

State of Florida



## Public Service Commission

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### -M-E-M-O-R-A-N-D-U-M-

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**DATE:** April 26, 2007

**TO:** Commission Clerk (Cole)

**FROM:** Division of Economic Regulation (Breman, McNulty, Trapp)  
Office of the General Counsel (Gervasi)

**RE:** Docket No. 060198-EI – Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates.

**AGENDA:** 05/08/07 – Regular Agenda – Posthearing Decision – Participation is Limited to Commissioners and Staff

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** Edgar

**CRITICAL DATES:** None

**SPECIAL INSTRUCTIONS:** None

**FILE NAME AND LOCATION:** S:\PSC\ECR\WP\060198.RCM.DOC

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### Case Background

On April 25, 2006, in this docket, the Commission issued Order No. PSC-06-0351-PAA-EI, requiring the investor-owned electric utilities (IOUs) to file plans and estimated implementation costs for ten ongoing storm preparedness initiatives on or before June 1, 2006. That order was consummated by Order No. PSC-06-0451-CO-EI, issued May 23, 2006. The docket was kept open for the Commission to address the adequacy of the utility's plans for each of the storm preparedness initiatives. The ten ongoing initiatives are:

- 1) A Three-year Vegetation Management Cycle for Distribution Circuits,
- 2) An Audit of Joint-Use Attachment Agreements,

- 3) A Six-year Transmission Structure Inspection Program,
- 4) Hardening of Existing Transmission Structures,
- 5) A Transmission and Distribution Geographic Information System,
- 6) Post-Storm Data Collection and Forensic Analysis,
- 7) Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems,
- 8) Increased Utility Coordination with Local Governments,
- 9) Collaborative Research on Effects of Hurricane Winds and Storm Surge,  
and
- 10) A Natural Disaster Preparedness and Recovery Program.

Regarding the first initiative, as specified in Order No. PSC-06-0351-PAA-EI, the Commission required each investor-owned electric utility (IOU) to provide plans to implement a three-year trim cycle for all distribution feeder circuits and a three-year trim cycle for distribution lateral circuits, but allowed the IOU the opportunity to file an alternative to the three-year lateral circuit trim cycle. More specifically, the Commission allowed the IOUs the flexibility to propose an alternative plan for lateral circuits if the alternative could be shown to be equivalent to or better than a three-year trim cycle in terms of costs and reliability.

On June 1, 2006, each IOU filed storm hardening plans addressing each of the ten ongoing storm initiatives. Tampa Electric Company and Florida Public Utility Company filed storm hardening plans which included vegetation management plans featuring a three-year trim cycle for both distribution feeder and lateral circuits. Florida Power & Light Company (FPL, or Company) filed an alternative vegetation management plan with trim cycles for lateral circuits longer than three years (six years). Progress Energy Florida, Inc. and Gulf Power Company also filed alternative vegetation management plans with trim cycles for lateral circuits longer than three years (six years and five years, respectively).

On September 19, 2006, in this docket, the Commission issued Order No. PSC-06-0781-PAA-EI. As part of that order, the Commission found FPL's vegetation management plan to be consistent with the compliance options provided by Order No. 06-0351-PAA-EI based on the data and analysis provided by the Company. The Commission's proposed decision to accept FPL's vegetation management plan was timely protested by the City of North Miami (City). Specifically, the City protested the portion of Order No. PSC-06-0781-PAA-EI that proposed to approve a six-year average tree-trimming cycle for FPL's distribution laterals. The remainder of the Order was consummated by Order No. PSC-06-0859-CO-EI, issued October 13, 2006.

The City is in a hurricane prone area with significant foliage. In its petition protesting the order, the City asserted that a "six-year maintenance schedule would allow for substantial [tree] growth to occur without maintenance." The City contended "that the alternative plan set forth by FPL, while rich with data, is actually worse in terms of overall costs and reliability in preparing South Florida for future storms where the standard is equivalent to or better than a three-year trim cycle." The City requested an amended order requiring three-year trimming cycles by FPL within the City of North Miami. Therefore, a full evidentiary hearing was held on for February 5, 2007, in this docket.

