

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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In re: Petition for increase in rates by  
Progress Energy Florida.

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Docket No. 090079-EI

Submitted for filing: March 20, 2009

**DIRECT TESTIMONY OF**  
**DALE E. YOUNG**

**On behalf of PROGRESS ENERGY FLORIDA**

**DIRECT TESTIMONY OF**  
**DALE E. YOUNG**

1 **I. Introduction and Summary.**

2 **Q. Please state your name and business address.**

3 A. My name is Dale E. Young. My business address is 15760 West Power Line Street,  
4 Crystal River, Florida 34428.

5  
6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by Progress Energy Florida ("PEF" or the "Company") in the capacity  
8 of Vice President -- Crystal River Nuclear Plant.

9  
10 **Q. What are the duties and responsibilities of your position with PEF?**

11 A. I am responsible for the safe and efficient operation of PEF's Crystal River Unit 3  
12 nuclear power plant ("CR3").

13  
14 **Q. Please describe your educational background and professional experience.**

15 A. From 1969 to 1977, I served as a Civil Engineering Officer in the United States Air  
16 Force, where I was responsible for a number of military construction projects. I  
17 attended college while in the service and received my Bachelor of Science degree in  
18 Electrical Engineering from the University of Missouri at Columbia in 1973. I later  
19 earned a Master's Degree in Business and Management from Webster College in  
20 1977. Upon my discharge from the Air Force in 1977, I was employed as a Nuclear  
21 Plant Engineer with the Westinghouse Bettis Division, where I was responsible for  
22 operation and maintenance of a Naval Prototype plant used to train Navy nuclear

1 operators. I moved to Union Electric Company in 1979 and was employed in Fulton,  
2 Missouri, at Union Electric's Callaway Plant, a 1200 MW pressurized water reactor  
3 plant. I held various engineering and management positions over the fifteen year  
4 period I worked at the Callaway Plant, including Shift Supervisor, Maintenance  
5 Manager, and Operations Manager. I held a Senior Nuclear Reactor's License from  
6 1984 through 1994. In 1994, I was employed by Carolina Power and Light Company  
7 ("CP&L") at the Robinson Nuclear Plant in South Carolina. I was the Plant Manager  
8 from 1994 to 1997, when I was promoted to Director of Site Operations. I held that  
9 position until 1998, when I was promoted to Site Vice President, a position I held  
10 until December 2000. Since December 2000, I have been employed by Progress  
11 Energy as Vice President – Crystal River Nuclear Plant. I am a Registered  
12 Professional Engineer in the state of Missouri.

13  
14 **Q. What is the purpose of your direct testimony?**

15 A. I support the reasonableness of the Nuclear Generation portion of the Company's  
16 Capital and Operating and Maintenance ("O&M") expenses.

17  
18 **Q. Do you have any exhibits to your testimony?**

19 A. Yes, I have prepared or supervised the preparation of the following exhibits to my  
20 direct testimony:

- 21 • Exhibit No. \_\_ (DEY-1), a list of the Minimum Filing Requirements (MFRs)  
22 Schedules that I sponsor or co-sponsor.
- 23 • Exhibit No. \_\_ (DEY-2), CR3 Non-Fuel O&M Two-Year Average Cost.
- 24 • Exhibit No. \_\_ (DEY-3), CR3 Net Generation.

- 1 • Exhibit No. \_\_ (DEY-4), PEF's 2008 Nuclear Decommissioning Study.
- 2 • Exhibit No. \_\_ (DEY-5), Nuclear Regulatory Commission -- 2008 Annual
- 3 Assessment Letter.

4 These exhibits are true and accurate.

5

6 **Q. Do you sponsor any schedules of the Company's Minimum Filing Requirements**

7 **(MFRs)?**

8 A. Yes, I sponsor in whole or in part the MFR schedules listed on Exhibit No. \_\_\_\_

9 (DEY-1). These schedules are true and correct, subject to their being updated in the

10 course of this proceeding.

11

12 **Q. Please summarize your testimony.**

13 A. The Crystal River Unit 3 nuclear plant is continuing to operate at a high level of

14 efficiency and reliability. Much of this achievement is attributable to careful

15 planning and cost control on the part of Company management and to industry-wide

16 technological advances. Crystal River Unit 3 ranks in the top quartile of the industry

17 in environmental stewardship and personnel safety. In the area of nuclear safety, we

18 have achieved the industry goal of zero fuel leaks.

19

20 We see this operational excellence continuing in future years. PEF is committed to

21 staying abreast of industry best practices through participation in information

22 exchange programs among leading nuclear operators and to maintaining a strong

23 working relationship with regulatory authorities. Our goal is to balance an

1 uncompromising operating philosophy with careful cost control so that CR3  
2 consistently remains a top performer.

3  
4 **II. Historical Perspective on Nuclear Operations.**

5 **Q. Please provide us with an overview of actions the Company has taken since its**  
6 **last rate case to maintain and improve operations at CR3.**

7 A. The nuclear power industry continues to show positive advancements since the  
8 Company's last rate filing in 2005. The average capacity factor for the industry is at  
9 an all-time high, and average production costs continue to be lower than coal-fired  
10 plants. These continued industry advancements, combined with a number of  
11 successful and on-going management initiatives, will allow PEF to ensure the future  
12 reliability and performance of CR3 without compromising the safety of our  
13 operations.

