BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Review of Florida Power Corporation's Earnings, Including Effects of Proposed Acquisition of Florida Power Corporation by Carolina Power & Light	DOCKET NO. 000824-EI Submitted for Filing: November 15, 2001

DIRECT TESTIMONY OF DALE E. YOUNG

ON BEHALF OF FLORIDA POWER CORPORATION

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I. Introduction

Q. Please state your name, position, and business address.

A. My name is Dale E. Young. I am employed by Progress Energy as Vice President -Crystal River Nuclear Plant. My business address is 15760 West Power Line Street, Crystal River, Florida 34428

Q. What are your duties and responsibilities?

A. I am responsible for the overall safe, reliable, and efficient operation of the Crystal River 3 ("CR 3") nuclear power plant, which is an 834 MW Pressurized Water nuclear power plant.

Q. Please describe your educational background and work expertise.

A. From 1969 to 1977, I served as a Civil Engineering Officer in the United States Air Force, where I was responsible for a number of military construction projects. I attended college while in the service and received my Bachelor's degree in Electrical Engineering from the University of Missouri at Columbia in 1973. I later earned a Master's Degree in Business and Management from Webster College in 1977. Upon my discharge from the Air Force in 1977, I was employed as a Nuclear Plant Engineer with the Westinghouse Bettis Division, where I was responsible for Operation and Maintenance of a Naval Prototype plant used to train Navy nuclear operators. I moved to Union Electric Company in 1979 and was employed in Fulton, Missouri at Union Electric's Callaway Plant, a 1200 MW

pressurized water reactor plant. I held various engineering and management positions over the fifteen year period I worked at the Callaway Plant, including Shift Supervisor, Maintenance Manager, and Operations Manager. I held a Senior Nuclear Reactor's License from 1984 through 1994. In 1994, I was employed by Carolina Power and Light Company ("CP&L") at the Robinson Nuclear Plant in South Carolina. I was the Plant Manager from 1994 until 1997, when I was promoted to Director of Site Operations. I held that position until 1998, when I was again promoted to Site Vice President, a position I held until December 2000. Since December 2000, I have been employed by Progress Energy as Vice President - Crystal River Nuclear Plant. I am a Registered Professional Engineer in the state of Missouri.

II. Purpose and Summary of Testimony

Q. What is the purpose of your testimony?

A. I appear on behalf of Florida Power Corporation ("Florida Power" or "the Company") to support the reasonableness of the Nuclear Generation portion of the Company's Operating and Maintenance ("O&M") expenses.

Q. What schedules in Florida Power's MFR's do you sponsor?

A. I sponsor in whole or in part Schedules B-18, B-30, C-8, C-13, C-14, C-19, C-20, C-21, C-27, C-28, C-52, C-53, C-57, C-61, F-8, and F-17. These schedules are true and correct, subject to their being updated in the course of this proceeding.

Q. Please summarize your testimony.

A. CR 3 is operating at the highest level of efficiency and reliability in the plant's history. Much of this achievement is attributable to industrywide technological advances, but much is also due to careful planning and cost control on the part of Company management. The combined result is that the Crystal River facility now ranks in the top quartile of all U.S. nuclear plants in virtually all key performance areas.

This accomplishment is reflected in a forecast for the 2002 test year that is more than $41 million below the Florida Public Service Commission ("Commission") benchmark from the Company's last rate case. Over $4 million of this favorable variance is attributable to merger synergies, which have enabled management to streamline plant operations considerably. As part of Progress Energy's nuclear fleet, CR 3 is now able to take advantage of economies of scale that were unavailable when we operated as a single-unit plant. Moreover, we have been able to implement these improvements without compromising operational safety.

We see this operational excellence continuing in future years. Florida Power is committed to staying abreast of industry best practices through participation in information exchange programs among leading nuclear operators and to maintaining a strong working relationship with regulatory authorities. Our goal is to balance an uncompromising operating philosophy with careful cost control so that the performance of CR 3 consistently remains in the top quartile.