Docket No. 060198-EI

Date: April 26, 2007

The Commission has jurisdiction pursuant to Sections 366.04(2)(c), (2)(f), and (5), and 366.05(7), Florida Statutes.

### **Discussion of Issues**

**Issue 1:** Should Florida Power & Light Company establish a three-year cycle for its vegetation management program within the City of North Miami?

**Recommendation:** No. FPL should continue to implement its proposed system-wide vegetation management program consisting of average trim cycles of three-years for distribution feeder circuits and six-years for distribution lateral circuits throughout its service area. FPL should also be required to address rapid tree growth within the City of North Miami using mid-cycle trimming, hot-spot trimming, and the Right-Tree-Right-Place program. Thirty days after the Commission's order on this item becomes final, and by March 1 of years 2008 through 2010, FPL should file a report with the Commission and the City which includes (i) an information package containing historical and projected vegetation management activity and related reliability performance, both for the City and system-wide, (ii) an explanation of how FPL's proposed changes to its vegetation management program will impact the City and the storm resilience of the electrical system serving the City, and (iii) documentation summarizing FPL's actions to improve communications with the City. (McNulty, Breman, Gervasi)

### **Position of the Parties (Taken from Post-Hearing Briefs)**

CITY: Yes. Order No. PSC-06-0351-PAA-EI requires utilities to provide a 3 year trim cycle for lateral distribution lines unless they can show their proposed alternative is "equivalent or better in terms of cost and reliability." FPL's testimony shows that its 6 year trim cycle is less reliable than the three-year cycle. See Exhibit 11. In addition, FPL's projected costs are subject to question. See Order No. PSC-06-0781-PAA-EI.

FPL: No. FPL's three-year/six-year proposal provides the best balance of costs, benefits, and feasibility for FPL and its customers. It will result in substantially increased trimming, both within the City and system-wide. The City has identified nothing that would make FPL's proposal inappropriate for the City.

### **Staff Analysis**

#### **City's Arguments**

The City based its position that the Commission should require FPL to implement a three-year lateral trim cycle on the following arguments:

1. **Reliability** - FPL's average six-year lateral trim cycle would provide less reliable service than a three-year lateral trim cycle. Based on FPL's analysis, the City's number of customer interruptions which would occur under a six-year lateral trim cycle would be 50,000 more than would occur under a three-year lateral trim cycle. (City Brief, Page 4)
2. **Cost-Benefit Analysis** - The cost-benefit analysis supporting FPL's six-year lateral trim cycle is based on subjective assumptions which could skew the cost-benefit analysis results. An example is FPL's choice of relying on third-party vendors to conduct vegetation management instead of in-house personnel. FPL has not evaluated whether it could achieve significant

savings on tree trimming by having its tree trimming performed by FPL employees rather than third party contractors. (TR 191-193) FPL has performed such analyses in the past. Also, City Witness Miller stated upon cross-examination at the hearing that he did not believe the three-year trim cycle would result in greater overtime costs, more expenses, or more start-up costs. He noted that other parts of the country do not trim during the winter and such resources would be available to FPL. He stated that employing more tree trimmers would not be necessary if FPL were to use its Right Tree, Right Place program and trimmed trees for structural integrity. (TR 296-297, 299)

3. Proposed Changes in Lateral Trimming Cycle – FPL plans to perform even less tree trimming in the future than it does currently. (TR 280)

