

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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

Docket No. 050078-EI

Submitted for filing:
April 29, 2005

DIRECT TESTIMONY OF
DAVID MCDONALD

On behalf of PROGRESS ENERGY FLORIDA

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DOCUMENT NUMBER DATE

04209 APR 29 05

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DIRECT TESTIMONY OF
DAVID MCDONALD

1 **I. Introduction and Summary.**

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

3 **A.** My name is David McDonald. My business address is 100 Central Avenue, St.
4 Petersburg, Florida.

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

7 **A.** I am employed by Progress Energy Florida, Inc. (“PEF” or the “Company”). I am
8 the Director of Distribution Asset Management in PEF’s Energy Delivery
9 Business Operations.

10
11 **Q. What are your duties and responsibilities?**

12 **A.** As Director of Distribution Asset Management, I direct and manage the
13 Company’s distribution reliability and maintenance programs as well as all
14 distribution relocation and system expansion activities.

15
16 **Q. Please describe your educational background and professional experience.**

17 **A.** I have a Bachelor of Science degree in Electrical Engineering from the University
18 of Kentucky in 1984. Prior to assuming my current role for PEF, I was the
19 Distribution Control Center Director, responsible for the operation of the
20 distribution system grid and the coordination of PEF’s nineteen (19) operating
21 centers throughout its service territory. Earlier, I served as a Distribution Region
22 General Manager for PEF and a Distribution Region Engineering Supervisor for
23 Progress Energy in the Carolinas. Prior to joining Progress Energy in 1998, I held

1 a number of supervisory and management positions for Florida Power & Light
2 Company.

3
4 **Q. What is the purpose of your direct testimony?**

5 **A.** The purpose of my direct testimony is to discuss the Company's distribution
6 operations and system reliability and to support the reasonableness of Capital and
7 Operations and Maintenance ("O&M") expenses in the Company's distribution
8 area.

9
10 **Q. Do you have any exhibits to your testimony?**

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

- 13 • Exhibit No. ____ (DM-1), a summary of sponsored or co-sponsored
14 schedules of the Company's Minimum Filing Requirements (MFRs).
- 15 • Exhibit No. ____ (DM-2), a summary of planned distribution reliability
16 initiatives.

17 These exhibits are true and accurate.

18
19 **Q. Do you sponsor any schedules of the Company's Minimum Filing
20 Requirements (MFRs)?**

21 **A.** Yes, please refer to Exhibit No. ____ (DM-1) for a list of schedules of the
22 Company's MFRs that I sponsor or co-sponsor with respect to the Company's
23 distribution system. These are true and correct, subject to being updated during
24 the course of this proceeding.

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Q. Please summarize your testimony.

A. PEF's distribution reliability performance has improved significantly since our rate settlement in 2002. This was accomplished through the successful completion of our Commitment to Excellence (CTE) program as well as other, additional initiatives. Together, these efforts enabled the reduction of our System Average Interruption Duration Index (SAIDI) to 77 minutes, exceeding our commitment of 80 minutes by 2004, and produced improvements in many additional areas of our business. At the same time, we have diligently managed costs while striving to meet the challenges of a quickly growing customer base and rising customer expectations.

Going forward, we remain committed to continuing to provide superior service and meeting our customers' rising expectations. We believe that we can provide the most visible and valuable improvements for our customers at the lowest cost by maintaining the SAIDI improvements we have achieved while broadening our focus beyond mitigating the impact of outages to the actual prevention of faults and beyond focusing on system average results to one that includes "outlier" customers experiencing lengthy or numerous outages. In order to both preserve our reliability gains and implement this broadened reliability focus, we plan to take an increasingly aggressive posture on refurbishing and replacing equipment before it fails and to institute several system improvements that will deliver these benefits to customers. To this end, we are proposing twelve specific incremental distribution reliability initiatives representing \$17.3 million in capital and \$18.7 million in O&M in our 2006 test year that will accelerate or go

1 beyond existing levels of activity. This plan represents an appropriate balance
2 between the quality service that our customers expect and reasonable costs.
3

4 **II. Distribution System Performance Since 2002.**

5 **Q. Please provide an overview of the Company's distribution reliability**
6 **performance since the last rate case.**

