	$804,558	$28,714	355
			Feb-10	$0	$0	0
			Mar-10	$17	$1	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$39,694	$1,417	256
			Jul-10	$21,943	$783	95
			Aug-10	$57,326	$2,046	94
			Sep-10	$82	$3	1
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$208,177	$7,430	107
			Totals:	$1,131,797	$40,392	909

Estimated Monthly Energy Cost Savings Based on 3 New Generation Units - CY 2010						
Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
28.02	$85.00	$8.00	Jan-10	$722,886	$25,799	355
			Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$19,882	$710	149
			Jul-10	$785	$28	3
			Aug-10	$35,736	$1,275	94
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$191,531	$6,836	104
			Totals:	$970,820	$34,647	705
28.02	$93.30	$9.00	Jan-10	$640,218	$22,849	355
			Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$5,523	$197	77
			Jul-10	$690	$25	1
			Aug-10	$13,886	$496	94
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$174,865	$6,241	101
			Totals:	$835,182	$29,807	628
28.02	$101.50	$10.00	Jan-10	$558,546	$19,934	355
			Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$2,338	$83	2
			Jul-10	$675	$24	1
			Aug-10	$2,013	$72	3
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$159,451	$5,691	91
			Totals:	$723,023	$25,804	452

Denotes calculations based on detailed monthly power purchase data.

Estimated Monthly Energy Cost Savings Based on 3 New Generation Units						
Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
28.02	$60.30	$5.00	Feb-10	$1,377	$49	11
			Mar-10	$99	$4	1
			Apr-10	$0	$0	0
			May-10	$764	$27	6
			Jun-10	$110,487	$3,943	389
			Jul-10	$66,152	$2,361	96
			Aug-10	$108,258	$3,864	128
			Sep-10	$4,625	$165	165
			Oct-10	$160	$6	2
			Nov-10	$0	$0	0
			Dec-10	$244,364	$8,721	143
			Jan-11	$58,512	$2,088	60
			Totals:	**$594,798**	**$21,228**	**1001**
28.02	$68.50	$6.00	Feb-10	$0	$0	0
			Mar-10	$58	$2	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$72,112	$2,574	280
			Jul-10	$44,136	$1,575	95
			Aug-10	$79,179	$2,826	94
			Sep-10	$432	$15	26
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$225,337	$8,042	127
			Jan-11	$51,560	$1,840	55
			Totals:	**$472,814**	**$16,874**	**678**
28.02	$76.80	$7.00	Feb-10	$0	$0	0
			Mar-10	$17	$1	1
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$39,694	$1,417	256
			Jul-10	$21,943	$783	95
			Aug-10	$57,326	$2,046	94
			Sep-10	$82	$3	1
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$208,177	$7,430	107
			Jan-11	$44,808	$1,599	51
			Totals:	**$372,047**	**$13,278**	**605**

Power Plant Capacity	Dispatch Offset Cost	Delivered Natural Gas Cost	Mth-Yr	Net Potential Energy Cost Savings		Power Plant Operation
MW	$/MWh	$/DTH		$	$/MW	Hrs
28.02	$85.00	$8.00	Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$19,882	$710	149
			Jul-10	$785	$28	3
			Aug-10	$35,736	$1,275	94
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$191,531	$6,836	104
			Jan-11	$38,337	$1,368	48
			Totals:	**$286,271**	**$10,217**	**398**
28.02	$93.30	$9.00	Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$5,523	$197	77
			Jul-10	$690	$25	1
			Aug-10	$13,886	$496	94
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$174,865	$6,241	101
			Jan-11	$32,063	$1,144	41
			Totals:	**$227,027**	**$8,102**	**314**
28.02	$101.50	$10.00	Feb-10	$0	$0	0
			Mar-10	$0	$0	0
			Apr-10	$0	$0	0
			May-10	$0	$0	0
			Jun-10	$2,338	$83	2
			Jul-10	$675	$24	1
			Aug-10	$2,013	$72	3
			Sep-10	$0	$0	0
			Oct-10	$0	$0	0
			Nov-10	$0	$0	0
			Dec-10	$159,451	$5,691	91
			Jan-11	$26,273	$938	40
			Totals:	**$190,750**	**$6,808**	**137**

Denotes calculations based on detailed monthly power purchase data.