4. Adverse Effects of FPL’s Proposed 6-Year Trim Cycle - City Witness Miller testified that FPL’s proposed six-year lateral trim cycle is too long given the growth rate of trees in South Florida. A six-year lateral trim cycle by FPL would allow excessive tree growth followed by extreme trimming that would compromise the health or the stability of the tree. Such trimming practices adversely affect FPL’s power lines, increase the danger to personal property, and cause trees to have an unsightly appearance. The adverse effect on FPL’s power lines would be the impact of the tree falling into the power lines under conditions of high wind due to instability. He concluded that trimming smaller portions of trees by using trim cycles shorter than 6 years would avoid such conditions and would thereby remove the adverse affect on FPL’s power lines. (TR 61-62, 310)

5. FPL and City Tree Trimming Communications The City does not know what cycle FPL is using. FPL does not coordinate its trimming with the City. The City sometimes initiates contact with FPL when their trim practices are problematic. (TR 31)

### FPL’s Arguments

FPL based its position that the Commission should affirm FPL’s six-year lateral trim cycle for the City on the following arguments:

1. Reliability - Historically, overall electric reliability statistics and vegetation-related electric reliability statistics for the City are better than FPL’s system-wide averages, and FPL’s system-wide reliability statistics are significantly better than the national averages. (EXH 18) On a system-wide basis, FPL expects to improve distribution reliability due to its vegetation management plan. FPL’s tree SAIFI (the average number of interruptions due to vegetation per customer in a single year) is expected to decline by 0.6 interruptions per year after ten years based on the six-year lateral trim cycle plan. (TR 248)

2. Cost-Benefit Analysis - FPL’s six-year lateral trim cycle is much more cost-effective for FPL’s general body of customers than a three-year trim cycle. This is due primarily to the significant increase in costs related to a three-year lateral trim cycle resulting in only a marginal increase in reliability. The cost increase which would be required for a three-year lateral trim cycle is expected to be large due to the expected large increase in labor force and workforce premiums it would entail. (TR 183) FPL Witness Miranda stated that the utility would require 700 additional full-time personnel equivalents during the first three years of the plan to achieve a

three-year trim cycle system-wide. The cost impacts of FPL advancing from a 10-year average lateral trim cycle to a six-year average lateral trim cycle is expected to be much smaller, but is expected to result in significant gains in reliability. (TR 184)

FPL justifies its cost-effectiveness of its six-year lateral trim cycle by using a comparison of the cost of avoided storm-related customer interruptions for the three-year, six-year, and ten-year lateral trim cycles (the ten-year cycle is the cycle actually practiced by FPL in recent years). The annual average cost of continuing the current 10-year cycle over the next 10 years is \$59 million per year. The Company indicates that a three-year lateral trim cycle would result in avoidance of 155,000 storm related outages annually at a cost of \$102.5 million, or \$280 per avoided storm interruption. (EXH 11) The Company indicates that its six-year lateral trim cycle would result in avoidance of 100,000 storm-related customer interruptions annually at a cost of \$71.9 million, or \$129 per avoided storm interruption. FPL calculated its average restoration cost per storm related interruption in 2004 and 2005 to be \$135. (EXH 11) Thus, FPL expects that the six-year lateral trim cycle would be more cost effective than the current lateral trim cycle, thereby achieving lower cost per avoided storm-related customer interruption. On the other hand, a three-year lateral trim cycle would be substantially less cost effective than the current lateral trim cycle.

As regards outsourcing tree trimming activities, FPL indicated that it has compared various alternatives of using in-house personnel and outside contractors to perform trimming in the past and has always found that outsourcing is the most cost-effective approach. (TR 193)

Finally, FPL indicates that there is significant execution risk associated with a three-year lateral trim cycle. Constraints on available line-clearing resources and community barriers, such as customer refusals and local tree ordinances, require time to be reduced. Time is needed to educate customers and enact necessary laws and ordinances. (TR 184)

3. Proposed Changes in Lateral Trimming Cycle – Historically, FPL’s lateral trim cycle within the City (7.6 years) is shorter than its system-wide average lateral trim cycle (10 years). FPL proposes to shorten average lateral trim cycle to 6.3 years within the City by 2009, an improvement of 17 percent. By 2009, FPL proposes to tree trim 7 of 8 laterals located within the City which have not been trimmed in greater than 10 years. FPL’s proposed program is to achieve an average six-year trim cycle system-wide by 2013. This plan will result in significantly more tree trimming than has been practiced in recent years. (EXH 2)

