## **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In re: Petition to Recover Costs of of Crystal River Unit 3 Uprate through the Fuel Clause

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DOCKET NO. 070052 Submitted for filing: May 4, 2007



## AMENDED DIRECT TESTIMONY OF SAMUEL S. WATERS

## ON BEHALF OF PROGRESS ENERGY FLORIDA

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## IN RE: PETITION TO RECOVER THE COSTS OF THE CRYSTAL RIVER 3 UPRATE THROUGH THE FUEL CLAUSE

## **BY PROGRESS ENERGY FLORIDA**

## FPSC DOCKET NO. 070052

## AMENDED DIRECT TESTIMONY OF

## SAMUEL S. WATERS

## I. INTRODUCTION AND QUALIFICATIONS

- Q. Please state your name, employer, and business address.
   A. My name is Samuel S. Waters and I am employed by Progress Energy Carolinas
   ("PEC"). My business address is 410 S. Wilmington Street, Raleigh, North Carolina,
   27601.
- Q. Please tell us your position with PEC and describe your duties and
  responsibilities in that position.

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A. I am Director of System Planning and Regulatory Performance for Progress Energy
Carolinas (PEC). At the outset of this proceeding I was responsible for directing the
resource planning process for both Progress Energy Florida ("PEF" or the
"Company") and PEC. In March, I assumed my current position stated above. I
continue to testify on behalf of PEF in this proceeding. Our resource planning
process is an integrated approach to finding the most cost-effective alternatives to
meet each company's obligation to serve, in terms of long-term price and reliability.

We examine both supply-side and demand-side resources available and potentially available to the Company over its planning horizon, relative to the Company's load forecasts. In my capacity as Director of System Planning and Regulatory Performance, I oversaw the completion of the Company's most recent Ten Year Site Plan ("TYSP") document filed in April 2007.

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Q. Please summarize your educational background and employment experience.
A. I graduated from Duke University with a Bachelor of Science degree in Engineering in 1974. From 1974 to 1985, I was employed by the Advanced Systems Technology Division of the Westinghouse Electric Corporation as a consultant in the areas of transmission planning and power system analysis. While employed by Westinghouse, I earned a Masters Degree in Electrical Engineering from Carnegie-Mellon University.

I joined the System Planning department of Florida Power & Light Company ("FPL") in 1985, working in the generation planning area. I became Supervisor of Resource Planning in 1986, and subsequently Manager of Integrated Resource Planning in 1987, a position I held until 1993. In late, 1993, I assumed the position of Director, Market Planning, where I was responsible for oversight of the regulatory activities of FPL's Marketing Department, as well as tracking of marketing-related trends and developments.

In 1994, I became Director of Regulatory Affairs Coordination, where I was responsible for management of FPL's regulatory filings with the FPSC and the

1		Federal Energy Regulatory Commission ("FERC"). In 2000, I returned to FPL's
2		Resource Planning Department as Director.
3		I assumed the position of Manager of Resource Planning with Progress Energy
4		in January of 2004, and assumed the position of Director of System Resource
5		Planning in October of 2005. I am a registered Professional Engineer in the states of
6		Pennsylvania and Florida, and a Senior Member of the Institute of Electrical and
7		Electronics Engineers, Inc. ("IEEE").
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9		II. PURPOSE AND SUMMARY OF AMENDED TESTIMONY
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11	Q.	Did you previously file direct testimony in this proceeding?
12	А.	Yes, I did.
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14	Q.	What is the purpose of your previously filed testimony in this proceeding?
15	А.	My primary purpose is to present the fuel savings and overall cost effectiveness to
16		customers of the proposed power uprate project at the Company's Crystal River Unit
17		3 ("CR3"), the Company's nuclear unit. A more detailed description of the CR3
18		power uprate project is provided in Mr. Roderick's testimony.
19		I also generally describe the Company, its generation resources, including
20		purchased power, its transmission and distribution systems, and CR3's place in the
21		system. Finally, I generally describe the Company's conservation measures and
22		explained why conservation measures cannot mitigate the economic need for the CR3
23		power uprate project.
	I	Page 3 of 13

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## Why are you filing amended testimony?

