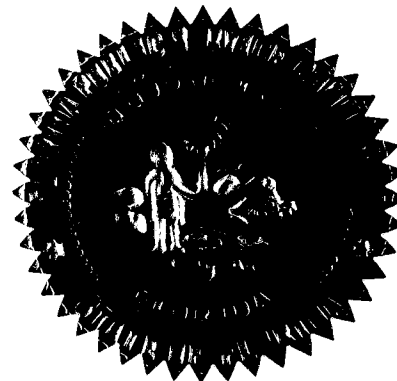


BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060198-EI

In the Matter of:

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



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VOLUME 2

Pages 91 through 324

PROCEEDINGS: HEARING

BEFORE: CHAIRMAN LISA POLAK EDGAR
COMMISSIONER MATTHEW M. CARTER, II
COMMISSIONER KATRINA J. TEW

DATE: Monday, February 5, 2007

TIME: Commenced at 9:30 a.m.
Concluded at 3:30 p.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: JANE FAUROT, RPR
Official Commission Reporter
(850)413-6732

APPEARANCES: (As heretofore noted.)

DOCUMENT NUMBER-DATE

FLORIDA PUBLIC SERVICE COMMISSION 01594 FEB 16 2007

FPSC-COMMISSION CLERK

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1
2 MR. BUTLER: Our first witness will be Mr. Slaymaker,
3 and I would ask him to go ahead and start moving to the stand.

4 (Pause).

5 MR. BUTLER: Are you ready to proceed?

6 CHAIRMAN EDGAR: We are ready.

7 MR. BUTLER: Thank you.

8 Madam Chairman, we have called FPL's first witness,
9 Mr. William Slaymaker to the stand. I believe he has
10 previously been sworn. Is that correct, Mr. Slaymaker?

11 THE WITNESS: Yes, I have.

WILLIAM SLAYMAKER

12
13 **was called as a witness on behalf of Florida Power and Light**
14 **Company, and** having been duly sworn, testified as follows:

DIRECT EXAMINATION

15
16 BY MR. BUTLER:

17 Q Would you please state your full name and business
18 address for the record?

19 A William Slaymaker. My business address is 7200
20 Northwest 4th Street, Plantation, Florida.

21 Q By whom are you employed and in what capacity?

22 A I am employed by Florida Power and Light as a
23 supervisor of the vegetation management program.

24 Q Do you have before you prepared written testimony
25 consisting of 14 pages?

1 A Yes, I do.

2 Q And no attached exhibits?

3 A Yes, I do.

4 Q Was this testimony prepared under your direction,
5 supervision, or control?

6 A Yes, it was.

7 Q Do you have any changes or corrections to your
8 testimony at this time?

9 A Actually, yes, there is one minor correction with the
10 graduation date from college. I had in the testimony 1967 and
11 actually it's 1976.

12 Q And that appears correct on Page 1, Line 21? I
13 apologize for leading the witness, but I hoping to get that
14 through quickly. Is that correct?

15 A That is correct.

16 Q As corrected, do you adopt this as your prepared
17 testimony in this proceeding?

18 A Yes, I do.

19 MR. BUTLER: I ask that Mr. Slaymaker's testimony be
20 inserted into the record as though read.

21 CHAIRMAN EDGAR: The prefiled testimony with the
22 correction will be entered into the record as though read.

23 MR. BUTLER: Thank you.

24

25

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**2 **FLORIDA POWER & LIGHT COMPANY**3 **DIRECT TESTIMONY OF WILLIAM R. SLAYMAKER**4 **DOCKET NO. 060198-EI**5 **DECEMBER 20, 2006**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 ¹⁹⁷⁶~~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

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.**

1 BY MR. BUTLER:

2 Q Mr. Slaymaker, would you please summarize your
3 testimony?

4 A Thank you. Yes, I will. Good morning, Madam Chair
5 and Commissioners. I would like to start off with my
6 background. I'm a forester, and an ISA certified arborist. I
7 have worked for over 30 years in urban forestry and the
8 arboriculture industry. This experience includes serving as
9 urban forestry coordinator with the Florida Division of
10 Forestry as well as Director of Forestry Operations with the
11 City of New York. I have worked with Florida Power and Light's
12 vegetation management organization since 1991.

13 The primary objective of Florida Power and Light's
14 vegetation management program is to clear vegetation from our
15 distribution facilities in order to protect the integrity of
16 that system and provide safe, reliable, and cost-effective
17 electric service. We do this while preserving trees and
18 protecting trees meeting all codes and line clearing standards.
19 FPL employs a staff of arborists, such as myself, and FPL
20 arborists responsibilities include ensuring compliance with
21 standards and guidelines, the oversight of line clearing
22 contractors, and customer communications. Additionally, FPL
23 arborists are expected to build and maintain relationships with
24 local authorities as well as tree commissioners and urban
25 foresters. These relationships provide an excellent forum to

1 discuss issues and program practices.

2 The company prides itself in the fact that we have
3 been able to work effectively with local governments to resolve
4 vegetation concerns as they arise. FPL has and will continue
5 to adhere to the National Electric Safety Code, the ANSI 8300,
6 and other applicable tree trimming standards when performing
7 our line clearing. FPL intends to implement its
8 three-year/six-year proposal consistent with these standards
9 and codes. FPL will monitor circuit performance and address
10 conditions that warrant attention outside of our normal planned
11 maintenance schedule.

12 Finally, regardless of trim cycles that are used,
13 vegetation management requires public cooperation. FPL's
14 "Right Tree-Right Place" is a public education program based on
15 FPL's core belief that providing reliable electric service and
16 sustaining our natural environment can go hand-in-hand. It is
17 a win/win partnership between FPL and our customers. No amount
18 of tree trimming can substitute the smart landscaping and
19 responsible maintenance by property owners and local
20 communities. "Right Tree-Right Place" is designated to
21 increase public awareness to this important fact.

22 That concludes my oral summary.

23 MR. BUTLER: Thank you, Mr. Slaymaker. I tender the
24 witness for cross-examination.

25 CHAIRMAN EDGAR: Thank you. Mr. Armstrong.

1 MR. ARMSTRONG: Thank you, Madam Chair.

2 CROSS EXAMINATION

3 BY MR. ARMSTRONG:

4 Q Good morning, Mr. Slaymaker, how are you?

5 A Good morning. Fine.

6 Q I refer to Page 11 of your testimony at Line 17. You
7 refer there to the fact that one-sided growth frequently occurs
8 under natural conditions, is that correct?

9 A One-sided growth is common. You know, I think I'm
10 referring to conditions that you may see in a natural
11 environment in a wooded situation where, you know, that could
12 be very natural.

13 Q Okay. And one-sided growth can, though, it can cause
14 a tree to fall down into a power line, correct?

15 A Well, the reference was, you know, not if the trees
16 are pruned properly and according to the standards that we trim
17 by.

18 Q So it's your testimony that it is not more likely
19 that a one-sided tree would fall, could fall as opposed to a
20 properly situated tree growing naturally?

21 A Not necessarily. It depends on the tree and the
22 location, and a number of conditions.

23 Q So it's your testimony that is not more likely for a
24 one-sided tree to fall into a power line than it would be for a
25 naturally growing natural looking tree. That is your

1 testimony, it is not more likely?

2 A Not if it is trimmed properly.

3 Q You were here for the testimony of Mr. Lytle this
4 morning, correct?

5 A Yes, I was.

6 Q And you heard the questions regarding the average
7 six-year cycle under FPL's proposed lateral tree trimming
8 program?

9 A Yes, I have.

10 Q So, is it your understanding, that by average lateral
11 tree trimming cycle, some trees would be trimmed less
12 frequently than six years and some would be trimmed more
13 frequently?

14 A The average cycle would be for the entire circuit.
15 You know, some circuits, depending on the species and the
16 conditions on that particular circuit may be trimmed more or
17 less frequently than the average, correct.

18 Q So some trees would be trimmed more than six years
19 and some would be trimmed less than six years, correct?

20 A The six-year average would be an average for a
21 particular circuit, yes.

22 Q And it is your knowledge, you know that right now
23 Florida Power has taken ten years or more between tree
24 trimmings for trees, correct?

25 A Currently, our average lateral cycle is approximately

1 ten years on a system level, and I believe it is currently
2 about 7.6 years in the City of North Miami.

3 Q Okay. So on a system-wide basis, the average right
4 now is ten years?

5 A That's correct.

6 Q So there are trees out there that might not have been
7 trimmed for 15 years?

8 A Not necessarily. FPL does have other components of
9 its program besides the scheduled maintenance portion of that
10 program. We monitor the performance of particular circuits and
11 we identify and have components of our program to address
12 conditions that may come up between the scheduled maintenance
13 cycles.

14 Q Mr. Slaymaker, an average of ten years -- and I will
15 play the game. An average of ten years --

16 CHAIRMAN EDGAR: Mr. Armstrong, don't badger the
17 witness, please.

18 BY MR. ARMSTRONG:

19 Q Mr. Slaymaker, there are some trees that Florida
20 Power has cut in less than ten years, correct, less than the
21 ten-year cycle?

22 A There are circuits that -- when we trim a circuit, we
23 trim to the appropriate standards and attain the appropriate
24 clearance following the existing guidelines and standards of
25 the industry. We monitor the performance of those individual

1 circuits. And based on the tree densities and the types of
2 trees on those particular circuits, some circuits may not need
3 trimming as frequently as other circuits. Just flying in
4 yesterday into Tallahassee seeing a lot of pine trees, that
5 particular specie of tree, once you trim it, it doesn't
6 necessarily need to be trimmed very frequently. So it really
7 is something that we look at on a case-by-case
8 circuit-by-circuit basis and we monitor the performance and we
9 evaluate and take measures if we need to take measures between
10 the next cycle.

11 Q At Page 5, Line 13 of your testimony you describe how
12 FPL determines how much to prune from a tree. Do you see that?

13 A Yes, I do.

14 Q FPL uses a contractor to do its tree trimming,
15 correct?

16 A Yes, we do.

17 Q At Page 10, Line 5, and Page 13, Lines 13 and 14, you
18 refer to the fact that Florida Power will trim trees to the
19 extent possible consistent with applicable line clearing
20 standards, correct?

21 A That's correct.

22 Q And you are familiar with the fact that there is an
23 exception to the City of North Miami code to allow 30 percent
24 of trees to be trimmed in order to meet such clearances, are
25 you familiar with that?

1 A I'm not sure --

2 MR. BUTLER: I would ask you to give him a more
3 specific reference and show him the document if you are going
4 to ask him questions specifically about a code provision.

5 MR. ARMSTRONG: I'm asking if he is familiar with it.
6 If he says no, I will accept that, too.

7 BY MR. ARMSTRONG:

8 Q Mr. Slaymaker, are you familiar with the City of
9 North Miami code which allows more than 30 percent of a tree to
10 be trimmed in certain instances?

11 MR. BUTLER: I'm, again, going to object.

12 MR. ARMSTRONG: I'm asking if he is familiar with it.
13 If he says no, he says no.

14 MR. BUTLER: But what you are doing is you are sort
15 of providing a general summary of what it says and asking him
16 whether he is familiar with basically that general summary of
17 it. Show him what it is you want him to look at and ask him if
18 he is familiar with it, or read it to him if you have something
19 you want to read to him.

20 MR. ARMSTRONG: Madam Chair, I'm asking if he is
21 familiar with it. It is appropriate cross-examination. If he
22 says he is not familiar with it, he can do so. Just say I'm
23 not familiar with it.

24 CHAIRMAN EDGAR: Okay. Ask the question again and I
25 will allow the witness to answer.

1 BY MR. ARMSTRONG:

2 Q Mr. Slaymaker, are you familiar with the City of
3 North Miami code provision which allows a tree to be trimmed
4 30 percent or more under certain circumstances?

5 MR. BUTLER: I'm going to object again to the
6 question, Madam Chairman.

7 CHAIRMAN EDGAR: I understand, Mr. Butler. I heard
8 your objection and your explanation directed to Mr. Armstrong.
9 However, the witness can say whether he is familiar with a code
10 as characterized by Mr. Armstrong or not familiar with a code
11 as characterized by Mr. Armstrong. I don't know the answer
12 yet, but can you answer the question?

13 THE WITNESS: Yes, I am familiar with North Miami's
14 codes. As far as specific sections, I don't have that in front
15 of me to refer to, but I am familiar with the codes.

16 BY MR. ARMSTRONG:

17 Q And specifically the code provision that allows an
18 exception to trim 30 percent or more of a tree, you're familiar
19 with that?

20 A I believe there is an exemption, yes.

21 Q So, Mr. Slaymaker, to your knowledge if FPL's
22 contractors go out in a neighborhood and the trees need to be
23 cut back by more than 30 percent to meet power lines clearance
24 requirements, they do so, correct?

25 A Not necessarily. You know, the two core principles

1 that we use, and our contractors use are the National Electric
2 Safety Code and the ANSI A300 standards. Within those
3 standards the guidelines state that it's no more than
4 30 percent of trees should be removed at any one time. So that
5 is a standard within the code that we try to follow and we do
6 follow in most cases.

7 Q Thank you for that explanation. Now, let me ask a
8 question. If Florida Power and Light's contractor goes out to
9 a neighborhood and sees a tree that must be cut back by more
10 than 30 percent in order to meet the standards that you just
11 referred to, they do so, correct?

12 A Possibly. Possibly we would do so, or possibly if a
13 tree needs to be cut that severely that would be a tree that we
14 would consider for a good removal candidate. A tree that is
15 probably inappropriate for that location and the condition most
16 likely will not improve in time, so that would be a candidate
17 that we would look -- depending on the severity, that we would
18 look at as a potential removal candidate.

19 Q I understand, and that is good. So if it is not an
20 appropriate specie for that area, you might say let's remove
21 it?

22 A Correct.

23 Q Let me ask you a question. If a tree has not been
24 trimmed for more than ten years, isn't it more likely that that
25 tree would have to be cut back by more than 30 percent than,

1 say, a tree that had been trimmed, say, two years ago?

2 A I'm not sure I'm following the question.

3 Q I'll restate it. If a tree has not been trimmed for
4 more than ten years, isn't it more likely that you would have
5 to remove 30 percent of that year in order to meet clearance
6 requirements than, say, a tree that was trimmed two years ago?

7 A It is hard to say that a tree was not trimmed for ten
8 years. We do have a component of our program that if a tree
9 needed to be trimmed more frequently, we would trim the tree
10 more frequently.

11 Q I appreciate the explanation. Now let me ask the
12 question again. It's a simple answer.

13 CHAIRMAN EDGAR: Mr. Armstrong, he's answered the
14 question. Let's move along.

15 MR. ARMSTRONG: I don't think I heard the answer,
16 Madam Chair.

17 CHAIRMAN EDGAR: Let's move along.

18 BY MR. ARMSTRONG:

19 Q Asplundh is an independent contractor, correct?

20 A Yes, they are.

21 Q So, as an independent contractor, Asplundh only
22 has -- Florida Power and Light only has so much control over
23 Asplundh, isn't that correct?

24 A Not necessarily.

25 Q Well, do you have control to tell Asplundh where to

1 send its employees?

2 A Asplundh Tree Experts is probably the leader in the
3 utility clearance business for the past 100 years. We have a
4 contract with them and they do the majority of our tree
5 trimming work. Within our contract, we expect that our
6 contractor working for us and our customers is to trim to the
7 appropriate standards, the industry standards, the local codes
8 and requirements, and that is our expectation that our
9 contractor trim to those standards.

10 Also, we have a quality assurance program that is a
11 big part of our program to follow up on the work that is done
12 to make sure that it follows -- the guidelines follow the
13 industry standards and is, you know, good quality work. So we
14 do have a program and we don't just leave the work up to our
15 contractor.

16 Q So does Florida Power have control to tell Asplundh
17 how many people it needs to send to a neighborhood on a given
18 day?

19 A We typically on our scheduled maintenance work, we
20 typically have a schedule plan that we develop on an annual
21 basis and there is typically a quarterly component of that
22 plan, and we turn that plan over to our contractor, Asplundh
23 Tree, to execute the plan to our expectations, which are the
24 guidelines, standards, and local codes. So, you know, how many
25 particular trees or tree crews are on a particular location on

1 a particular day, I don't know if I would know that
2 specifically, but the goal is for them to execute the work in a
3 way that we expect of them.

4 Q Let me ask you a yes or no question. Do you believe
5 that Florida Power has control over Asplundh such that you
6 could direct them: Send five employees tomorrow to this
7 neighborhood to cut this many trees and to use this method of
8 cutting. Do you have that kind of control?

9 MR. BUTLER: Sorry, it is a compound question that
10 has two or three different elements to it. I would ask that it
11 be broken into pieces.

12 CHAIRMAN EDGAR: Rephrase, please.

13 BY MR. ARMSTRONG:

14 Q Does Florida Power have enough control over Asplundh
15 to tell them tomorrow they need to send 15 employees to a
16 certain neighborhood?

17 A I'm having difficulty with the control issue. We do
18 have scheduled maintenance work which we schedule through our
19 contractor in blocks of time and we expect them to execute the
20 standards. There is other types of work that we do that's more
21 timely: Storm restoration work, customer trim request work,
22 reliability type work that we have that in a shorter time frame
23 we direct our contractor to execute that type of work, if that
24 is what you mean by control.

25 Q I simply mean can you pick up the phone and say to

1 Asplundh, send ten people out to that neighborhood tomorrow.

2 Can you do that?

3 A If there is a reason for that, yes.

4 Q Can you pick up the phone and say, Asplundh, go to
5 these five streets and cut these 20 trees tomorrow? A simple
6 yes or no would be good.

7 A Yes.

8 Q Do you have the ability to say to Asplundh, I want
9 five trucks over in this neighborhood tomorrow to cut those
10 20 trees?

11 A That is not the way we typically operate. Can I do
12 it? I'm sure I can, but that is not the way we typically
13 operate.

14 Q Florida Power inspects 100 percent of the work that
15 Asplundh performs, correct?

16 A Currently we are inspecting 100 percent of our
17 planned maintenance work, correct.

18 MR. ARMSTRONG: Madam Chair, we have an exhibit that
19 we would like to present to the witness.

20 MS. ANTONATOS: May I approach?

21 CHAIRMAN EDGAR: Please. Thank you.

22 Okay. We will number this Exhibit Number 2. Mr.
23 Armstrong, can you give us a title or description?

24 MR. ARMSTRONG: FPL fact sheet.

25 (Exhibit Number 2 marked for identification.)

1 BY MR. ARMSTRONG:

2 Q Mr. Slaymaker, are you familiar with that exhibit?

3 A Yes, I have seen it.

4 MR. ARMSTRONG: For ease of reference, Madam Chair, I
5 have another exhibit that I would like to be distributed.

6 CHAIRMAN EDGAR: Okay. Thank you.

7 Okay. So this will be marked as Number 3. And, Mr.
8 Armstrong.

9 MR. ARMSTRONG: I will refer Mr. Slaymaker to Exhibit
10 2.

11 (Exhibit Number 3 marked for identification.)