III. Historical Perspective on Nuclear Operations

Q. Please provide us with an overview of actions the Company has taken since its last rate case to maintain and improve operations at CR 3.

A. The nuclear power industry as a whole has seen tremendous advancements in the 10 years since the Company's last rate review. Average capacity for the industry is at an all-time high, and average production costs are lower than coal-fired plans for the first time since 1987. These industry advancements, combined with a number of successful management initiatives, have allowed Florida Power to increase substantially the reliability and performance of CR 3 without compromising the safety of our operations.

An important element of this success has been the adoption of improved standard technical specifications by the Nuclear Regulatory Commission ("NRC"). CR 3 played a key role in this process by serving as the lead plant in implementing new technical specifications for Babcock & Wilcox ("B&W") plants. As a result of the successful implementation of these specifications and their adoption by the NRC, many activities that previously could only be performed during a planned maintenance outage are now performed on-line, at tremendous cost savings to our ratepayers.

The Company has also focused on improving its employee training and development so that tasks performed during planned outages are accomplished as efficiently as possible. Process benchmarking plays an important role in this process by allowing us to identify and implement

industry best practices in specific areas of operation and maintenance. Through better planning and training, we are now able to complete as much work in a short planned outage as was previously accomplished in much longer outages.

In the area of refueling, the Company has taken advantage of improved benchmarking, planning, and training to reduce downtime substantially and to increase cost savings. In 1992, the plant refuel outage lasted over 77 days and cost over $32 million. In contrast, the 2001 refuel lasted 26 1/2 days and cost approximately $18 million.

Management has also taken advantage of improved techniques to eliminate mid-cycle maintenance outages in the off year between refuelings. In the early '90s, these outages lasted over 45 days each and cost between $10 million and $13 million. Through continued emphasis on performing necessary maintenance on-line, the Company has been able to avoid these mid-cycle outages entirely, at significant cost savings to the ratepayers.

Staff reductions have also played a role in CR 3's success. Through careful planning and organizational changes, our staffing levels are being brought into alignment with the top operating plants in the country. The Company's efforts to reduce staff pre-date the merger and were being implemented primarily through attrition. The merger allowed us to accelerate this process by eliminating duplicate functions and adopting an organizational structure similar to CP&L's other nuclear plants. Our year-

end staffing level for 1992 was 841 employees, compared with a projected staffing for year-end 2002 at the mid-500 level. This has greatly decreased our annual operating costs without sacrificing plant safety or performance.

Another management initiative undertaken since the Company's last rate review has been to upgrade protective coatings throughout the plant, which has been instrumental in reducing wear and degradation of equipment due to salt water corrosion. This will protect the equipment and reduce ongoing maintenance, and has improved the overall appearance of the plant. This will be a recurring expense as we continue this initiative with periodic recoatings in the future.

Also since 1992, Florida Power has rejoined the Electric Power Research Institute ("EPRI"), and, as a result of the merger, now has access to CDSV, an organization composed of the nuclear energy divisions of CP&L, Duke, South Carolina Electric Power, and Virginia Power. These associations provide access to industry best practices and resources that have helped management improve performance at CR 3 to a world-class level.

Q. Have these efforts been effective in improving the performance of the Company's Nuclear Operations?

A. Very much so. In 2000, CR 3 ranked in the top quartile of all U.S. nuclear plants with an annual capacity factor of 98.3 percent. Our two-year capacity factor for the years 1999-2000 was also in the top quartile, at 93.6

percent. Our 1997 through 2000 average capacity factor (including outages) was 92.6 percent, again in the top quartile.

These marked improvements in capacity factors are reflected in an excellent forced outage rate, particularly in recent years. CR 3 had no forced outage in 2000, and our forced outage rate for the 1999-2000 time period was in the top quartile at .45 percent. Our goal is to maintain this world-class performance and to keep forced outage rates in the top quartile.