7 **A.** PEF made a commitment to reduce our SAIDI to 80 minutes by 2004 in
8 conjunction with our 2002 rate settlement agreement. This represented a 20%
9 improvement from our 2000 level of 100.6 minutes. I am proud to say that the
10 Company not only achieved that commitment but exceeded it with a 23%
11 improvement and a system SAIDI of 77 minutes for 2004. This represents top-
12 quartile performance among our peer utilities, based on our most recent
13 benchmark data. Beyond this, we have been making year-over-year reductions in
14 the average number of outages (System Average Interruption Frequency Index or
15 "SAIFI"), the average duration of outages (Customer Average Interruption
16 Duration Index or "CAIDI"), and the number of customers experiencing multiple
17 interruptions (Customers Experiencing Multiple Interruptions or "CEMI"). The
18 breadth of our improvement is highlighted in the Florida Public Service
19 Commission's ("Commission") most recent "Review of Florida's Investor-Owned
20 Electric Utilities' Distribution Reliability" report. This most recent review of
21 reliability by the Commission covers the 4-year period from 2000 through 2003
22 and shows that PEF demonstrated improvement on seven out of eight reliability
23 metrics examined. The next closest company showed improvement on only four
24 of these same eight metrics.

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Q. What steps has the Company undertaken to achieve these results?

A. PEF has undertaken a multi-faceted effort since its last rate case to bring about these reliability improvements for our customers. The most significant effort has been our CTE program, which is discussed in detail in the testimony of Dale Oliver. Beyond this, we have continued our commitment to utilize the latest technology for the benefit of our customers and have changed the way we do our work in several critical areas by implementing a number of initiatives, including:

CAIDI Improvement Initiative. We have undertaken specific efforts to reduce the duration of outages. As part of CTE, we installed Faulted Circuit Indicators (“FCI’s”) devices on feeders to assist our line crews in more easily detecting faults. Beyond this, we have improved our feeder restoration process from typically restoring entire lines at one time to an emphasis on the opportunistic restoration of segments of lines as quickly as possible. Additionally, we have implemented goals and incentives for each of our operating centers to ensure continued focus in this critical area.

Radio System. We have deployed a new radio system throughout Florida, which has significantly improved the communications capability of our crews. This has increased our ability to orchestrate talk groups and improved efficiency in completing complex assignments or party-to-party communications. In addition, because we are using the same system as the Carolinas, our crews are easily able to coordinate during major storm events.

ITR/ETR, OMS. This refers to the “initial” and “estimated” time of restoration information that is given to our customers. Although this does not

1 directly impact actual reliability, it does impact our customers' perceptions of and
2 satisfaction with our reliability. While our system has provided for some time an
3 initial, computer-generated restoration time estimate to customers, we have
4 recently begun to update this estimate in the field and have steadily increased the
5 accuracy of our forecasts. For the year 2004, 92.6% of our ETRs were within one
6 hour of the actual restoration time. We set goals and monitor our performance in
7 this area since our customers have told us that accurate information on outage
8 restoration is important to them.

9 Weekly rankings & scorecards. This initiative is one example of a cultural
10 shift in the way we do business. We have placed scorecards in each operating
11 center every week that show the prior week's reliability performance and provide a
12 ranking relative to the other operating centers within the system. These scorecards
13 have fostered a healthy sense of competitiveness and have helped us to keep the
14 focus on, and urgency with respect to, reliability among our crews.

15 We have continually emphasized a culture that is performance-based and
16 focused on continuous improvement. This culture is the foundation upon which
17 we have been able to show year-over-year improvement in the vast majority of the
18 metrics that we benchmark and monitor as an organization. Also, we have
19 successfully applied numerous common systems and processes across our
20 organizations in Florida and the Carolinas. This has allowed us to quickly deploy
21 additional and backup resources during critical times, for example, during the 2004
22 hurricanes.

1 **III. Steps Taken to Monitor and Control Costs.**

2 **Q. What steps do you take to effectively manage the Company's distribution-**
3 **related capital and O&M costs?**

4 **A.** We take a number of steps to ensure that we aggressively manage our distribution-
5 related costs and that we are focused on the right priorities, our budgets are
6 reasonable, and we are spending our money wisely. We prioritize our portfolio of
7 reliability capital projects using a sophisticated optimization model at least
8 annually, as described in more detail in the testimony of Dale Oliver.