12 BY MR. ARMSTRONG:

13 Q Mr. Slaymaker, I guess there are headings on this
14 page. The fourth heading down, do you see where it says
15 lateral circuit, areas, parentheses, since last trim, close
16 parentheses?

17 A Yes, I do.

18 Q Now, if I refer you over to Exhibit 3, the first
19 comment there FPL has 26 lateral circuits, 25 above ground and
20 one underground. That is what is indicated in this section, is
21 that correct?

22 A That is correct.

23 Q And is it true that a lateral circuit consists of a
24 feeder as well as laterals off of the feeder?

25 A I think typically when we talk about lateral and

1 backbone, you know, the backbone is typically the three-phase
2 section of line from the substation out to the first fuse. The
3 lateral circuit associated with that feeder is typically all of
4 the fuse lateral lines off of that. So I'm not sure the
5 context it would be used, but there is that distinction.

6 Q Okay. Thanks. Referring to Exhibit 3 again.

7 A Which one is 3?

8 Q Exhibit 3 is the one that says FPL lateral circuits,
9 years since last trim?

10 A And the other is --

11 Q The other is Exhibit 2, right. The fact sheet is
12 Exhibit 2. So, referring to Exhibit 3, it states FPL has not
13 trimmed eight, or 32 percent of the lateral circuits in more
14 than ten years. That's what is reflected in Exhibit 2, isn't
15 that right?

16 A That's correct.

17 Q And FPL has not trimmed seven, or 28 percent of the
18 lateral circuits in more than seven years. Does that properly
19 reflect Exhibit 2?

20 A That's correct.

21 Q Now, if I were to go down, FPL has not trimmed four,
22 or 16 percent of lateral circuits in four to six years. FPL
23 has trimmed six, or 24 percent of the lateral circuits, within
24 the last three years. Those are also accurately reflected on
25 Exhibit 2, correct?

1 A That's correct.

2 Q And this is FPL's fact sheet that was provided by
3 FPL, correct?

4 MR. BUTLER: This, you're referring to Exhibit 2?

5 MR. ARMSTRONG: Exhibit 2.

6 THE WITNESS: Exhibit 2, yes, this is the fact sheet.

7 MR. ARMSTRONG: Thank you.

8 BY MR. ARMSTRONG:

9 Q And, actually, I want to make sure we cover that
10 entire section. On Exhibit 3, the last statement is FPL
11 suggests that it will trim seven of the eight lateral circuits
12 that have not been trimmed in more than ten years by the end of
13 2009, isn't that correct?

14 A That's correct.

15 Q So do you have any reason to dispute the facts stated
16 on this exhibit?

17 A No. This is the first time I have seen this Number
18 3, and I believe this is part of the analysis that was done.

19 Q Okay. Thanks. And, again, at least as to that
20 section that I referred you to on Exhibit 2, you have no reason
21 to dispute that information?

22 A No.

23 Q Mr. Slaymaker, if I were to look at those eight
24 lateral circuit areas that haven't been trimmed in more than
25 ten years, isn't it more likely that I would have to trim more

1 of a tree, more of one of those trees than one of these other
2 trees that was trimmed in less than three years?

3 A I think it depends. You know, those circuits, I'm
4 sure over the ten-year period has had some vegetation work done
5 on them. And to the extent that -- you know, the hot spot
6 work, you know, the reliability type work that may generate
7 over that ten-year period, so I'm not certain what the extent
8 of the vegetation would necessarily be on that circuit.

9 Q So I want to be clear, then. This document is your
10 document, your facts, FPL document and FPL facts, this Exhibit
11 2, correct?

12 A Correct.

13 Q I want to be clear, what you're saying is any
14 individual tree within one of those laterals, or one of these
15 lateral circuit areas, any individual tree might have gotten
16 some hot spot trimming, right?

17 A Over the ten-year period, correct.

18 Q Right. But not the entire length of the lateral
19 circuit?

20 A Correct.

21 Q Okay. So your hesitation is referring to individual
22 trees that might have received something more, but not the
23 whole lateral circuit?

24 A Basically the statement that just because it's ten
25 years, assume that all trees had ten years worth of growth that

1 needed to be trimmed. There was probably a lot of trimming
2 done on those circuits over that ten-year period.

3 Q Okay. Now, you just said there is probably a lot of?

4 A Probably some. There's no way for me to really know
5 a lot or some.

6 Q Probably some I will go with. And, again, as a
7 matter of logic, Mr. Slaymaker, let me just tell you why I
8 hesitate with probably a lot. I mean, you are aware that FPL
9 has introduced testimony that by implementing this new plan,
10 their costs could conceivably go up by tens of millions of
11 dollars, correct?

12 A The 3/6 plan?

13 Q Yes.

14 A Yes.

15 Q So as a matter of logic, under the new plan FPL is
16 suggesting it is going to do quite a bit more?

17 A Yes, we certainly will be doing more laterals over
18 the next, you know, the next six years, the next six years. We
19 will be doing more laterals than we are today.

20 MR. ARMSTRONG: Thank you, Mr. Slaymaker. I
21 appreciate it. I'm through. Thank you.

22 CHAIRMAN EDGAR: Questions from staff?

23 MS. GERVASI: We have no questions.

24 CHAIRMAN EDGAR: Commissioner Carter.

25 COMMISSIONER CARTER: Thank you, Madam Chair. You

1 heard my question to Mr. Miller regarding the invasive species?

2 THE WITNESS: Yes.

3 COMMISSIONER CARTER: You are the second person that
4 has been here both from the City and from FPL talking about
5 this "Right Tree-Right Place" program. Have you guys ever
6 decided, you, FPL, and the City getting together and going to
7 some of these homeowners and talking about maybe removing some
8 of these invasive species?

9 THE WITNESS: You know, with this new
10 three-year/six-year program we will be doing a lot more
11 laterals miles. We will be in a lot more back yards. And I
12 think a key component of that is going to be education. You
13 know, we need to talk to people, we need to make them aware of
14 some of these problematic trees and what the options are to
15 correct those problems. I think that's -- and as I mentioned,
16 that really does require a partnership. You know, FPL can't do
17 that by itself. It is a partnership between cities and the
18 communities or customers, and I think we are more than happy to
19 embark on that partnership.

20 COMMISSIONER CARTER: Just a comment, Madam Chairman.
21 The reason I asked that is that when I spoke with Mr. Miller he
22 said that it was not the City's property and now from FPL it is
23 not their property, but seemingly they have got the "Right
24 Tree-Right Place" program. Maybe the City and FPL should
25 approach the property owners and talk about removing some of

1 these invasive species. Just a comment.

2 CHAIRMAN EDGAR: Commissioner McMurrian.

3 COMMISSIONER McMURRIAN: I'm going to try to clarify,
4 along the same lines of the questions I asked earlier, and I
5 think that Mr. Armstrong clarified some of this. I believe in
6 your summary, at some point during your testimony you talked
7 about that FPL uses an approximate ten-year average system-wide
8 now, is that correct, for tree trimming for laterals?

9 CHAIRMAN EDGAR: I think currently laterals are more
10 reliability driven and performance driven. I think currently
11 the average is approximately ten years system-wide and
12 approximately 7.6 years average in the City of North Miami, but
13 the lateral trimming is really a performance based process.

14 COMMISSIONER McMURRIAN: Okay. So it would be
15 correct that under the six-year average proposal that had been
16 approved in the PAA order that it would be a six-year average
17 and it would be more frequent trimming, do I understand that
18 correctly, in the City of North Miami as well as system-wide?

19 THE WITNESS: Yes, there will be more frequent
20 trimming. You know, more miles being trimmed. And based on
21 that age, we will be seeing a significant increase in lateral
22 trimming. And I think in the City of North Miami if you look
23 at the last three years, I think the increase, the number of
24 lateral miles trimmed in the next three years will be
25 approximately two and a half times the amount that we trimmed

1 in the previous three years, so there definitely will be an
2 increase.

3 COMMISSIONER McMURRIAN: One more. I read in your
4 testimony about how you followed the ANSI standards, and I
5 can't recall the other major component, but then you also
6 talked about that you followed any county or city ordinances
7 that went beyond those. And that would still be true with the
8 new six-year proposal, as well, that if a city or county has
9 some ordinance that requires less trimming, for instance to
10 require no more than 30 percent of a tree canopy to be removed,
11 you would still follow those. So that if it requires more
12 frequent or less frequent trimming that may still be an
13 exception to the six-year overall average, is that correct?

14 THE WITNESS: That's correct.

15 COMMISSIONER McMURRIAN: Thank you.

16 CHAIRMAN EDGAR: Mr. Butler.

17 MR. BUTLER: No redirect.

18 CHAIRMAN EDGAR: Okay. We need to take up the
19 exhibits.

20 MR. ARMSTRONG: The City would move Exhibits 2 and 3.

21 CHAIRMAN EDGAR: Mr. Butler, any objection?

22 MR. BUTLER: No objection.

23 CHAIRMAN EDGAR: Okay. Exhibits marked 2 and 3 will
24 be moved into the record. The witness may be excused. Thank
25 you.

1 (Exhibits 2 and 3 admitted into the record.)

2 CHAIRMAN EDGAR: Mr. Butler.

3 MR. BUTLER: Should we call our next witness?

4 CHAIRMAN EDGAR: Yes, please.

5 MR. BUTLER: It would be Mr. Harris.

6 JOHN A. HARRIS

7 was called as a witness on behalf of Florida Power and Light
8 Company, and having been duly sworn, testified as follows:

9 DIRECT EXAMINATION

10 BY MR. BUTLER:

11 Q Mr. Harris, were you previously sworn?

12 A Yes, I was.

13 Q I would ask that you state your name and business
14 address for the record?

15 A My name is John A. Harris. My business address is
16 Landscape Economics at 6918 Sterling Road, Hollywood, Florida,
17 33024.

18 Q By whom are you employed and in what capacity?

19 A I'm employed by Landscape Economics. I'm a landscape
20 economist and the principal of the firm.

21 Q Do you have before you prepared written testimony
22 consisting of 11 pages and five attached exhibits that have
23 been preidentified as JAH-1 through JAH-5?

24 A Yes, I do.

25 MR. BUTLER: Madam Chairman, I ask that we mark for

1 identification those five exhibits, and I guess it would be
2 4 through 9. Is that right?

3 CHAIRMAN EDGAR: That would be 4 through 9.

4 MR. BUTLER: Thank you.

5 CHAIRMAN EDGAR: So marked.

6 MR. BUTLER: Thank you.

7 (Exhibit Numbers 4 through 8 marked for
8 identification.)

9 BY MR. BUTLER:

10 Q Do you have any changes or corrections to make to
11 your testimony?

12 A I have one wording change that I would like to enter
13 on Page 6, Lines 14 and 15. This is in reference to a list of
14 species of trees that are exempted from pruning standards in
15 the City of North Miami code. It currently states the last
16 sentence on Line 14, these are currently. It should state
17 these include currently, it is not an inclusive list.

18 Q Thank you. Was your testimony and exhibits prepared
19 under your direction, supervision, or control?

20 A Yes, they were.

21 Q Do you adopt the prepared written testimony as your
22 testimony in this proceeding?

23 A Yes, I do.

24 MR. BUTLER: Madam Chairman, I would ask that Mr.
25 Harris' testimony be inserted into the record as though read.

1 CHAIRMAN EDGAR: The prefiled testimony will be
2 entered into the record as though read. And I note that I
3 misspoke earlier and it will be Exhibits 4 through 8.

4 MR. BUTLER: Four through 8. That was my fault, I
5 did the math wrong.

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF JOHN A. HARRIS**

4 **DOCKET NO. 060198-EI**

5 **DECEMBER 20, 2006**

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

7 A: My name is John A. Harris. My business address is Landscape Economics, LLC,
8 6918 Stirling Road, Hollywood, Florida 33024.

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

10 A: I am the Principal of Landscape Economics LLC, an expert firm providing economic
11 valuations, work audits, and expert testimony regarding landscapes and land
12 improvements.

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

14 A: I am a Landscape Economist, and my responsibilities include evaluating conditions of
15 landscape items, reviewing contract terms and conditions, determining quality of
16 landscape items, and determining values for landscape items.

17 **Q: Please describe your educational background and professional experience.**

18 A: I have a Master of Science in Forest Economics, from the College of Environmental
19 Science and Forestry (CESF) in Syracuse, NY; Master of Business Administration in
20 Organizational Management from Syracuse University, Syracuse, NY; a Bachelor of
21 Science in Resources Management, CESF, Syracuse, NY and Associate of Applied
22 Science in Natural Resources Conservation, Morrisville Agricultural and Technical
23 College, Morrisville, NY. Through continuing education and certification programs, I
24 hold various arboricultural and landscape industry specializations used in my work.

1

2 My professional experience includes work doing landscape maintenance and tree
3 work as the owner/operator of JAH Grounds Maintenance, doing timber stand
4 inventory for International Paper in northern Maine, doing line clearance audits in
5 Alberta Canada and Florida as a Consulting Forester, managing a landscape
6 maintenance and tree service named Sunbelt Landscape Management in Medley
7 Florida, being a consulting forester and certified arborist with Tree Advisors in South
8 Miami Florida, President and certified forester with Earth Advisors in Hollywood
9 Florida, and the Principal and Landscape Economist with Landscape Economics in
10 Hollywood Florida. I also have experience as an independent reviewer, auditor,
11 and/or expert in private disputes, damage claims, and work audits involving
12 landscape items and land improvement items in New England, New York, North
13 Carolina, Georgia, Alabama, Mississippi, Louisiana, Florida and the Bahamas.

14 **Q: Are you sponsoring any exhibits in this case?**

15 A: Yes, I am sponsoring the following exhibits, which are attached to my testimony:

- 16 - JAH-1 -- Photographs showing the results of arboricultural work done on trees
17 in public Right-of-Ways in the City of North Miami.
- 18 - JAH-2 -- ANSI A-300 Standards- relevant pages only.
- 19 - JAH-3 -- Miami-Dade County Tree Preservation Code- relevant sections only.
- 20 - JAH-4 -- City of North Miami Landscape Standards and Tree Preservation
21 Codes- relevant sections only.
- 22 - JAH-5 -- Best Management Practices- Utility Pruning of Trees, special
23 companion publication to the ANSI A-300 Part 1: Tree, Shrub, and Other
24 Woody Plant Maintenance – Standard Practices, Pruning; relevant pages only.

1 **Q: What is the purpose of your testimony?**

2 A. The purpose of my testimony is as follows:

- 3 1. To describe the Vegetation Management (“VM”) codes, regulations and
4 standards of practice which apply to FPL’s VM program.
- 5 2. To discuss the results of my review of FPL’s VM activities within the City of
6 North Miami (the “City”), based on personal observation of a random sample
7 of work done in the City over the 12-36 months ending November 2006; and
8 to evaluate FPL’s compliance with the applicable codes, regulations and
9 standards of practice in performing those VM activities.
- 10 3. To comment on the overall adequacy of FPL’s VM practices and how they
11 compare within the electric utility industry.

12 **Q: What is your relationship to FPL?**

13 A: I have been contracted as an independent expert to review FPL’s current VM program
14 and evaluate the testimony of the City’s witnesses.

15 **Q: How did you obtain the information necessary for your review and evaluation?**

16 A: I interviewed employees of FPL’s VM Program, reviewed documents relevant to this
17 case that were supplied at my request by FPL, reviewed the prepared direct testimony
18 of FPL witnesses Manuel Miranda and William Slaymaker and the City’s witnesses
19 Terry Lytle and Keith Miller, and performed independent research for information
20 regarding this case and VM work done in the City of North Miami during the last 1-3
21 years.

22

23

24

1 **APPLICABLE VM CODES, REGULATIONS AND STANDARDS**

2 **Q: What regulations, codes and standards, are applicable to the FPL VM work**
3 **performed in the City?**

4 **A:** These standards are normally discussed as a progression from national standards, to
5 state, then county, then the local municipality. I will follow this same progression.

6 The industry standard for arboriculture is ANSI A-300,. The applicable sections of
7 this national industry standard are shown in Exhibit JAH-2. This standard is voluntary
8 for arboricultural practices, but can become law when referenced as required in
9 jurisdictional codes and regulations (see Exhibit JAH-3, 18A-11 (C) (6)). ANSI A-
10 300 contains a specific tree pruning category for utility pruning (Page 7, Section 5.9).

11 The purpose of pruning in this utility category is to provide for safe clearances
12 surrounding electric lines and prevent the loss of service. Safety standards, pruning
13 cut standards, and emergency restoration standards are described in Section 5.9. FPL
14 references these standards in its VM Guidelines, its specifications for Line Clearance
15 Contractors, and in public education publications. These standards have been
16 followed by FPL VM in the City of North Miami for the work inspected.

17
18 The National Electric Safety Code also applies to VM work. As presented in the FPL
19 Direct Testimony of William Slaymaker, Section 218 Tree Trimming requires FPL to
20 clear vegetation growth around electric lines. The issue of public safety and reliable
21 electric supply is taken from this national code and referenced in the Miami-Dade
22 County Code. The need for public safety and reliable electric power as presented in
23 the reviewed codes, supersedes any standards for arboricultural practices and

1 concerns or standards related to the trimmed appearance of trees. FPL VM has
2 followed the NESC standards in the City of North Miami for the work inspected.

3
4 There are BMPs (Best Management Practices) Manuals that are companions to the
5 ANSI A-300. Exhibit JAH-5 is the BMP for Utility Pruning. This publication
6 provides guidance and specifications for meeting the ANSI A-300 standard. The most
7 relevant sections are Pages 10-14, describing directional pruning, clearing limits (line
8 clearance distances), and the damages to trees from hatracking (round over and
9 stubbing cuts). The description of proper pruning or trimming cuts and directional
10 pruning in the FPL VM guidelines are consistent with this publication. The necessity
11 to relax the pruning standards for expediting work during storm restoration is
12 addressed on Page 20 of the Manual and is similar to the allowance written in the
13 Miami-Dade County Codes and City of North Miami Codes. Diagrams for sample
14 tree trimming practices are shown in the Manual and these are similar to the diagrams
15 produced by FPL for VM guidelines and for public education purposes.

16
17 The requirements for tree pruning throughout Miami-Dade County are found in the
18 Miami-Dade County Code (the "M-DC Code"). The relevant sections are shown in
19 Exhibit JAH-3. Section 18A-11. Landscape Maintenance, sets forth the acceptable
20 pruning and cutting practices for arboricultural work. I would like to point out that,
21 while the general rule under the M-DC Code is that no more than 1/3 of a tree's
22 canopy should be removed during trimming, it contains an exception that allows FPL
23 to remove more than 1/3 of the canopy on one side of a tree if this is for hazard
24 reduction or clearance pruning (see 18A-11 (C) (3)). I also would like to point out

1 Section 8AA-159(d), which is applicable to the clearing and trimming of vegetation
2 surrounding electric utility facilities and directs such utilities to do any necessary
3 trimming, or vegetation management, to protect the health safety and welfare of the
4 public. Some trees inspected in the City of North Miami did have more than 1/3 of
5 the canopy removed for line clearance pruning, which is allowed by the standards and
6 applicable codes. FPL VM has followed the M-DC Code in the City of North Miami
7 for the work inspected.