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A. The CR3 power uprate project has been divided into three phases, instead of the original two phases, with the first phase beginning in 2007 instead of 2009. As a result, an increase of 12 MWe is expected in 2008, following the first phase of the CR3 power uprate project during the CR3 2007 refueling outage. I have filed amended testimony reflecting the revised net fuel savings resulting from the acceleration of part of the CR3 power uprate project to the 2007 refueling outage. The revised CR3 power uprate phases and the revised schedule for these phases are explained in the amended direct testimony of Daniel L. Roderick.

Because the Commission has granted the Company's petition for a determination of need for the expansion of the CR3 power plant and the exemption from Rule 25-22.082, F.A.C., I have omitted my testimony that was directly related to those requests in the Company's Petition in my amended direct testimony and I included the testimony that is relevant to the Company's petition for recovery of the costs of the CR3 power uprate through the Fuel Clause.

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## Q. Are you sponsoring any exhibits to your testimony?

**A.** Yes. I have prepared or supervised the preparation of the following exhibits to my testimony:

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 Amended Exhibit No. (SSW-1), an amended Summary of Annual Fuel Savings of the Proposed Power Upgrade to CR 3; and

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Amended Exhibit No. (SSW-2), an amended Summary of the Overall Cost Effectiveness of the Proposed Power Upgrade to CR 3 to the retail customer.

These amended exhibits to my testimony are true and correct.

Q.

## Please summarize your testimony.

The CR3 power uprate will provide customers substantial fuel savings of over \$2.6 Α. billion for the extended life of CR3 and enhanced fuel diversity on PEF's system and in Florida. The CR3 power provides retail customers an estimated net fuel savings benefit, when compared to the costs of the power uprate, of \$320 million on a present value basis. In addition, PEF's customers receive additional, reliable base load capacity from the lowest cost fuel generation source available to PEF. All of these benefits demonstrate the clear value of the CR3 power uprate to PEF's customers and support the Company's request that the Commission grant its Petition for cost recovery through the Fuel Clause.

**III. OVERVIEW OF THE COMPANY AND THE PROJECT** 

Q. Please generally describe the Company.

PEF is an investor-owned public utility, regulated by the Florida Public Service Α. Commission ("PSC"), with an obligation to provide electric service to approximately 21 1.6 million customers in its service area, which covers approximately 20,000 square 22 miles in 35 of the state's 67 counties. PEF supplies electricity at retail to 23

Page 5 of 13

approximately 350 communities and at wholesale to 22 municipalities, utilities, and power agencies plus 9 rural electric cooperatives in the State of Florida. PEF serves one of the faster growing areas of the country. Its forecasted annual customer growth is projected to be 1.8 percent over the next 10 years. Annual sales growth is projected to be approximately 2.5 percent during the same period. Q. What are the Company's current supply-side generation resources? PEF currently owns and operates a diverse mix of supply-side resources, consisting of A. generation from nuclear, coal, oil, and gas, along with purchases from other utilities and purchases from non-utility generators such as cogenerators. The existing generating capacity includes one 788 MW nuclear steam unit (reflecting the Company's ownership interest in CR3), four combined cycle units with a total capacity of 1,885 MW, 12 fossil steam units totaling 4,008 MW in capacity, and 3,087 MW of capacity in 47 combustion turbine units. The Company's existing total winter net generating capability is 9,768 MW. PEF purchases over 1, 300 MW of capacity from 19 qualifying facilities and two investor-owned utilities. The qualifying facilities from which the Company

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two investor-owned utilities. The qualifying facilities from which the Company
purchases power are fueled by a variety of sources, including natural gas, wood waste,
and municipal waste. PEF is also engaged in two long-term contracts for power. One
contract is with The Southern Company, which sells the Company 414 MW from the
coal-fired Miller and Scherer Plants. The other contract is for system power from
Tampa Electric Company. This contract increased to 70 MW in 2005. Altogether,
these purchased power resources account for approximately 12 percent of PEF's

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## Q. What is the Company's Demand-Side Management (DSM) Program?

To comply with the directives of the Florida Energy Efficiency and Conservation Act ("FEECA"), PEF must file with the PSC a DSM Plan to meet the conservation goals established by the PSC pursuant to FEECA. The PSC established conservation goals for PEF that span the ten-year period from 2000 through 2009 in Order No. PSC-99-1942-FOF-EG issued October 1, 1999 in Docket No. 971007-EG. Consistent with these conservation goals established by the PSC, the Company filed its DSM Plan on December 29, 1999. PEF's DSM Plan was approved by the PSC in Order No. PSC-00-0750-PAA-EG, Docket No. 991789-EG, issued on April 17, 2000.