9 We also utilize benchmarking as part of how we strive for continuous
10 improvement, set targets, allocate budget dollars, and monitor performance. Our
11 organization performs well overall on distribution cost benchmarks. Since 2002,
12 we have achieved top quartile performance on "Distribution Cost to Install New
13 Service – Before CIAC Reimbursement" and lowered our "Distribution O&M and
14 Capital Maintenance per Customer" from \$120 to \$102, within the second quartile
15 of our peer utilities based on most recent benchmarks. A Distribution Project
16 Review Group ("PRG") comprised of management from a range of functional
17 areas within PEF provides another cross-check on programs, plans, and budgets,
18 and provides a mechanism to continuously adjust priorities as changing events
19 warrant. At a more detailed level, system load growth prioritization and reliability
20 and maintenance prioritization teams ensure that our budgeted dollars and work
21 plans are targeted to the most critical issues. Our budgets and performance metrics
22 are woven into incentive compensation goals for employees at all levels of the
23 organization to ensure focus. Finally, our Business Operations group monitors
24 spending each month for reasonableness and compliance with budget, while also

1 acting as a facilitator for operational analysis, the development of improvement
2 ideas, and the revision of spending projections.

3
4 **IV. Planned Distribution Initiatives Going Forward.**

5 **Q. What priorities do you have for distribution reliability and the distribution**
6 **system going forward?**

7 **A.** Our overarching goal is to meet the needs and expectations of our customers at a
8 reasonable cost. To do this, it is critical that we sustain a distribution system with
9 adequate reserves to meet the demands placed on it, and minimize the number and
10 duration of outages, disturbances, and voltage variations to our customers. Over
11 the past several years, we have made significant improvements to our overall
12 system reliability and we intend to build on this momentum. As I mentioned, we
13 have reduced our system SAIDI by about 23%, from 100.6 minutes to 77 minutes
14 since 2000. This level of performance is within the top quartile of our peer
15 utilities, based on most recent benchmarks. We have been able to achieve these
16 results by a strong focus on the mitigation of outages, for example, by reducing the
17 average duration of outages and reducing the number of customers affected by
18 outages that do occur.

19 Now that we have achieved this level of performance, we believe that we
20 can bring about the most significant improvements in customer satisfaction by
21 maintaining our SAIDI reliability measure in its current range and gradually
22 broadening our focus from the mitigation of outages to the improvement of power
23 quality through fault prevention. Two common ways of measuring these impacts
24 are "MAIFI" (Momentary Interruption Frequency Index) and "CEMI" (Customers

1 Experiencing Multiple Interruptions). In addition, we intend to broaden our focus
2 from system average results to the "outliers," that is, those customers experiencing
3 especially lengthy or numerous outages. With system average performance at top-
4 quartile levels, the most significant customer benefits can be achieved by focusing
5 our attention on those areas that lag behind system average performance levels.

6 We believe this broadening and re-balancing of priorities will produce in the future
7 the most visible and valuable improvements for our customers at the lowest cost.

8
9 **Q. What principle factors have influenced the Company's future distribution**
10 **plan?**

11 **A.** Two principle factors are driving our distribution plan forward: (1) the growth
12 within our service territory; and (2) evolving customer expectations. First, the
13 growth within our service territory has been and is projected to be significant. We
14 anticipate adding in excess of 30,000 customers per year to our system in the
15 coming years, a number that will be experienced by only a very few electric
16 utilities in the country. This growth will be across all customer classes, from
17 residential to industrial and governmental. What is important about this trend is
18 not only the quantity of growth, but the nature of that growth as well. Nationally,
19 and in Florida as well, we are seeing a movement from the use of simple
20 equipment and processes to more sophisticated equipment and more intricate
21 processes that result from a more service and information-based economy. For
22 example, budget recommendations introduced by Governor Bush for fiscal year
23 2005-2006 show a continued focus on economic development, particularly of
24 high-technology industries, in Florida.

1 Second, customer needs and expectations are quickly evolving. It is clear
2 that the use of computers and other sensitive and sophisticated equipment is
3 increasing across all customer classes. Our customers are changing, and their
4 needs and expectations for reliable electric service are changing as a direct result.
5 Beyond increased reliability, customer expectations are evolving in other areas.
6 As they become accustomed to increased automation in almost all aspects of their
7 lives, they assume and expect the same for their electric service. Timely and
8 accurate bills, with increasing amounts of usage information, produced through
9 increasingly automated processes are the expectation. Also increasingly important
10 to our customers is the delivery of our service through underground rather than
11 overhead cables. Today, about 90% of our new customers are being connected to
12 the system with underground service. Conversions from overhead to underground
13 service are less common largely due to the high cost of completing such projects,
14 but are increasingly being mentioned, studied and requested by customer groups.

15
16 **Q. What issues do these trends present for your business and how do you plan to**
17 **address them?**

18 **A.** A rapid customer growth rate and evolving customer expectations represent
19 excellent opportunities for our Company, but they also present numerous
20 operational and financial issues.