4. Adverse Effects of FPL’s Proposed 6-Year Trim Cycle – Because FPL will be increasing tree trimming activity in the City, the City’s argument that adverse affects will result if FPL’s proposed six-year trim cycle is implemented is without merit. The City’s criticisms of FPL’s past tree-trimming practices, such as alleged extreme cutting, are irrelevant to the issue of identifying the appropriate trim cycle. Moreover, the City’s complaints about FPL’s past tree-trimming practices are unsubstantiated. (FPL Brief, P. 11) City Witness Lytle was able to identify only one tree with one-side trimming which had toppled over, and that was during hurricane conditions when numerous other trees not subject to one-side trimming also toppled over. (TR 45) City Witness Lytle acknowledged that he could recall only one incident when FPL’s tree trimming resulted in an undesirable re-growth condition known as a “witches broom”. (TR 40-41) Other trim practices cited by the City, such as cutting more than 30 percent of a tree

at one time or engaging in trimming that results in “hatracking,” are both practices that the City itself has admitted it practices from time to time. (TR 39) FPL Witness Slaymaker testifies that “drop crotch” cutting, or directional pruning, is an accepted utility tree pruning method that may result in “one-sided cut,” but this is an aesthetic issue and does not indicate a weak tree or hazardous condition. (TR 106) Trees that are candidates for being cut back by 30 percent in order to meet standards may instead be removed based upon location, species, and tree condition. (TR 118) The City could only cite one instance of alleged illegal trimming, and that case was resolved by an FPL arborist. (TR 43) The City could not identify any instance of a tree which failed as a result of FPL’s trimming practices. FPL effectively addresses rapid tree growth within the City using mid-cycle trimming, hot-spot trimming, and its “Right-Tree-Right-Place” program. (TR 108, 224, 225)

FPL and City Tree Trimming Communications - FPL has committed to expand its already strong communications and coordination with the City as part of its 3 year/6 year proposal. FPL is ready to embark on a partnership between FPL and communities it serves. (TR 128)

### Analysis:

Staff’s review of the arguments made for and against the Company’s proposed six-year lateral trim cycle is premised upon the fundamental direction put forth by the Commission in Order No. PSC-06-0351-PAA-EI. In the Order, the Commission allowed the IOUs the flexibility to propose an alternative plan for lateral circuits if the alternative could be shown to be equivalent to or better than a three-year trim cycle in terms of costs and reliability. In addition, Staff has reviewed this case in the context of the other requirements in Order No. PSC-06-0351-PAA-EI. For instance, the Order requires each IOU to develop a program to increase coordination with local governments to promote dialogue on key issues in order to reach accommodation or agreement on areas of mutual concern. A specific example of such local issues to be coordinated between the IOU and the local governments was tree trimming matters. Staff’s analysis of Issue 1 is structured below to address the key arguments presented by the parties.

### Reliability

Order No. PSC-06-0781-PAA-EI acknowledged that FPL’s six-year lateral trim cycle was projected to result in 55,000 more storm-related interruptions annually than would be incurred under a three-year lateral trim cycle. (Order, Page 4) The Commission found that FPL’s vegetation management plan, including the six-year lateral trim cycle, was appropriate only for initial implementation because of the lack of forensic data supporting the assumptions the Company put forth related to customer benefits (reductions in storm-related customer interruptions).