PEF proposed new conservation goals for the ten year period from 2005 through 2014, as well as a new DSM Plan for meeting the proposed goals, in a filing with the Commission as part of Docket No. PSC-040031-EG. Over the five years from 2005 to 2009 the proposed conservation goals are generally lower than the existing set of goals, reflecting less available savings from demand-side resources. The proposed new conservation goals were approved by the Commission in Order No. PSC-04-0769-PAA-EG, Docket No. PSC-040031-EG, on August 9, 2004. The new approved conservation goals will lead to an increase in PEF's firm winter and summer peak demand.

Approximately 389,000 customers participated in the Energy Management program in the Company's DSM plan at the end of 2006, contributing about 755,000 kW of winter peak-shaving capacity for use during high load periods.

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2	Q.	Can you please provide a general description of the Company's transmission
3		and distribution facilities?
4	А.	Yes. PEF is part of a nationwide interconnected power network that enables power to
5		be exchanged between utilities. PEF has approximately 5,000 circuit miles of
6		transmission lines including about 200 circuit miles of 500 kV lines and about 1,500
7		circuit miles of 230 kV lines. PEF has distribution lines of approximately 35,000
8		circuit miles, including about 13,000 circuit miles of underground cable. Distribution
9		and transmission substations in service have a transformer capacity of approximately
10		45,000,000 kVA in 614 transformers. Distribution line transformers numbered
11		356,930 with an aggregate capacity of about 18,000,000 kVA.
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13	Q.	Please describe the CR3 unit.
14	А.	CR3 is the Company's nuclear unit. It was the third unit built at the Crystal River
15		site, which is a 4,700 acre site located in Citrus County, Florida. The other units
16		located at the Crystal River site are all coal-fired units (Crystal River Units 1, 2, 4,
17		and 5). The CR3 unit is a pressurized water reactor that currently generates
18		approximately 900 MWe. A more detailed description of the CR3 unit is provided in
19		the amended testimony of Mr. Roderick.
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21	Q.	What is the CR3 power uprate project?

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A. The CR3 power uprate project consists of three stages of modifications and efficiency enhancements that will increase the power output of CR3 from about 900 MWe by

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180 MWe to 1,080 MWe. The CR3 power uprate project will be performed during the scheduled refueling outages for the CR3 unit in 2007, 2009 and 2011. Additional detail about the CR3 power uprate project is contained in the amended testimony of Mr. Roderick.

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## IV. BENEFITS OF THE CR3 POWER UPRATE PROJECT

Q. Please describe how the CR 3 power uprate will benefit PEF's customers.

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A. There are two important ways that increasing the amount of nuclear energy available to PEF customers will provide benefits (1) decreased system fuel costs and (2) a lower need for new capacity in the future. By increasing the amount of power available from CR3, additional energy will be produced, and nuclear energy is the lowest cost energy available to the system. Additional energy from the unit will displace energy from other, higher cost, generation sources that would otherwise be used to meet the total demand for electricity, resulting in substantial fuel savings to the system, which translates to lower fuel charges to customers.

## Q. Can you estimate the prospective fuel savings to PEF's customers?

Yes. Using a detailed production costing model, I have calculated the expected
 savings resulting from the combined uprates of 12 MW in January of 2008, 28 MW in
 December of 2009, and 140 MW in November of 2011. The results of the analysis
 are shown in my amended Exhibit No. \_\_\_\_ (SSW-1). As shown in this exhibit, the
 total nominal fuel savings for the years 2009 through 2025 are more than \$1.4 billion.

If we look out through 2036 (when the license extension will end), we expect nominal savings to exceed \$2.6 billion.

## Q. What are the costs associated with the increased rating to CR3?

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A. There are three components to the costs associated with the proposed increase in rating. First, there are the costs associated with the power uprate itself, and Mr. Roderick has identified total costs of approximately \$250 million. Second, there are the costs for additional cooling at the site, and the costs are estimated at \$43 million, according to Mr. Roderick. Third, additional transmission requirements to accommodate the power increase will result in a cost of approximately \$89 million, as explained by Mr. Roderick. The total costs to achieve the benefit of the full 180 MW power increase is estimated to be \$381.8 million.