14  
15 At Crystal River 3 we have focused our performance improvement in two broad  
16 areas. These areas of focus are equipment reliability and human performance.  
17 Improvement initiatives in these areas drive more reliable operation of the  
18 equipment and a reduction in errors by the employees maintaining and operating the  
19 facility. The results can be measured in the overall reliability of the station.

20  
21 In the area of equipment reliability we have executed a number of programs and  
22 initiatives to improve the safety and reliability of the plant.

- 23 • In 2006 we installed a third station diesel generator. This provides greater  
24 flexibility in the scheduling of our safety related diesel generator maintenance

1 by allowing such maintenance during times other than planned outages. This  
2 project has also improved the plant nuclear safety profile by giving significant  
3 redundancy in dealing with a loss of offsite power.

- 4 ● We have planned and executed preventative weld overlay applications in a  
5 number of reactor coolant system components which were susceptible to long  
6 term degradation.
- 7 ● A condenser tube cleaning system that became unreliable over time, routinely  
8 causing past power reductions, was replaced with a state of the art Beaudrey  
9 system.
- 10 ● We have developed and are executing a comprehensive large motor  
11 refurbishment program. Two of the plant's four large reactor coolant pump  
12 motors have been replaced in the last three years under this program.
- 13 ● We have installed a new water treatment system to improve water quality for  
14 plant operations.
- 15 ● In the past, the plant experienced fuel failures where the fuel rod tubes allowed  
16 increased contamination into the reactor water system. The Company worked  
17 with the fuel vendor to design a more robust fuel assembly to decrease the risk  
18 of fuel failures. This new design has been successful by not having any fuel  
19 failures of these new assemblies. Based on CR3's experience with these new  
20 fuel assemblies, the redesigned fuel assemblies are now in use by numerous  
21 other Babcock & Wilcox plants.

1 We continued to make improvements in the area of human performance during the  
2 period. A new permanent position for a specialist in human error reduction has  
3 been created with the responsibility to develop and implement our human  
4 performance program initiatives. The program is designed to get the best, consistent  
5 performance from the staff. Initiatives developed under this program include the  
6 following: improving the quality and detail of our procedures; evaluating work  
7 practices for susceptibility to making mistakes; and developing expectations for  
8 human performance elements such as communication standards and work practice  
9 standards. We are constantly looking for better ways to train our employees to  
10 accurately implement their tasks the first time.

11  
12 CR3 has also expanded the use of summer interns to improve the recruiting talent  
13 pool primarily for engineers. We have been successful in hiring a number of  
14 previous interns upon their graduation to fill vacancies in the engineering section.  
15 This is part of the recruiting strategy to fill some vacancies with new college  
16 graduates and train them for nuclear power positions.

17  
18 **Q. What additional initiatives is the Company undertaking to maintain or**  
19 **improve the reliability of its operations?**

20 **A.** The Company is undertaking a number of initiatives to improve the reliability of  
21 the CR3 operations. These include:

- 22 • A spare Feed Water Pump Turbine Rotor has been ordered to accommodate the  
23 future change out of these two pump rotors in 2011 and 2013. Refurbishing a  
24 rotor during a refueling outage would extend the outage by approximately 15

1 days. Having the flexibility to pull the original rotor and insert a spare will  
2 improve the future reliability of the pumps and avoid increased outage days.

- 3 • Discharge heads will be replaced on the four Circulating Water Pumps; one in  
4 2007, one in 2009, and two in 2011. The discharge heads have degraded over  
5 their service life and will be replaced with new heads. If these heads were not  
6 replaced, the plant in the future would experience decreased water flow to the  
7 water boxes resulting in decreased generation.
- 8 • Integrated Control System circuit cards are being rebuilt. New cards are not  
9 available for the ICS, so arrangements were made to have the existing cards  
10 rebuilt with new components. These rebuilt cards will be installed by the end of  
11 2009 and will increase plant reliability in the future by reducing circuit card  
12 failures.
- 13 • Raw Water Pump/Motor modifications in the future will considerably increase  
14 the reliability and efficiency of this system. Starting in the next outage, new or  
15 refurbished motors will be installed on these pumps. The pumps will be  
16 modified to increase efficiency while reducing the power requirements for the  
17 motors.

18  
19 **III. Crystal River Nuclear Plant Operating Performance.**

20 **Q. Have the actions taken since the last rate case been effective in improving the**  
21 **performance of the Company's Nuclear Operations?**

22 A. Yes. The station continues to operate at or near historical records for production  
23 while maintaining the highest industry standards for safety. One measure of a  
24 plant's performance is to track total electrical production over each two year nuclear

1 fuel cycle. Since 2000, the station has completed four of these two year cycles.  
2 These four cycles represent the four highest performing generating cycles in plant  
3 history. In 2007, the station generated more electricity than any other year in which  
4 the station had a refueling outage. As shown on Exhibit \_\_\_ (DEY-3), net  
5 generation will decline in 2009, due to the extended 85 day refueling outage during  
6 which the unit's steam generators will be replaced. This compares with the recent  
7 refueling outage interval of 32 days. By 2010, we expect increased generation due  
8 to completion of the second phase of our plant uprate project. Both of these projects  
9 are discussed below.