Alternate Estimated Monthly Energy Cost Savings - 2 New Generation Units

Base Plant Operating Cost:	**$76.80**	**Total Annual Plant Operating Hours:**	**631**
Plant Capacity (MW):	**18.68**	**Total Annual Energy Cost Savings:**	**$374,025**

February 2010

Utility Energy Purchases	Net MWh	Total Energy Costs	$/MWh	Plant Operating Hours	Net Energy Cost Savings
The Energy Authority	3,146	$179,812.00	$57.16	0.00	$0.00
Cargill Energy Marketing	13,660	$646,477.00	$47.33	0.00	$0.00
City of Tallahassee	5	$250.90	$50.18	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	205	$13,460.00	$65.66	0.00	$0.00
Progress Energy	641	$34,523.04	$53.86	0.00	$0.00
Reedy Creek	108	$6,790.84	$62.88	0.00	$0.00
Tampa Electric Company	99	$5,296.00	$53.49	0.00	$0.00
FPL	3,639	$174,647.00	$47.99	0.00	$0.00
FPL Schedule A	0	-$4,008.25	$0.00	0.00	$0.00
Subtotals:	**21,503**	**$1,057,248.53**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

March 2010

Utility Energy Purchases	Net MWh	Total Energy Costs	$/MWh	Plant Operating Hours	Net Energy Cost Savings
The Energy Authority	1,874	$109,223.00	$58.28	0.00	$0.00
Cargill Energy Marketing	15,075	$704,233.00	$46.72	0.00	$0.00
City of Tallahassee	27	$1,460.86	$54.11	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	142	$6,438.00	$45.34	0.00	$0.00
Progress Energy	562	$30,869.00	$54.93	0.00	$0.00
Reedy Creek	5	$400.90	$80.18	0.27	$16.90
Tampa Electric Company	44	$2,144.00	$48.73	0.00	$0.00
FPL	701	$30,136.00	$42.99	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**18,430**	**$884,904.76**		**0.27**	**$16.90**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.27**	**$16.90**

April 2010

Utility Energy Purchases	Net MWh	Total Energy Costs	$/MWh	Plant Operating Hours	Net Energy Cost Savings
The Energy Authority	14,732	$703,490.00	$47.75	0.00	$0.00
Cargill Energy Marketing	3,846	$174,990.00	$45.50	0.00	$0.00
City of Tallahassee	72	$2,758.32	$38.31	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	163	$7,595.00	$46.60	0.00	$0.00
Progress Energy	87	$3,257.00	$37.44	0.00	$0.00
Reedy Creek	0	$0.00	$0.00	0.00	$0.00
Tampa Electric Company	77	$3,135.00	$40.71	0.00	$0.00
FPL	1,649	$65,906.00	$39.97	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**20,626**	**$961,131.32**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

May 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	15,414	$738,459.25	$47.91	0.00	$0.00
Cargill Energy Marketing	5,481	$233,076.00	$42.52	0.00	$0.00
City of Tallahassee	58	$2,288.88	$39.46	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	157	$10,231.00	$65.17	0.00	$0.00
Progress Energy	52	$2,246.00	$43.19	0.00	$0.00
Reedy Creek	3	$181.38	$60.46	0.00	$0.00
Tampa Electric Company	58	$3,007.00	$51.84	0.00	$0.00
FPL	92	$3,786.00	$41.15	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**21,315**	**$993,275.51**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

June 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	7,814	$479,637.50	$61.38	0.00	$0.00
Cargill Energy Marketing	15,372	$832,857.50	$54.18	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	280	$27,840.00	$99.43	14.99	$6,336.00
Rainbow Energy Marketing	2,141	$181,640.00	$84.84	114.61	$17,211.20
Progress Energy	97	$5,630.00	$58.04	0.00	$0.00
Reedy Creek	98	$7,071.50	$72.16	0.00	$0.00
Tampa Electric Company	10	$550.00	$55.00	0.00	$0.00
FPL	0	$0.00	$0.00	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**25,812**	**$1,535,226.50**		**129.60**	**$23,547.20**
UCNSB Generation	9	$2,611.40	$300.16	0.47	$1,943.24
			Totals:	**130.07**	**$25,490.44**