## Q. Does the rating increase to CR3 provide savings to PEF customers?

 A. Yes. I have compared the net present value of savings to costs in my amended Exhibit No. \_\_\_\_ (SSW-2), which shows a net benefit of approximately \$320 million NPV to the retail customer. This amount has been updated since my original direct filed testimony to consider the early addition of 12 MWe from the initial MUR (Measurement Uncertainty Recovery) phase being completed at the end of 2007 as opposed to 2009. The reasons for the change in timing are discussed in detail in the Amended Direct Testimony of Daniel L. Roderick. As we updated our calculations for this change, we noticed that the calculation of AFUDC had a formula error in the outer years. This error has been corrected and the effects are included in the revised numbers in amended Exhibit No. (SSW-2).

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Q. How does the increase in ratings reduce the need for new capacity in the future?
A. PEF plans to a 20 percent reserve margin, so each additional MW that is available from CR3 reduces the need for one MW of new capacity to maintain the same reserve margin. The 180 MW of "new" capacity that will be available therefore reduces the need for 180 MW of capacity beyond 2011.

# Q. Have you quantified the value of the capacity benefit provided by the increase in rating?

No. To be conservative, I have not added these benefits, but there is no question that 12 A. the additional capacity will reduce future needs. The 180 MW is roughly equivalent 13 to one new combustion turbine eliminated from the future capacity plan. The real 14 need for the CR3 power uprate project however, is economic, not reliability. As I 15 have explained, the total nominal fuel savings will exceed \$2.6 billion and the present 16 value of net savings to retail customers will be approximately \$320 million. There is 17 18 no other generation alternative available to the Company that can provide an additional 180 MW of reliable, base load energy at a net savings to PEF's customers. 19 The CR3 power uprate project is, therefore, cost effective even without consideration 20 of the additional capacity benefits. 21

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1	Q.	Are there other benefits provided by the CR3 unit power uprate?
2	А.	Yes. Not only is nuclear energy the lowest cost energy available to the system,
3		history has shown that the nuclear fuel commodity (uranium) is more stable in price
4		than gas or oil and lately even coal, and this stability will help to reduce the overall
5		fuel price volatility to PEF's customers. Consider, for example, that a 10% change in
6		nuclear fuel prices might result in a change in the energy delivered from a nuclear unit
7		of 50 to 75 cents per MWh, while a 10% change in gas prices might result in a change
8		in energy delivered from a combined cycle unit of 5 to 7.5 dollars, based on prices
9		recently experienced. Beyond the impact that equal percentage changes in fuel prices
10		may have on the customer bill, clearly oil and gas prices have been extremely volatile
11		in recent times, with natural gas prices varying by as much as 50% just in the last
12		year.

In addition to the cost impacts, there is also a value to increasing fuel diversity and lessening dependence on oil and gas in the Company's overall fuel mix. Even a relatively small increase in the nuclear capacity contributes to a decrease in the exposure of the system, and therefore customers, to interruption in natural gas, oil and coal supplies.

## Was the CR3 power uprate project included in the Company's TYSP filed with Q. the Commission in April 2006?

No, it was not. At the time the CR3 power uprate project was developed, during the Α. Company's preparation for the steam generator replacement and related work during the upcoming nuclear fuel outages, the Company's future capacity needs had already been identified for filing in the TYSP. The project, therefore, was not included in the Company's reserve margin requirements and for that reason it was not included in PEF's 2006 TYSP. As I have explained, the CR3 power uprate project is needed to achieve the economic benefits of substantial fuel savings for PEF's customers and to increase the Company's fuel diversity.

Q. Does this conclude your testimony?

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- A. Yes.
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## Docket No. 070052 **Progress Energy Florida** Exhibit No. \_\_\_\_ (SSW-1) Page 1 of 1

Exhibit No. \_\_\_\_(SSW-1) Summary of Expected Annual Fuel Savings Due to the Proposed Uprate to Crystal River Unit 3 (System Basis)