10  
11 While generation has increased in recent years, our costs have also increased as a  
12 result of our equipment reliability improvement program which will provide for  
13 improved plant reliability in future years. The two-year average non-fuel  
14 production costs were 12.2 Mills/Kwh for 2004-05 and 14.1 Mills/Kwh for the years  
15 2007-08 as shown on Exhibit \_\_\_ (DEY-2). This Exhibit also shows a projected  
16 increase in two-year average costs in 2008-09 and 2009-10. This increase is due  
17 primarily to the effect of the extended 85 day refueling outage, which results in  
18 spreading many fixed O&M costs over a smaller base of GWH generated.

19  
20 As station generation reaches current levels of performance, increases in output can  
21 only be realistically achieved by increasing the design output of the plant. During  
22 the outage in 2007, the station executed the first of a series of modifications which  
23 will increase the output of the station. When completed in 2011, these  
24 modifications will increase the station's production by a total of 180 MW.

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CR3 is an industry leader in personnel and nuclear safety. We rank in the top quartile of the industry in total industrial safety. We also meet the industry nuclear safety goal of zero fuel leaks. Our emphasis on environmental stewardship has enabled us to rank in the top quartile on the industry's environmental index.

**Q. Are there other regulatory measures of performance the Commission should consider?**

A. Yes. The federal government measures nuclear performance with performance indicators that are updated monthly and are available for public review through the NRC web site. Plant inspection assessments are performed by NRC personnel on a regular basis with performance graded in each area. CR3 has maintained green status (the NRC's highest rating) in all areas since 2006.

In addition, CR3 management has been dedicated to continuing a positive relationship with the NRC and has been successful in maintaining good regulatory performance. During the past four years, the plant has not received any cited violations resulting from NRC inspections. The NRC continues to keep CR3 on a routine baseline inspection schedule and currently does not plan to add special inspection requirements beyond the current baseline. See Exhibit No. \_\_\_ (DEY-5).

**Q. Do you have plans to extend the license for the nuclear plant?**

1 A. Yes, we do. The current license expires in 2016 and we submitted our license  
2 renewal application to the NRC in December 2008. The submittal requests a license  
3 extension of an additional 20 years, to 2036.  
4

5 **Q. What other projects are being performed at CR3?**

6 A. The company is undertaking two significant capital projects at CR3: a 180 MW  
7 uprate to the plant, which will be completed in 2011, and the replacement of the  
8 unit's two steam generators, which will be completed during this year's refueling  
9 outage. Phase 1 of the uprate project was completed in 2007 and increased plant  
10 output by 12 MWs. Phase 2 of the uprate project will be completed during this  
11 year's refueling outage and will increase plant output by 28 MWs. The remainder  
12 of the uprate will be completed during the 2011 refueling outage adding 140 MWs.  
13 When completed we estimate the uprate project will save customers nearly \$2.6  
14 billion in gross fuel costs over the life of the unit. The costs of the uprate project are  
15 being recovered through the nuclear cost recovery clause, and do not affect the base  
16 rate request in this proceeding.  
17

18 **Q. Please describe the steam generator replacement project.**

19 A. The CR3 unit was placed in service in 1977 with once-through steam generators  
20 (OTSGs) manufactured by Babcox and Wilcox. Like every other nuclear plant using  
21 these steam generators, PEF has experienced stress corrosion and cracking in the  
22 OTSG tubes that has required an increase in tube inspection and repair activities. In  
23 addition to increasing O&M costs, these phenomena shorten the useful life of the  
24 steam generators such that a license extension beyond 2016 would be impractical. In

1 mid-2002, the company began a study which showed that replacement of the steam  
2 generators would provide \$517 million (CPVRR) of savings versus  
3 decommissioning CR3 in 2016 and building new capacity. The study also showed  
4 that it was more cost-effective to replace the OTSGs as soon as possible (2009)  
5 rather than as late as possible (2016). In 2004, the company initiated a multi-year  
6 project to replace the OTSGs during the 2009 refueling outage with new  
7 components manufactured with improved, corrosion-resistant materials. The total  
8 cost of the steam generator replacement project is currently estimated to be \$299  
9 million (including AFUDC), and the project is on-schedule to be completed during  
10 an 85-day refueling outage in October-December of this year.

11  
12 **IV. Proposed Nuclear Operations Cost.**

13 **Q. Please provide an overview of the Nuclear Operations costs that the Company**  
14 **is projecting for the 2010 test year.**

15 **A.** These figures are set forth in Schedules C-37 and C-41 to the Company's MFRs.  
16 We are projecting an increase from the benchmark in the amount of \$12.4 million.  
17 This increase over the benchmark consists of the following:

- 18 • Contract costs have increased over the benchmark by \$3.2 million due to  
19 Operations training and training material development required to provide  
20 increased license training for Operations personnel; implementing a contract  
21 with a third party vendor to provide water treatment services; and an increase  
22 in Engineering Services required for plant projects.
- 23 • License & Fee increases of \$1.7 million over the benchmark are due to the  
24 increased cost of NRC and FEMA fees.

