

ORIGINAL

**BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION**

**DOCKET NO. 060198-EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: REQUIREMENT FOR INVESTOR-OWNED
ELECTRIC UTILITIES TO FILE ONGOING STORM
PREPAREDNESS PLANS AND IMPLEMENTATION
COST ESTIMATES.**

DECEMBER 20, 2006

DIRECT TESTIMONY OF:

**WILLIAM R. SLAYMAKER
(RESPONSE TO CITY OF NORTH MIAMI PETITION)**

DOCUMENT NUMBER-DATE

11618 DEC 20 06

FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

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3 **DIRECT TESTIMONY OF WILLIAM R. SLAYMAKER**

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

7 A. My name is William R. Slaymaker. My business address is Florida Power &
8 Light Company, 7200 N.W. 4th Street, Plantation, Florida, 33317.

9 **Q. By whom are you employed and what is your position?**

10 A. I am employed by Florida Power & Light Company (FPL or the Company) as
11 Distribution Supervisor, Vegetation Management.

12 **Q. Please describe your duties and responsibilities in that position.**

13 A. I joined FPL in 1991 and have held various positions within the Vegetation
14 Management organization over the last 15 years, most recently as East Area
15 Operations Supervisor. My duties have included area distribution vegetation
16 management planning, maintenance and restoration activities. My current
17 responsibilities include overseeing capital work requiring vegetation planning
18 and maintenance and special projects.

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

21 A. I received a Bachelor of Science degree in Forestry in 1967 from Syracuse
22 University. I have worked for over 30 years in the Urban Forestry /
23 Arboriculture industry. This experience has included the Urban Forestry

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1 Coordinator with the Florida Division of Forestry and Director of Forestry
2 Operations for New York City. I am a certified arborist and landscape
3 inspector. I am also a member of the Florida Urban Forestry Council, Utility
4 Arborist Association, National Arbor Day Foundation and the International
5 Society of Arboriculture. I joined FPL in 1991 and have served in a variety of
6 positions in Distribution Vegetation Management.

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

8 A. The purpose of my testimony is to provide an overview of the line clearing
9 standards, guidelines and codes followed by FPL. I will also respond to the
10 testimonies of the City of North Miami (the "City") witnesses, Keith Miller
11 and Terry Lytle.

12 **Q. Please provide an overview of an FPL arborist's responsibilities.**

13 A. FPL's arborists are responsible for regional areas which are also aligned with
14 our line clearing contractors. The arborists' responsibilities include ensuring
15 achievement of vegetation management goals and targets, ensuring
16 compliance with standards and guidelines, oversight of area line clearing
17 contractors, and customer communications.

18
19 Additionally, FPL's arborists are expected to build on relationships with local
20 authorities within cities, counties, townships and municipalities throughout the
21 state, as well as other entities like tree commissions or urban foresters. These
22 relationships provide an excellent forum to discuss mutual issues and program
23 practices. The Company prides itself in the fact that we have been able to

1 work effectively with local governments and entities to resolve vegetation
2 concerns as they arise.

3

4 **LINE CLEARING STANDARDS AND GUIDELINES**

5 **Q. What standards apply to FPL's line clearing practices?**

6 A. There are two primary drivers that serve as the foundation for FPL's line
7 clearing practices:

8 ○ National Electric Safety Code (NESC), Section 218 Tree Trimming.

9 NESC Section 218 states that "Trees which may interfere with
10 ungrounded supply conductors should be trimmed or removed". FPL is
11 obligated under Florida Statutes to follow the NESC. When
12 implementing this standard, FPL considers several factors to determine
13 the extent of trimming required. These factors include:

- 14 ● Normal tree growth
- 15 ● Combined movement of trees and conductors under adverse
16 weather conditions
- 17 ● Voltage and sagging of conductors at elevated temperatures

18 ○ American National Standards Institute (ANSI) Standard A-300.

19 This includes guidelines for proper tree pruning techniques to promote
20 tree health. The A-300 standard is endorsed by the National Arbor Day
21 Foundation, the International Society of Arboriculture (ISA) and many
22 local organizations. The ANSI A-300 describes modern tree pruning
23 techniques (such as collar cuts and directional pruning) and their

1 application to utility line clearance. ANSI A-300 5.9 Utility Pruning is
2 the most widely accepted pruning method in the electric utility industry.