PRODUCTION COST - NO UPRATE

July 2006 Generation & Fuel Forecast - Florida

Annual										,								
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Fuel																		
Steam-Coal	458,471,678	452,201,421	458,714,726	482,372,702	471,866,842	576, 148, 977	644,328,435	691,646,114	813,291,855	823,475,802	806,295,425	829,380,939	854,267,444	886,415,940	832,096,525	880,853,792	917,358,012	944,336,299
Steam-Oil	566,845,330	424,501,058	257,438,849	277,297,035	298,800,706	258,796,788	275,506,509	282,512,322	266,667,035	326,770,949	318,469,059	346,929,421	378, 108, 213	.398,859,322	349,089,708	378,282,017	378,723,604	413,387,117
Sleam-CC	956,271,147	1,243,813,724	1,092,757,781	1,351,350,740	1,521,014,994	1,440,502,994	1,338,315,975	1,429,907,508	1,356,063,581	1,516,665,004	1,271,842,434	1,482,015,247	1,597,923,456	1,695,354,913	1,393,886,781	1,500,834,205	1,570,892,532	1,744,775,169
CT	266,758,091	276,741,152	218,947,290	256,269,410	261,387,920	259,492,600	256,847,996	277,072,241	276,799,602	311,394,055	308,473,037	319,002,643	350,381,164	356,816,625	341,290,088	350,121,511	358,844,909	378,243,328
Nuclear	31, 190, 495	24,003,315	35,402,007	32,965,672	37, 139, 235	34,468,628	38,607,030	35,938,746	40,352,868	41,472,893	96,903,525	94,406,433	101,307,516	103, 129, 570	163,291,949	161,316,722	170,707,904	168,267,039
Fuel Sub-Total	2,279,536,741	2,421,260,671	2,063,260,653	2,400,255,559	2,590,209,697	2,569,409,987	2,553,605,944	2,717,076,931	2,775,174,942	3,019,778,703	2,801,963,480	3,071,734,683	3,281,987,792	3,440,576,370	3,079,655,050	3,271,406,249	3,396,526,962	3,649,008,963
NED	1,276,691	3,611,243	4,066,308	4,119,150	3,939,519	5,181,268	5,948, 184	6,396,978	8,024,030	7,894,221	7,783,016	7,764,748	7,854,788	8,153,742	7,441,142	7,655,641	7,916,296	7,875,546
<u>CoC03</u>	-	1,097,713	10,389,108	10,958,697	10,859,563	14,461,986	16,913,466	18,491,855	23,392,313	23,389,627	23,429,143	23,711,725	24,406,957	25,738,676	23,828,422	24,893,599	26,157,611	26,407,342
Pur Pwr																		
Cogen	452,354,399	450, 187, 054	504,884,151	522,987,867	539,522,120	542,486,721	490,959,375	504,594,212	519,650,142	539,602,740	546,562,196	568,909,689	588,879,617	609,925,477	620, 138, 388	647,973,969	595,031,554	483,202,534
Tran-Purc	352,457,985	337,972,117	328, 132,018	261,802,331	267,735,792	247,069,404	241, 173, 165	258,526,016	211,465,363	232,653,443	113,827,016	116,980,833	124,009,563	125,812,887	113,739,446	116,041,938	117,718,827	121,838,242
Pur Pwr Sub-Total	804,812,384	788, 159, 171	833,016,168	784,790,197	807,257,912	789,556,125	732, 132, 540	763,120,228	731,115,505	772,256,182	660,389,212	685,890,522	712,889,180	735,738,364	733,877,833	764,015,907	712,750,381	605,040,776
TOTAL EXPECTED FUEL COST W/OUT UPRATE	3,085,625,815	3,214,128,798	2,910,732,237	3,200,123,804	3,412,266,690	3,378,609,365	3,308,600,134	3,505,085,992	3,537,706,790	3,823,318,734	3,493,584,851	3,789,101,678	4,027,138,717	4,210,207,152	3,844,802,448	4,067,973,396	4,143,351,250	4,288,332,616

