

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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In re: Petition for rate increase by  
Progress Energy Florida, Inc.

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Docket No. 050078

Submitted for filing:  
April 29, 2005

**DIRECT TESTIMONY OF**

**DALE OLIVER, P.E.**

**On behalf of PROGRESS ENERGY FLORIDA**

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**DIRECT TESTIMONY OF**  
**DALE OLIVER**

1 **I. Introduction and Summary.**

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

3 A. My name is Dale Oliver. My business address is 452 E. Crown Point Road, Winter  
4 Garden, Florida 34787.

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

7 A. I am the Vice President for Progress Energy Florida, Inc.'s ("PEF" or the "Company")  
8 South Central Region.

9  
10 **Q. What are the duties and responsibilities of your position with Progress Energy**  
11 **Florida?**

12 A. In this position, I oversee the Company's distribution operations within one of PEF's  
13 four geographic regions. The South Central Region roughly covers the area including  
14 Highlands, Hardee, Polk, Osceola and Orange counties. Prior to assuming this  
15 position in May 2004, I was PEF's Director of Commitment to Excellence ("CTE")  
16 with responsibility for overall management of the program, but with particular  
17 emphasis in the areas of Transmission and Distribution.

18  
19 **Q. Please describe your educational background and professional experience.**

20 A. I received a Bachelor's degree in Electrical Engineering from Georgia Tech in 1981  
21 and an MBA from Georgia State University in 2001. Prior to assuming my role as  
22 Director of Commitment to Excellence for PEF in October 2002, I was the Director of

1 Transmission Engineering at PEF, which focused on the engineering aspects of  
2 substation, transmission line, and relay design. Prior to joining the Company in  
3 January 2001, I held a number of supervisory and management positions in the  
4 transmission maintenance and operations area for The Southern Company (Georgia  
5 Power) in Atlanta, Georgia. I am a registered professional engineer in the states of  
6 Florida and Georgia.

7  
8 **Q. What is the purpose of your direct testimony?**

9 A. I appear on behalf of PEF to discuss the Company's CTE program and to support the  
10 key initiatives that the Company completed as a part of this program. I will describe  
11 the CTE program and its development, how we managed the program, the initiatives  
12 we undertook, focusing on our transmission and distribution system initiatives, what  
13 we spent, and the results we achieved.

14  
15 **Q. Do you have any exhibits to your testimony?**

16 A. Yes, I have prepared or supervised the preparation of the following exhibit to my  
17 direct testimony:

- 18 • Exhibit No. \_\_\_ (DO-1), a summary of CTE spending that shows spending for  
19 distribution, transmission, fleet and facilities programs, which represent  
20 substantially all of our incremental CTE funding.

21 This exhibit is true and accurate.

22  
23 **Q. Please summarize your testimony.**

1 A. We successfully completed our Commitment to Excellence program, making  
2 significant improvements in several areas of our operations for employees and  
3 customers. For our employees, we improved safety, reduced the average age of our  
4 fleet, improved our facilities, and improved overall employee satisfaction. For our  
5 customers, we lowered our price and improved our service, reliability, and generation  
6 adequacy. Over the 2002 to 2004 period, PEF spent \$123 million on a portfolio of  
7 CTE initiatives, with the vast majority of the funds designed to improve our  
8 distribution and transmission performance. These initiatives resulted in improvement  
9 over a broad range of reliability performance metrics and, most significantly, resulted  
10 in a reduction of our distribution SAIDI to 77, allowing us to meet our commitment of  
11 SAIDI 80 or below by 2004.

12  
13 **II. Commitment to Excellence (CTE).**

14 **Q. Please describe PEF's CTE program and its purpose.**

15 A. CTE was a three-year program that we implemented from 2002 through 2004 to make  
16 specific and measurable improvements to, among other things, our transmission and  
17 distribution systems. The Company undertook CTE to achieve top-quartile  
18 performance in major areas including safety, price, service, and reliability, while  
19 increasing generation reserves for our customers. CTE was also designed to improve  
20 employee satisfaction and to focus our employees after the merger between Florida  
21 Progress Corporation and Carolina Power & Light Company on strengthening the  
22 Company's culture of continuous improvement.