July 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	4,763	$280,818.50	$58.96	0.00	$0.00
Cargill Energy Marketing	18,024	$968,571.00	$53.74	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	85	$7,305.00	$85.94	4.55	$777.00
Rainbow Energy Marketing	2,587	$219,128.00	$84.70	138.49	$20,446.40
Progress Energy	349	$16,059.00	$46.01	0.00	$0.00
Reedy Creek	17	$1,116.30	$65.66	0.00	$0.00
Tampa Electric Company	12	$572.00	$47.67	0.00	$0.00
FPL	0	$0.00	$0.00	0.00	$0.00
Ferc Assessment Fee	0	$44.90	$0.00	0.00	$0.00
Subtotals:	**25,837**	**$1,493,614.70**		**143.04**	**$21,223.40**
UCNSB Generation	2	$858.00	$476.67	0.10	$719.76
			Totals:	**143.14**	**$21,943.16**

August 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	4,677	$275,892.50	$58.99	0.00	$0.00
Cargill Energy Marketing	17,835	$961,976.00	$53.94	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	90	$9,900.00	$110.00	4.82	$2,988.00
Rainbow Energy Marketing	2,537	$247,786.00	$97.67	135.81	$52,944.40
Progress Energy	958	$65,256.00	$68.12	0.00	$0.00
Reedy Creek	0	$0.00	$0.00	0.00	$0.00
Tampa Electric Company	3	$174.00	$58.00	0.00	$0.00
FPL	0	$0.00	$0.00	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**26,100**	**$1,560,984.50**		**140.63**	**$55,932.40**
UCNSB Generation	6	$1,846.92	$313.04	0.32	$1,393.80
			Totals:	**140.95**	**$57,326.20**

September 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	4,083	$224,639.80	$55.02	0.00	$0.00
Cargill Energy Marketing	17,944	$951,150.00	$53.01	0.00	$0.00
City of Tallahassee	30	$1,044.60	$34.82	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	10	$850.00	$85.00	0.54	$82.00
Progress Energy	230	$9,753.00	$42.40	0.00	$0.00
Reedy Creek	41	$2,514.70	$61.33	0.00	$0.00
Tampa Electric Company	628	$38,728.00	$61.67	0.00	$0.00
FPL	11	$474.00	$43.09	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**22,977**	**$1,229,154.10**		**0.54**	**$82.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.54**	**$82.00**

October 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	532	$23,149.00	$43.51	0.00	$0.00
Cargill Energy Marketing	15,817	$846,786.00	$53.54	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	16	$480.00	$30.00	0.00	$0.00
Rainbow Energy Marketing	185	$10,705.00	$57.86	0.00	$0.00
Progress Energy	251	$9,621.00	$38.33	0.00	$0.00
Reedy Creek	50	$3,175.00	$63.50	0.00	$0.00
Tampa Electric Company	1,535	$66,230.00	$43.15	0.00	$0.00
FPL	15	$520.00	$34.67	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**18,401**	**$960,666.00**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

November 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	377	$15,367.00	$40.76	0.00	$0.00
Cargill Energy Marketing	15,045	$815,574.00	$54.21	0.00	$0.00
City of Tallahassee	5	$238.10	$47.62	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	0	$0.00	$0.00	0.00	$0.00
Progress Energy	54	$2,196.00	$40.67	0.00	$0.00
Reedy Creek	0	$0.00	$0.00	0.00	$0.00
Tampa Electric Company	109	$5,066.00	$46.48	0.00	$0.00
FPL	43	$1,631.00	$37.93	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**15,633**	**$840,072.10**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

December 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	1,372	$123,024.00	$89.67	73.45	$17,654.40
Cargill Energy Marketing	17,434	$948,704.00	$54.42	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	510	$101,925.00	$199.85	27.30	$62,757.00
Progress Energy	0	$0.00	$0.00	0.00	$0.00
Reedy Creek	911	$110,149.46	$120.91	48.77	$40,184.66
Tampa Electric Company	363	$23,495.75	$64.73	0.00	$0.00
FPL	574	$25,860.00	$45.05	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**21,164**	**$1,333,158.21**		**149.52**	**$120,596.06**
UCNSB Generation	543	$152,337.94	$280.55	29.07	$110,635.54
			Totals:	**178.59**	**$231,231.60**