- 1 ● Company labor increased \$5.3 million over the benchmark primarily for  
2 positions added to Operations and Operations Training. More Operations  
3 positions are being vacated due to retirements or other attrition, and the  
4 Company has had to increase training to maintain a pipeline of qualified,  
5 licensed and non-licensed personnel to fill these vacancies.
- 6 ● Commodity prices have increased at a rate greater than the CPI, resulting in  
7 material costs of \$2.4 million over the benchmark amount.
- 8 ● Incremental security costs have increased \$2.8 million over the benchmark.  
9 These incremental costs have previously been recovered through the Capacity  
10 Cost Recovery clause in the year in which they were incurred. They are now  
11 being included in base rates.

12 These increases are off-set by a \$3.0 million reduction in the outage accrual due to  
13 the impact of the steam generator replacement project.

14  
15 **Q. Do the MFRs reflect any O&M cost impact due to the steam generator  
16 replacement project?**

17 **A.** Yes. The degradation of the OTSG tubes which necessitated the steam generator  
18 replacement project has resulted in increased tube inspection and repair costs. These  
19 costs totaled approximately \$9 million during the 2007 refueling outage and,  
20 without the steam generator replacement, would increase over time. The time  
21 required for these inspections and repairs has also increased the duration of the  
22 refueling outages by approximately 9 days. Without the steam generator  
23 replacement project, PEF projected that mid-cycle maintenance outages of

1 approximately 22 days would be required beginning in 2010 for additional tube  
2 inspection and repair.

3  
4 The replacement of the steam generators will eliminate the additional tube  
5 inspection activities of at least \$9 million for each refueling outage and will enable  
6 the Company to reduce the typical refueling outage duration by 9 days. It will also  
7 avoid the need for the additional mid-cycle outages beginning in 2010. Over a two  
8 year cycle, this reduction in outage duration will avoid approximately \$36.7 million  
9 in replacement power costs.

10  
11 **Q. Would you explain the procedures the Company has in place to monitor and**  
12 **control Nuclear Operations costs.**

13 A. PEF has adopted a three-step approach to cost control so that expenditures are  
14 scrutinized and evaluated first at the strategic planning phase, again at the design  
15 phase, and once more at the implementation phase. All plant modifications must be  
16 supported by sound business considerations and cost-benefit analysis in addition to  
17 operational justifications. These considerations are carefully assessed at the outset  
18 of each phase to take into account any change in circumstances or market  
19 conditions. Cost estimates are thoroughly examined for reasonableness and  
20 accuracy. This iterative approach has proven quite successful in allowing the  
21 Company to assess the reasonableness of O&M and capital expenditures throughout  
22 the life of a project.

23  
24 **Q. Would you please explain the adjustments made to the Company MFRs.**

1 A. We have included a Company adjustment to the MFRs to account for updated costs  
2 relating to the “last core” of nuclear fuel and end-of-life nuclear materials and  
3 supplies (“M&S”) as they relate to plant life extension through 2036. The cost of  
4 the last core of nuclear fuel is established to be \$43 million which, prorated over the  
5 remaining plant life, results in a \$1.2 million annual decrease in pre-tax net  
6 operating income (“NOI”). We estimate the value of end-of-life M&S to be \$41  
7 million which, prorated over the remaining plant life, results in a \$1.1 million  
8 annual decrease in pre-tax NOI.

9  
10 **Q. Taking the last core adjustment first, please explain how PEF arrived at \$43**  
11 **million as the estimated value of surplus fuel remaining at end of life.**

12 A. The current budget projection for the 2023 core’s end-of-cycle value is  
13 approximately \$59 million. We assume that the final operating cycle will be 18  
14 months instead of 24 months and that the fuel batch size will be reduced from 88 to  
15 66 assemblies. To account for anticipated last cycle loading and operating  
16 efficiencies, we applied the ratio of 3/4 to the \$59 million current end-of-cycle fuel  
17 value, which equals \$44.5 million. We then applied the ratio of 66/88 to the \$44.5  
18 million to account for the reduced fuel batch size, which equals \$33.4 million in  
19 2023 dollars. To account for future increases in fuel cost, the \$33.4 million value is  
20 adjusted by 2 percent per year for 13 years (i.e. 2023 to 2036) to arrive at \$43  
21 million as the estimated value of the last core.

22  
23 **Q. Is it possible to operate during the final cycle so that no surplus fuel remains at**  
24 **end of life?**

1 A. No. Every core must have excess energy to counter power-reducing effects that  
2 necessarily exist during operation. For example, nuclear fuel must have enough  
3 excess energy to overcome the negative effects of coolant and fuel temperature,  
4 fission products, and required enrichment. This surplus energy must be sufficient to  
5 last for the duration of the current operating cycle and for the next one or two cycles  
6 of operation. Ordinarily, the excess energy remaining in a fuel assembly at the end  
7 of a particular operating cycle is used in the next one or two cycles of operation. At  
8 the end of the last operating cycle, however, there are no future cycles in which to  
9 use the surplus fuel.