8
9 Finally, the City has its own regulations concerning pruning, trimming and removal
10 of trees, found in Article II, Trees, of the City of North Miami Code (the NM Code").
11 Section 20-23 of the NM Code sets forth the trimming standards applicable within the
12 City. Section 20-23 (a) (1) specifically allows tunneling or drop crotch trimming to
13 provide clearance for overhead utility lines. Section 20-16(d) of the NM Code
14 exempts certain species of trees from any tree trimming requirements. These ~~are~~ ^{include}
15 currently *Bischofia javanica*, *Ficus benjamini*, *Ficus elastica*, *Ficus aurea*, *Araucaria*
16 *heterophylla*.

17
18 I would like to point out that the NM Code contains some conflicts between sections
19 that can make it appear certain practices constitute tree abuse, even though they are
20 specifically allowed in other sections. One example is in Section 20-27 (2), which
21 states that damage inflicted to or cutting upon a tree which permits infection or pest
22 infestation is tree abuse. This is not applicable in practice, because *any* pruning or
23 trimming cuts on a tree remove the bark and leave open wounds through the woody
24 tissue that can permit infection or pest infestation. Thus, read literally, Section 20-27

1 (2) would not permit any arboricultural pruning or trimming even though the clear
2 intent of Article II of the NM Code is to permit controlled pruning and trimming. A
3 second example is Section 20-27 (3), which states that cutting upon any tree which
4 destroys the natural shape is tree abuse. This directly conflicts with the statements in
5 Section 20-23 allowing for pruning or trimming of tree canopies. All trimming and
6 pruning changes the natural shape of a tree. Again, a literal reading of this section
7 would conflict with the intent of Article II to permit controlled pruning and trimming.
8 The FPL VM work in the City of North Miami, as inspected, does comply with the
9 NM Code.

10
11 In conclusion, FPL has identified the relevant standards of practice and legal codes
12 correctly in their VM guidelines for work. These standards and codes have been used
13 for writing guidelines and specifications for VM work. The work completed by FPL
14 VM in the City of North Miami is in compliance with all the applicable standards and
15 codes researched for this review.

16 17 FPL'S VM WORK WITHIN THE CITY

18 **Q: Please describe the field inspection you performed of FPL's VM work within the**
19 **City.**

20 **A:** Using circuit maps of distribution lines within the City provided to me by William
21 Slaymaker of FPL, I selected specific circuits where VM work was completed in
22 2006. I then went to those areas of the City and drove the streets where these circuits
23 are located, looking for trees that showed recent pruning or trimming work. From this
24 survey, I chose locations for my review based on the presence of trees that had

1 significant canopy trimmed for electric line clearance, since this is the main issue of
2 concern presented in testimony by the City of North Miami.

3 **Q: What did you observe for the trimming done to the trees in these locations?**

4 A: These trees were along public streets and were either under or adjacent to the electric
5 lines. Because of their location, the trees could have been trimmed for 1 or more of 3
6 purposes: (1) electric line clearance, (2) road or right-of-way clearance, and (3) by
7 property owners for aesthetic reasons. Some of the trees I observed had been
8 trimmed for 2 or all 3 of these purposes. The results of my inspections can be most
9 easily understood by looking at the photographs in Exhibit JAH-1. I have included a
10 caption under each of the photographs that explains what it shows about trimming
11 practices and the photograph's significance to my testimony. As discussed in the
12 captions, the photographs show that FPL has consistently trimmed trees properly
13 according to industry standards and codes. Trimming done by other entities for other
14 purposes, to the same trees or others in certain locations, does not comply with the
15 applicable standards or codes, and has resulted in damage to the health of trees. The
16 additional work has contributed to them being viewed as unattractive or overpruned.

17

18 **Q: Can you restate your conclusions about FPL's VM practices within the City?**

19 A: Based on my observations, it appears that FPL's tree trimming in the City
20 consistently complies with the NM Code, the M-DC Code, and the ANSI A-300
21 standards, including both arboricultural practices and public safety sections.

22

1 **Q: Mr. Lytle expressed concern in his testimony that “FPL crews just go in there**
2 **and illegally trim a tree, they cut too much off, ..., and it violates a lot of**
3 **standards.” Based on your review, did you see evidence to support his concern?**

4 A: No. I found no evidence of illegal trimming by FPL within the City. The applicable
5 standards allow FPL latitude to trim to meet public safety standards and electrical
6 safety standards. This is what I saw consistently in my inspection. I should also note
7 that there was storm recovery work done in the City during 2004 and 2005, due to
8 both severe rain storms and hurricanes, and some trees showed results of trimming for
9 storm recovery work. As discussed in the testimony of FPL witness William
10 Slaymaker, this is specifically envisioned and permitted under ANSI A-300 and the
11 applicable legal codes.

12 **Q: Mr. Lytle also expressed concern over the use of “drop-crotch cuts.” Is FPL**
13 **permitted to make drop-crotch cuts in the City?**

14 A: Yes. It is an accepted form of utility pruning identified in the standards, and FPL is
15 allowed by the codes to do this type of trimming, even if it removes more than 1/3 of
16 the canopy.

17

18 **OVERALL ADEQUACY OF FPL’S VM PROGRAM**

19 **Q. What do you conclude about the adequacy of FPL’s VM practices generally?**

20 A: As an electric utility, FPL is tasked to trim trees to provide electrical safety at a
21 reasonable cost to its customers. Based on my direct observations of FPL’s VM
22 practices, review of the other utilities’ submittals to the Commission, and my many
23 years of experience with utility VM, I believe that FPL does a better job of VM than
24 most of the electric utilities in the United States.

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There are many trees within the City and elsewhere that would be best removed from the proximity of electric lines, rather than trimmed for line clearance. FPL has an award winning program named "Right Tree, Right Place" to help educate the public on this issue. However, in many instances, it is not the utility's decision to require removal of inappropriate trees. In many instances where inappropriate trees are located near electric lines, the property owner and the agency with local jurisdiction (in this case the City of North Miami) have the right to require a tree to be left in place. This requires more severe canopy removal to be performed to provide for line clearance. In my opinion, if a tree is required to be left in place, the proper course of action for an electric utility is to do the necessary line clearing to meet public safety and line clearance distances. If trees are potentially, or actually, causing electrical power interruptions, it is most important to get the necessary line clearance; regardless of the final appearance of the tree canopy.

This priority, given to public and electric safety, is recognized in the industry standards as well as local ordinances and codes. If additional tree trimming would help the aesthetics of a particular tree, then the tree should be pruned by a qualified professional arborist at the property owner's expense, once the canopy has been cleared beyond the minimum electrical safety distances. Another option is for a property owner to choose for the tree to be safely removed at their expense once it has been cleared of the electrical lines; and to only plant vegetation in that location that is compatible in mature growth with the location of utility lines. Reducing utility line

1 conflicts with vegetation is most cost effective when there is no vegetation to grow
2 into the lines.

3

4

5 **Q: Please summarize your testimony.**

6 A: The work completed by FPL VM in the City of North Miami does comply with the
7 industry standards and legal codes that are applicable. In locations where trees
8 trimmed for line clearance may be considered unattractive, or overpruned, there may
9 be other tree trimming that was done by others contributing to this problem. The
10 standards and codes allow for FPL to be concerned about electrical safety and
11 reliability beyond the amount of canopy removed in a tree. The concerns raised by the
12 City of North Miami regarding the work done by FPL VM need to be viewed in light
13 of the applicable standards and codes, as has been presented in my testimony.

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

15 A: Yes.

1 BY MR. BUTLER:

2 Q Mr. Harris, would you please summarize your
3 testimony?

4 A Yes. Good morning, Madam Chair and Commissioners. I
5 was contracted as an independent expert to review FPL's current
6 vegetation management program, and to evaluate the testimony of
7 the City of North Miami's witnesses. I have experience over
8 the past 25 years doing evaluations and providing expert
9 opinions on tree and landscape issues for a variety of clients.
10 These include municipalities, state and federal agencies,
11 utility companies, and private property owners.

12 My experience includes projects from individual tree
13 evaluations, to city-wide tree inventories, to urban forest and
14 landscape work audits for entire municipalities. My work in
15 this case started with interviewing key FPL employees in the
16 distribution vegetation management program to learn about the
17 program generally and about any experiences with work in the
18 City of North Miami in particular.

19 After the initial interviews, I reviewed
20 documentation relevant to the issues in this case. These
21 includes FPL's vegetation management standards, storm recovery
22 plans, case documents, and FP&L electrical circuit maps for
23 distribution lines serving the North Miami area which have line
24 clearance work records showing trees pruned in the last one to
25 three years. Those same circuit maps served as the primary

1 areas for my random sample of individual trees that I evaluated
2 in the field as being pruned for line clearance.

3 My research also identified the following applicable
4 standards and codes for vegetation management in the City of
5 North Miami. The first is the American National Standard
6 Institute's A300 tree, shrubs, and woody plants maintenance
7 standard practices. Secondly, the best management practices
8 manual from the International Society of Arboriculture for
9 utility pruning of trees. And I realize some of these words
10 may be difficult. Third, the Miami-Dade County code sections
11 that apply to vegetation management and utility pruning work,
12 which includes Section 8A-159, location/relocation of
13 facilities, and Section 18A-11, landscape maintenance. Fourth,
14 the City of Miami -- excuse me, the City of North Miami code
15 sections that are most applicable, again, for vegetation
16 management and utility pruning work. These include Article 2,
17 trees, Section 20-15 through 20-21, Section 20-23, and Sections
18 20-25 through 20-27.

19 Following my research, I did perform independent
20 visual inspections of trees located in the vicinity of electric
21 circuits serving North Miami that evidenced trimming in the
22 last one to three years. During those evaluations, I did
23 compare the condition of those trees trimmed to the codes and
24 standards identified as applicable. I also drove through other
25 areas of the City of North Miami to look for evidence of recent

1 utility pruning work, but I concentrated on those electric
2 circuits that were my sample.

3 The specific locations presented in Exhibit
4 JAH-1 were selected because they represent trimmed tree
5 locations or conditions that are similar to or the same as
6 those described in the direct testimonies of City Witnesses
7 Terry Lytle and Keith Miller. So based on my interviews,
8 document reviews, and visual observations, I have reached the
9 following conclusions. FPL is aware of and applies the
10 required industry standards and the legal codes for vegetation
11 management within the City of North Miami.

12 FPL is appropriately an industry leader in vegetation
13 management practices which is evidenced by the comparative
14 statistics for electric outages, the Edison Electric
15 Institute's 2006 Advocacy Excellence Award for the "Right
16 Tree-Right Place" program, and FPL's recognition, since 2003,
17 as a Tree Line USA Utility, which is similar to the Tree City
18 USA program with the National Arbor Day Foundation.

19 The electric lines with the least potential for
20 outages or interruptions due to vegetation are those that do
21 not have vegetation growing into the lines or in the vicinity
22 of lines. This condition is represented in Photo 6 of Exhibit
23 JAH-1. Conversely, many people want large canopy trees along
24 right-of-ways and the edges of their properties regardless of
25 the location of the utilities. This is why FPL's "Right

1 Tree-Right Place" program is important for anyone to use in
2 helping property owner recognize and avoid these conflicts such
3 as along easements and alleys of their properties.

4 There were no trees pruned for utility line clearance
5 by FPL that did not meet the applicable standards and codes
6 based on the observations during my visual inspections
7 throughout the City of North Miami area. This concludes my
8 summary.

9 MR. BUTLER: Thank you, Mr. Harris. I would tender
10 the witness for cross-examination.

11 CHAIRMAN EDGAR: Thank you. Mr. Armstrong.

12 MR. ARMSTRONG: Thank you, Madam Chair.

13 CROSS EXAMINATION

14 BY MR. ARMSTRONG:

15 Q Good morning, Mr. Harris. How are you?

16 A Good morning.

17 Q I'm referring just to Page 3 of your testimony. You
18 describe the purpose of your testimony is to describe the
19 vegetation management codes, regulations, and standards of
20 practice which apply to FPL, as well as your result, the result
21 of your review of FPL's practices and its compliance with those
22 standards, and then you comment on the overall adequacy of
23 vegetation management practices of FPL. Is that correct?

24 A That's correct.

25 Q Are you familiar with Exhibit 2, which was identified

1 and moved into evidence earlier? Have you seen this exhibit
2 prepared by FPL?

3 A No, I have not.

4 Q You have not seen it?

5 A I have not seen it.

6 Q Okay. Are you aware that there are 171 lateral miles
7 within the City of North Miami?

8 A That wasn't a question that I had asked.

9 Q No, I'm saying are you aware that there are 171 miles
10 of laterals within the City of North Miami that are owned by
11 FPL?

12 A Based on the testimony today.

13 Q Okay. And you are aware that the City is proposing a
14 six-year cycle for trimming those lateral miles, correct?

15 MR. BUTLER: Did you mean to say FPL is?

16 MR. ARMSTRONG: Didn't I say FPL?

17 MR. BUTLER: You said the City is proposing.

18 MR. ARMSTRONG: I'm sorry.

19 BY MR. ARMSTRONG:

20 Q Are you aware that FPL's proposal is to do a six-year
21 cycle for trimming those lateral miles?

22 A I'm aware that it is a six-year average trim cycle,
23 yes.

24 MR. ARMSTRONG: I would ask that this be identified
25 as the next exhibit number. A very simple exhibit here, Mr.

1 Harris, but it's something I like to do for myself. Maybe you
2 guys can get the same kind of comfort from it.

3 CHAIRMAN EDGAR: Okay. We are on now Number 9.

4 (Exhibit Number 9 marked for identification.)

5 THE WITNESS: Is the Exhibit 2 I was given my own
6 copy that I can mark?

7 MR. ARMSTRONG: You can do whatever you want with it.

8 THE WITNESS: Thank you.

9 MR. ARMSTRONG: Madam Chair, could I have this
10 exhibit identified with the following title, "Average Lateral
11 Miles to be Trimmed to Meet a Six-year Cycle".

12 CHAIRMAN EDGAR: Mr. Butler, do you have any comment
13 on that?

14 MR. BUTLER: On the title?

15 CHAIRMAN EDGAR: Uh-huh.

16 MR. BUTLER: No, that's fine.

17 CHAIRMAN EDGAR: Okay. One more time, Mr. Armstrong.

18 MR. ARMSTRONG: Average lateral miles to be trimmed
19 to meet a six-year cycle.

20 CHAIRMAN EDGAR: Okay. So labeled.

21 (Exhibit 9 marked for identification.)

22 BY MR. ARMSTRONG:

23 Q So, Mr. Harris, again, just to put the period at the
24 end of this sentence, 171 lateral miles within the City of
25 North Miami, a six-year average cycle means that Florida Power

1 and Light would be trimming on average 28-1/2 lateral miles a
2 year, correct?

3 MR. BUTLER: I'm going to object to this line of
4 questioning. I don't think that it relates to Mr. Harris'
5 direct testimony. We will have a witness, Mr. Miranda, who
6 gets into the details of this subject. I think it would be
7 more appropriate for him.

8 CHAIRMAN EDGAR: Mr. Armstrong.

9 MR. ARMSTRONG: Madam Chair, I mean, that is why I
10 went through that Page 3. He is testifying about the overall
11 adequacy of FPL's proposed vegetation management program which
12 includes and specifically addresses the tree trimming cycle of
13 six years.

14 CHAIRMAN EDGAR: I'll allow.

15 MR. BUTLER: I'm sorry, if there is a question
16 pending we may have forgotten what it was.

17 CHAIRMAN EDGAR: Mr. Armstrong, we are waiting on you
18 to you repeat the question, please.

19 BY MR. ARMSTRONG:

20 Q Mr. Harris?

21 A Yes.

22 Q Looking at that Exhibit 9, 171 lateral miles within
23 the City of North Miami, a proposed six-year cycle means
24 Florida Power and Light would have to do on average 28-1/2
25 miles of lateral miles a year in order to meet that six-year

1 cycle, correct?

2 A That is not actually correct.

3 Q 171 divided by 6?

4 A Your math is correct. But because of the different
5 tree conditions, species of trees, as Mr. Slaymaker has
6 previously stated, but I can elaborate, there are certain
7 species of trees that after they have been pruned for any
8 clearance district they are not likely or physically,
9 biologically they do not regrow those branches or even
10 reactionary growth along the trunk or along those major leaders
11 to then become again problems for the lines.

12 So there are the possibilities that there are certain
13 lateral lines or sections of lateral lines or even feeder lines
14 that once they have been pruned once may not need pruning again
15 unless other species of trees are planted in that area, along
16 with the fact that there are tree removals that are done, not
17 just pruning, along lateral lines and feeder lines that I know
18 of. And if those trees are removed, again, there won't be a
19 necessity in six years or another time frame to be pruning that
20 same area or that same location. So that's my opinion from my
21 experiences. I'm not answering as FPL itself.

22 Q Well, the first item, though, is 171 divided by six
23 equals 28-1/2. You would agree with that, wouldn't you?

24 A Yes.

25 Q Okay. Now, if I look at Exhibit 2 which you have in

1 front of you there, I don't want to look at that section that
2 we referred to with Mr. Slaymaker, the fourth heading. Do you
3 see that, the fourth heading? It says lateral circuit areas,
4 parentheses, since last trimmed?

5 A Yes.

6 Q Florida Power was able to present this evidence to
7 the Commission to show what it believes its trimming cycle has
8 been for these areas, these lines, correct?

9 A Correct.

10 Q Okay. So Florida Power is able to give this kind of
11 information to the Commission on an annual basis, isn't that
12 correct?

13 A Based on a review of their records and doing
14 statistics or averages, yes.

15 Q And Florida Power is proposing an average six-year
16 cycle in this docket for laterals, correct?

17 A Correct.

18 Q And if the Florida Public Service Commission is going
19 to have any opportunity to determine whether or not it's
20 complying with that six-year cycle, Florida Power is going to
21 have to do what I have been suggesting, which is let the
22 Commission know each year how many lateral miles within the
23 City of North Miami they trimmed, correct?

24 A My understanding from the actual order is that's
25 already included and was already agreed. That it is part of

1 the staff's recommendations or requirements that they be
2 reporting and be reviewing on an annual basis with or without
3 this hearing.

4 Q Uh-huh. So when I asked you earlier and you went
5 through an elaborate explanation, all I said to you was the
6 City of North Miami consists of 171 lateral miles, Florida
7 Power and Light is proposing a six-year cycle for trimming
8 lateral miles, and that the average lateral miles that must be
9 trimmed per year would be 28.5 miles, that's correct?

10 A But it is not correct, as I already explained,
11 because they wouldn't have to trim 28.5 miles if 28.5 miles or
12 171 miles didn't actually have just, hypothetically, a single
13 tree in the vicinity of or conflicting with any power lines.
14 If there were no trees conflicting with the power lines on
15 171 miles, they wouldn't have to prune a single mile, and
16 that's my answer.