January 2011					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	18,605	$1,051,374.00	$56.51	0.00	$0.00
Cargill Energy Marketing	541	$27,934.00	$51.63	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	650	$78,710.00	$121.09	34.80	$28,790.00
Progress Energy	255	$10,777.10	$42.26	0.00	$0.00
Reedy Creek	39	$5,965.60	$152.96	2.09	$2,970.40
Tampa Electric Company	7	$322.00	$46.00	0.00	$0.00
FPL	375	$16,059.00	$42.82	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**20,472**	**$1,191,141.70**		**36.88**	**$31,760.40**
UCNSB Generation	19	$7,664.33	$395.07	1.04	$6,174.41
			Totals:	**37.92**	**$37,934.81**

Alternate Estimated Monthly Energy Cost Savings - 3 New Generation Units

Base Plant Operating Cost:	**$76.80**	**Total Annual Plant Operating Hours:**	**421**
Plant Capacity (MW):	**28.02**	**Total Annual Energy Cost Savings:**	**$374,025**

February 2010

Utility Energy Purchases	Net MWh	Total Energy Costs	$/MWh	Plant Operating Hours	Net Energy Cost Savings
The Energy Authority	3,146	$179,812.00	$57.16	0.00	$0.00
Cargill Energy Marketing	13,660	$646,477.00	$47.33	0.00	$0.00
City of Tallahassee	5	$250.90	$50.18	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	205	$13,460.00	$65.66	0.00	$0.00
Progress Energy	641	$34,523.04	$53.86	0.00	$0.00
Reedy Creek	108	$6,790.84	$62.88	0.00	$0.00
Tampa Electric Company	99	$5,296.00	$53.49	0.00	$0.00
FPL	3,639	$174,647.00	$47.99	0.00	$0.00
FPL Schedule A	0	-$4,008.25	$0.00	0.00	$0.00
Subtotals:	**21,503**	**$1,057,248.53**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

March 2010

Utility Energy Purchases	Net MWh	Total Energy Costs	$/MWh	Plant Operating Hours	Net Energy Cost Savings
The Energy Authority	1,874	$109,223.00	$58.28	0.00	$0.00
Cargill Energy Marketing	15,075	$704,233.00	$46.72	0.00	$0.00
City of Tallahassee	27	$1,460.86	$54.11	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	142	$6,438.00	$45.34	0.00	$0.00
Progress Energy	562	$30,869.00	$54.93	0.00	$0.00
Reedy Creek	5	$400.90	$80.18	0.18	$16.90
Tampa Electric Company	44	$2,144.00	$48.73	0.00	$0.00
FPL	701	$30,136.00	$42.99	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**18,430**	**$884,904.76**		**0.18**	**$16.90**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.18**	**$16.90**

April 2010

Utility Energy Purchases	Net MWh	Total Energy Costs	$/MWh	Plant Operating Hours	Net Energy Cost Savings
The Energy Authority	14,732	$703,490.00	$47.75	0.00	$0.00
Cargill Energy Marketing	3,846	$174,990.00	$45.50	0.00	$0.00
City of Tallahassee	72	$2,758.32	$38.31	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	163	$7,595.00	$46.60	0.00	$0.00
Progress Energy	87	$3,257.00	$37.44	0.00	$0.00
Reedy Creek	0	$0.00	$0.00	0.00	$0.00
Tampa Electric Company	77	$3,135.00	$40.71	0.00	$0.00
FPL	1,649	$65,906.00	$39.97	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**20,626**	**$961,131.32**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

May 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	15,414	$738,459.25	$47.91	0.00	$0.00
Cargill Energy Marketing	5,481	$233,076.00	$42.52	0.00	$0.00
City of Tallahassee	58	$2,288.88	$39.46	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	157	$10,231.00	$65.17	0.00	$0.00
Progress Energy	52	$2,246.00	$43.19	0.00	$0.00
Reedy Creek	3	$181.38	$60.46	0.00	$0.00
Tampa Electric Company	58	$3,007.00	$51.84	0.00	$0.00
FPL	92	$3,786.00	$41.15	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**21,315**	**$993,275.51**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