3 **Q. Are there any other guidelines or standards that apply to FPL's line**
4 **clearing practices?**

5 A. In addition to following the NESC and ANSI standards, FPL also complies
6 with applicable ordinances and rules. For example, the Miami Dade County
7 Department of Environmental Resource Management (DERM) has adopted
8 the following requirement for tree pruning within the county:

9 Section 18A-11 Landscape maintenance states:

10 (C) Trees shall be pruned in the following manner:

11 (1) All cuts shall be clean, flush and at junctions, laterals or crotches. All
12 cuts shall be made as close as possible to the trunk or parent limb,
13 without cutting into the branch collar or leaving a protruding stub.

14 (2) Removal of dead wood, crossing branches, weak or insignificant
15 branches, and suckers shall be accomplished simultaneously with any
16 reduction in crown.

17 (3) Cutting of lateral branches that results in the removal of more than
18 one-third (1/3) of all branches on one (1) side of a tree shall only be
19 allowed if required for hazard reduction or clearance pruning.

20 (4) Lifting of branches or tree thinning shall be designed to distribute over
21 half of the tree mass in the lower two-thirds (2/3) of the tree.

22 (5) No more than one-third (1/3) of a tree's living canopy shall be
23 removed within a one (1) year period.

1 (6) Trees shall be pruned according to the current ANSI A300 Standards
2 and the Landscape Manual.

3 **Q. Does FPL comply with DERM's Section 18A-11?**

4 A. Yes. In fact, I am not aware of FPL ever receiving a notice of violation from
5 DERM for violating Section 18A-11.

6 **Q. Has FPL received any notices of violations from the City related to tree
7 abuse?**

8 A. No. We have complied with all landscape regulations when working in the
9 City. I would like to point out that the City enforces both the Miami - Dade
10 DERM landscape code as well as its own. We have been in compliance with
11 both and have not received any notices of violation from the City for tree
12 abuse.

13 **Q. How does FPL determine how much to prune from a tree?**

14 A. FPL prunes only enough to properly clear its electric facilities. For example,
15 a tree's growth rate and proximity to the electrical line are considered in
16 determining how much clearance will be needed. Limbs growing away from
17 the wires or limbs that are not a threat to FPL lines are left undisturbed. It is
18 not our intent to trim the whole tree or to trim for aesthetic purposes. Our
19 objective is to clear the lines to provide safe, reliable electric service to our
20 customers.

21 **Q. What approach does FPL use for tree pruning?**

22 A. FPL utilizes a technique called "directional pruning" which reduces the stress
23 of pruning upon a tree. This method removes entire branches or leaders,

1 growing toward the power line, back to a lateral branch without disturbing the
2 branch collar itself. The branch that is removed should be no greater in
3 diameter than one third the diameter of its parent lateral. Future tree growth is
4 then directed away from the power lines and re-growth is reduced. This
5 technique is encouraged by the National Arbor Day Foundation and the
6 International Society of Arboriculture and does not interfere with the tree's
7 ability to seal the wounds, allowing the tree's natural defense system to
8 discourage pests and decay.

9 **Q. Does FPL alter its pruning practices after a major storm or hurricane in**
10 **conjunction with storm restoration efforts?**

11 A. Yes. After a major storm or hurricane, FPL's main objective is to restore
12 service as quickly and safely as possible. During this restoration effort, FPL
13 trims only what is necessary for rapid restoration. For instance, "stub cuts" are
14 frequently used instead of the normal directional pruning technique because
15 this is the quickest and best way to restore access and clearance to our lines.
16 Once service restoration is complete, corrective pruning is initially performed
17 as needed to protect FPL's facilities. The corrective pruning is then
18 completed during FPL's next scheduled maintenance cycle. This is consistent
19 with ANSI -300 Section 5.9.3, which discusses storm restoration and provides
20 that: "At such times it may be necessary, because of safety and the urgency of
21 service restoration, to deviate from the use of proper pruning techniques as
22 defined in this standard. Following the emergency, corrective pruning should
23 be done as necessary."

1 **PROGRAM HONORS**

2 **Q. Has FPL's Vegetation Management program received any recognition for**
3 **its line clearing practices?**

4 A. Yes. FPL has been recognized annually since 2003 as a Tree Line USA utility.

5 **Q. What is Tree Line USA?**

6 A. The National Arbor Day Foundation, in cooperation with the state division of
7 forestry, recognizes utilities that demonstrate best tree care practices that
8 protect and enhance America's urban forests. This program promotes the dual
9 goals of dependable utility service and healthy trees.