10  
11 **Q. Can the surplus fuel remaining at end-of-life be used in another nuclear**  
12 **reactor?**

13 A. No. Because different reactors use different core designs, the surplus fuel remaining  
14 at end-of-life cannot be used in another reactor. Moreover, the fuel reprocessing  
15 that would be required to support different core designs is restricted in the United  
16 States.

17  
18 **Q. Turning next to the adjustment for M&S, please explain how you arrived at the**  
19 **value of \$41 million for materials and supplies remaining at end-of-life.**

20 A. We currently have \$48 million in inventory. Of this, \$7 million is in spare parts and  
21 supplies that are capitalized over the remaining plant life and which will have no  
22 value at end of life. The remaining \$41 million is in spare replacement parts and  
23 supplies that we must keep in inventory to make certain that we are operating safely  
24 and reliably. While this value is subject to some fluctuation over time, we can

1 reasonably estimate that the value of M&S that we must maintain in inventory to  
2 ensure the safety and reliability of our operation will be approximately \$41 million.  
3 Accordingly, we can reasonably conclude that the value of M&S on hand at end-of-  
4 life will be \$41 million.

5  
6 **Q. Is there any way to recoup the value of these M&S, for example, selling them to**  
7 **other nuclear plants at end of life?**

8 A. It would be cost prohibitive to do so. Most of these M&S have been specially  
9 manufactured for use at CR3 and all have been qualified by thorough engineering  
10 analysis to be suitable replacements for existing components in service at CR3.  
11 These materials and supplies include such things as: spare pumps and  
12 subassemblies, motors, control modules, circuit boards, switch gear, circuit  
13 breakers, valves and valve parts, ventilation parts and filters, radiation monitoring  
14 parts, and similar types of equipment. Before these items could be used in another  
15 nuclear plant, an extensive engineering analysis would be required to confirm their  
16 suitability as replacements for existing components at that particular plant. This  
17 expensive and time-consuming process makes it impractical to transfer M&S among  
18 different nuclear plants.

19  
20 Moreover, the potential market for these specialized M&S is quite limited. There  
21 are only a few nuclear plants with designs similar to CR3, and those plants will be  
22 facing end-of-life issues at approximately the same time as CR3. Because of this,  
23 the prospect of finding a buyer for CR3's M&S remaining at end-of-life is  
24 extremely unlikely.

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**Q. What is the status of the nuclear decommissioning funding?**

A. PEF completed an updated decommissioning cost analysis study for CR3 in 2008. See Exhibit No. \_\_\_ (DEY-4). The least cost alternative is currently estimated at \$818 million in 2008 dollars. The NRC-approved decommissioning alternative referenced in the study is for decontamination of all equipment and structures containing radioactive contaminants and removal or decontamination to a level that permits the property to be released for unrestricted use shortly (within 10 years) after cessation of operations. The current decommissioning fund balance is sufficient to cover this cost to the end of extended plant life in 2036.

**Q. Are PEF's projected expenses for Nuclear Generation for 2010 reasonable?**

A. Yes, they are. The Company's Nuclear Operations continue to be reliable and efficient and operational improvements have yielded significant cost savings for our customers without compromising the safety of our operations. The expenses projected for the 2010 test year will allow us to maintain or increase plant performance levels.