23  
24 **Q. Please generally describe the major areas that the CTE program addressed?**

1 A. CTE was primarily designed to make improvements for employees and customers.  
2 From an employee perspective, CTE addressed several areas designed to engage  
3 people and drive performance. From a customer perspective, CTE addressed several  
4 areas to improve price, service, and reliability. CTE transmission and distribution  
5 projects were separately funded over and above our normal base capital and O&M  
6 budgets.

7  
8 **Q. Was CTE a success?**

9 A. Yes. PEF achieved outstanding results. Through CTE, we made significant  
10 improvements to many key aspects of our business:

11 Culture. Following the merger, we strengthened our corporate culture to  
12 one that is increasingly performance-oriented and focused on continuous  
13 improvement. One metric that best captures the elements of this change is our  
14 improving employee satisfaction, even amid an atmosphere of increasing  
15 pressure for performance. We improved employee satisfaction significantly, as  
16 measured by our Employee Opinion Survey, since our 2001 post-merger  
17 baseline. This increasingly satisfied and engaged workforce underlies, and has  
18 in large part, enabled PEF to achieve the other CTE goals.

19 Safety. We have improved our OSHA recorded incident rate to near first  
20 quartile relative to our peer utilities based on most recent benchmark data. This  
21 is significant because the safety of our employees is our most important goal and  
22 because we believe that safety improvements drive excellence in other areas of  
23 our business.

1           Price. As discussed in Bill Habermeyer's testimony, we made significant  
2 progress in the reduction of our residential price per 1,000 kWh in comparison  
3 to other electric utilities in Florida. By the end of our CTE program in  
4 December, 2004 our price of \$89.11 was ranked eleventh out of fifty-one  
5 Florida electric utilities versus \$93.41 and a ranking of thirty-third in 2001,  
6 before CTE began. We are very proud of this relative reduction because it was  
7 made possible by a 9.25 percent drop in the base rate component of our  
8 residential price, and as much as a sixteen percent drop for the typical 1,000  
9 Kwh residential customer, before the impact of increasing fuel costs. We  
10 understand that fuel increases may continue to put upward pressure on our  
11 overall price in 2005 and beyond and we are working diligently to mitigate this  
12 impact on our customers wherever possible.

13           Customer Service. Our performance in the area of customer service, as  
14 measured by the customer service component of the JD Power & Associates  
15 2004 Electric Utility Residential Customer Satisfaction Study, has improved  
16 from third quartile in 2001 to first quartile in 2004. The work that we have  
17 undertaken to improve our service to customers and the results that we have  
18 achieved in this area are described in more detail in the testimony of Willette  
19 Morman-Perry.

20           Reliability. We successfully met and exceeded our commitment to reduce  
21 our 2004 System Average Interruption Duration Index ("SAIDI") to 80 minutes.  
22 Our actual performance for 2004 was 77 minutes, representing a 23% reduction  
23 from our level of 100.6 minutes in 2000. This represents top-quartile  
24 performance among our peer utilities as measured by 2003 benchmarks and is

1 likely to fall within the top quartile when comparison data from 2004 is  
2 available. My involvement as Director of CTE was primarily focused in this  
3 area and I will discuss these results, along with our favorable transmission  
4 reliability results, in more detail in the sections that follow.

5 Generation Reserve Margins. Since 2002 we increased the generation  
6 reserve margin that we maintain for our customers from 15% to 20%. Along  
7 with the other Peninsular Florida Investor Owned Utilities (“IOUs”), PEF  
8 committed to achieve this increased reserve margin by the summer of 2004. We  
9 actually achieved this level approximately six months early in December, 2003,  
10 with the commencement of operations at our Hines 2 combined cycle power  
11 plant in Polk County.