June 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	7,814	$479,637.50	$61.38	0.00	$0.00
Cargill Energy Marketing	15,372	$832,857.50	$54.18	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	280	$27,840.00	$99.43	9.99	$6,336.00
Rainbow Energy Marketing	2,141	$181,640.00	$84.84	76.41	$17,211.20
Progress Energy	97	$5,630.00	$58.04	0.00	$0.00
Reedy Creek	98	$7,071.50	$72.16	0.00	$0.00
Tampa Electric Company	10	$550.00	$55.00	0.00	$0.00
FPL	0	$0.00	$0.00	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**25,812**	**$1,535,226.50**		**86.40**	**$23,547.20**
UCNSB Generation	9	$2,611.40	$300.16	0.31	$1,943.24
			Totals:	**86.71**	**$25,490.44**

July 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	4,763	$280,818.50	$58.96	0.00	$0.00
Cargill Energy Marketing	18,024	$968,571.00	$53.74	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	85	$7,305.00	$85.94	3.03	$777.00
Rainbow Energy Marketing	2,587	$219,128.00	$84.70	92.33	$20,446.40
Progress Energy	349	$16,059.00	$46.01	0.00	$0.00
Reedy Creek	17	$1,116.30	$65.66	0.00	$0.00
Tampa Electric Company	12	$572.00	$47.67	0.00	$0.00
FPL	0	$0.00	$0.00	0.00	$0.00
Ferc Assessment Fee	0	$44.90	$0.00	0.00	$0.00
Subtotals:	**25,837**	**$1,493,614.70**		**95.36**	**$21,223.40**
UCNSB Generation	2	$858.00	$476.67	0.06	$719.76
			Totals:	**95.42**	**$21,943.16**

August 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	4,677	$275,892.50	$58.99	0.00	$0.00
Cargill Energy Marketing	17,835	$961,976.00	$53.94	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	90	$9,900.00	$110.00	3.21	$2,988.00
Rainbow Energy Marketing	2,537	$247,786.00	$97.67	90.54	$52,944.40
Progress Energy	958	$65,256.00	$68.12	0.00	$0.00
Reedy Creek	0	$0.00	$0.00	0.00	$0.00
Tampa Electric Company	3	$174.00	$58.00	0.00	$0.00
FPL	0	$0.00	$0.00	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**26,100**	**$1,560,984.50**		**93.75**	**$55,932.40**
UCNSB Generation	6	$1,846.92	$313.04	0.21	$1,393.80
			Totals:	**93.97**	**$57,326.20**

September 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	4,083	$224,639.80	$55.02	0.00	$0.00
Cargill Energy Marketing	17,944	$951,150.00	$53.01	0.00	$0.00
City of Tallahassee	30	$1,044.60	$34.82	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	10	$850.00	$85.00	0.36	$82.00
Progress Energy	230	$9,753.00	$42.40	0.00	$0.00
Reedy Creek	41	$2,514.70	$61.33	0.00	$0.00
Tampa Electric Company	628	$38,728.00	$61.67	0.00	$0.00
FPL	11	$474.00	$43.09	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**22,977**	**$1,229,154.10**		**0.36**	**$82.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.36**	**$82.00**

October 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	532	$23,149.00	$43.51	0.00	$0.00
Cargill Energy Marketing	15,817	$846,786.00	$53.54	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	16	$480.00	$30.00	0.00	$0.00
Rainbow Energy Marketing	185	$10,705.00	$57.86	0.00	$0.00
Progress Energy	251	$9,621.00	$38.33	0.00	$0.00
Reedy Creek	50	$3,175.00	$63.50	0.00	$0.00
Tampa Electric Company	1,535	$66,230.00	$43.15	0.00	$0.00
FPL	15	$520.00	$34.67	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**18,401**	**$960,666.00**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