10 **Q. What are the requirements to qualify as a Tree Line USA utility?**

11 A. There are three requirements: Quality Tree Care Practices, Annual Worker
12 Training, and Tree Planting and Public Education. Below is a description of
13 each requirement:

14 1) Quality Tree Care Practices:

15 A utility must adopt work practices for pruning similar to the methods
16 described in "Pruning Trees Near Electric Utility Lines: A Field
17 Pocket Guide for Qualified Line Clearance Tree Workers" by Dr. Alex
18 L. Shigo, and compliance with ANSI A-300. Each worker who
19 performs line clearance must read and understand the field guide.
20 Work practices are recommended for trenching and tunneling near
21 trees similar to methods described in "Trenching and Tunneling Near
22 Trees: A Field Pocket Guide for Qualified Workers" by Dr. James R.

1 Fazio. Key utility and contractor management have to be advised, and
2 both guides made available for reference.

3 2) Annual worker training:

4 Contractors and employees are required to complete and document the
5 annual training described above.

6 3) Tree Planting and Public Education:

7 A utility must sponsor on-going tree-planting programs as well as
8 annual Arbor Day events. They must also provide one or more
9 mailings a year that include educational information. Examples
10 include:

- 11 -- Appropriate trees for planting near utility lines
- 12 -- How to create energy-efficient landscapes to reduce cooling &
13 heating loads
- 14 -- Tips on how to prune trees safely

15 **Q. Has FPL been recognized or received any other honors for its vegetation**
16 **management practices?**

17 A. Yes. In addition to Tree Line USA, the Edison Electric Institute (EEI)
18 honored the company in 2006 with an Advocacy Excellence award for our
19 Right Tree, Right Place (RTRP) program. The Advocacy Excellence Awards
20 recognize EEI member companies that have been “trail blazers and leaders,
21 and create a dynamic forum for sharing learning about developing high-
22 impact public policy programs”.

1 **Q. Please describe FPL's RTRP program.**

2 A. Vegetation management requires public cooperation. RTRP is a public
3 education program based on FPL's core belief that providing reliable electric
4 service and sustaining our beautiful, natural environment can go hand-in-hand
5 and is a win-win partnership between the utility and customers. No amount of
6 trimming can substitute for smart landscaping and responsible maintenance by
7 property and business owners and local communities. Selecting the right tree
8 and planting it in the right place around power lines can eliminate potential
9 safety hazards, improve the reliability of electric service and contribute to the
10 beauty of Florida's natural landscape.

11
12 As a result of FPL's efforts to encourage customers to carefully consider the
13 mature height of vegetation planted adjacent to power structures, many
14 communities are considering adopting or revising vegetation management
15 guidelines to reflect RTRP practices. FPL arborists also work with cities to
16 encourage the incorporation of RTRP guidelines into their landscape codes to
17 avoid future conflicts. Customers can also obtain information on proper tree
18 planting by visiting www.FPL.com or calling the FPL customer care center at
19 the telephone number found on their electric bill.

1 **RESPONSE TO THE TESTIMONY OF**
2 **MESSRS. LYTLE AND MILLER**

3 **Q. The testimony of Messrs. Lytle and Miller is centered around the**
4 **perception that FPL will be excessively trimming trees in order to clear**
5 **lines for six years of tree growth. Does FPL intend to trim back far**
6 **enough to clear the lines for six years of growth?**

7 A. Only to the extent we can do so consistent with the applicable line clearing
8 standards. FPL will continue to follow the NESC, ANSI A-300, and all other
9 applicable standards while considering tree species, growth rates and the
10 location of trees to our facilities when performing line clearing.

11 **Q. How will FPL maintain adequate line clearances when it implements the**
12 **six year average trim cycle for laterals?**

13 A. As we do today, FPL will monitor circuit performance and address conditions
14 that warrant attention outside of our planned maintenance schedule.
15 Additionally, once the lines are cleared, communities and customers can
16 assume some of their responsibility to prevent their trees from interfering with
17 FPL's facilities. Finally, in order to reduce or eliminate potential customer
18 barriers that impede line clearing activities, FPL plans to increase its
19 community outreach programs. This will include FPL's RTRP program,
20 which would apply to new trees being planted as well as removal of existing
21 trees interfering with our facilities, e.g., palm trees.

1 Q. Messrs. Lytle and Miller also accuse FPL of illegally trimming trees, and
2 violating trim standards with tree trimming practices that include,
3 weakening trees by “drop crotch” cuts or removing the whole side of a
4 tree, creating “witch’s brooms,” and “hatracking.” Do you agree with
5 these accusations? (Lytle, pgs. 10 and 13; Miller, pg. 13)

6 A. Absolutely not. As discussed previously, FPL’s line clearing practices follow
7 nationally accepted trimming practices. These practices do not allow for
8 creating “witch’s brooms” or “hatracking”.