12 Fleet & Facilities. In the last four years, we have added new service  
13 trucks (reducing the age of our fleet), improved the consistency of vehicles and  
14 associated maintenance programs, and added four new state-of-the-art operating  
15 centers. These improvements have helped our employees better serve customers  
16 while boosting employee morale.

17  
18 **III. CTE Distribution and Transmission Initiatives.**

19 **Q. Please describe how the CTE program was managed.**

20 A. The CTE program was launched by Bill Habermeyer at the beginning of 2002 with a  
21 portfolio of initiatives spanning employee satisfaction, safety, price, service,  
22 reliability, and generation. Given that a significant portion of the CTE budget  
23 addressed transmission and distribution reliability initiatives, shortly after the launch

1 of CTE I was appointed Director of Commitment to Excellence to specifically manage  
2 the program.

3 As Director of CTE, I ensured that the transmission and distribution  
4 reliability programs that we had chosen were implemented on time and on budget.  
5 The transmission projects were managed from a system perspective to maximize the  
6 effects of the network, while the distribution projects were managed at a regional level  
7 due to the volume of the devices and programs being implemented. **As the overall**  
8 **project manager, I and my staff controlled budgeted dollars to complete the CTE**  
9 **initiatives and managed internal and external resources to schedule and complete the**  
10 **work. We monitored program completion, tracked spending, and measured program**  
11 **results. In addition, we managed ongoing changes to priorities and budgets when**  
12 **needed to meet our goals.**

13 The initial portfolio of distribution initiatives was developed under the  
14 direction of the Power Quality and Reliability (“PQ&R”) Engineering organization.  
15 We continued to coordinate with PQ&R Engineering throughout the three years of  
16 CTE to ensure the optimum focus of our distribution initiatives and to monitor actual  
17 versus anticipated results from the CTE programs. The Transmission System  
18 Reliability and Power Quality (“SRPQ”) organization provided a similar function for  
19 transmission.

20  
21 **Q. How were the individual initiatives that form CTE selected and developed?**

22 A. We first identified clear performance goals that we wanted to achieve, and the metrics  
23 that we would use to measure our performance. We then selected a portfolio of  
24 initiatives to maximize our progress against those metrics at the least cost.

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First, in the area of distribution, we began by developing a set of potential initiatives and quantifying the likely benefits and costs. To best optimize the resulting portfolio of initiatives, we developed statistical estimates, in the form of probability density functions, of the likelihood of outages on various devices, the likelihood that the proposed solution would successfully prevent or mitigate future outages, and the likely costs to implement the initiatives on each device. We utilized a statistical risk analysis approach to evaluate the variability of each of these assumptions in combination and the resulting implications for the optimal portfolio. By utilizing this approach, we were able to drive the maximum SAIDI reduction for a limited amount of resources. To our knowledge, this portfolio optimization of delivery reliability initiatives is the most sophisticated ever conducted in the industry. This assertion is based on our discussions with our peers at industry meetings, in particular the Edison Electric Institute (EEI) and the Southeastern Electric Exchange (SEE). Both of these groups hold regular meetings to discuss industry developments and technology changes, and serve as a forum to share best practices.

In transmission, our approach was similar but simplified due to the much smaller number of critical devices on a transmission system and greater working knowledge of their relative outage risks. Once again, we prioritized a set of initiatives to maximize achievement of selected performance metrics at the least cost, but in this case did so relying more on our working knowledge of the system than statistical optimization. Within each initiative, we generally targeted specific devices based on an assessment of outage risk and the degree of customer impact.

Throughout the process we continued to evaluate our priorities, the initiatives and results to assure that we were applying the right resources to achieve the best

1 results. Goals and budgets were set, approved, and tracked by management. In the  
2 case of our distribution programs, statistical optimization models were re-run at least  
3 annually to ensure that our portfolio of initiatives continued to be formulated for  
4 maximum results.