17 Q I mean, you are dealing with a hypothetical there in
18 your answer, correct?

19 A I can actually show you, I brought additional
20 pictures and I had some additional pictures obviously in JAH-1
21 of what actually are feeder and/or lateral distances, blocks of
22 streets that don't have any tree/power line conflicts and
23 wouldn't require pruning. Both of those in supplemental photos
24 I have, or the -- I think it is Photo 6, as I mentioned in my
25 summary, in Exhibit 1, don't have any trees, wouldn't require

1 pruning unless any new trees were planted and they grew up over
2 a number of years.

3 Q You are aware that the City of North Miami is a more
4 urbanized area, correct?

5 A I'm very aware of the trees in North Miami.

6 Q Right. And will you agree that in urban areas you
7 have greater tree densities than you do -- along lateral lines
8 than you do, say, along feeder lines?

9 A Again, not necessarily. It depends on where the
10 feeder is located or where the lateral is located.

11 Q So as a general rule you wouldn't agree that along
12 feeders lines there are generally higher tree densities than
13 along laterals -- than along feeders?

14 A That hasn't been my experience, no.

15 Q Would it surprise you to know that one of the other
16 FPL witnesses testified that that was the case?

17 A And they may be looking at their records and the
18 amount of work that they do which may or may not be comparative
19 to the actual physical numbers of trees. Again, we can go
20 through the example I brought up before. If I have 100 slash
21 pine trees on a feeder line and all of those slash pine trees
22 have been cut for the clearance, the pine is a species, the
23 actual *pinus elliottii*, which is a slash pine species, actually
24 does not regenerate when you cut those branches off. So if
25 they cut it once for 100 trees, they wouldn't have to come back

1 in three years, or six years, or ten years, or 7.2 years. That
2 is the actual average now. But if they were Ficus trees that
3 may grow faster, they may have to come back even more often or
4 look to do a removal replacement program. If those trees were
5 removed, again, on a mile of line, they again wouldn't have
6 been to come back on any cycle length because there aren't any
7 conflicts.

8 Q Okay. I'm going to present you another document
9 here --

10 MR. ARMSTRONG: And, Madam Chair, I suppose this
11 would be Exhibit 10?

12 CHAIRMAN EDGAR: Yes.

13 MR. ARMSTRONG: And the title of this exhibit we
14 propose is lateral miles trimmed by FPL. Just lateral miles
15 trimmed.

16 (Exhibit Number 10 marked for identification.)

17 BY MR. ARMSTRONG:

18 Q Mr. Harris, have you reviewed that document?

19 A Yes, I have seen it.

20 Q If I look at Exhibit 2, which I previously handed to
21 you, the second heading, lateral trimming in North Miami,
22 parentheses, total 26 lateral circuits/171 lateral miles, close
23 parentheses, colon, do you see the information regarding the
24 years 2004 through 2006 and 2007 through 2009 indicated there?

25 A Yes.

1 Q If you review what I just provided to you that has
2 been identified as Exhibit 10, would you agree that those
3 numbers reflected on this exhibit for 2004, 2005, 2006, as well
4 as 2007 through 2009?

5 A At this point they all seem correct.

6 Q Okay. So if I look at 2004, in particular, it
7 indicates that Florida Power and Light trimmed 15 miles, 15
8 lateral miles in 2004, correct?

9 A Yes.

10 Q And if I go down to 2009, it indicates that Florida
11 Power and Light would propose to trim 13 miles, is that
12 correct?

13 A Correct.

14 Q And, in fact, in 2006, Florida Power and Light didn't
15 trim any lateral miles within the City of North Miami, correct?

16 A That's what it shows. And, you know, as you had
17 explained before by Mr. Slaymaker, that doesn't mean that they
18 didn't trim any trees in any particular location on any
19 particular lateral or even feeder.

20 Q Any dispute concerning the math indicated on that
21 exhibit, 20 lateral miles divided by the three years is
22 6.66 lateral miles trimmed per year?

23 A No. I trust how you put this together.

24 Q Thanks.

25 A I can redo it if you want, but I don't see the point.

1 Q No, I just wanted to know if there is any dispute as
2 to the accuracy, that's all. The same with 51 divided by 3, 17
3 lateral miles.

4 A Okay.

5 Q You agree with the math only.

6 Let's go to that bullet. To meet a six-year trim
7 cycle, 28-1/2 miles of laterals a year must be trimmed. Do you
8 dispute that?

9 A I have the same disagreement with that as we had when
10 we looked at Exhibit 9, which references back to Exhibit 2, and
11 I don't think you want me to --

12 Q No, I don't.

13 A I don't think anybody wants me to go through it
14 again.

15 Q I realize that you dispute it, correct, because I
16 know you dispute it. But let me ask you, Mr. Harris, trees
17 within the City of North Miami do grow a certain amount of feet
18 a year, isn't that correct?

19 A Only based on the species and the growth rate, and
20 the soil conditions, and the competition with other trees, and
21 other things.

22 Q There are standard rates of growth that have been
23 indicated by professionals such as yourself as to different
24 species of trees, correct?

25 A There are general or average rates of growth, but not

1 specific.

2 Q Right, average. No, you're right, average. And
3 obviously if you have many types of the same species within the
4 City, averages is what you are going to apply, correct?

5 A I agree.

6 Q So if we have an average rate of growth of, say,
7 three feet for a typical species or a specific species then
8 over a six-year period we can anticipate that tree will grow 18
9 feet, correct?

10 A Correct.

11 Q And if we have a species that has a general rate of
12 growth of six feet a year, over a six-year period we can expect
13 36 feet of growth, correct?

14 A Correct.

15 Q Are you aware that Florida Power intends to implement
16 this full six-year average cycle, fully implement it by the
17 year 2013?

18 A Right, based on the schedule. Yes, I have seen that.

19 MR. ARMSTRONG: Madam Chair, if I can take Exhibit
20 10, based upon the witnesses testimony I can strike that first
21 bullet.

22 MR. BUTLER: I'm sorry, what did you just -- I didn't
23 hear.

24 MR. ARMSTRONG: I will strike the first bullet.

25 THE WITNESS: All right.

1 BY MR. ARMSTRONG:

2 Q Mr. Harris, you are aware that in order for a tree to
3 be removed, a permit is required, correct?

4 A Well, in North Miami, depending on the condition of
5 the tree, the location of it, it may only require a phone call
6 to certain supervisory or city manager's office. And in an
7 emergency situations it can even be avoided, that that phone
8 call is necessary to remove a tree that is considered hazardous
9 or dangerous. We can look at that in the code, if you want.

10 Q You would agree that one of the reasons that trees
11 around laterals are trimmed is to minimize customer
12 interruptions or power outages, correct?

13 A Correct.

14 Q And another reason for tree trimming is for customer
15 satisfaction, to provide the customer top quality service,
16 would you agree with that?

17 A No.

18 Q No? Would you agree that another reason for tree
19 trimming is for customer and employee safety?

20 MR. BUTLER: I'm sorry, are you referring to tree
21 trimming by FPL with your questions, or just generally?

22 MR. ARMSTRONG: Well, he is an expert generally. I
23 would say generally.

24 BY MR. ARMSTRONG:

25 Q Would you agree that generally one of the reasons for

1 tree trimming is for customer and employee safety?

2 A Yes.

3 Q And how about as to FPL, wouldn't they share that
4 reason for wanting to trim trees?

5 A They have that in their documentation, yes.

6 Q Sure. All other things being equal, would you agree
7 that a three-year trimming cycle reduces the chances of public
8 hazards and power outages than a longer cycle?

9 A It doesn't have to, no. It is really more dependent
10 on individual tree species, and that is what FPL has done a lot
11 of research on, regrowth rates and growth rates of trees. So
12 just having a shorter average cycle doesn't necessarily
13 translate into automatically less outages or less problems.
14 But you expect that they are going to prune more trees and
15 cover more as has been discussed, lateral miles, so there
16 should be in the statistics and the results much fewer outages
17 or interruptions due to vegetation.

18 Q So you wouldn't agree that there is less risk, there
19 is less risk of power outages from trees coming in contact with
20 lines if you have a shorter trimming cycle, like three years as
21 opposed to something longer? You wouldn't even agree that
22 there is less risk?

23 A I agree that it would appear that there would be less
24 risk based on doing that. I mean, that is the whole purpose
25 for this whole proceeding and the rulemaking by the PSC. And I

1 don't disagree that that is a good idea. But there are other,
2 you know, a lot more details into which tree needs to be pruned
3 and which one doesn't need to be pruned and where you need to
4 prune or don't need to prune, based on where there are trees or
5 where there are not trees.

6 Q Now, in your testimony, you filed a number of
7 pictures which in your testimony you indicated were within the
8 City of North Miami. You are now aware that five of those six
9 photos are trees that are really aren't located in the City of
10 North Miami, isn't that correct?

11 A Right. And, in those, in Exhibit 1, if you go to the
12 last page of Exhibit 1, the intention of those photos, as I
13 stated in Lines 4, 5, and 6, was to show trees in similar or
14 same conditions as being complained about by the City's --
15 excuse me, the City's witnesses. And I still conclude that
16 those trees, whether they are just outside the south boundary
17 of the City or just inside the south boundary of the City,
18 represent those overpruned, or ugly, or tree conditions that
19 were complained about.

20 I mean, I have additional photos. I went back out
21 after everybody brought that up, and I have other pictures,
22 other trees that are unequivocally within the City of North
23 Miami that we can look at if you want to do that, but those
24 pictures are still relevant.

25 Q I don't see any pictures of trees that Florida Power

1 admits haven't been trimmed in more than ten years, though.
2 You don't have any of those pictures available for the
3 Commission, do you?

4 A And that wasn't part of my study. We are looking at
5 trees, you know, since the storms and the results of the storm
6 work, as well as I'm looking for trees that I can show in
7 pictures that to the layperson or the reasonable man or
8 reasonable person would be able to see the difference between
9 old cuts, new cuts, locations of cuts, and the types of
10 reactionary or regrowth. So I confined myself to the last one
11 to three years. I can go back out and look for older trees if
12 it's necessary.

13 Q Okay. And I'm going by your characterization of
14 North Miami's testimony was that they were attacking Florida
15 Power for, you know, bashing up trees, or whatever word you
16 used, I forget what it was. But isn't it true that North
17 Miami -- and you heard the testimony this morning -- is
18 concerned about the length of the cycles between lateral mile
19 trimming?

20 A They are concerned about how long the cycle length
21 has been versus how long it is going to be now, but I think
22 there is a lot of misunderstanding about how often particular
23 trees or particular segments of laterals or particular segments
24 of feeders actually are visited for pruning, and the different
25 types of pruning that is in FPL's vegetation management

1 program, whether it is preventative maintenance, strictly on
2 the cycle, or the mid-cycle pruning, or corrective maintenance
3 that are based on requests for pruning. The City witnesses
4 have brought up numerous cases where they asked about trees,
5 and FPL came out, discussed them, and trees were additionally
6 pruned to meet that. So the cycle length is not the only
7 determining factor for how often trees are pruned by FPL or
8 other utilities.

9 Q You are aware that Tampa Electric has proposed a
10 three-year trimming cycle for its lateral miles? Are you aware
11 of that?

12 MR. BUTLER: I would object to the question. I think
13 that if he's referring to something that has a specific
14 reference to that tree-trimming proposal, he should bring it to
15 Mr. Harris' attention.

16 MR. ARMSTRONG: Madam Chair, I simply asked if he is
17 aware that Tampa Electric has agreed to a three-year lateral
18 tree-trimming cycle.

19 MR. BUTLER: The objection is assuming facts not in
20 evidence.

21 MR. ARMSTRONG: I asked him if he was aware.

22 CHAIRMAN EDGAR: It seems to me that we are going a
23 bit far afield.

24 Mr. Armstrong, try to stay focused and try to help us
25 keep moving along, please.

1 MR. ARMSTRONG: Well, Madam Chair, he is presented as
2 a witness who has generic experience and expertise throughout
3 the state, that is the only reason I figured he might know.
4 But we can move it along.

5 BY MR. ARMSTRONG:

6 Q Mr. Harris, are you aware that a report from this
7 Commission staff dated December 20th, 2006, found that Florida
8 Power customers suffered the most frequent number of power
9 outages of any utility in 2006?

10 A I'd have to look at that.

11 Q In 2005. I'm sorry, in 2005.

12 A I would have to look at that. I mean, I did read
13 through all of the documents that have been presented in this
14 whole proceeding. But, you know, there is a much bigger binder
15 I brought to my deposition. Nobody chose to enter any of that
16 into evidence or mark them as exhibits, so I'm not here to talk
17 about anything other than what is on the table.

18 MR. BUTLER: Mr. Armstrong, are you referring to this
19 December 11, 2006, staff report that you had asked to be
20 officially recognized?

21 MR. ARMSTRONG: No, I'm referring to the
22 December 20th, 2006, staff report that I asked to have
23 officially recognized.

24 Madam Chair, could this be identified as Exhibit 11?

25 MS. GERVASI: Madam Chairman, there is really not a

1 need to identify it as an exhibit since it has been officially
2 recognized.

3 CHAIRMAN EDGAR: As listed in Exhibit 1, and so for
4 simplicity and lack of duplication. Mr. Butler, did you --

5 MR. BUTLER: No, I'm sorry.

6 CHAIRMAN EDGAR: So we will not mark it additionally.

7 MR. ARMSTRONG: Okay.

8 MR. BUTLER: But what I was wanting to ask
9 Mr. Armstrong to do, and I apologize for having the date
10 reference wrong, is if he is referring to particular figures
11 out of this report, which is pretty voluminous, ask him to
12 refer the witness to that page and specific number rather than
13 just generally referring to the report.

14 MR. ARMSTRONG: That's what I intend to do. Thank
15 you, Mr. Butler.

16 MR. BUTLER: Sure.

17 BY MR. ARMSTRONG:

18 Q Can you refer to Page 15 of this exhibit?

19 A Okay.

20 Q Do you see halfway down the page, the bullet FPL?

21 A Yes.

22 Q Could you read the first sentence?

23 A FPL's reported SAIFI is 1.15 interruptions, the
24 highest among the five IOUs in 2005. However, its CAIDI, of
25 60 minutes is the lowest among the five IOUs in 2005.

1 Q Actually, if you don't mind, can you read the entire
2 paragraph into the record for us, please?

3 A Okay. Do you want me to start over with the first
4 sentence?

5 Q No, we've got that.

6 A Okay. FPL's SAIDI shows a steady trend with the
7 reported SAIDI in the 68 to 70 range from 2000 through 2005.
8 Its CEMI5 data shows an improving (decreasing) trend in the
9 last three years from 3.3 percent of its customers experiencing
10 more than five interruptions in 2003, to 1.9 percent in 2005.
11 However, the 2005 CEMI5 level is still higher than that of PEF
12 and Gulf. Based on FPL's relative underperformance in SAIFI
13 and CEMI5, the Commission should carefully monitor the
14 frequency of FPL's service interruptions.

15 Q Thank you, Mr. Harris.

16 A You're welcome.

17 Q If I refer you to Page 6 of that report --

18 A I would like to state that reading this doesn't
19 necessarily mean I fully am understanding or have all of my
20 questions answered about what it means. So I don't want this
21 to be construed as testimony or something I am willing to
22 support or agree with, just for the record. I don't mind --
23 you know, I read in church, I can read here.

24 Q In other words, you aren't familiar with the facts
25 stated in that particular report that you just read, in other

1 words? You weren't familiar with that before you read it,
2 correct?

3 A No.

4 Q Now, Page 6.

5 A Page 6. Okay, I'm on Page 6.

6 Q The second to the last paragraph, full paragraph
7 there.

8 A I see it.

9 Q Can you please read that for us?

10 MR. BUTLER: Madam Chairman, I'm going to object to
11 this. This is clearly beyond Mr. Harris' Direct Testimony. We
12 have a witness next who will be fully prepared to discuss this
13 to Mr. Armstrong's heart's content, and it just seems
14 inappropriate and pointless to keep having a witness who is not
15 familiar with this report, who was not here to get into the
16 details of reliability indices, but instead to present evidence
17 on FPL's trim practices, to be run through this report simply
18 reading sections he is not familiar with.

19 MR. ARMSTRONG: Madam Chair --

20 CHAIRMAN EDGAR: Although we generally are pleased
21 when we attain contentment, in this instance I agree with
22 Mr. Butler, and it goes further than the testimony that this
23 witness has presented. So if you would like to make an effort
24 to go into this material with the next witness, as Mr. Butler
25 has directed, it may be more appropriate. I agree with that,

1 so let's finish with this witness.

2 MR. ARMSTRONG: Okay. Thank you, Madam Chair. Just
3 for the record, I simply was trying to show his familiarity
4 with FPL or lack thereof with regard to his testimony. But I
5 have, I think, very little left.

6 MR. BUTLER: I will object to the comments that were
7 just made.

8 MR. ARMSTRONG: Actually, I'm through with my
9 cross-examination. Thank you.

10 Thank you, Mr. Harris.

11 THE WITNESS: You're welcome.

12 CHAIRMAN EDGAR: Questions from staff.

13 MS. GERVASI: Staff has no questions.

14 CHAIRMAN EDGAR: Mr. Butler.

15 MR. BUTLER: Let me look just to see. I may not have
16 any redirect, but I want to see.

17 REDIRECT EXAMINATION

18 BY MR. BUTLER:

19 Q Mr. Harris, one brief redirect question to you.

20 You were discussing with Mr. Armstrong the choice of
21 circuits that you investigated and took pictures of that show
22 up in Exhibit JAH-1. And would you explain, please, why you
23 particularly wanted to look at circuits that had a one to
24 three-year duration since they were last trimmed for the
25 purpose of taking these photos and doing an inspection?

1 A Okay. The use of those photos was to look at the
2 reactions to and the results of storm work from FPL, and so I
3 set my dates to the last one to three years based on picking up
4 those circuits that may show actual trim tree conditions that
5 result from storm pruning, not just regular preventative or
6 corrective maintenance pruning. And, also, because I was
7 trying to identify trees that I would be able to visually
8 easily observe or identify with the types of trim conditions
9 that were complained about or were concerned by the City of
10 North Miami witnesses. And, based on -- I mean, does that --

11 MR. BUTLER: That's fine. I just wanted to clarify
12 the purpose. Thank you.

13 That's all the redirect that I have.

14 CHAIRMAN EDGAR: Okay. Let's take up the exhibits.

15 Mr. Butler.

16 MR. BUTLER: I would move admission of Exhibits
17 4 through 8.

18 CHAIRMAN EDGAR: Any objection?

19 MR. ARMSTRONG: No objection.

20 CHAIRMAN EDGAR: Seeing no objection, show Exhibits
21 4 through 8 entered into the record.

22 (Exhibit Numbers 4 through 8 admitted.)

23 CHAIRMAN EDGAR: Mr. Armstrong.

24 MR. ARMSTRONG: The City would move Exhibits 9 and
25 10.

1 CHAIRMAN EDGAR: Mr. Butler.

2 MR. BUTLER: Let's see, 9 and 10 are the ones that
3 have the calculations, right?

4 MR. ARMSTRONG: Yes.

5 MR. BUTLER: And you have deleted from 10 the first
6 bullet, the one that says to meet a six-year trim cycle,
7 28.5 miles of laterals?