9
10 “Drop crotch” cutting, also referred to as directional pruning, is an accepted
11 utility tree pruning method. It does not weaken the trees. The method
12 basically removes a branch that is no greater than one third the diameter of its
13 parent lateral, without disturbing the branch collar. This helps to redirect
14 growth away from our facilities and thus minimizes the need for trimming in
15 the future. It is true that this practice can lead to “V trim” or “one-sided cut”,
16 but this is essentially an aesthetic issue and does not indicate a weak tree or
17 hazardous condition. In fact, “one-sided” growth frequently occurs under
18 natural conditions. If you walk in the woods, you would find very few well
19 rounded, “perfect” specimen trees. Instead, you would most likely see trees
20 that are one sided or “unbalanced” due to competitive growing conditions.

1 Q. If FPL were engaged in “illegal trimming”, one would expect that there
2 would be a high number of line clearing related customer complaints
3 from the City. Has that been the case?

4 A. No. During the last 6 years (2001 – November, 2006), FPL has received three
5 Florida Public Service Commission inquiries associated with unsightly
6 trimming.

7 Q. Messrs. Lytle and Miller also suggest that FPL’s tree trimming practices
8 have resulted in trees coming down on houses or make them more
9 susceptible to coming down during tropical storms and hurricanes. Is this
10 valid? (Lytle, pg. 13; Miller, pg. 11)

11 A. No. In my 30 years in arboriculture I have not seen or heard of a tree falling
12 on a house as a result of a utility’s line clearing practices. Trees are supported
13 by their root system, not branches. I note that FPL asked the City in discovery
14 to identify all trees that the City contends failed as a result of FPL’s trimming
15 practices, and the City’s response was “none.” However, I should point out
16 that there is no line clearing standard (or any other form of vegetation
17 management) that can guarantee that a tree will not fail during severe storms
18 and hurricanes.

19 Q. Messrs. Lytle and Miller assert that FPL is only concerned with trimming
20 as much and as quickly as it can to achieve clearances and is not
21 concerned with the integrity of trees. Do you agree with their assertion?
22 (Miller, pg. 9)

1 A. No. FPL provides its line clearing contractors with a work plan to be
2 executed. These contractors must execute the plan while following FPL's
3 standards and guidelines. These guidelines require the contractors to comply
4 with all state and local codes and industry standards, follow best practices for
5 utility line clearing and communicate with our customers. These standards
6 provide for appropriate collar cuts and do not interfere with the trees natural
7 defense system. They are designed to maintain the integrity of the tree.

8 **Q. Messrs. Lytle and Miller assert that, while a 6 year trimming cycle may**
9 **be appropriate for North Florida, it will not work in South Florida**
10 **because South Florida has more rapidly growing trees. Do you agree?**

11 A. No. FPL's 6 year average trim cycle will work in both regions. Regardless of
12 the region, the amount trimmed is based on tree species, growth rates and
13 location of trees. As I previously discussed, FPL will clear its lines to the
14 extent possible consistent with applicable line clearing standards. We expect
15 situations where six years of clearance will not be possible. Those situations
16 will be monitored based on circuit performance, and FPL will address those
17 conditions that warrant attention outside of our planned maintenance schedule.
18 Additionally, as previously discussed, FPL will also be placing additional
19 emphasis on its RTRP program.

20 **Q. Please summarize your testimony.**

21 A. The primary objective of FPL's Vegetation Management program is to clear
22 distribution facilities from vegetation in order to protect the integrity of our
23 system and provide safe, reliable and cost-effective electric service to our

1 customers while preserving and protecting trees to the maximum extent
2 possible. Public cooperation is required. FPL's RTRP is a public education
3 program that provides information to customers to educate them on our
4 trimming program and practices, safety issues, and the importance of locating
5 trees in the right place. The testimony of the City's witnesses is based on a
6 false premise – that FPL plans to use over-aggressive trim practices to keep
7 laterals clear for six years. This is not true. FPL will continue to adhere to
8 applicable standards while considering tree species, growth rates and the
9 location of trees. None of the criticisms of FPL's line clearing practices by the
10 City's witnesses are valid or would suggest that FPL's approach is
11 inappropriate.

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

13 **A. Yes.**