5  
6 **Q. What initiatives did PEF undertake in the area of Distribution?**

7 A. Our distribution programs broadly fell within the categories of power quality and  
8 reliability improvements, system and maintenance improvements, and technology  
9 enhancements.

10 Power Quality & Reliability Initiatives. We designed these initiatives to  
11 improve our SAIDI primarily by improving the self-correcting capabilities of our  
12 system, further sectionalizing our system to minimize the number of customers  
13 impacted by faults, and improving our ability to detect faults. One of the major  
14 initiatives that we undertook to improve the self-correcting capabilities of our system  
15 was to enhance our fusing coordination schemes on critical feeders. This improved our  
16 system's ability to clear faults before momentary interruptions became sustained  
17 outages. To limit the number of customers impacted by outages, we added electronic  
18 reclosers to our system. These devices act to divide our circuits into smaller sections  
19 so that fewer customers are affected when problems do occur. In addition, we further  
20 sectionalized lines by installing additional fuses to reduce the average number of  
21 customers per fuse. In order to better detect potential faults before they occurred, we  
22 utilized infrared inspections. To more quickly locate and restore faults resulting in  
23 outages we installed faulted circuit indicators, which provide a bright flashing LED or  
24 remote indication to more quickly guide our patrolmen to the source of the problem.

1 Beyond these initiatives, we also undertook numerous other projects, including  
2 reconductoring lines, adding insulation to lines, and applying additional lightning  
3 protection equipment.

4 System Improvement & Maintenance Initiatives. These initiatives were  
5 designed to improve the condition of our distribution infrastructure and thereby reduce  
6 SAIDI. We conducted numerous visual inspections, taking steps to address and  
7 replace or repair equipment that either had an increased risk or an established pattern  
8 of causing customer outages. We performed extensive work, including the  
9 replacement of underground cable, transformers, and poles, and the implementation of  
10 additional vegetation management to reduce tree limb contacts with our lines.

11 Technology Enhancement Initiatives. In addition to installing new  
12 equipment, we leveraged existing and new technologies to make further operations  
13 and reliability improvements. These initiatives included the installation of mobile data  
14 computers in our service vehicles. This measure improved restoration performance  
15 and service order processing by allowing us to route orders and related information  
16 directly into our vehicles rather than using less efficient voice calls. In addition, we  
17 improved our geographic information system (GIS) database, improving our response  
18 time to events. In the area of system control, we added state-of-the-art microprocessor  
19 relays on selected feeders to enhance our ability to remotely control and monitor the  
20 system.

21  
22 **Q. What initiatives did PEF undertake in the area of Transmission?**

1 A. In transmission, we identified and implemented initiatives addressing three broad  
2 categories: right-of-way management, equipment improvement, and substation  
3 enhancements.

4 Right-of-Way Management. We designed these initiatives to improve our  
5 transmission reliability performance through better management of our right-of-way.  
6 Among other things, we more aggressively addressed encroachment issues, cleared  
7 vegetation away from our lines, and applied herbicide to reduce future vegetation  
8 growth.

9 Line Improvements. Our line initiatives focused on improving the response  
10 of our system to lightning activity and reducing component failures. We first  
11 identified the lowest performing lines, taking into account customer impacts. We then  
12 inspected and, as warranted, replaced or refurbished transmission structures, including  
13 cross arms, wedge connectors and overhead ground wire. To better protect our lines  
14 against lightning, we improved the bonding and grounding on many transmission  
15 structures and installed additional lightning arresters. In addition, we piloted the use  
16 of microprocessor relays to better locate line faults in real time as a way to shorten the  
17 duration of an outage. To prevent contact with animals, which is a significant cause of  
18 outages, we installed more barriers and bird dishes in targeted areas. Finally, we  
19 installed motor operated switches to enhance the ability of our system to remotely  
20 sectionalize and minimize customer impact in the event of an outage.