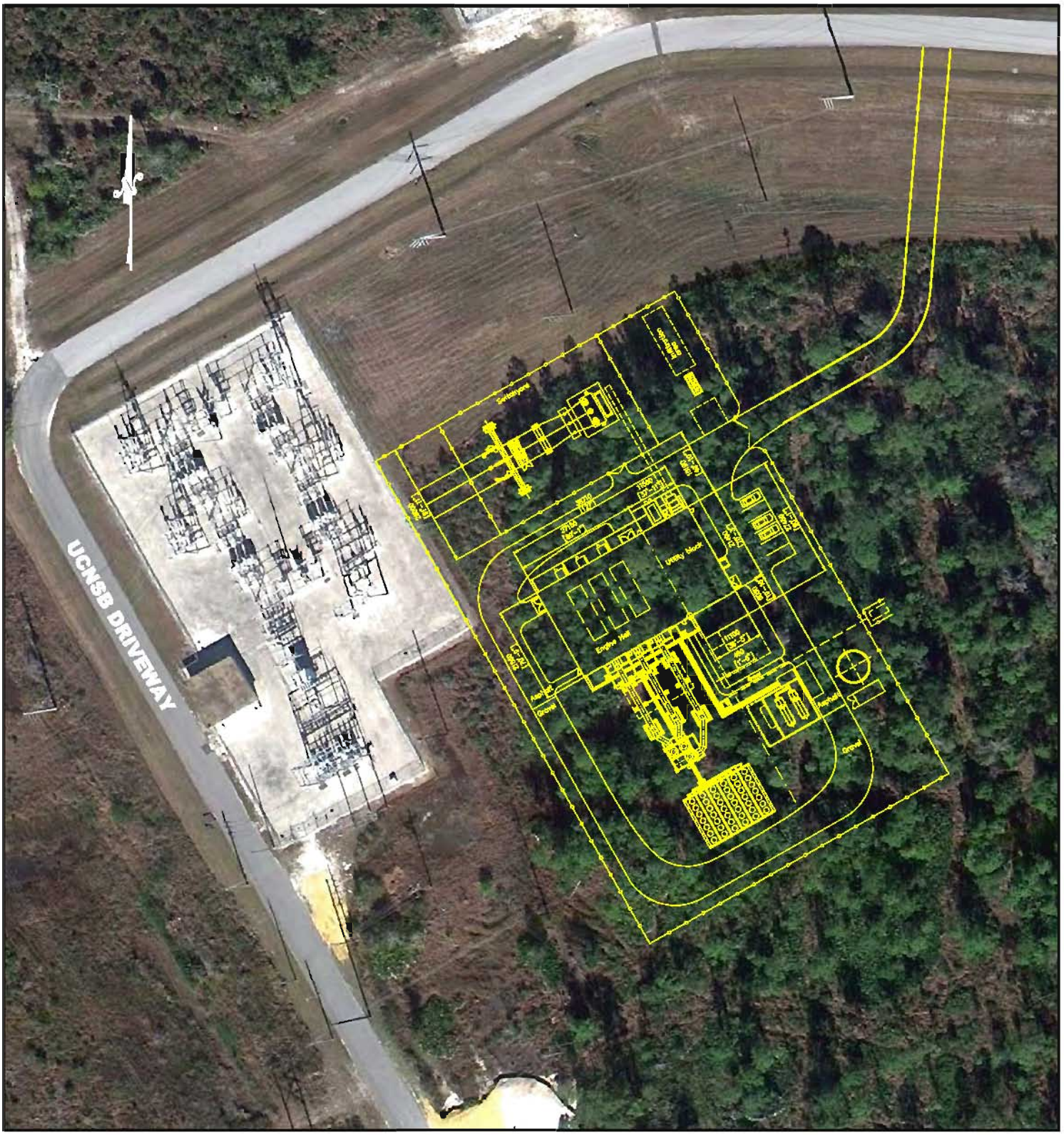
November 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	377	$15,367.00	$40.76	0.00	$0.00
Cargill Energy Marketing	15,045	$815,574.00	$54.21	0.00	$0.00
City of Tallahassee	5	$238.10	$47.62	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	0	$0.00	$0.00	0.00	$0.00
Progress Energy	54	$2,196.00	$40.67	0.00	$0.00
Reedy Creek	0	$0.00	$0.00	0.00	$0.00
Tampa Electric Company	109	$5,066.00	$46.48	0.00	$0.00
FPL	43	$1,631.00	$37.93	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**15,633**	**$840,072.10**		**0.00**	**$0.00**
UCNSB Generation	0	$0.00	$0.00	0.00	$0.00
			Totals:	**0.00**	**$0.00**