8 MR. ARMSTRONG: Yes.

9 MR. BUTLER: I don't have a problem with their
10 admission. I think clearly that Mr. Harris is not familiar
11 with the details of the Exhibit 2 from which these were taken,
12 but they are really just kind of the City's attempt to portray
13 that information for their purposes, and I don't object to it
14 for that limited purpose.

15 CHAIRMAN EDGAR: Okay. Then Exhibits 9 and 10 will
16 be entered into the record. And the witness may be excused.
17 Thank you.

18 (Exhibit Numbers 9 and 10 admitted.)

19 CHAIRMAN EDGAR: Okay. We are going to take ten
20 minutes to allow everybody to stretch. I suggest you have some
21 crackers or something, and then in about ten minutes we will
22 come back, and, Mr. Butler, you will call your next witness.

23 MR. BUTLER: Very good. Thank you.

24 (Recess.)

25 CHAIRMAN EDGAR: Okay. We are going to go back on

1 the record and see how far we can get. Mr. Butler, your
2 witness.

3 MR. BUTLER: Thank you.

4 MANUEL B. MIRANDA

5 was called as a witness on behalf of Florida Power and Light
6 Company, and having been duly sworn, testified as follows:

7 DIRECT EXAMINATION

8 BY MR. BUTLER:

9 Q Mr. Miranda, you were previously sworn?

10 A Yes, I was.

11 Q Okay. Thank you. Would you please state your name
12 and business address for the record?

13 A Yes. My name is Manuel B. Miranda. My address is
14 9250 West Flagler Street, Miami, Florida.

15 Q And by whom are you employed and in what capacity?

16 A I am employed by Florida Power and Light,
17 Vice-President of Distribution System Performance.

18 Q Thank you. Do you have before you prepared written
19 testimony consisting of 15 pages and attached Exhibits
20 MBM-1 and MBM-2?

21 A Yes, I do.

22 Q Was this testimony and exhibits prepared under your
23 direction, supervision, or control?

24 A Yes, it was.

25 Q Do you have any changes or corrections to your

1 testimony or exhibits?

2 A No, I do not.

3 Q Do you adopt this prepared written testimony as your
4 testimony in this proceeding?

5 A Yes.

6 MR. BUTLER: Madam Chairman, I would ask that Mr.
7 Miranda's Exhibits MBM-1 and MBM-2 be assigned, I think it is
8 11 and 12.

9 CHAIRMAN EDGAR: Yes, 11 and 12.

10 MR. BUTLER: Thank you. And that his prepared
11 written testimony be inserted into the record as though read.

12 CHAIRMAN EDGAR: The prefiled testimony will be
13 entered into the record as though read.

14 MR. BUTLER: Thank you.

15 (Exhibit Numbers 11 and 12 identified for the
16 record.)

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**
2 **FLORIDA POWER & LIGHT COMPANY**
3 **DIRECT TESTIMONY OF MANUEL B. MIRANDA**
4 **DOCKET NO. 060198-EI**
5 **DECEMBER 20, 2006**

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

8 A. My name is Manuel (Manny) B. Miranda. My business address is Florida
9 Power & Light Company, 9250 W. Flagler Street, Miami, Florida, 33174.

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

11 A. I am employed by Florida Power & Light Company (FPL or the Company) as
12 Vice President, Distribution System Performance.

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

14 A. I am responsible for executing FPL's Storm Secure Plan, including
15 developing a hardening plan, new construction standards, product engineering
16 and research and development. I am also responsible for overseeing the direct
17 engineering and construction of infrastructure improvements made as a result
18 of our plan.

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

21 A. I have a Bachelor of Science degree in Mechanical Engineering from the
22 University of Miami and a Master of Business Administration from Nova
23 Southeastern University. I joined FPL in 1982 and have served in a variety of

1 positions in marketing and distribution operations. I have been a distribution
2 area manager, director of distribution operations support, and director of
3 distribution operations.

4 **Q. Are you sponsoring any exhibits in this case?**

5 A. Yes. I am sponsoring Exhibits MBM-1 and MBM-2, which are attached to my
6 testimony.

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

8 A. The purpose of my testimony is to respond to the City of North Miami's (the
9 "City's") assertion that FPL's 6 year average tree trimming cycle for its lateral
10 distribution lines is not appropriate. I will provide an overview of FPL's
11 current distribution vegetation management program and FPL's proposal to
12 adopt a 6 year average trim cycle for its laterals. I will also explain why FPL
13 believes that its alternative proposal provides the best balance between cost
14 and benefits for customers at this time.

15 **FPL'S CURRENT VEGETATION MANAGEMENT PROGRAM**

16 **Q. Please describe FPL's current distribution vegetation management**
17 **program.**

18 A. The primary objective of FPL's distribution vegetation management program
19 is to clear vegetation from the vicinity of distribution facilities and equipment
20 in order to protect them and provide safe, reliable and cost-effective electric
21 service to our customers. The program is comprised of multiple initiatives

1 designed to reduce the average time customers are without electricity resulting
2 from vegetation-related interruptions. This would include our preventive
3 maintenance initiatives (planned cycle and mid-cycle maintenance), corrective
4 maintenance (trouble work and customer service restoration efforts), customer
5 trim requests, and support of our system improvement and expansion projects,
6 where we focus on long-term reliability by addressing vegetation that will
7 impact new or upgraded overhead distribution facilities.

8 **Q. How is FPL's Vegetation Management Department organized?**

9 A. FPL's Vegetation Management Department is a centralized organization that
10 is responsible for executing all line-clearing related programs across FPL's
11 service territory. The organization has 19 arborists, including 13 with forestry
12 degrees, all certified by the International Society of Arboriculture (ISA). It
13 also has oversight of our primary line clearing contractors, Asplundh Tree
14 Expert Company, and Lewis Tree Service, which combined have over 1,000
15 employees, including 30 ISA certified arborists, working within FPL's
16 system. FPL's oversight of these contractors is conducted by the quality
17 assurance group and includes 100% inspection of completed maintenance
18 work. The scope of our contractor inspections includes adherence to
19 standards, clearances, proper notification to customers, and site cleanup.

20 **Q. How often are FPL's feeders and laterals trimmed under FPL's current
21 vegetation management program?**

22 A. FPL maintains its main distribution lines, called "feeders," on a 3 year average
23 trim cycle because it offers the optimal balance of reliability performance and

1 vegetation clearing cost. The primary benefit of properly maintaining feeders
2 is that each feeder serves a large number of customers. On average, a feeder
3 serves approximately 1,500 customers. FPL's laterals (i.e., fused circuits that
4 run off the feeder lines) are currently not on a scheduled trim cycle. Instead,
5 lateral trimming is prioritized based on reliability performance. Laterals serve
6 fewer customers than feeders. On average, a lateral serves approximately 35
7 customers. Targeted trimming is also achieved through our "mid-cycle"
8 program that addresses critical circuits and responses to customer trim
9 requests.

10

11 Finally, a very important component of FPL's vegetation program is
12 providing information to customers to educate them on our trimming program
13 and practices, safety issues, and the importance of placing trees in the proper
14 location, i.e., FPL's "Right Tree-Right Place" (RTRP) initiative. FPL's RTRP
15 initiative is discussed in Mr. Slaymaker's testimony.

16 **Q. What is "mid-cycle" trimming?**

17 **A.** Tree species with widely varying growth rates exist along FPL's system.
18 Often certain faster growing trees, and especially palm trees, need to be
19 addressed before the next scheduled cycle trim date. FPL refers to this
20 additional trimming, performed between normal trimming cycles, as mid-
21 cycle trimming. Until 2006, mid-cycle trimming occurred only on FPL's
22 feeders. In 2006, as part of FPL's Storm Secure initiative, FPL began to

1 perform mid-cycle trimming on laterals associated with critical infrastructure
2 facilities.

3 **Q. What are customer trim requests?**

4 A. FPL's customers often contact us with requests to trim trees around lines in
5 their neighborhoods and near their homes. As a result of our discussions with
6 these customers and/or a result of a follow-up investigation, FPL performs the
7 necessary trimming or may determine that the requested trimming can be
8 addressed more efficiently by scheduling it along with normal scheduled cycle
9 trimming.

10 **Q. What have been the costs and miles trimmed associated with FPL's
11 distribution vegetation management program over the past several years?**

12 A. Below are FPL's actual distribution vegetation management reliability
13 program costs and associated miles trimmed for 2001 – 2005 and 2006 year
14 end estimates:

	Cost	Miles Trimmed			
	<u>(Millions)</u>	<u>Laterals</u>	<u>Feeders</u>	<u>Mid-cycle</u>	
17	2001	\$35.6	1,867	4,069	*
18	2002	\$38.8	1,294	5,356	*
19	2003	\$40.4	1,902	5,282	*
20	2004	\$38.6	4,911	4,379	3,453
21	2005	\$39.3	1,110	3,333	2,277
22	<u>2006**</u>	<u>\$50.2</u>	<u>725</u>	<u>5,900</u>	<u>4,300</u>
23	<u>6 Yr. Avg.</u>	<u>\$40.5</u>	<u>1,968</u>	<u>4,720</u>	<u>3,343</u>

1 * FPL did not track mid-cycle miles until 2004

2 ** Estimate - includes \$4.4 million associated with FPL's Storm Secure
3 program.

4 I should note that in 2006, FPL placed needed emphasis on catching up on
5 feeder line clearing that had been deferred due to the 2004 and 2005 storms.

6 **Q. Please provide the historical distribution related outages attributed to
7 vegetation for the same period provided above.**

8 A. Distribution vegetation related outages for the same period are provided
9 below:

					% Change	Vegetation Outages as
	<u>Year</u>	<u>Feeders</u>	<u>Laterals*</u>	<u>Total</u>	<u>from Prior Yr.</u>	<u>a % of Total Outages</u>
10	2001	251	13,166	13,417	8%	15%
11	2002	276	16,630	16,906	26%	18%
12	2003	320	18,987	19,307	14%	20%
13	2004	287	14,938	15,225	(21%)	17%
14	2005	176	10,395	10,571	(31%)	11%
15	2006**	142	8,733	8,875	(16%)	9%

16 *Lateral outages include outages on all devices except feeders (e.g.,
17 transformers, services, etc.)

18 **12 months ended 11/30/2006

1 **Q. How do FPL's vegetation related outage statistics compare to others in**
2 **the industry?**

3 A. FPL compares favorably. Based on the Edison Electric Institute's latest report,
4 the industry average for vegetation related outages as a percentage of total
5 outages is 16%. As can be seen above, FPL's performance for the period
6 2001-2004 approximates this industry average. For 2005 and 2006, FPL's
7 efforts, along with the natural pruning resulting from the 2004 and 2005
8 storms, produced results that are significantly better. This reliability
9 performance has been achieved despite tree density in FPL's service territory
10 that is twice the national average and some of the highest tree re-growth rates
11 in the nation.

12 **Q. Does FPL have any recent information regarding vegetation related**
13 **outages associated with storm events?**

14 A. Yes. Subsequent to the 2005 storm season, FPL contracted with KEMA, Inc.
15 an internationally known engineering and consulting firm to review FPL's
16 2005 storm performance. Included in KEMA's review was a statistical
17 examination of data collected for Hurricane Wilma. Hurricane Wilma was a
18 Category 3 storm when it made landfall in FPL's service territory in late
19 October 2005. One element of this examination included identifying broken
20 distribution poles, where trees were identified as a contributing factor to the
21 breakage. The analysis indicated that less than a tenth of a percent of pole
22 replacements were categorized as being the result of tree damage that would
23 have been prevented had the vegetation in the vicinity of the poles been

1 trimmed to FPL standards. In other words, vegetation growing too close to
2 FPL's poles proved to be an insignificant contributor to pole failure during
3 Hurricane Wilma.

4 **Q. How would you summarize the results of FPL's current vegetation
5 management program?**

6 A. Our approach of balancing reliability performance and vegetation clearing
7 costs through the 3 year feeder cycle and reliability performance lateral
8 clearing has delivered excellent results, despite the difficult challenges of
9 providing service in Florida.

10

11 **FPL's 6 YEAR LATERAL TRIM CYCLE PROPOSAL**

12 **Q. Please describe the background of FPL's 6 year lateral trim cycle
13 proposal.**

14 A. As part of the Commission's review of electric utilities' on-going storm
15 preparedness initiatives, utilities were required to assess the feasibility of a 3
16 year vegetation management cycle for all distribution circuits and evaluate
17 whether there were more cost-effective viable alternatives. On June 1, 2006,
18 FPL filed its response to this requirement. FPL's proposal was to continue its
19 3 year average trim cycle for feeders and to initiate a 6 year average trim cycle
20 for laterals. FPL concluded that this proposal provides the best balance among
21 costs, benefits and feasibility.

1 **Q. What factors did FPL consider in determining that the 3 year feeder/6**
2 **year lateral average trim cycle (3 year/6 year) was more appropriate than**
3 **the 3 year average trim cycle for feeders and laterals (3 year/3 year)?**

4 A. FPL's analysis considered the costs and benefits associated with different trim
5 cycles, implementation feasibility, and potential savings associated with a
6 reduction of customer interruptions.

7 **Q. What input data did FPL use in conducting its analysis of the costs and**
8 **benefits of different trim cycles?**

9 A. FPL relied on and utilized the following inputs:

10 Costs - Vegetation management preventive maintenance circuit trim data;
11 incremental resources required to accomplish proposed trimming; labor
12 premiums and overtime rates; reactive workload adjustments based on the
13 preventive maintenance funding level

14 Reliability - Vegetation circuit reliability data; customer interruptions (CI) and
15 customer minutes interrupted (CMI) reliability data

16 Storm Performance - FPL storm data and the FEMA-HAZUS hurricane
17 model; FPL restoration costs and CI data over the 5 hurricanes making direct
18 landfall in FPL's service territory

19 **Q. What are the results of FPL's analysis?**

20 A. The results are shown in Exhibits MBM-1 and MBM-2. Exhibit MBM-1
21 summarizes the costs and benefits of the 3 year/3 year option, FPL's 3 year/6
22 year proposal, and FPL's current program. Exhibit MBM-2 provides a ten
23 year present value cost analysis of those three alternatives.

1 **Q. Please explain what Exhibits MBM-1 and MBM-2 show.**

2 A. I believe it is best to review these two exhibits in terms of costs and benefits.
3 First, it is obvious the 3 year/3 year proposal is significantly more costly than
4 the 3 year/6 year proposal. Exhibit MBM-1 indicates that from every
5 perspective - first year hard costs (\$138.4 million vs. \$65 million, or over
6 twice as much), average annual costs (\$102.5 million vs. 71.9 million, or over
7 40% greater), and costs per avoided storm CI (\$280 vs. \$129, or over twice as
8 much) - the 3 year/3 year proposal is significantly more costly. The two main
9 reasons are the larger tree trimming workforce (700 vs. 227, or over three
10 times as much) and the associated workforce scarcity premiums required to
11 implement the 3 year/3 year proposal.

12
13 Exhibit MBM-2 presents the total costs of the three alternatives on a net
14 present value basis. The total costs include storm restoration and normal
15 restoration costs, so the benefits of increased trim frequency are captured in
16 this comparison in the form of reduced restoration costs. Exhibit MBM-2
17 shows that on a ten year present value basis, the 3 year/3 year proposal is over
18 \$100 million more costly than FPL's 3 year/6 year proposal, even when the
19 reduced restoration costs are taken into account.

20 **Q. Please discuss the other factors that FPL considered when comparing the**
21 **3 year/3 year and 3 year/6 year proposals?**

22 A. Two other factors were considered: the feasibility and practicality of securing
23 the necessary tree trimming contractor resources associated with the 3 year/3

1 year proposal; and resolving the community and customer barriers and
2 challenges associated with the increased volume of tree trimming work.

3 **Q. Does FPL have a concern regarding the feasibility and practicality of**
4 **securing the necessary tree trimming contractors required to support the**
5 **3 year/3 year option?**

6 A. Yes. FPL's analysis shows that 700 additional full-time personnel equivalents
7 would be required for the first 3 years. The need for these additional resources
8 would affect the supply-demand equilibrium and would result in increased
9 competition for line-clearing resources. Also, FPL believes that there is a very
10 high overall execution risk associated with this proposal. It would be very
11 difficult to execute a successful implementation plan for the 3 year proposal
12 which would need to include sufficiently trained line-clearing personnel,
13 effective line supervision and a deployment strategy aligned with the
14 expectations of local municipalities and homeowners.

15 **Q. What are the community and customer barriers that would work against**
16 **the 3 year/3 year proposal?**

17 A. The increased annual work scope required to support the 3 year/3 year
18 proposal would most likely result in significant additional community and
19 customer barriers, e.g., customer refusals, local ordinances, etc... FPL's 3
20 year/6 year proposal provides more time to educate customers and
21 communities and possibly enact necessary changes to laws and ordinances.
22 Until these barriers and the challenges associated with them can be reduced or

1 eliminated, expected performance results likely would not be realized at any
2 investment level.

3 **Q. How do the projected annual trimming costs and the number of miles**
4 **trimmed associated with FPL's 3 year/6 year program compare to**
5 **historical costs and miles trimmed?**

6 A. Below are the projected costs and miles trimmed for 2007 – 2012:

	Cost	Miles Trimmed			
	(Millions)	Laterals	Feeders	Mid-Cycle	
9	2007	\$65.0	1,900	4,400	4,000
10	2008	\$64.4	2,000	4,600	4,000*
11	2009	\$68.4	2,700	5,200	4,000*
12	2010	\$72.3	3,100	5,300	4,000*
13	2011	\$73.0	3,300	5,600	4,000*
14	<u>2012</u>	<u>\$73.6</u>	<u>3,700</u>	<u>5,200</u>	<u>4,000*</u>
15	<u>6 Yr. Avg.</u>	<u>\$69.5</u>	<u>2,783</u>	<u>5,050</u>	

16 *While the annual amounts have been projected to be the same, FPL is
17 hopeful that these miles can be reduced as a result of FPL's RTRP initiative.

18
19 FPL is expecting to increase its trimming expenditures substantially over
20 historical levels - on average, more than a 70% increase for the 2007-2012
21 period compared to the previous 6 year period (\$69.5 million vs. \$40.5
22 million). I would like to point out that this substantial increase will occur
23 under FPL's 3 year/6 year proposal with its plan for controlling costs by

1 gradually increasing the tree trimming workforce in order to diminish
2 contractor overtime and premium startup costs. As I explained earlier, the
3 increase would be much larger under the 3 year/3 year alternative, without a
4 commensurate increase in benefits. FPL's plan will allow it to achieve a 6
5 year average lateral trim cycle beginning in 2013.