21 Some of the most critical issues driven by the high customer growth include:

22 Underground Service. The increasing demand for underground service, both
23 in the past and projected into the future, presents a range of issues for our
24 Company. First-generation underground cable that was installed in the 1970's and

1 early 1980's, a period of particularly explosive growth in our service area, was
2 originally thought by the industry to have a useful life of 40 years or more, roughly
3 consistent with that of overhead cable. In addition, it was thought that on-going
4 costs would be comparable to or lower than overhead service. Actual industry and
5 PEF experience has shown that some of these cables are beginning to wear out and
6 are requiring replacement sooner than previously expected. Replacement of
7 underground cable is costly. Underground systems are expensive to install or
8 replace due to high material component labor, trenching, and site restoration costs.
9 Maintenance costs are high as well due to numerous challenges brought about by
10 the placement of equipment on or under the ground. As an example, reclaimed
11 water systems are forcing much more frequent maintenance of pad-mounted
12 transformers than we have ever experienced with overhead transformers.
13 Similarly, restoration costs for underground systems can be quite high. Even
14 though outages, depending on a number of factors, can be only one-half as
15 frequent as for overhead service, fault location and restoration activities are much
16 more complicated and time consuming for underground service.

17 The nature of the work we must accomplish includes substantial replacement
18 of aging underground cable that is failing at an increasing rate and is adversely
19 affecting reliability. In addition, we must fund increasing levels of maintenance
20 and replacement of underground system components, including pad-mounted
21 transformers and switch cabinets.

22 System Loading. Heavy growth has also placed a burden on the loading of
23 our distribution system. We have responded to these challenges by attempting to
24 balance cost and resource utilization with appropriate operating margins on our

1 substations, feeders, and other system equipment. We need to expand our
2 infrastructure going forward to meet this demand.

3 Equipment Relocations. Equipment relocations are another example where
4 growth is increasing our costs. Due to mounting population growth, we are
5 increasingly forced to relocate our equipment due to roadway widening, and other
6 municipal right-of-way projects. These activities comprise a substantial cost to the
7 Company, projected to be \$14.0 million in 2006, versus \$9.4 million as recently as
8 2002.

9 Some of the most critical issues driven by evolving customer expectations
10 include:

11 Power Quality Emphasis. Our customers are increasingly focusing on power
12 quality. To meet these expectations, we must go beyond the mitigation of system
13 outages and re-balance our focus to the actual prevention of faults. This includes
14 focusing on momentary interruption prevention and the prevention of sags and
15 other voltage variations that may result for nearby system components and
16 customers. The nature of the work we must accomplish to drive successful fault
17 prevention includes the replacement of system components that are suspected of
18 having a high likelihood of failure, and the prevention of potential contacts with
19 our system through such measures as continued aggressive vegetation
20 management.

21 Increased Information & Timeliness. As a Company, PEF is committed to
22 implementing the right processes, tools, and technologies to improve the amount
23 and timeliness of information for customers. Although this will be an evolution
24 rather than an event, we have taken a major step with our Mobile Meter Reading

1 initiative. This program will transform our traditional meter reading process to
2 one in which data is transmitted wirelessly from a radio-based module that fits on
3 the electric meter to a vehicle that polls the information as it passes through the
4 vicinity of the meter. Instead of reading 400 meters per day by walking door-to-
5 door, each meter reader will be able to read about 10,000 meters per day using this
6 technology. The efficiencies gained will enable us to eliminate the need for almost
7 90% of our meter readers, or about 160 employees. Installation will begin in June
8 and be complete by the end of 2006. For customers, this technology will result in
9 a less-intrusive meter reading process, more accurate and timely bills, and fewer
10 estimated bills. This initiative, while requiring an initial capital outlay, will reduce
11 on-going O&M expenses to an even greater degree over time and will serve as a
12 platform for further operational efficiencies and capabilities in the future.

13
14 **Q. Please provide an overview of the distribution O&M program that the**
15 **Company is proposing in this proceeding.**

16 A. PEF forecasts that it will spend \$126.1 million in distribution O&M costs in 2006.
17 Included in this amount is \$18.7 million in O&M associated with twelve specific
18 incremental initiatives necessary to preserve our reliability gains and broaden and
19 re-balance our reliability focus for customers, as described in my testimony above.
20 These programs, which will fund an increasingly aggressive posture on
21 refurbishing and replacing equipment before it fails, as well as the implementation
22 of several system improvements to deliver the described benefits, are outlined in
23 Exhibit No. ___ (DM-2).