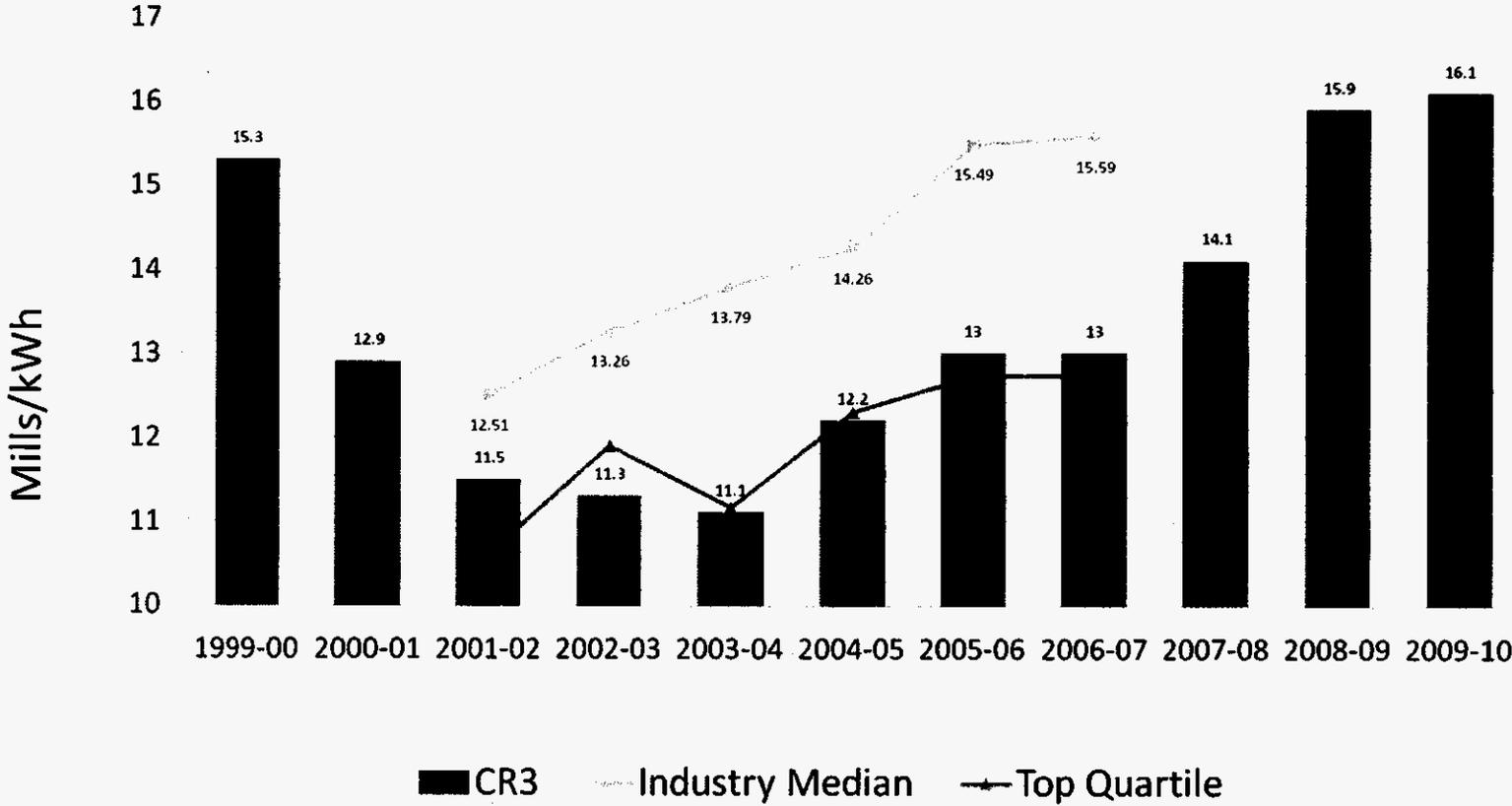
**Q. Does this conclude your direct testimony?**

A. Yes.

**MINIMUM FILING REQUIREMENT SCHEDULES**  
**Sponsored, All or In Part, by Dale E. Young**

<u>Schedule #</u>	<u>Schedule Title</u>
B-7	Plant Balances by Account and Sub-Account
B-8	Monthly Balances Test Year – 13 Months
B-9	Depreciation Reserve Balances by Account and Sub-Account
B-10	Monthly Reserve Balances Test Year – 13 Months
B-11	Capital Additions and Retirements
B-12	Production Plant Additions
B-13	Construction Work in Progress
C-6	Budgeted Versus Actual Operating Revenues and Expenses
C-8	Detail of Changes in Expenses
C-9	Five Year Analysis – Change in Cost
C-15	Industry Association Dues
C-16	Outside Professional Services
C-33	Performance Indices
C-35	Payroll & Fringe Benefit Increases Compared to CPI
C-36	Non-Fuel Operation and Maintenance Expense Compare to CPI
C-37	O&M Benchmark Comparison by Function
C-38	O&M Adjustments by Function
C-39	Benchmark Year Recoverable O&M Expenses by Function
C-41	O&M Benchmark Comparison by Function
C-43	Security Costs
F-4	NRC Safety Citations