### PRODUCTION COST - 180MW CR3 UPRATE Based on July 2006 Generation & Fuel Forecast - Florida

Annual																		
	2008	2009	2018	<u>2011</u>	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Fuel																		
Sleam-Coal	457,588,212	451,742,653	457,668,230	481,424,948	466, 134, 327	569,051,047	633,872,055	681,200,156	602,055,798	812, 123, 154	791,060,131	817,351,459	840,899,768	871,061,965	816,704,054	866,959,318	900,631,510	930,805,555
Steam-Oil	564,068,595	422,871,021	254,763,678	275,267,515	280,334,402	250,026,430	263,746,701	274,715,992	280,875,947	316,843,042	311,569,856	338,906,849	368,239,597	382,865,755	342,562,616	371,742,166	370,473,847	403,806,640
Steam-CC	951,470,389	1,239,767,919	1,077,834,349	1,330,424,989	1,459,426,672	1,377, 177, 151	1,276,682,273	1,371,129,674	1,283,274,674	1,451,623,410	1,195,455,319	1,403,795,615	1,509,116,136	1,626,893,737	1,305,328,649	1,419,207,273	1,484,201,558	1,658,747,286
CT	266,243,113	276,067,268	218,213,679	255,400,695	256, 166, 674	256,767,127	253,082,921	272,426, 180	273,812,528	305,374,296	305,702,842	315,489,838	344,843,797	349,792,045	339,210,506	346,282,162	355,257,086	372, 142, 506
Nuclear	31,749,724	24,472,448	37,215,459	35,215,195	45,699,896	42,417,150	47,506,290	44,225,294	49,654,377	50,019,714	106, 328, 566	103,228,769	111,235,980	112,327,638	173,301,168	170,607,278	181, 161, 671	176,071,918
Fuel Sub-Total	2,271,120,033	2,414,921,309	2,045,715,395	2,377,733,342	2,507,761,970	2,495,438,905	2,474,890,240	2,643,697,296	2,689,673,323	2,935,983,616	2,710,116,713	2,978,772,529	3,174,335,278	3,342,981,140	2,977,106,992	3,174,798,196	3,291,725,671	3,543,573,906
<u>MH3</u>	1,274,825	3,608,898	4,061,887	4,114,563	3,908,812	5,138,649	5.870.269	6.323.730	7,929,345	7.800.660	7,648,082	7,661,578	7,743,897	8,023,139	7,316,458	7.544.761	7,782,571	7.771.744
CaCO3	-	1,097,805	10,377,818	10,946,699	10,774,899	14,342,015	16,690,853	18,279,043	23, 114, 322	23, 109, 758	23,022,330	23,396,563	24,061,842	25,325,239	23,428,717	24,532,297	25,715,791	26,058,857
Pur Pwr																		
Cogen	452,395,323	450,002,304	504,658,513	522,896,958	538,401,433	541.699.297	489, 194, 592	502,613,440	517,702,537	538,083,299	543,306,979	566,386,801	586,427,989	606,856,275	616.570.178	645,162,313	590,076,265	478,917,073
Tran-Purc	351,627,742	337,518,540	325,680,792	258,561,354	254,789,569	236,519,700	233,415,403	249,912,115	202,975,747	224,566,047	112,628,600	113,893,254	120,418,415	122,152,784	111,960,535	113.673.604	114,981,480	117,944,397
Pur Pwr Sub-Total	804,023,065	787,520,844	830,339,305	781,458,312	793, 191,002	778,218,997	722,609,996	752,525,554	720,678,284	762,649,346	655,935,578	680,280,055	706,846,403	729,009,059	728,530,713	758,835,917	705,057,745	596,861,471
TOTAL EXPECTED FUEL COST W/ UPRATE	3,076,417,923	3,207,148,857	2,890,494,404	3,174,252,917	3,315,636,682	3,293,138,566	3,220,061,358	3,420,825,623	3,441,395,275	3,729,543,380	3,396,722,703	3,690,110,725	3,912,987,421	4,105,338,577	3,736,382,879	3,965,711,172	4,030,281,777	4,174,265,978
EXPECTED FUEL SAVINGS DUE TO UPRATE	\$9,207,893	\$6,979,941	\$20,237,833	\$25,870,887	\$96,630,008	\$85,470,799	\$88,538,776	\$84,260,369	\$96,311,515	\$93,775,354	\$96,862,148	\$98,990,953	\$114,151,296	\$104,868,576	\$108,419,569	\$102,262,224	\$113,069,473	\$114,066,638

TOTAL GROSS SAVINGS THROUGH 2025 \$1,459,974,249

TOTAL GROSS SAVINGS THROUGH 2036 \$2,679,767,387

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## Exhibit No.\_\_\_(SSW-2)

## Summary of Overall Cost Effectiveness of the Proposed Upgrade to Crystal River Unit 3 to the Retail Customer

NPV Costs, (000's) in 2006 \$'s	\$320,369
NPV Benefits, (000's) in 2006 \$'s	\$639,844
Net Benefit to Retail Customers, (000's) in 2006 \$'s	\$319,475