21 Substation Enhancements. Our substation initiatives focused on improving  
22 the physical condition of our substations and related equipment, improving security  
23 access control, improving lightning protection, reducing contact with animals, and  
24 adding equipment for enhanced system information and flexibility. These efforts

1 included the inspection and replacement or refurbishment of breakers, batteries,  
2 bushings, arresters, and insulators. In addition, we renovated a number of substations  
3 to improve their performance and operability and repaired substation gates for better  
4 access security. We installed additional barriers around many substations to prevent  
5 animal contacts with our equipment and associated customer outages. We added  
6 digital fault recorders to pinpoint the location of faults along the system so that repair  
7 crews could be quickly directed to the source of the problem instead of patrolling an  
8 entire line, thus shortening the duration of transmission outages. We also purchased a  
9 mobile transformer to serve as a backup and provide temporary power for customers  
10 in the event of a substation failure within the system.

11  
12 **Q. What adjustments to the program were made during the CTE program and**  
13 **why?**

14 A. Throughout our implementation of the CTE program, we monitored the effectiveness  
15 of the initiatives and made adjustments as changing circumstances warranted. During  
16 the CTE program, we continued to prioritize those initiatives that would produce the  
17 most significant system SAIDI reduction at the most reasonable cost. As a general  
18 rule, this philosophy guided us to prioritize mitigation programs, which would  
19 significantly impact SAIDI by reducing the duration or frequency of outages that did  
20 occur, as opposed to those targeted more toward the prevention of faults but offering a  
21 lesser impact on SAIDI.

22 Our assessment of project priorities matured as we gained experience in  
23 implementing the various projects and gathered performance data resulting from them.  
24 In some cases, we reallocated funding to initiatives that were producing better-than-

1 anticipated results from those that were showing less ability to achieve our goals. As  
2 examples, we elevated midpoint reclosers, fusing coordination, and the installation of  
3 sectionalizers to a more significant role in our overall program due to the excellent  
4 results that we were seeing from these initiatives.

5  
6 **Q. How much did the Company spend on CTE?**

7 A. Our spending for CTE from 2002 through 2004 totaled \$123.0 million. Of this  
8 amount, we spent \$56.9 million on distribution-related projects, \$37.2 million on  
9 transmission-related projects, \$16.3 million on fleet services, and \$12.6 million on  
10 facilities. Please see Exhibit No. \_\_\_ (DO-1) for a further breakdown of these  
11 amounts.

12  
13 **IV. CTE RESULTS.**

14 **Q. Please describe the distribution reliability results you achieved through CTE.**

15 A. As I stated earlier, we improved our system SAIDI by 23% to 77 minutes from 2000  
16 through 2004. By doing so, we met and exceeded our commitment to achieve a  
17 SAIDI of 80 minutes by the end of 2004 and achieved top-quartile performance  
18 among our peer utilities based on most recent benchmarks.

19 In addition to improvement in our top-line SAIDI results, we achieved  
20 consistent improvements in a broad range of reliability measures. The breadth of our  
21 improvement is highlighted by the Florida Public Service Commission's ("FPSC's")  
22 most recent "Review of Florida's Investor-Owned Electric Utilities' Distribution  
23 Reliability" report. This review of reliability by the FPSC covers the 4-year period  
24 from 2000 through 2003 and shows that PEF demonstrated meaningful improvement

in seven out of eight reliability metrics examined. The next closest company showed improvement in only four of these same eight metrics.

Accounting for our most recent 2004 results, and examining the period covered by CTE, our performance trends are also very favorable. From 2001, prior to the start of CTE, to 2004, PEF reduced its customer's average minutes of interruption ("SAIDI" – System Average Interruption Duration Index) from 89.7 to 77. Over the same time period, our average frequency of outages ("SAIFI" – System Average Interruption Frequency Index) dropped from 1.3 to 1.19. We reduced the average duration of our outages ("CAIDI" – Customer Average Interruption Duration Index) from 68.7 to 64.7 over the same time period. Our percentage of customers experiencing 5 or more interruptions ("CEMIS" – Customers Experiencing Multiple Interruptions) also dropped from 1.81 to 1.37.