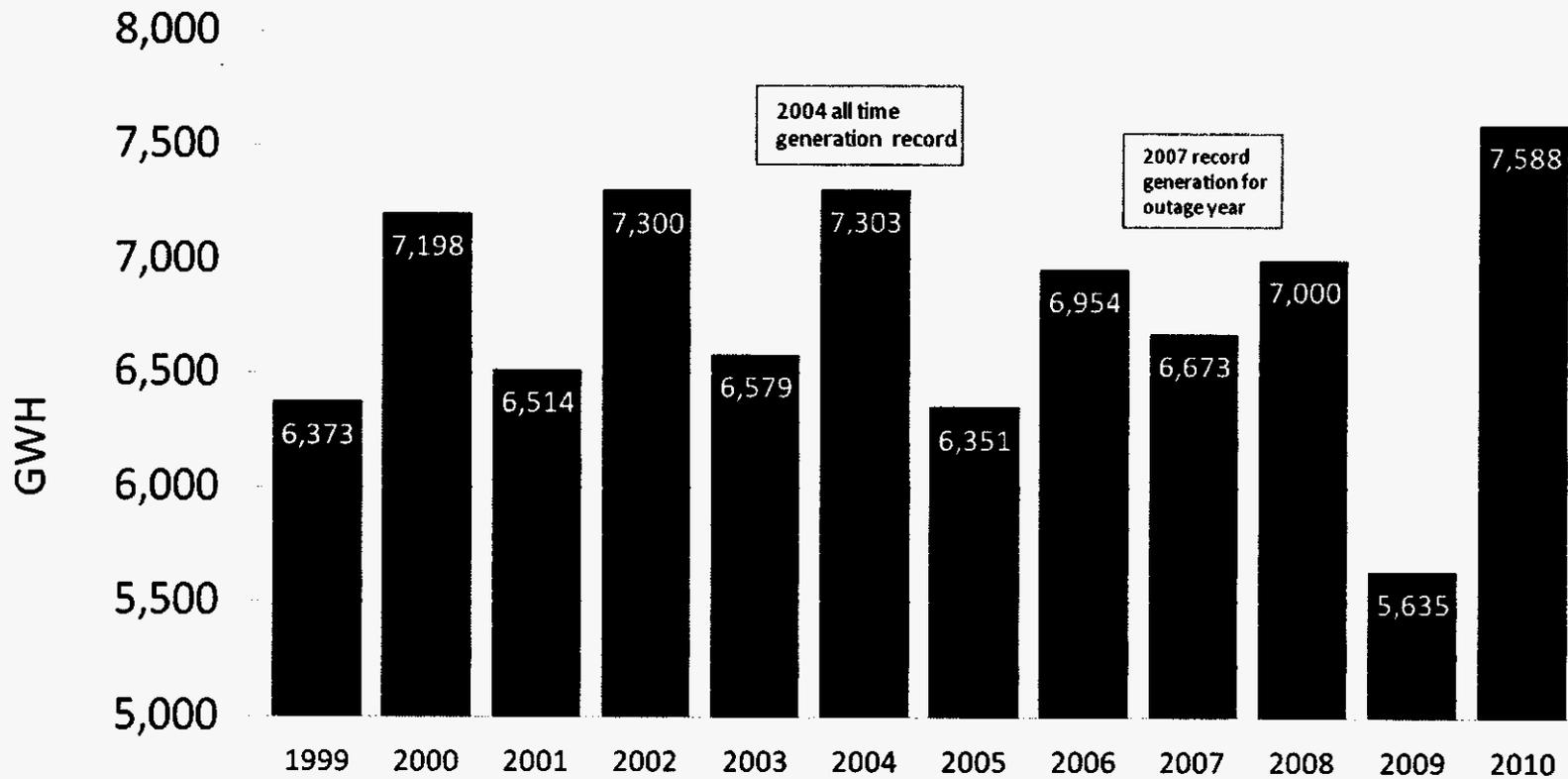
# Crystal River Unit 3 Non-Fuel O&M Two Year Average Cost



Two-year average used to normalize for outage years



## Crystal River Unit 3 Net Generation



Outage Years: 1999, 2001, 2003, 2005, 2007, 2009  
Non Outage Years: 2000, 2002, 2004, 2006, 2008, 2010



**Progress Energy Florida  
Docket No. 090079-EI  
Exhibit No. \_\_\_\_\_ (DEY-4)**

**DECOMMISSIONING COST ANALYSIS  
FOR THE  
CRYSTAL RIVER NUCLEAR PLANT, UNIT 2**

**See Separate Document labeled as Exhibit No. \_\_\_\_\_ (DEY-4)**



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931**

March 4, 2009

Mr. Dale E. Young, Vice President  
Crystal River Nuclear Plant (NA1B)  
ATTN: Supervisor, Licensing &  
Regulatory Programs  
15760 West Power Line Street  
Crystal River, FL 34428-6708

**SUBJECT: ANNUAL ASSESSMENT LETTER – CRYSTAL RIVER NUCLEAR PLANT  
(NRC INSPECTION REPORT 05000302/2009001)**

Dear Mr. Young:

On February 11, 2009, the NRC staff completed its performance review of the Crystal River Nuclear Plant. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from January 1 through December 31, 2008. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as "Official Use Only—Security-Related-Information" will include the security cornerstone review and resultant inspection plan.

Overall, Crystal River Unit 3 operated in a manner that preserved public health and safety and fully met all cornerstone objectives. Plant performance for the most recent quarter, as well as for the first three quarters of the assessment cycle, was within the Licensee Response column of the NRC's Action Matrix, based on all inspection findings being classified as having very low safety significance (Green) and all PIs indicating performance at a level requiring no additional NRC oversight (Green). Therefore, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility. We also plan on conducting several special and infrequently performed inspection procedures (IPs) which include: license renewal; steam generator replacement; temporary instruction (TI) 2515/172, Reactor Coolant System Dissimilar Metal Butt Welds; TI 2515/173, Review of the Implementation of the Industry Ground Water Protection Volunteer Initiative; TI 2515/175, Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review, and Operator Licensing Examinations.

The enclosed inspection plan details the inspections, less those related to physical protection scheduled through June 30, 2010. The inspection plan is provided to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last nine months of the inspection plan are tentative and may be revised at the mid-cycle review.