We have coupled these improvements in plant reliability with significant reductions in generation costs. In 2000, the annual production cost at CR 3 was 16.56 Mills/kWh, which placed us in the top quartile for single unit plants. Our three-year average production cost has also steadily improved, decreasing from 51.24 Mills/kWh for the years 1996-98 to 37.13 Mills/kWh for the years 1997-99. Production cost for the most recent three-year period showed another substantial decrease, averaging 20.20 Mills/kWh for the years 1998-2000.

Importantly, these improvements have been realized without compromising safety or operational excellence. Indeed, as measured by the Institute of Nuclear Power Operations ("INPO") index, a recognized indicator of overall plant safety, CR 3 ranks among the best in the country with scores of 97.4 in the year 2000 and 98.2 for the first quarter of 2001. These measures place CR 3 in the top quartile of all nuclear facilities in terms of plant safety.

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

A. Yes. The federal government has made significant changes in the assessment of nuclear power plant performance over the past five years. Previous regulating philosophy was based on a subjective rating process known as the Systematic Assessment of Licensee Performance ("SALP"), in which nuclear plant performance was rated based on periodic inspection assessments made by teams of NRC personnel. The revised process is a much more objective approach, in which nuclear performance is measured based on standard Performance Indicators that are updated monthly and are available for public review through the NRC Web site. Performance in each area is graded and current status indicated through a multi-colored rating system in which green status indicates acceptable (highest rating). CR 3 has maintained green status in all areas except for a single issue involving a component failure that was repaired this year when management made the conservative decision to bring the plant off-line. The NRC inspected our actions with regard to this repair and found them acceptable. At that point, the Performance Indicator returned to green status.

In addition to the changes made by the regulator, CR 3 management has been dedicated to establishing a positive relationship with the NRC and has been successful in maintaining good regulatory performance. Through 2000 and 2001, the plant had no cited violations resulting from our annual plant reviews. The NRC continues to keep CR 3 on a routine baseline

inspection schedule and currently does not plan to add special inspection requirements beyond baseline.

Q. Have merger synergies contributed to the improved performance of the CR 3?

A. Yes, they have. CP&L operates five nuclear plants at four sites. As a single-unit plant, CR 3 historically has been at somewhat of a competitive disadvantage compared to dual-unit nuclear plants, which are able to take advantage of economies of scale to better control generation costs. Now, as part of Progress Energy's nuclear fleet, CR 3 has access to centralized resources that have enabled management to increase the plant's operating efficiency and reliability even further.

For example, we now have centralized corporate support for engineering, information technology ("IT"), and finance and accounting resources, which has allowed management to reduce staffing requirements in these areas without sacrificing quality of service. We are also able to use purchasing economies to reduce materials costs and, because we now have access to a centralized Materials Group, we have reduced the supply of parts and materials maintained on-site at CR 3.

We also participate in more benchmarking and peer review at CR 3 than ever before. I already mentioned CDSV, which is a valuable information exchange program that has enabled management to identify and

implement industry best practices at CR 3. We would not have had access to this organization absent the merger.

Also as a result of the merger, the Company is in the process of implementing a Zero Tolerance for Equipment Failure Program. This is an aggressive, proactive approach to maintenance that focuses on identifying critical plant components and performing necessary repairs or replacements before a failure occurs. We are committed to an operating philosophy at CR 3 that will maintain the top quartile performance we have enjoyed in recent years.

IV. Proposed Nuclear Operations Costs

Q. Please provide an overview of the Nuclear Operations costs that the Company is projecting for the 2002 test year.

A. These figures are set forth in Schedule C-57b to the Company's MFRs. As explained there in more detail, we are projecting a favorable variance from benchmark in the amount of $41.281 million, $4.1 million of which constitutes savings resulting from the merger.

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

A. Florida Power has adopted a three-step approach to cost control so that expenditures are scrutinized and evaluated first at the strategic planning phase, again at the design phase, and once more at the implementation phase. All plant modifications must be supported by sound business

considerations and cost- benefit analysis in addition to operational justifications. These considerations are carefully assessed at the outset of each phase to take into account any change in circumstances or market conditions. Cost estimates are thoroughly examined for reasonableness and accuracy. This iterative approach has proven quite successful in allowing the Company to assess the reasonableness of O&M and capital expenditures throughout the life of a project.