The Commission’s primary purpose in adopting its vegetation management storm initiative was to promote system reliability and reduce storm restoration costs. In fact, this was true of each of the initiatives adopted. At the hearing, Staff cross-examined FPL about its 2006 actual level of distribution reliability performance in the City relative to system averages. FPL’s Witness Miranda testified that FPL’s reliability statistics for the City indicated better 2006

performance (lower numbers) compared to the system averages for each statistic. These statistics included the following reliability indices: SAIDI (total minutes of interruption in a year), SAIFI (frequency of interruptions), and CAIDI (restoration duration). (EXH 18) In addition, FPL reported the City maintained better performance as measured by the vegetation outages as a percent of total outages compared to system averages. (EXH 18) The City did not challenge FPL's reliability claims. Staff believes FPL's data provided in this hearing supports FPL's contention that the City is receiving a higher level of service reliability than the system average. Thus, Staff does not believe the record supports the Commission requiring a more stringent vegetation management program (a shorter lateral trim cycle) for the City relative to other areas in FPL's service territory.

### Cost-Benefit Analysis

In Order No. PSC-06-0781-PAA-EI, the Commission proposed to accept, for purposes of initial storm plan implementation, FPL's data supporting its results related to customer benefits (reductions in customer interruptions). The data provided by FPL Witness Miranda's in this proceeding is the same as FPL filed in 2006 in support of the Company's plan which ultimately resulted in Order No. PSC-06-0781-PAA-EI. The City provided no alternative cost-benefit analysis in this proceeding.

Neither party presented direct testimony on the question of whether the utility could reduce costs of tree trimming by using in-house personnel to perform lateral tree-trimming. Thus, very little evidence is available on this point. In that regard, it is unknown whether FPL could in fact save substantially on the cost of tree-trimming by using in-house personnel instead of third party contractors. However, the City provided no evidence to refute FPL's cost-benefit analysis.

Staff believes FPL's argument regarding constraints on available line-clearing personnel has merit. The Commission has required each IOU to increase its respective vegetation management, so Staff believes it is probable that such an increase in demand for line-clearing resources would strain supply and the costs for securing personnel would rise. Staff believes that the estimates of customer benefits presented by FPL is reasonable for initial implementation.

### Proposed Changes in Lateral Trimming

FPL's proposal to accelerate its lateral trim cycle from 7.6 years to 6.3 years by 2009 under its six-year trim cycle plan is evidence that the utility will be performing substantially more lateral trimming in the years ahead. Its plan to trim 7 of 8 laterals which have not been trimmed in over 10 years is further evidence of increased planned lateral trimming activity. Staff does not believe the City is correct, as stated in its brief, that the utility plans to do little to increase its tree trimming efforts. (City Brief, Page 3 and EXH 2) As the petitioner, the City bears the burden to prove that FPL's six-year tree trimming proposal for its distribution laterals is inadequate within the City's boundaries. Staff does not believe the City has met that burden.



### Adverse Effects of FPL's Proposed 6-Year Trim Cycle

Staff believes the City also failed to prove that FPL's tree trimming practices have resulted in significant electric utility service disruption or safety issues for FPL distribution facilities located in the City. The City provided no evidence to suggest that FPL was not abiding by national, state, county, or municipality standards for vegetation management. Also, FPL has stated its intent on increasing the amount of its trimming activities in the City. EXH 2 Thus, Staff does not believe the City's claim of adverse affects of FPL's six-year trim cycle, such as trees falling into power lines due to extreme trimming, has merit. FPL's mid-cycle and hot-spot trimming programs and its "Right Tree, Right Place" program are well suited to deal with certain species of relatively fast-growing trees in South Florida. Other adverse affects cited by the City, such as the aesthetics of some tree-trimming practices (e.g. drop-crotch, one-sided trimming, etc.) are not within the jurisdiction of this Commission.<sup>11</sup>

### Improved Communications

Staff believes the City's petition to protest Commission Order No. PSC-06-0781-PAA-EI is based upon the City's significant misunderstandings of FPL's current and future tree trimming programs. Staff further believes such misunderstandings is a direct result of poor communications between the City and FPL. FPL is correct in its brief that:

the City's protest was premised upon the fundamental misunderstanding about the FPL's tree trimming activity within the City: its witnesses thought that FPL's three-year/six-year proposal will result in a decrease in trimming activity within the City when in fact it will result in a significant increase. The City's Director of Parks and Recreation acknowledged that an increase in trimming activity would address his concerns. (FPL Brief, Page 3)