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If circumstances arise which cause us to change this inspection plan, we will contact you to discuss the change as soon as possible. Please contact me at 404-562-4629 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

*/RA/*

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Reactor Projects Branch 3  
Division of Reactor Projects

Docket No.: 50-302  
License No.: DPR-72

Enclosure: Crystal River Inspection/Activity Plan (03/01/09 - 06/30/10)

cc w/encl: (See page 3)

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cc w/encl:

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**Crystal River**  
**Inspection / Activity Plan**  
 03/01/2009 - 06/30/2010

Unit Number	Planned Dates Start	Planned Dates End	Inspection Activity	Title	No. of Staff on Site
			<b>EB1-MODS - MODIFICATIONS-10CFR50.59</b>		<b>4</b>
3	03/09/2009	03/13/2009	IP 7111117T	Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications	
			<b>PSB1EP - EMERGENCY PREPAREDNESS INSPECTION</b>		<b>1</b>
3	05/04/2009	05/08/2009	IP 2515/175	Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review	
3	05/04/2009	05/08/2009	IP 7111402	Alert and Notification System Testing	
3	05/04/2009	05/08/2009	IP 7111403	Emergency Response Organization Augmentation Testing	
3	05/04/2009	05/08/2009	IP 7111404	Emergency Action Level and Emergency Plan Changes	
3	05/04/2009	05/08/2009	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
3	05/04/2009	05/08/2009	IP 71151	Performance Indicator Verification	
			<b>LI - LICENSE RENEWAL INSPECTION</b>		<b>8</b>
3	07/27/2009	07/31/2009	IP 71002	License Renewal Inspection	
			<b>OL EXAM - INITIAL EXAM - PREP</b>		<b>3</b>
3	08/03/2009	08/07/2009	V23305	CRYSTAL RIVER/SEPTEMBER 2009 EXAM AT POWER FACILITIES	
			<b>LI - LICENSE RENEWAL INSPECTION</b>		<b>8</b>
3	08/10/2009	08/14/2009	IP 71002	License Renewal Inspection	
			<b>OL EXAM - INITIAL EXAM - WEEK 1</b>		<b>3</b>
3	08/31/2009	09/04/2009	V23305	CRYSTAL RIVER/SEPTEMBER 2009 EXAM AT POWER FACILITIES	
			<b>OL EXAM - INITIAL EXAM - WEEK 2</b>		<b>2</b>
3	09/14/2009	09/18/2009	V23305	CRYSTAL RIVER/SEPTEMBER 2009 EXAM AT POWER FACILITIES	
			<b>EB3SGR - STEAM GENERATOR REPLACEMENT</b>		<b>4</b>
3	09/26/2009	11/26/2009	IP 50001	Steam Generator Replacement Inspection	
			<b>PSB1-RP - RP OCCUPATIONAL BASELINE WEEK 1 (OUTAGE)</b>		<b>3</b>
3	09/28/2009	10/02/2009	IP 2515/173	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative	
3	09/28/2009	10/02/2009	IP 7112101	Access Control to Radiologically Significant Areas	
3	09/28/2009	10/02/2009	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems	
3	09/28/2009	10/02/2009	IP 7112202	Radioactive Material Processing and Transportation	
3	09/28/2009	10/02/2009	IP 71151	Performance Indicator Verification	
			<b>EB3ISI - INSERVICE INSPECTION</b>		<b>1</b>
3	10/05/2009	10/09/2009	IP 7111108P	Inservice Inspection Activities - PWR	
			<b>EB3TI172 - TI-172 RCS DM BUTT WELDS</b>		<b>1</b>
3	10/05/2009	10/09/2009	IP 2515/172	Reactor Coolant System Dissimilar Metal Butt Welds	
			<b>PSB1-RP - RP OCCUPATIONAL BASELINE WEEK 2 (OUTAGE)</b>		<b>2</b>
3	11/30/2009	12/04/2009	IP 2515/173	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative	
3	11/30/2009	12/04/2009	IP 7112101	Access Control to Radiologically Significant Areas	
3	11/30/2009	12/04/2009	IP 7112102	ALARA Planning and Controls	

This report does not include INPO and OUTAGE activities.  
 This report shows only on-site and announced inspection procedures.

**Crystal River**  
**Inspection / Activity Plan**  
 03/01/2009 - 06/30/2010

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
	Start	End			
<b>PSB1-RP - RP OCCUPATIONAL BASELINE WEEK 2 (OUTAGE)</b>					
3	11/30/2009	12/04/2009	IP 7112202	Radioactive Material Processing and Transportation	2
3	11/30/2009	12/04/2009	IP 71151	Performance Indicator Verification	
<b>OL RQ - REQUAL INSPECTION</b>					
3	02/01/2010	02/05/2010	IP 7111111B	Licensed Operator Requalification Program	2
<b>PSB1EP - EMERGENCY PREPAREDNESS EXERCISE</b>					
3	04/26/2010	04/30/2010	IP 7111401	Exercise Evaluation	3
3	04/26/2010	04/30/2010	IP 7111404	Emergency Action Level and Emergency Plan Changes	
3	04/26/2010	04/30/2010	IP 71151	Performance Indicator Verification	
<b>EB1-CDBI - COMPONENT DESIGN BASES INSPECTION</b>					
3	05/10/2010	05/14/2010	IP 7111121	Component Design Bases Inspection	8
3	05/24/2010	05/28/2010	IP 7111121	Component Design Bases Inspection	
3	06/07/2010	06/11/2010	IP 7111121	Component Design Bases Inspection	
3	06/21/2010	06/25/2010	IP 7111121	Component Design Bases Inspection	

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