1 Also included in this amount is distribution O&M savings of \$3.5 million
2 associated with the Company's current reorganization. The Company is
3 undertaking a complete review of its organizational structure in order to once
4 again identify areas where further efficiencies can be achieved. This initiative,
5 which will be implemented throughout 2005 and will include employee incentives
6 for voluntary early retirement, is expected to produce almost \$20 million in O&M
7 savings in 2006, with roughly \$3.5 million in the area of distribution. These
8 savings result from our constant focus on improving efficiency, eliminating
9 redundancies through centralization where appropriate, and ensuring the maximum
10 use of our resources.

11 Finally, the figures above include an adjustment to reclassify \$30.0 million
12 of outage and emergency activities from capital to O&M due to an accounting
13 change. The Company reviewed its capitalization policies for its Energy
14 Delivery business units. The review indicated that in the areas of outage and
15 emergency work not associated with major storms and allocation of indirect
16 costs, PEF should revise the way it estimates the amount of capital costs
17 associated with such work. As a result of this change, a lesser portion of these
18 costs will be capitalized on a prospective basis and a correspondingly higher
19 portion will be charged to O&M expense. This accounting adjustment is
20 discussed in further detail in the testimony of Robert Bazemore and Javier
21 Portuondo.
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23 **Q. Are the distribution costs proposed for 2006 reasonable?**

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A. Yes. As I have described above, the Company has worked diligently to ensure that we are focused on the right priorities, our budgets are reasonable, and we are spending our money wisely. We have demonstrated this through our strong results in industry benchmarking, both from an operational and cost performance perspective. These results are described in the testimony of Bill Habermeyer, Jeff Lyash, Dale Oliver and in my own comments above. As mentioned above, the Company is currently undertaking a complete review of its organizational structure in order to once again identify areas where further efficiencies can be achieved and has incorporated the expected savings into our rate request. Excluding the impact of the change in accounting discussed above, our forecasted 2006 distribution O&M expenses are within \$0.5 million (or within one percent) of the Commission's O&M benchmark established in our last rate case (as adjusted for customer growth and inflation). This includes our proposed incremental reliability spending and reflects the significant cost pressures described in my testimony. Our budget for 2006 represents the right balance of costs and service level for our customers.

Q. Does this conclude your direct testimony?

A. Yes.

MINIMUM FILING REQUIREMENT SCHEDULES
Sponsored, All or In Part, by David W. McDonald

<u>Schedule #</u>	<u>Schedule Title</u>
B-7	Plant Balances by Account and Sub-Account
B-8	Monthly Plant 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-13	Construction Work in Progress
B-15	Property Held for Future Use - 13 Month Average
B-24	Leasing Arrangements
C-6	Budgeted Versus Actual Operating Revenues and Expenses
C-7	Operation and Maintenance Expenses - Test Year
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-19	Amortization / Recovery Schedule - 12 Months
C-33	Performance Indices
C-36	Non-Fuel Operation and Maintenance Expense Compared 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 Variance by Function

Incremental Distribution Reliability Initiatives

Life Extensions & Replacements	Objectives & Benefits				Capital					O&M					
	Power Quality	Reliability	Outliers	Adequacy	06	07	08	09	Total	06	07	08	09	Total	
Network maintenance	Proactive maintenance program to address aging Saint Petersburg and Clearwater systems				√	0.20	0.20	0.20	0.20	0.80	0.80	0.80	0.80	0.80	3.20

Improvements	Objectives & Benefits				Capital					O&M						
	Power Quality	Reliability	Outliers	Adequacy	06	07	08	09	Total	06	07	08	09	Total		
Data mapping	Survey of GIS coordinates for all facilities, improving data accuracy and producing asset management and restoration benefits				√						1.50	1.50	1.50	1.50	6.00	
Feeder monitoring system	√	√			1.00	1.00	1.00	1.00	4.00	0.70	0.70	0.70	0.70	2.80		
Small wire reconductor	Reconductor damaged small wire to reduce outage duration				√	1.00	1.00	1.00	1.00	4.00						
Infrared scanning & repair	Enable the identification and prevention of potential outages before they occur				√	√	0.40	0.40	0.40	0.40	1.60	0.90	0.90	0.90	0.90	3.60
Underground cable replacement	√	√	√			6.00	6.00	6.00	6.00	24.00						
Capacitor maintenance	Additional capacitor maintenance to account for system growth				√						0.30	0.30	0.40	0.40	1.40	
Infrastructure capacity planning	Meet customer growth without degrading system reserves				√	√	2.50	2.50	2.50	2.50	10.00					
Vegetation management	√	√								11.00	11.00	11.00	11.00	44.00		
					17.25	17.25	17.25	17.25	69.00	18.65	18.65	18.75	18.75	74.80		