Staff believes the parties should have met either before or after the City's protest was filed on September 19, 2006 to clarify FPL's then-current tree trimming program (and 7.6 year lateral trim cycle) and the proposed tree-trimming program (and 6.0 lateral trim cycle) which was scheduled to begin January 1, 2007. This failure to communicate is especially confounding given the fact that Order No. PSC-06-0351-PAA-EI and Order No. PSC-06-0781-PAA-EI require FPL to develop and implement a program to increase coordination with local governments on issues such as tree trimming matters. As discussed in Order No. PSC-06-0781-PAA-EI, FPL provided a plan to increase coordination with local government. The plan contained a proposal whereby coordination would be achieved via an External Affairs representative working with local government officials. Witness Miranda admitted that it would have been possible for FPL to convey the information contained in EXH 18 more quickly than it did after the City filed its protest resulting in this proceeding. (TR 235) Exhibit 18 includes data indicating that the City had experienced better reliability than FPL's system average reliability. Staff believes that, if FPL had been effective in communicating its tree trimming programs and related reliability performance to the City, it is quite possible much regulatory expense and time could have been avoided in this case.

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<sup>1</sup> See Order No. PSC-02-0788-PAA-EI, issued June 10, 2002, in Docket No. 010908-EI, finding that the Legislature has not authorized the Commission to enforce issues of aesthetics.

**Conclusion:**

FPL should not be required to institute a three-year trim cycle for its lateral circuits in the City at this time. Insufficient evidence exists to conclude that FPL's proposed six-year lateral trim cycle in the City is not consistent with Commission Order No. PSC-06-0781-PAA-EI for purposes of initial implementation. In that order, the Commission found FPL's proposed plan to be "reasonable for initial implementation because it is an improvement of its current program and it contains a method for us to conduct the necessary ongoing review to ensure that it is equivalent to or better than a three-year trim cycle in terms of costs and reliability for purposes of preparing for future storms." (Order, Pp. 4, 5) In filing its protest, the City did not understand that FPL's proposed plan is an improvement of its current program. The City's criticisms of FPL's cost-benefit analysis are lacking in evidence. The City's claims that a six-year cycle would lead to adverse effects on FPL distribution facilities are unsubstantiated. While the City is correct that a six-year lateral trim cycle is not expected to maintain electric reliability as well as a three-year cycle, the three-year cycle would not be as cost-effective as a six-year cycle, and would result in a diminishing return as measured by storm cost savings. Furthermore, the City did not provide evidence to undermine the methodology FPL utilized to assess the cost-effectiveness of a six-year trim cycle. (TR 184, EXH 11)

Staff recommends that FPL should continue to implement its proposed system-wide vegetation management program consisting of average trim cycles of three-years for distribution feeder circuits and six-years for distribution lateral circuits throughout its service area. FPL should also be required to address rapid tree growth within the City of North Miami using mid-cycle trimming, hot-spot trimming, and the Right-Tree-Right-Place program. Thirty days after the Commission's vote on this item becomes final, and by March 1 of years 2008 through 2010, FPL should file a report with the Commission and the City which includes (i) an information package containing historical and projected vegetation management activity and related reliability performance, both for the City and system-wide, (ii) an explanation of how FPL's proposed changes to its vegetation management program will impact the City and the storm resilience of the electrical system serving the City, and (iii) documentation summarizing FPL's actions to improve communications with the City.

Docket No. 060198-EI

Date: April 26, 2007

**Issue 2**: Should this docket be closed?

**Recommendation**: The docket should be closed after the time for filing an appeal has run.  
(Gervasi)

**Staff Analysis**: The docket should be closed 32 days after issuance of the order, to allow the time for filing an appeal to run.