Q. Would you please explain the adjustments shown on Schedule C-53.

A. Yes. We have made pro forma adjustments to the Company's MFRs to account for costs relating to the "last core" of nuclear fuel and end-of-life nuclear materials and supplies ("M&S"). As Mark Myers explains in his Direct Testimony, the cost of the last core of nuclear fuel is estimated to be $18 million, which the Company will prorate over the remaining 15-year plant life to decrease net operating income ("NOI") by $1.2 million pre-tax annually. We estimate the value of end-of-life M&S to be $25 million, which, prorated over the remaining 15-year plant life, results in a $1.667 million annual decrease in pre-tax NOI.

Q. Taking the last core adjustment first, please explain how Florida Power arrived at $18 million as the estimated value of surplus fuel remaining at end-of-life.

A. The current core's end-of-cycle value is approximately $24 million. We assume that the final operating cycle will be 18 months instead of 24 months and that the fuel batch size will be reduced from 72 to 54

assemblies. To account for the shorter final operating cycle, we applied the ratio of 18/24 to the $24 million current end-of-cycle fuel value, which equals $18 million. We then applied the ratio of 54/72 to that $18 million to account for the reduced fuel batch size, which equals $13.5 million in current dollars. To account for future increases in fuel cost, the $13.5 million value is adjusted by 2 percent per year for 14 years to arrive at $18 million as the estimated value of the last core.

Q Is it possible to operate during the final cycle so that no surplus fuel remains at end-of-life?

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

Q Can the surplus fuel remaining at end-of-life be used in another nuclear reactor?

A No. Because different reactors use different core designs, the surplus fuel remaining at end-of-life cannot be used in another reactor. Moreover, the

fuel reprocessing that would be required to support different core designs is restricted in the United States.

Q Turning next to the adjustment for M&S, please explain how you arrived at the value of $25 million for materials and supplies remaining at end-of-life.

A We currently have $37 million in inventory. $7 million of this is in spare parts and supplies that are capitalized over the remaining plant life and which will have no value at end-of-life. $5 million in consumable parts and supplies, which we can time so as to minimize remaining inventory at end-of-life. The remaining $25 million is in spare replacement parts and supplies that we must keep in inventory to make certain that we are operating safely and reliably. While this value is subject to some fluctuation over time, we can reasonably estimate that the value of M&S that we must maintain in inventory to ensure the safety and reliability of our operation will be approximately $25 million. Accordingly, we can reasonably conclude that the value of M&S on hand at end-of-life will be $25 million

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

A. It would be cost prohibitive to do so. Most of these M&S have been specially manufactured for use at CR 3 and all have been qualified by

thorough engineering analysis to be suitable replacements for existing components in service at CR 3. The items at issue include such things as spare pumps and subassemblies, motors, control modules, circuit boards, switch gear, circuit breakers, valves and valve parts, ventilation parts and filters, radiation monitoring parts, and similar types of equipment. Before these items could be used in another nuclear plant, an extensive engineering analysis would be required to confirm their suitability as replacements for existing components at that particular plant. This expensive and time-consuming process makes it impractical to transfer M&S among different nuclear plants.

Moreover, the potential market for these specialized M&S is quite limited. There are only a few nuclear plants with designs similar to CR 3, and those plants will be facing end-of-life issues at approximately the same time as CR 3. Because of this, the prospect of finding a buyer for CR 3's M&S remaining at end-of-life is extremely unlikely.

Q. Are Florida Power's projected expenses for Nuclear Generation for 2002 reasonable?

A. Yes, they are. The Company's Nuclear Operations are more reliable and efficient than ever before, and these operational improvements have yielded significant cost savings for our ratepayers without compromising the safety of our operations. The merger with Progress Energy has allowed us to streamline operations even further, so that CR 3 is now on par with the top plants in the country. The expenses projected for the 2002 test year will

allow us to maintain the superior performance levels we have seen at CR 3 in recent years.

Q. Does this conclude your testimony?

A. Yes, it does.