6 **Q. Please summarize why you believe that FPL's 3 year/6 year proposed**
7 **alternative provides the best balance between costs and benefits at this**
8 **time?**

9 **A.** FPL believes its 3 year/6 year proposal provides the best balance between
10 costs and benefits because:

- 11 • Lateral circuit miles make up a greater percentage of the overall
12 population of primary circuits (both feeders and laterals). However,
13 customer density on lateral circuits is significantly lower on average
14 than on feeders (on a per-mile basis); therefore, there are diminishing
15 returns in trimming laterals on the same cycle.
- 16 • It promotes a gradual increase in resources required to carry out the
17 work, which will therefore diminish the effect of overtime and
18 contractor premium startup costs.
- 19 • It avoids the execution risk associated with the 3 year/3 year option's
20 increased contractor labor requirements.
- 21 • It promotes execution flexibility to target lateral circuits that require
22 more frequent attention due to tree density, species growth rates,

1 customer impacts, and trimming cost beyond what a "hard cycle"
2 would achieve.

3 • It is a significant first step, requiring a significant increase in
4 resources. FPL's plan is to gradually implement its proposal, which
5 provides FPL and the Commission opportunity to address community
6 and customer acceptance barriers and to continually monitor and
7 evaluate the effectiveness of the plan, and make necessary
8 modifications if required.

9 **Q. Does the testimony filed by the City's witnesses provide any basis for**
10 **disputing FPL's analyses of the alternative trim cycles?**

11 A. No, it does not.

12 **Q. Does the testimony filed by the City's witnesses provide any quantitative**
13 **support for an alternative to FPL's 3 year/6 year lateral trim cycle**
14 **proposal?**

15 A. Again, the answer is no.

16 **Q. Please summarize your testimony.**

17 A. FPL's current vegetation management strategy and program has produced
18 excellent results in a cost-effective manner. However, recent and projected
19 increases in hurricane activity indicate a new approach is worthy of
20 consideration. FPL's 3 year/6 year proposal is a significant first step to
21 address this increased hurricane activity and provides the best balance
22 between costs and benefits.

23

1 Q. Does this conclude your direct testimony?

2 A. Yes.

1 BY MR. BUTLER:

2 Q Mr. Miranda, would you please summarize your
3 testimony?

4 A Yes, thank you.

5 Good afternoon, Madam Chairman and Commissioners.
6 Our approach of balancing reliability performance and
7 vegetation clearing costs through our current vegetation
8 management program have delivered excellent results for our
9 customers, despite the difficult challenges of providing
10 service in Florida. Today, FPL's main distribution lines,
11 referred to as feeders, are maintained on a three-year average
12 trim cycle and laterals based on reliability performance.
13 Additional trimming is also accomplished through mid-cycle
14 trimming and customer trim requests.

15 Our vegetation program also includes educating
16 customers on our trimming practices, safety issues, and
17 emphasizing the importance of placing trees on the proper
18 location known as our "Right Tree-Right Place" initiative. As
19 part of the Commission's review of electric utilities on-going
20 storm preparedness initiatives in this docket, utilities were
21 required to assess the feasibility of a three-year vegetation
22 management cycle for all distribution circuits and to evaluate
23 whether there were more cost-effective viable alternatives.

24 In response, FPL proposed to continue its three-year
25 average trim cycle for feeders, mid-cycle, and customer

1 requested trimming, and proposed to initiate a new six-year
2 average trim cycle for laterals. FPL's proposal is based on an
3 analysis that considered the costs and benefits associated with
4 the different trim cycles, implementation feasibility, and
5 potential savings with a reduction of customer interruptions.
6 FPL believes this proposal provides the best balance between
7 costs and benefits because, one, it promotes a gradual increase
8 in resources required to carry out the work avoiding execution
9 risk; two, reduces the impacts of overtime and contractor
10 premium start-up costs; three, promotes execution flexibility;
11 and, four, achieves a cost per avoided customer interruption
12 that is less than half the cost of a three-year option.

13 Over the first six years of implementing our
14 proposal, FPL expects to increase our annual average trimming
15 expenditures by more than 70 percent over the previous six-year
16 average. Specifically looking at laterals, FPL will trend on
17 average over the next six years almost 2,800 miles per year, a
18 40 percent increase over the previous six-year annual average
19 of less than 2,000 miles per year.

20 In summary, FPL's current vegetation management
21 program has delivered excellent results. Our proposal will
22 increase trimming activity measured both by expenditures and
23 number of miles trimmed, and it will provide the best balance
24 among cost, benefits, and feasibility.

25 This concludes my oral summary.

1 MR. BUTLER: Thank you. I tender the witness for
2 cross-examination.

3 CHAIRMAN EDGAR: Thank you. Mr. Armstrong.

4 MR. ARMSTRONG: Thank you, Madam Chair.

5 CROSS EXAMINATION

6 BY MR. ARMSTRONG:

7 Q Good afternoon, Mr. Miranda.

8 A Good afternoon.

9 Q You're aware, Mr. Miranda, that the City of North
10 Miami spends between 1 and \$2 million a year for its in-house
11 employees to conduct tree trimming, are you not?

12 A Just from some of their testimony. I do not have the
13 specifics about their budgets.

14 Q Okay. But you are just generally familiar with the
15 testimony you have heard?

16 A Just generally.

17 Q Are you also aware or familiar with the testimony
18 that they do hire some outside contracting to help them?

19 A Just what I heard this morning, yes.

20 Q Thank you. How much does Florida Power spend on
21 in-house labor to do tree trimming?

22 A All of our costs associated with trimming our
23 vegetation is done through outsourcing. So we conduct it all
24 through Asplundh or Lewis Tree.

25 Q Do you have a copy of the study that Florida Power

1 did to compare the cost if it were to do the tree trimming
2 in-house as opposed to continuing to do the tree trimming by
3 outside contractors?

4 A No, I do not.

5 Q So Florida Power didn't do a cost comparison to
6 determine whether it would be cheaper to do it with in-house
7 labor as opposed to outside contractors?

8 MR. BUTLER: I'll object to the question. It's
9 assuming facts not in evidence. He simply asked him does he
10 have a copy of the study, and he said he didn't have a copy of
11 the study, so the next question is so FPL didn't do a study.

12 MR. ARMSTRONG: I asked him if FPL did the study.

13 Madam Chair, we are here to look at the
14 cost-effectiveness of their programs. They're saying that they
15 are going to spend tens of millions of dollars more. And I
16 have been doing rate cases for a long time, and I don't know
17 how you can prove to you that it is reasonable cost to spend
18 that unless they have looked at the alternatives which would
19 be --

20 CHAIRMAN EDGAR: Mr. Armstrong, can you rephrase the
21 question.

22 MR. ARMSTRONG: Sure, Madam Chair.

23 BY MR. ARMSTRONG:

24 Q Is it your testimony that Florida Power and Light
25 hasn't even looked at the costs it would incur if it moved the

1 tree trimming program in-house?

2 A Over the years, we have looked at different cost
3 alternatives. We have always found that outsourcing our
4 vegetation management program has been the most cost-effective
5 approach. We do not have the skill sets or the equipment or
6 the training to perform that work in the short-term.

7 Q Mr. Miranda, we are here because the Commission
8 wanted utilities to tighten up their systems and that includes
9 with respect to trimming laterals. Now, Florida Power has
10 presented evidence that suggests that its cost of trimming
11 trees is going to go up from \$40.4 million in 2003 to
12 73.6 million in 2012. Given that, what, \$33-plus million
13 increase, Florida Power didn't believe it was prudent, prudent
14 utility management to restudy that issue and determine whether
15 it would be more cost-effective to bring it in-house?

16 MR. BUTLER: I'll object to the question again.
17 Again, assuming facts not in evidence. Mr. Miranda said that
18 it has been studied on several occasions.

19 CHAIRMAN EDGAR: Sustained. Let's move along.

20 BY MR. ARMSTRONG:

21 Q Mr. Miranda, have you participated on behalf of
22 Florida Power throughout this whole Commission investigation,
23 including the tree trimming investigation that we are here for
24 today?

25 A Yes.

1 Q Now, I've just handed you an exhibit that identifies
2 the five investor-owned utilities in Florida, the lateral trim
3 cycle, and then a third column transition period before a cycle
4 is fully implemented. Are you familiar with the lateral trim
5 cycles which have been proposed by the other utilities in
6 Florida?

7 A Yes.

8 Q Does this exhibit accurately reflect the fact that
9 Tampa Electric and Florida Public Utilities have agreed to a
10 three-year cycle?

11 A Yes.

12 Q Florida Progress has agreed to a five-year cycle?

13 A Yes.

14 Q And Gulf Power and Florida Power and Light are the
15 only utilities that have asked for a six-year cycle, is that
16 correct?

17 A An average six-year cycle.

18 Q Okay. And Tampa Electric has actually suggested to
19 the Commission they could implement their three-year cycle
20 within two or three years, isn't that correct?

21 A Yes.

22 Q And Florida Power and Light has suggested that it
23 will take until 2013, or six years to implement their six-year
24 cycle, correct?

25 A That's correct.

1 MR. ARMSTRONG: Madam Chair, could that be identified
2 with the next exhibit number.

3 CHAIRMAN EDGAR: Thirteen.

4 MR. ARMSTRONG: Thank you.

5 THE WITNESS: Can I expand a little bit on our
6 proposal for that reason?

7 MR. ARMSTRONG: You know how this works, Mr. Miranda.
8 Your counsel will be able to ask you questions on that, okay?

9 CHAIRMAN EDGAR: What Mr. Armstrong means is that
10 there may be the opportunity to do that on redirect.

11 Mr. Armstrong.

12 MR. ARMSTRONG: Sure.

13 (Exhibit Number 13 marked for identification.)

14 BY MR. ARMSTRONG:

15 Q Mr. Miranda, are you familiar with Exhibit 2, which
16 was the FPL fact sheet that was distributed earlier today?

17 A I'm familiar with it, but I did not get a copy of it.

18 MR. ARMSTRONG: I'm going to get you one now.

19 Madam Chair, the exhibit identified as Exhibit 13,
20 can that be identified with the title "Other Utility Lateral
21 Trim Cycles"?

22 CHAIRMAN EDGAR: Other utility lateral trim cycles?

23 MR. ARMSTRONG: Right.

24 CHAIRMAN EDGAR: So noted.

25 MR. ARMSTRONG: Thank you.

1 Madam Chair, if we could identify the exhibit I just
2 handed out as Exhibit 14.

3 CHAIRMAN EDGAR: Yes.

4 MR. ARMSTRONG: And we could title that as titled,
5 "Florida Power Lateral Trimming Per Year in North Miami"?

6 CHAIRMAN EDGAR: Yes.

7 (Exhibit Number 14 marked for identification.)

8 BY MR. ARMSTRONG:

9 Q Mr. Miranda, if I look at Exhibit 2, and specifically
10 at the second bold section, which indicates lateral trimming in
11 North Miami for the years 2004 through 2006, historic as well
12 as the projected 2007/2009, are those numbers accurately
13 reflected on this exhibit?

14 A Yes.

15 Q Now, Florida Power hasn't identified how many miles
16 of laterals will be trimmed in 2010 through 2012, correct?

17 A Not at this time.

18 Q But if I go to 2013, the suggestion is on an average
19 basis 28-1/2 miles will have been trimmed to fully implement
20 the six-year cycle, correct?

21 A I'm sorry?

22 Q If I look down to 2013, the next number that we
23 presume is based on the testimony that Florida Power and Light
24 can fully implement the six-year cycle by 2013, that on average
25 you will have 28.5 miles trimmed in 2013?

1 A Our proposal is that by the year 2013 we will be in
2 an average six-year cycle during that period.

3 Q Right. Okay. The first bullet, statement of fact,
4 Florida Power and Light proposed to trim less in 2009 than it
5 trimmed in 2004. That is accurately reflected in these
6 numbers, isn't that correct? Thirteen in 2009 versus 15 in
7 2004?

8 A In absolute terms, yes. The mile selections that we
9 perform in different years vary for different reasons. For
10 2004 and 2006, I think you really have to step back and look at
11 why those miles were selected, because some of the previous
12 testimony was, you know, our reliability program for lateral
13 trimming up through 2004 and 2006 was reliability based. So
14 what triggered which miles got trimmed was really based on the
15 performance of those individual circuits. Going forward it's a
16 little bit of a combination of reliability performance as well
17 as trim age.

18 Q Okay. Thank you. If I look at that second bullet,
19 I'm referring to Exhibit 13 that we identified just previously,
20 and I am looking at the five other utilities, and I see that
21 Florida Power and Light indeed has asked for the longest trim
22 cycle, as well as the longest period of years to any that have
23 identified such to implement it, isn't that correct?

24 A When you look at the different trim cycles that have
25 been proposed, each utility was asked to go back and look at

1 their respective current situation, if you will, of where they
2 were with their vegetation program. When you look at our
3 proposal, we have very specific data as it relates to Florida
4 Power and Light. I really can't sit here and tell you what
5 Tampa Electric did and Progress did. But I will tell that
6 after the '04 and '05 hurricane season, we, unfortunately, were
7 the ones that caught the brunt of these hurricanes, and we were
8 able to get some good data to really roll out a program that we
9 thought could meet the objectives of what was laid before us as
10 far as the staff request on viable alternatives.

11 CHAIRMAN EDGAR: Mr. Armstrong, I'm on 15.

12 MR. ARMSTRONG: Okay. Madam Chair, Exhibit 15, if we
13 could title that "FPL Alleged Costs of Six-year Lateral
14 Trimming Cycle Program".

15 CHAIRMAN EDGAR: So noted.

16 (Exhibit 15 marked for identification.)

17 BY MR. ARMSTRONG:

18 Q Mr. Miranda, if we could turn to Page 12 of your
19 testimony. And I must indicate one thing here, that 2005 on
20 the annual costs, that actually says 34.3, that should be 39.3,
21 shouldn't it? If I refer to Page 12 of your testimony?

22 A I think you've got the wrong page.

23 Q Is that what it is? Oh, is it wrong?

24 A It should be Page 5.

25 MR. BUTLER: Madam Chairman, I have a comment.

1 CHAIRMAN EDGAR: Mr. Butler.

2 MR. BUTLER: On the title of this that I suppose
3 might be an objection to it if it's not a similar understanding
4 between us. This says it is the alleged cost of six-year
5 lateral trimming cycle program, and Mr. Armstrong is referring
6 to data that he has apparently summarized here which is data
7 showing the cost of the whole trimming program, not just for
8 the laterals. And I think the title is misleading in that
9 context.

10 CHAIRMAN EDGAR: Mr. Armstrong.

11 MR. ARMSTRONG: Actually, I think he is correct. If
12 we could strike six year, is that good?

13 MR. BUTLER: It is the lateral that is the problem,
14 it is not just for laterals.

15 MR. ARMSTRONG: Oh. Trimming cycle. So six year --
16 what is it here, it is not just the laterals?

17 MR. BUTLER: Well, 2005 wouldn't be for six year, and
18 it is generally, not just for laterals.

19 MR. ARMSTRONG: It is a three-year/six year --

20 MR. BUTLER: The historic data is from FPL's existing
21 program.

22 MR. ARMSTRONG: I see. So it is FPL alleged cost of
23 trimming cycle program, right?

24 MR. BUTLER: I think that would be fine.

25 CHAIRMAN EDGAR: Okay. So we will retitle, "FPL

1 Alleged Costs of Trimming Cycle Program"?

2 MR. BUTLER: That's fine.

3 MR. ARMSTRONG: And then Mr. Miranda is correct, this
4 information is derived from Page 5 and Page 12 of his
5 testimony. And for 2005 that annual cost as indicated on Page
6 5 is actually 39.3 million, not 34.3 million, so if that could
7 be noted.

8 BY MR. ARMSTRONG:

9 Q Mr. Miranda, with that change, you would agree that
10 this exhibit accurately reflects your testimony?

11 A Yes.

12 Q Okay. And you will note that anticipating this issue
13 about 28-1/2 mile average in 2012, there is a question mark
14 there. But the goal of FPL is 28-1/2 miles of laterals on
15 average, right?

16 A Where we are heading to is to get our entire system
17 on a six-year average. And I think several witnesses tried to
18 explain an average can mean that some will be done over a five
19 years, some over six years, some over seven years. But when we
20 reach full implementation of our program, on average, I think
21 to your point, it will be 28.5 miles. Our intent, though,
22 there is that we will look at the circuits individual
23 circuit-by-circuit and evaluate what the right cycle is for
24 those individual circuits for the City of North Miami.

25 Q I have one additional exhibit here for you, Mr.

1 Miranda. It is being distributed.

2 MR. ARMSTRONG: This will be --

3 CHAIRMAN EDGAR: Number 16.

4 MR. ARMSTRONG: -- Number 16.

5 (Exhibit Number 16 marked for identification.)

6 BY MR. ARMSTRONG:

7 Q I know it might take a minute, Mr. Miranda, but if
8 you look at your Page 5 and Page 12 of your testimony, what the
9 City has done here is basically put on one sheet in one place
10 for easy reference the information that you testified to in
11 terms of the year, the cost in millions of dollars, the miles
12 trimmed of lateral feeders, as well as on a mid-cycle basis,
13 and then actually adds a total miles trimmed column. I want to
14 point out to you in the year 2003, if you could just look at
15 that one, in your testimony you indicate that that information
16 wasn't maintained, how many miles Florida Power and Light
17 trimmed on a mid-cycle basis, is that correct?

18 A That is correct.

19 Q So do you see what is done there is averaging 2004
20 and 2005 to give -- is that an accurate or a reasonable
21 assumption that it is somewhere in the average?

22 A We didn't keep that data, but I imagine we did some
23 mid-cycle. I don't know what the exact number is.

24 Q Okay. Well, that was just for purposes of making
25 it -- gives us a total miles trimmed information that we could,

1 you know, use for purposes of comparison. Would you agree that
2 is a reasonable guesstimate?

3 A Yes.

4 Q The reason the City wanted to point this out, Mr.
5 Miranda, is if we look at, say, the year 2003 where it cost
6 \$40.4 million to trim approximately 10,000 miles, but then you
7 go to 2004 and it actually cost less, almost \$2 million less to
8 trim more miles. Can you explain that?

9 A Sure. In 2004 we had a very active hurricane season.
10 We had Charley, Frances, and Jeanne that came through our
11 service territory, and what occurred there was after those
12 hurricanes came through, there was a lot of natural pruning
13 that occurred on those facilities. And we made a decision in
14 2004, since the hurricane had cleared a good portion of those
15 laterals already, we tried to go in there immediately
16 afterwards and trim as much as possible on those laterals after
17 those storms. So our cost pers were much less than in previous
18 years because of the natural pruning effect that occurred after
19 Charley, Frances and Jeanne. And that is why you see the
20 lateral miles in 2004 be much, much higher than any of the
21 previous years.

22 Q Okay. Thank you for the explanation. If I look at
23 2004 and 2005, I see the same kind of phenomena. Between 2004
24 and 2005, the company spent \$700,000 more, but actually trimmed
25 by almost 50 percent less. Could you explain that?

1 A I'm not following you. Repeat that.

2 Q If I look at 2004 and I compare it to 2005, the cost
3 that FPL incurred was about \$700,000 more, but the total miles
4 trimmed was basically almost half, you know, in 2005 of what it
5 was in 2004. Could you explain that?