December 2010					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	1,372	$123,024.00	$89.67	48.97	$17,654.40
Cargill Energy Marketing	17,434	$948,704.00	$54.42	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	510	$101,925.00	$199.85	18.20	$62,757.00
Progress Energy	0	$0.00	$0.00	0.00	$0.00
Reedy Creek	911	$110,149.46	$120.91	32.51	$40,184.66
Tampa Electric Company	363	$23,495.75	$64.73	0.00	$0.00
FPL	574	$25,860.00	$45.05	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**21,164**	**$1,333,158.21**		**99.68**	**$120,596.06**
UCNSB Generation	543	$152,337.94	$280.55	19.38	$110,635.54
			Totals:	**119.06**	**$231,231.60**

January 2011					
Utility Energy Purchases	**Net MWh**	**Total Energy Costs**	**$/MWh**	**Plant Operating Hours**	**Net Energy Cost Savings**
The Energy Authority	18,605	$1,051,374.00	$56.51	0.00	$0.00
Cargill Energy Marketing	541	$27,934.00	$51.63	0.00	$0.00
City of Tallahassee	0	$0.00	$0.00	0.00	$0.00
Seminole Electric Cooperative	0	$0.00	$0.00	0.00	$0.00
Rainbow Energy Marketing	650	$78,710.00	$121.09	23.20	$28,790.00
Progress Energy	255	$10,777.10	$42.26	0.00	$0.00
Reedy Creek	39	$5,965.60	$152.96	1.39	$2,970.40
Tampa Electric Company	7	$322.00	$46.00	0.00	$0.00
FPL	375	$16,059.00	$42.82	0.00	$0.00
FPL Schedule A	0	$0.00	$0.00	0.00	$0.00
Subtotals:	**20,472**	**$1,191,141.70**		**24.59**	**$31,760.40**
UCNSB Generation	19	$7,664.33	$395.07	0.69	$6,174.41
			Totals:	**25.28**	**$37,934.81**

Utilities Commission, City of New Smyrna Beach
Summary of Estimated Capital Costs of New Power Plant

	OPTION A	OPTION B	OPTION C	OPTION D
Type of Unit	Wartsila 20V34SG	Wartsila 20V34SG	Wartsila 20V34SG	Wartsila 20V34SG
Number of Units	2	3	4	5
Output of Each (kW)	9,341	9,341	9,341	9,341
Total MW of Output	18.682	28.023	37.364	46.705
Purchase Cost	$13,800,128	$18,525,900	$23,800,038	$28,800,179
Engineering Cost	$1,980,486	$2,640,648	$2,904,713	$3,168,777
Site Work - Construction Foundation, Building	$2,270,467	$2,838,083	$3,263,796	$3,405,700
Rigging	$139,440	$185,920	$223,104	$260,288
Chemical Treatment	$18,665	$24,886	$29,864	$34,841
Mechanical Work	$1,656,577	$2,208,770	$2,650,524	$3,092,278
Electrical Work	$870,220	$1,243,171	$1,616,122	$1,989,073
Switchgear, Relays, Controls, SCADA	$1,425,684	$2,036,691	$2,647,698	$3,258,705
Substation	$2,618,460	$3,491,280	$3,840,408	$4,189,536
Gas Line Expansion Cost	$2,400,000	$2,400,000	$2,400,000	$2,400,000
Currency & Other Contingency (4%)	$1,087,205	$1,423,814	$1,735,051	$2,023,975
Total Capital Costs	$28,267,331	$37,019,163	$45,111,318	$52,623,353
Capital Cost/ kW	$1,513	$1,321	$1,207	$1,127
Total Capital Costs (w/o Gas Line)	$25,867,331	$34,619,163	$42,711,318	$50,223,353
Capital Cost/ kW (w/o Gas Line)	$1,385	$1,235	$1,143	$1,075



PRELIMINARY

DATE	DESCRIPTION

DESIGNED BY TOP	DATE 06-10-11
DRAWN BY CEM	SCALE 1"=100'
CHECKED BY AMG	JOB NO. 306.022

NEW SMYRNA BEACH

CONCEPTUAL POWER PLANT LAYOUT

DOWNES ASSOCIATES INC
Engineering & Management Consulting

CAD DWG. NO.

2001

FILE NUMBER
306-022

M.D.