1 **Q. Please describe the transmission reliability results you achieved through CTE.**

1 A. To best gauge the results of our transmission CTE initiatives, we developed, tracked,  
1 and in fact incorporated into our incentive compensation, a metric called the  
1 "Transmission Improvement Index." This performance indicator captures two main  
1 elements of transmission performance. First, it measured year-by-year improvement  
1 in line performance as measured by "FOHMY" (Forced Outages per One Hundred  
2 Miles of Line per Year) operations. Second, it measured year-by-year improvement in  
2 customer outage performance as measured by either "CMI" (Customer Minutes of  
2 Interruption) or the total number of outage events from relevant causes. We  
2 maximized our performance against annual targets for the Transmission Improvement

Index in total and for both of the underlying categories each year. In 2004 alone, these measures improved by 40% and 52%, respectively, over prior year performance.

**Q. Are there any other comments you'd like to add about these performance improvements?**

A. Yes, it is worth mentioning that the distribution and transmission reliability achievements outlined above are even more noteworthy when one considers the adverse weather conditions that we experienced during the CTE period, as measured by the number of lightning flashes striking our service territory. Relative to the preceding five-year average, representing the period from 1997 to 2001, lightning flashes experienced within PEF's service territory for the years 2002, 2003 and 2004 were up by 4%, 44% and 60%, respectively.

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

A. Yes.

CTE Spending Summary  
 (\$ millions)

	2002			2003			2004			Total		
	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total	Capital	O&M	Total
<b>Distribution</b>												
Power Quality & Reliability Initiatives	7.1	0.1	7.2	10.3	0.8	11.1	7.6	0.0	7.6	25.0	0.9	25.9
System Improvement & Maintenance Initiatives	13.9	2.5	16.4	6.2	1.3	7.5	1.9	2.4	4.3	22.0	6.2	28.2
Technology Enhancement Initiatives	0.6	0.8	1.5	0.0	1.0	1.1	(0.0)	0.3	0.3	0.6	2.2	2.8
	<u>21.7</u>	<u>3.4</u>	<u>25.1</u>	<u>16.5</u>	<u>3.2</u>	<u>19.7</u>	<u>9.4</u>	<u>2.7</u>	<u>12.1</u>	<u>47.6</u>	<u>9.3</u>	<u>56.9</u>
<b>Transmission</b>												
Right of Way Initiatives	-	4.7	4.7	-	4.4	4.4	-	3.6	3.6	-	12.7	12.7
Line Initiatives	5.4	1.4	6.8	2.8	2.6	5.3	0.2	3.0	3.2	8.3	7.0	15.3
Substation Initiatives	2.5	1.8	4.3	1.0	1.3	2.3	2.5	0.1	2.5	6.0	3.1	9.1
	<u>7.9</u>	<u>7.9</u>	<u>15.8</u>	<u>3.8</u>	<u>8.3</u>	<u>12.1</u>	<u>2.7</u>	<u>6.6</u>	<u>9.3</u>	<u>14.4</u>	<u>22.8</u>	<u>37.2</u>
<b>Fleet</b>	15.2	-	15.2	-	-	-	1.1	-	1.1	16.3		16.3
<b>Facilities</b>	7.2	-	7.2	3.1	-	3.1	2.3	-	2.3	12.6	-	12.6
	<u>52.0</u>	<u>11.3</u>	<u>63.3</u>	<u>23.4</u>	<u>11.5</u>	<u>34.9</u>	<u>15.5</u>	<u>9.3</u>	<u>24.8</u>	<u>90.9</u>	<u>32.1</u>	<u>123.0</u>