6 A Yes. 2004 and 2005 were a complete anomaly for a
7 variety of reasons. If you recall all the hurricane activity
8 that we had during this period, we had crews ramping up, crews
9 ramping down. I would suggest that '04 and '05 are really not
10 representative of any standard trim cycle for us because of the
11 activities. If you recall, 2005 was another very active
12 hurricane season, and in our service territory we got impacted
13 by four storms. So, again, you know, these cost pers are very
14 difficult to look at in those two years. I wouldn't suggest we
15 arrive at any conclusion for '04 and '05.

16 Q Basically, there is no direct correlation between
17 miles trimmed and cost is what that shows?

18 A Again, '04 and '05 with the hurricane activity that
19 we had, it was just, there was multiple factors involved.

20 Q If I could look at 2008 through 2012, the costs
21 basically go up each year. And I note if I look at the total
22 miles trimmed, the miles trimmed go up each year. That appears
23 that FPL is actually suggesting that there is a direct
24 correlation between miles trimmed and the cost, would you
25 agree?

1 A Yes. As we go forward, I think what you are seeing
2 there is the ramp-up effect of trimming more lateral miles and
3 the volume associated with those.

4 Q I guess, again, if we look at 2003 where 40 million
5 was spent, and 2012 where \$73.6 million is spent, that is about
6 a \$33.6 million difference. But Florida Power and Light didn't
7 do any cost alternative analysis for bringing this kind of work
8 in-house?

9 MR. BUTLER: I'm going to object again. That
10 question, one, has been asked and answered. Two, I'm objecting
11 to it as assuming facts not in evidence. Mr. Miranda testified
12 that there have been multiple reviews of that very subject
13 previously.

14 CHAIRMAN EDGAR: I agree on both points.

15 MR. ARMSTRONG: Madam Chair, if there was an analysis
16 performed with respect to this work --

17 CHAIRMAN EDGAR: Mr. Armstrong, I've made my ruling.

18 MR. ARMSTRONG: Excuse me?

19 CHAIRMAN EDGAR: I have made my ruling.

20 Do you have further questions for this witness?

21 MR. ARMSTRONG: Yes, I do, actually.

22 BY MR. ARMSTRONG:

23 Q Mr. Miranda, you were indicated as a witness who
24 might be able to describe a little bit better the discussions
25 in this December 20th, 2006, report of the Public Service

1 Commission with respect to the utility's service reliability in
2 2005. Do you have a copy of that?

3 A I believe I do. December 11th, 2006?

4 Q No, no, December 20th, 2006, I believe.

5 MR. BUTLER: It is the same report. For some reason
6 the version we had printed out had this December 11 date on it,
7 but I don't think there is a problem with his referring to it.
8 Certainly he can look at one you provide him, if you would
9 rather.

10 CHAIRMAN EDGAR: There, again, let's try to all be
11 looking at the same thing at the same time. The version that
12 was passed out to us is dated December 20th.

13 BY MR. ARMSTRONG:

14 Q Mr. Miranda, addressing Page 6, the second full
15 paragraph there?

16 CHAIRMAN EDGAR: I'm sorry, Mr. Armstrong, did you
17 say a page number?

18 MR. ARMSTRONG: Page 6.

19 CHAIRMAN EDGAR: Thank you.

20 MR. ARMSTRONG: Sure.

21 BY MR. ARMSTRONG:

22 Q 3.2 million customers were out of service for between
23 1 and 18 days in 2005, is that correct?

24 A For Hurricane Wilma.

25 Q For Hurricane Wilma. That's pretty drastic. I know

1 you felt the brunt of that at FPL. Your customers did, as
2 well, correct?

3 A I mean, the impact of the storm was very severe. It
4 was a strong Category 3 that entered our territory, and, you
5 know, it impacted 3.2 million of our customers. And so, yes,
6 we are taking many actions to improve on that.

7 Q And one of the purposes you agree of this hearing
8 today is to try and get to a result so that we can kind of
9 minimize the number of outages going forward, correct?

10 A That's correct, as it relates to the vegetation
11 portion.

12 Q And if I refer to Page 15 of this study, under the
13 bullet FPL, it indicates that Florida Power and Light had the
14 highest of all the five utilities SAIFI index, correct? Could
15 you describe what the SAIFI index is?

16 A The SAIFI index is the EEI index that measures the
17 frequency of outages for our customer base.

18 Q Okay. Now, will you agree that if Florida Power were
19 to use a three-year trim cycle for laterals that there would be
20 a reduction in the frequency of outages?

21 A When you look at our SAIFI index that you see here,
22 the 1.15 that you referred to, you have to really kind of step
23 back and look at the performance of all the utilities. So in
24 your comments, yes, in absolute it is 1.15. But I looked at
25 the rest of the report, you look Atlantic Gulf at 1.13,

1 Progress at 1.12. We are all pretty bunched together in that
2 frequency component. And since 1997 we have put a concerted
3 effort to improve our frequency component.

4 As the Commissioners may recall, the staff may
5 recall, we initiated a program call Reliability 2000 where we
6 have brought our frequency down from 1.54 to 1.15, which is the
7 best overall SAIFI we have ever achieved at Florida Power and
8 Light during this period.

9 Q Okay. And certainly reducing, achieving the best
10 level of safety is laudable, and I guess I just want to make
11 sure, though, looking at this logically, if Florida Power were
12 to reduce the cycle, the time between trimming its laterals,
13 logically, the number of outages will be reduced, correct?

14 A And that is part of one of my exhibits. If you go to
15 my Exhibit MBM-1, we highlight the frequency gain associated
16 with our vegetation program and the impact it has on overall
17 SAIFI.

18 Q Right. And if I go to that exhibit, can you show me
19 on this exhibit where the costs incurred by customers is
20 reflected? The costs incurred by customers is not reflected in
21 this exhibit, correct?

22 A This particular exhibit does not reflect the cost of
23 customers individually as a result of storms, but it does
24 include all the costs associated with Florida Power and Light.
25 As far as the cost per customer, you know, that is a figure

1 that really there is no industry practice, no industry number
2 for that. You know, all customers value outages in a different
3 perspective, so our intent was to make sure that we had a
4 common platform by which to conduct this analysis to introduce
5 a factor that really there is no industry standard or really
6 anticipated approach on how to value that. We just thought
7 that it was not representative in here.

8 The other thing, too, was we wanted to make sure
9 that, you know, at the end of the day this is measured across
10 all of our customer base, and we wanted to make sure that all
11 of our customers are represented in this complete analysis.

12 Q Okay. Now, also your exhibit doesn't reflect any
13 costs incurred by the City with respect to these outages,
14 correct?

15 A Well, these costs are ultimately occurred by all of
16 us, so these costs to restore this after a storm, our
17 vegetation costs, are incurred as part of our storm recovery
18 costs. So their direct costs are not embedded in here, but
19 FPL's costs as they relate to our entire service territory are
20 incorporated here.

21 Q But obviously the City of North Miami, one of their
22 issues is when you have your outages, and they believe outages
23 occur more frequently as your testimony shows when you have
24 more lengthy trimming cycles.

25 A Right.

1 Q So the City incurs some costs associated with that,
2 correct?

3 A I do not have a direct knowledge of all the costs
4 associated with the City and how they account for that. I
5 imagine they have costs for all the trees that toppled over,
6 whether it is in right-of-way or out of right-of-way, trees
7 they maintain or we maintain. Whether they keep that type of
8 accounting or measurements, I don't have any knowledge of that,
9 but this direct study does not implicitly include those types
10 of expenses.

11 Q Here is a real easy one. I'm referring to your
12 deposition exhibit. Just a quick one for you. You admit in
13 your deposition that tree densities are greater on laterals
14 than on feeders, and I refer to Page 27 of your deposition
15 testimony. Is that correct?

16 A The answer is yes, that's what I referred to.

17 Q Earlier in your summary you referred to Page 4, Lines
18 4 to 5 of your testimony where you indicate that FPL refers to
19 reliability performance as the basis for deciding where FPL
20 would trim on an annual basis, is that correct?

21 A Where are you referring to?

22 Q Do you see it on Page 4?

23 A Yes.

24 Q And you would agree that the reliability of a lateral
25 is determined by the individual history of each lateral and how

1 many customer interruptions occur on each lateral?

2 A We look at the entire circuit body of all the
3 laterals and accumulate how many customer interruptions, and
4 off that is our reliability approach to our lateral trimming on
5 a preventative maintenance program.

6 Q Okay. And I refer you specifically to Page 8 of your
7 testimony -- of your deposition, I'm sorry. It actually begins
8 at Page 7 at Line 24. And there you indicate that reliability
9 performance looks at the individual history of each lateral and
10 how many customer interruptions occur on each lateral. How
11 many customers are served, and how many interruptions occur on
12 each individual lateral circuit, correct?

13 A That's correct.

14 Q So that accurately reflects your understanding of the
15 reliability criteria here?

16 A Yes.

17 Q Okay. Here is, I guess, a fundamental issue that the
18 City has with this proposal. Aren't you suggesting that
19 Florida Power then schedules its line trimming based upon
20 historical events when outages have already occurred? It seems
21 to us that you are waiting until laterals have a problem before
22 you do scheduling tree trimming.

23 MR. BUTLER: Mr. Armstrong, are you asking under
24 FPL's current program or under its three-year/six-year
25 proposal?

1 MR. ARMSTRONG: Even in the summary, Mr. Miranda
2 referred to the fact that they did it before and they still
3 incorporate this reliability performance criteria into the
4 existing one, as well. If that's not the case he can indicate
5 that now.

6 BY MR. ARMSTRONG:

7 Q Did I accurately reflect it?

8 A Our previous program was reliability based. In other
9 words, we monitored the performance of those laterals, and, you
10 know, based on their interruption history will determine which
11 laterals go out on the preventative maintenance. Going forward
12 that component still needs to reflect in our approach because
13 we want to make sure we have a lateral that is out there, or a
14 circuit body of laterals that is out there, we want to make
15 sure that that service doesn't deteriorate.

16 But, now, of course, we also want to introduce the
17 age of our trim and that is also a factor now in our selection
18 of which circuit bodies we will be trimming. And as you have
19 noted earlier, that's why if you look at the City of North
20 Miami, the laterals that we are trimming are some that have not
21 been trimmed for over ten years, per se. But what that is also
22 telling us is these laterals have not triggered our reliability
23 program. So, in effect, they have outstanding performance.
24 And if you look at the overall reliability within the City of
25 North Miami, it really has been excellent reliability both from

1 overall SAIDI indicators all the way through the number of
2 vegetation outages associated within the City. So what that is
3 telling us is our program has been very effective.

4 Now what we want to do is as we, you know, the
5 challenge of this or the request of the Commission was to look
6 at how to make the system more storm resilient. From a
7 reliability perspective, the City of North Miami was getting
8 excellent reliability. What we're trying to do is go and look
9 at the storm resiliency and that was the effort associated with
10 this study which was what do we need to do to improve during a
11 storm event.

12 Q Thank you for that explanation, Mr. Miranda. I
13 appreciate it.

14 Are you familiar with the concept of, and I think you
15 referred to it, preventative maintenance in your testimony?

16 A Yes.

17 Q Correct me if I'm wrong, I'm going to describe
18 preventative maintenance and you tell me if you agree with that
19 description. Preventative maintenance means that before a
20 problem occurs, I know, I go out with my equipment, and I say
21 before a problem occurs I'm going to go and deal with that
22 equipment to keep it up to snuff so a problem won't occur. Is
23 that a poor man's description of preventative maintenance?

24 A Well, I think there are probably different ways of
25 describing preventative maintenance. As far as Florida Power

1 and Light, the way we describe our preventative maintenance is
2 we are proactively going out and trimming a circuit based on
3 the reliability profile that that circuit has had, and then
4 trimming that on a complete circuit body basis.

5 Our corrective maintenance is really just triggered
6 off what we call immediate. If we have a hot spot of concern,
7 a customer that calls up through a customer trim request, those
8 are done through corrective maintenance. It is more the
9 immediate. But our preventative is proactively trying to get
10 ahead of a circuit. Even though it has had some interruptions,
11 you go out proactively to trim that circuit, the entire circuit
12 versus just the individual location where there might be a hot
13 spot.

14 So preventative means if we start seeing that we are
15 starting to see some activity, maybe some components within
16 that lateral, when we go out and do preventative maintenance,
17 we are doing the entire circuit body now because that is
18 starting to give us an indication that we are going to have
19 more reliability problems coming forward, and that is what our
20 preventative maintenance is trying to do. Get ahead of future
21 interruptions that based on our past it's indicative of more
22 problems going forward.

23 Q And would you agree that preventative maintenance is
24 actually more cost-effective, cost-efficient than, let's say,
25 hot spot maintenance or hot spot trimming?

1 A Well, they serve different roles. For example, in
2 our case, our mid-cycle trimming, in our minds it's very
3 effective because what it's trying to do is within a circuit
4 you may have only a series of trees, maybe one, two, or
5 three that require trimming and maintaining on a circuit. So
6 in those particular cases, your mid-cycle trimming is much more
7 cost-effective than doing the entire circuit body, because the
8 entire circuit body may not need all the trimming to be
9 completed.

10 So depending on what your objective is and what you
11 are trying to accomplish with your cycle trimming, mid-cycle
12 trimming can also be very effective in maintaining the circuit,
13 you know, for the cycle period that you are trying to
14 accomplish.

15 Q I have two questions as a follow-up there. If I
16 schedule maintenance fees -- have a scheduled program for
17 trimming of these laterals, and I go out on a scheduled basis
18 on individual laterals and I don't see any trees that are in
19 need of trimming, I don't incur any additional cost, right? It
20 doesn't take me any more time, I just drive down the road,
21 correct?

22 A Well, you have incurred costs of patrolling those
23 facilities.

24 Q There are no incremental costs. I mean, I'm driving
25 down the road, I'm seeing that there isn't any need for

1 trimming. Is that what Florida Power would do, or your
2 contractors would do?

3 A I'm not following your question.

4 Q Preventative maintenance, and the tree-trimming cycle
5 that we talk about, the miles of laterals that you are going to
6 trim under this proposal on an average of six-years cycle,
7 right? Under that proposal, you are going to go out and look
8 at the laterals, and is it your testimony that when you drive
9 down the line, each mile, if it doesn't need to be trimmed
10 right away, you are going to drive by it, that tree, or are you
11 going to actually trim that tree back a little bit and make
12 sure you have some level of clearance? Which do you do?

13 A If it's under our preventative maintenance program,
14 we will trim those lines to the proper specifications that
15 Mr. Slaymaker shared with you earlier. So there will be
16 trimming conducted on all of those circuits based on
17 preventative maintenance. Mid-cycle will only come back, for
18 example, if there is one tree that is maybe a faster growing
19 tree within that circuit mile, will come in maybe at one-year
20 or two-year or three-year, whatever the required period is, to
21 trim just that individual tree.

22 Also, now, backing up on your preventative
23 maintenance example, if we ride that line and the trees are set
24 back or there are no trees that still require, you know, keep
25 the clearance requirements, then, yes, there wouldn't be any

1 trimming in that scenario.

2 MR. ARMSTRONG: Madam Chair, I believe this is
3 identified as Exhibit 17.

4 CHAIRMAN EDGAR: Yes, 17.

5 MR. ARMSTRONG: And we could call it "Impacts of
6 Feeder Customer Interruptions".

7 CHAIRMAN EDGAR: So noted.

8 (Exhibit Number 17 marked for identification.)

9 BY MR. ARMSTRONG:

10 Q Mr. Miranda, do you recognize the information
11 provided on this exhibit?

12 A Portions of it. Some of them are --

13 Q If I look at the feeder customer interruptions for
14 2001, 2003, and 2006, that information was provided by you,
15 isn't that correct?

16 A Yes.

17 Q And that's on Page 6 of your testimony?

18 A That's correct.

19 Q And the customers served per feeder at 1,500 per
20 customer, that is also your testimony?

21 A That's correct.

22 Q If I multiply the first line by the second line, I
23 come up with a third line, customers impacted on average, would
24 you agree?

25 A Based on the formula, yes.

1 Q And your customers of FPL, if we assume households,
2 we assume three people per household. Is that a pretty
3 standard assumption?

4 A I have no basis for that.

5 Q Well, let me ask you to assume --

6 A We measure everything with customer interruptions.

7 Q Let me ask you to assume for purposes of this exhibit
8 the question -- I guess what the City is concerned with is that
9 in 2001 with the customer interruptions, there were over a
10 million people impacted, and this is just from the vegetation
11 management program and outages associated with vegetation. And
12 in 2003 we had 1.4 million customers impacted.

13 MR. BUTLER: I'm going to object to that question as
14 assuming facts not in evidence. I think he is reading from
15 this line, people impacted, which he hasn't provided any basis,
16 and Mr. Miranda says he has no basis to know if that
17 three people per household figure is accurate or not.

18 CHAIRMAN EDGAR: Mr. Armstrong.

19 MR. ARMSTRONG: The DEP, that some you are familiar
20 with, uses 3.5 people per household when they do this kind of
21 an estimate to determine population. I know you are familiar
22 with that.

23 MR. BUTLER: I would object to Mr. Armstrong
24 testifying to that information.

25 CHAIRMAN EDGAR: I don't know where the basis is in

1 the record.

2 MR. ARMSTRONG: Again, what we are doing is just --
3 the witness has given us some hypotheticals that we have
4 allowed to come into evidence, and we are trying to just give
5 an assumption, give an assumed figure of three years which we
6 believe is rather reasonable, Madam Chair.

7 MR. BUTLER: Again, I'm going to object to his
8 testifying about its reasonableness. If he just wants to say
9 assume it is three people, if that were the case would this be
10 the number, I would not have an objection to that question.

11 CHAIRMAN EDGAR: Mr. Armstrong.

12 MR. ARMSTRONG: I accept Mr. Butler's suggestion.

13 CHAIRMAN EDGAR: Okay. Why don't you pose it to --

14 BY MR. ARMSTRONG:

15 Q If we assume three people per household with this
16 number of people impacted, I could reflect the number of people
17 impacted by these customer interruptions from feeders?

18 A Using that assumption, that would be correct. Again,
19 I want to reiterate, our standard measurement and as measured
20 by EEI and what we filed within the Public Service Commission
21 is customers interrupted, and those are based on meter counts.
22 So the household is another -- it's a factor that is not used
23 because you want to keep -- when you measure across the
24 industry you want to make sure you are measuring consistently.
25 So the people impacted, in my opinion, is not the right

1 measurement to utilize.

2 Q And customer impacted, that includes businesses as
3 well as households, too, correct?

4 A Yes, it does.

5 Q So it could be quite a few more people impacted, as
6 well?

7 A It may; it may not. That's what I'm saying, I don't
8 want to get into that speculation, because it could be on time
9 of day, commercial businesses are closed. So you start a whole
10 series of assumptions that really can be very misleading.

11 Q Mr. Miranda, I just asked you to look at the second
12 column, and that was the second bold, impacts of lateral
13 customer interruptions. And, again, this information, lateral
14 customer interruptions as well as average customers served for
15 laterals, that was also part of your testimony, correct?

16 A Correct. And laterals as defined by my testimony
17 also included other components which were transformers, single
18 no currents, and other devices which was a compilation of
19 laterals, if you notice in my testimony.

20 Q Okay. And just for the record, Exhibit 2, which is
21 the FPL fact sheet, indicates that in the City of North Miami,
22 FPL has determined that there are actually 55 customers served
23 per lateral, correct?

24 A On the circuits that serve the City of North Miami.
25 But if you limit it to just the customers within the City, it

1 is approximately 33 customers per lateral. Remember, circuits
2 don't stop at geographical city lines, they cut across multiple
3 cities.

4 Q So, really, the intent of this exhibit is to show
5 that the feeder customer interruptions, although they have been
6 focused on, FPL has agreed to do a three-year cycle for
7 feeders. Actually more customers are impacted by laterals, and
8 the customer interruptions on laterals each year than customer
9 interruptions on feeders, isn't that correct? Isn't that shown
10 here?

11 A Using the map that you showed here, that would be
12 correct. But let me kind of step back a little bit. When you
13 look at our initiative of maintaining feeders on the three-year
14 cycle, this exactly supports why it is the prudent thing to do.
15 By keeping our feeder cycles down to the three-year average, it
16 has really avoided a significant amount of customer
17 interruptions. So what you are seeing here is the direct
18 initiative. If we just made everything on a level playing
19 field where an interruption was an interruption, for every
20 feeder outage that you have it equates to over 40 lateral
21 interruptions. So you are trying to avoid on a per unit basis
22 and get the maximum benefit.

23 Also our trim cost to do lateral trim is
24 significantly greater than our cost to trim our feeders. So on
25 maximizing our dollar and getting the most benefit, that is why

1 we target our feeders. So what you are seeing here is the
2 direct results of our program to avoid a significant number of
3 customer interruptions. So on an absolute basis, that premise
4 would be correct, but what we have avoided by doing our feeders
5 is the right solution, because if we had an equivalent 13,000
6 lateral outages it would be millions and millions and millions
7 of customers interrupted.

8 Q Under the same logic, then, if FPL concentrated
9 further, just like you do with feeders, and implemented a
10 three-year cycle for laterals, you would be able to reduce the
11 number of customers impacted even lower than what we are
12 showing here, what you testified to, correct?

13 A I think what we have shared with you is that the
14 basis for our initiative and this study was to increase the
15 storm resiliency of our infrastructure. Again, if you go back
16 to MBM-1, there it shows that going to a three-year cycle you
17 would have more savings as far as, you know, avoiding the SAIFI
18 indicator. But the cost to accomplish that saving is
19 significantly greater than, you know, what we are spending
20 today because of that three-year cycle in such a short time
21 frame.

22 Q And along that line, you agree the City incurs costs
23 when there are these outages, when we have wind events, storm
24 events, trees are down, branches are down, the City incurs
25 costs for those outages, as well, correct?

1 A Yes.

2 Q And when you have more frequent events like that on
3 the laterals, the City has more costs?

4 A But where we are analyzing, again, it comes back to,
5 you know, how to maximize the cost avoided with making the
6 system more storm resilient and balancing what it would cost to
7 achieve those goals versus the benefits associated with the
8 outcome after a storm. So when you go to MBM-1, there it kind
9 of shares with you the number of customer interruptions that
10 are avoided during a hurricane event as well as the gains that
11 we will get during normal reliability in our SAIFI indicator.

12 Q But if I look at your -- we have established before
13 you are ignoring the costs that the City incurs, which
14 ultimately customers have to pay for, as well. You are
15 ignoring that.

16 A We implicitly did not incorporate the City's costs or
17 the customer costs, because there really is no industry
18 practice to calculate what that value is that customers would
19 place on having, you know, uninterrupted service. That value
20 can really vary by customer to customer and can vary by
21 community to community, and the costs within the City, you
22 know, probably reflect a series of other activities that are
23 not just a result of FPL trimming.

24 Trees topple over, and regardless of what kind of
25 trimming we do, right? I mean, what we have seen during these

1 hurricanes is that trees will topple over. And that is why you
2 have heard so much emphasis today on the "Right Tree-Right
3 Place" program, because we really want to work in partnership
4 in these communities and these laterals that are in very -- you
5 know, in people's backyards, we want to work and identify those
6 lines that have trees that maybe have a potential of toppling
7 over to work with the customers, work with the City, you know,
8 work with any agency to try to remove these trees from these
9 circuits so we can get the maximum benefit off our programs.
10 Trimming in and of itself will not stop trees from toppling
11 over.

12 Q Would you agree -- I know you are saying it is not a
13 standard practice right now, but would you agree that since we
14 all admit the City incurs those costs that there should be some
15 mechanism that we can identify what those avoided costs are so
16 that we can have an accurate reflection, including the impact
17 on the City and its costs?

18 A I don't believe it should be incorporated. I think
19 that each city will have different parameters, different cost
20 structures, and that is where it could really make the playing
21 field very different. What we want to do is make sure that our
22 analysis represented all of our customer base, and the City
23 expenses might vary from city to city, community to community
24 based on their individual contracts or individual needs, and
25 what we wanted to make sure was at the end that these costs are

1 shared equally across all of our customers.

2 MR. ARMSTRONG: Thank you, Mr. Miranda.

3 Madam Chair, I just want to see if I missed anything
4 here.

5 BY MR. ARMSTRONG:

6 Q Mr. Miranda, you refer to the fact that Florida Power
7 and Light is now proposing to trim approximately 4,000 miles of
8 feeders and laterals each year on the mid-cycle basis. Are you
9 familiar with that?

10 A Yes.

11 Q Can you provide us with a cost analysis that Florida
12 Power performed to specifically compare the cost of doing that
13 on a mid-cycle basis as opposed to doing it on a scheduled
14 planned cycle basis?

15 A I'm not sure I'm following you.

16 Q Well, 4,000 miles on a mid-cycle basis is a lot of
17 miles, obviously. If in lieu of this mid-cycle you actually
18 scheduled more miles of laterals to be done on a scheduled
19 basis on a scheduled cycle -- do you know how many lateral
20 circuits you have?

21 A Right.

22 Q You schedule them to be done on a cycle. Have you
23 done a comparison to say how much would it cost FPL to do that
24 versus how much it is costing us now to do this on a mid-cycle
25 basis?

1 A Sure. Just remember the goal of the mid-cycle
2 program is not to do complete preventative maintenance. The
3 goal of it is to identify targeted trees that may not allow us
4 to maintain the cycle period. So when you look at mid-cycle
5 approach, it is probably around eight times less expensive to
6 do mid-cycle trimming than it is to do a complete preventative
7 maintenance on that entire circuit body.

8 And if you look at our mid-cycle in particular, this
9 in 2006 really concentrated on what we call critical
10 infrastructure facilities, those key facilities that serve the
11 community needs such as EOCs, water plants, and so forth within
12 communities.

13 Q On a mid-cycle basis, though -- on mid-cycle you are
14 also referring to when customers call and ask for you to come
15 out because they think a tree is a problem, correct?

16 A No, that is under our customer trim request under the
17 corrective maintenance. So if a customer calls up and says,
18 "I've got a tree that I would like to have you trim," we would
19 go out there, evaluate that tree to make sure that there is not
20 a hazardous condition, or an immediate trimming required. If
21 there is, we will schedule for it to get trimmed. If it can be
22 rescheduled as part of the scheduled trimming cycle, then it
23 will be incorporated within that scheduled cycle.

24 Q Why would you do that? Why would you incorporate it
25 into the regularly scheduled cycle as opposed to doing it now?

1 A Well, if we go out there and we see that the tree,
2 there is no hazard, it has enough clearance to meet the time
3 frame of when the regular schedule is coming to trim those
4 circuits, then we will just incorporate it. That way you don't
5 have that hot spot trimming as you referred earlier that is
6 more loss costly to do on an individual customer request.

7 Q Right. Because it is more cost-effective is the
8 bottom line?

9 A Sure.

10 Q Do you agree with the testimony of the City witnesses
11 that trees in South Florida do have a higher growth rate, grow
12 faster than other areas, like northern areas of Florida?

13 A I think there has been several rounds of testimony
14 about that. There is a variety of components involved with
15 tree species, locations of trees. There are so many components
16 as it relates to trees within our service territory. They can
17 be faster growing and can be slower growing, both, within our
18 territory.

19 Q Do you agree that in South Florida trees grow
20 365 days a year due to the climate as opposed to in North
21 Florida where you have some freezes and trees aren't growing?

22 A I'm not sure all of North Florida agrees don't grow,
23 as well.

24 Q But not all of them?

25 A We have different tree species across our service

1 territory, and depending on the tree species, individual trim
2 cycles get prepared for the whole circuits.

3 MR. ARMSTRONG: That's it, Madam Chair.

4 Thank you, Mr. Miranda.

5 CHAIRMAN EDGAR: Questions from staff?

6 MS. GERVASI: We do. We have about maybe 15 or
7 20 minutes worth of questioning.

8 CHAIRMAN EDGAR: Okay. Hold on just a second.

9 Okay. We are going to take a break and come back
10 about ten after 2:00 by the clock on the wall. That's
11 approximately 35 minutes. And when we come back we will start
12 with questions from staff for this witness.

13 We are on break.

14 (Lunch recess.)

15 CHAIRMAN EDGAR: Okay. We'll go back on the record
16 and we will start our deliberations with questions from staff.

17 MS. GERVASI: Thank you.

18 CROSS EXAMINATION

19 BY MS. GERVASI:

20 Q Good afternoon, Mr. Miranda.

21 A Good afternoon.

22 Q Your testimony that you prefiled in this case
23 provides information concerning the frequency of FPL's
24 vegetation management program on a system-wide basis, is that
25 correct?

1 A That's correct.

2 Q Is it your understanding that FPL's system-wide
3 vegetation management program is what this proceeding is all
4 about?

5 A That's correct. It was part of the FPSC's overall
6 reliability on our vegetation program.

7 Q Would you agree that the issue in this proceeding is
8 more specific to FPL's vegetation management policy regarding
9 lateral circuits within the City limits of North Miami on a
10 going-forward basis?

11 A Yes.

12 Q Do you provide any FPL data specific to the City of
13 North Miami for tree-related electric reliability?

14 A Yes. As part of my deposition, I provided a filing
15 that provided some reliability metrics as it relates to the
16 City of North Miami.

17 Q In your late-filed deposition exhibit, is that
18 correct?

19 A That's correct.

20 MS. GERVASI: Before the break, the staff handed out
21 what we would like to go ahead and mark for identification with
22 the next available exhibit number.

23 CHAIRMAN EDGAR: That would be 18.

24 MS. GERVASI: Thank you. And we will label that
25 "North Miami Vegetation-related Reliability Statistics".

(Exhibit Number 18 marked for identification.)

1
2 BY MS. GERVASI:

3 Q Do you have a copy of that before you, Mr. Miranda?

4 A Yes, I do.

5 Q Now, prior to when you had your deposition taken and
6 when you prefiled your testimony in this case, was there any
7 FPL data specific to the City of North Miami for tree-related
8 electric reliability?

9 A Not as part of my testimony.

10 Q For storm restoration costs?

11 A For the City of North Miami?

12 Q For the City of North Miami.

13 A No.

14 Q And the same question with respect to vegetation
15 management costs?

16 A That is correct.

17 Q On Page 1 of your direct testimony, Lines 14 through
18 18, you state that you're responsible for executing and
19 overseeing improvements associated with FPL's storm hardening
20 activities, correct?

21 A That is correct.

22 Q How many years experience do you have in matters
23 pertaining to distribution reliability?

24 A I started with Florida Power and Light as an engineer
25 back in 1982, and I began my engineering career, I think I

1 referred earlier, in the City of the North Miami, so I have
2 come full circle. It is one of the first territories that I
3 handled. But the last ten years of my career have really been
4 completely focused on overall reliability. So I would say from
5 1997 I was brought into -- I was promoted to director of
6 distribution operations, and really outlined and supervised the
7 preparation of our Reliability 2000 initiative, which really
8 targeted our overall reliability program. And I served in that
9 role for seven years, until 2003.

10 In 2003 I was promoted to Director of Distribution
11 Operations, which is responsible for the entire state of
12 Florida as far as maintenance, construction, and direct
13 oversight of all of our restoration activities, including all
14 the hurricanes in 2004 and 2005. So I had direct
15 responsibilities for restoration and all the reliability, and
16 executing all the reliability initiatives during that period.

17 And then in January or February of this year, I was
18 promoted to lead FPL storm secure initiative, which is a very
19 comprehensive program that is looking at improving the
20 resiliency of our infrastructure against future hurricanes.
21 And it is really anchored on really four key points. Five key
22 points. One with all the follow-up work that came as a result
23 of all the hurricanes; the hardening of our infrastructure
24 which we have proposed to harden to extreme wind; our pole
25 inspection program; our underground conversions; our GAF

1 proposal that will be before the Commission shortly; and the
2 last component is the vegetation management.

3 Q Thank you. In the ten or so years that you have been
4 directly involved in the distribution reliability program at
5 FPL, to the best of your knowledge is this the first time in
6 that many years that the Commission has held a hearing to
7 address FPL's vegetation management plan within a specific
8 city's boundaries?

9 A To the best of my knowledge, yes.

10 Q Have you reviewed the prefiled testimony of the City
11 witnesses, Messrs. Lytle and Miller?

12 A Yes, I have.

13 Q Did you find any information contained in either of
14 their testimonies pertaining to FPL's vegetation-related
15 reliability statistics?

16 A No, I did not.

17 Q Would you agree with me that FPL is in the best
18 position to collect FPL's vegetation-related reliability data?

19 A Yes.

20 Q Would you also agree that it would not be reasonable
21 to expect other entities, such as the City of North Miami or
22 the Commission staff to be able to collect such data without
23 FPL's participation?

24 A That would be correct.

25 Q To the best of your knowledge, in advance of the City

1 filing its testimony in this case, did FPL provide the City
2 with any documents explaining how FPL's changes to its
3 vegetation management plan would impact the City?

4 A Prior to it, no.

5 Q Can you tell me why not?

6 A We had just been working with the Public Service
7 Commission staff on developing the six-year proposal, and once
8 the analysis was completed and it was approved, then the next
9 sequence of events will be to communicate our trimming plans
10 throughout our entire service territory. We are just beginning
11 our implementation of our six-year average vegetation program
12 on our laterals, so that plan will be communicated going
13 forward.

14 As far as our feeders, we typically will communicate
15 with all of our cities when we are coming and the amount of
16 trimming that we are doing, but specifically on the six-year
17 component of that, again, we have just begun implementation and
18 as those plans all get finalized throughout our service
19 territory we will communicate with our cities.

20 Q Thank you. I would like to refer you to what has
21 preliminarily been marked as Exhibit 18. Do you recognize this
22 document?

23 A Yes, I do.

24 Q Did you prepare it?

25 A It was prepared under my supervision.

1 Q Does this document appear to accurately show FPL's
2 vegetation-related reliability statistics for the City of North
3 Miami?

4 A Yes, it does.

5 Q Can you please briefly describe what the information
6 on this exhibit means for the City of North Miami?

7 A Let me start with overall reliability indicators.
8 EEI has three key reliability metrics that we monitor and
9 report on to the Public Service Commission on an annual basis.
10 The first one is SAIDI, which is the overall measurement of
11 total minutes that the customers will experience in a given
12 period of time. Typically a one-year period. SAIFI is the
13 frequency component. In other words, how much customer
14 interruptions you will have over your total customers served,
15 again, that you would have over a period. And then CAIDI is
16 the duration component. In other words, if you have an
17 interruption how long on average does it take you to restore
18 that service.

19 SAIDI is probably the best composite overview of all
20 reliability metrics, and when you see, for example, Florida
21 Power and Light in 2006, 75.1 minutes, which is
22 approximately -- and you see the EEI number of 134.8 minutes,
23 so we are about 44 percent better than the national average.

24 North Miami has a SAIDI performance of 71.7 minutes,
25 which is, again, 47 percent better than the national average.

1 A SAIFI component of 1.07 versus our system average of 1.29.
2 Earlier I was questioned about the 2005, so SAIFI for North
3 Miami would be 1.07. So, again, it's better than our system
4 performance. And CAIDI would be at 66.9. So overall they
5 receive excellent reliability as measured both within our
6 service territory, but even at the national level.

7 The next series of indicators beneath, we wanted to
8 understand how they were doing and relative to vegetation
9 outages, which is really the purpose of this hearing. And when
10 you look at the indicators that we have put together is
11 vegetation outages versus total outages, in other words, how
12 many total outages have we had and then just take the
13 vegetation component of that. Vegetation CIs versus total CIs,
14 and this is how many customer interruptions versus total
15 customer interruptions. So the top number outages, we refer to
16 the number of outages. That's what we called the end
17 component. The customer interruptions is how many
18 interruptions within that interruption, how many customers were
19 interrupted. And then the last one is the vegetation SAIFI,
20 which is the component of the SAIFI up above.

21 So when you look at those performance metrics, FPL on
22 the whole was at 9.3 percent on the number of outages versus
23 the total outages, and comparing that to the EEI of national
24 survey, this is for 2005, the average is 17 percent, so well
25 below that average. And then the City of North Miami at

1 7 percent vegetation CI, in other words, how many customers
2 were interrupted due to vegetation versus the total number of
3 interruptions that they incur for all the other causes of
4 interruptions was at 2.4 percent. And the SAIFI component was
5 .03, really well below even our program performance. So what
6 this is telling us is North Miami has really outstanding
7 reliability, both measured from overall reliability metrics as
8 well as the vegetation caused outages on their circuits.

9 Q Thank you.

10 Wouldn't it have been reasonably possible for FPL to
11 convey the information contained in this Exhibit 18 to the City
12 of North Miami soon after the City filed its objection in this
13 case?

14 A We could have probably prepared it quicker, but the
15 reality was we were just trying to figure out how to implement
16 our six-year average program throughout our service territory.
17 So we had to go through the process of identifying the circuits
18 that we had both from the reliability perspective looking at
19 the trim profile of age of time since those laterals have been
20 trimmed, compiling that across our service territory, and then
21 extracting the North Miami component of that. So that is the
22 exercise that we have been going through was how to execute
23 this plan that we have laid out before the Commission.

24 Q During the course of your employment at FPL, have you
25 had occasion to become familiar with any initiatives the

1 Commission has issued regarding storm hardening?

2 A Yes, quite a few.

3 Q Are you aware that the Commission has issued an order
4 in this docket requiring the investor-owned electric utilities
5 to file plans and estimated implementation costs for ten storm
6 preparedness initiatives?

7 A Yes.

8 Q Are you aware that those ten storm preparedness
9 initiatives are discussed in Order Number PSC-06-0781-PAA-EI,
10 part of which order the City of North Miami protested in this
11 docket?

12 A Yes.

13 Q Do you happen to have a copy of that order available
14 to you? And this, I should say, is one of the orders that has
15 been officially recognized for the purposes of this proceeding.

16 MR. BUTLER: I can provide him one.

17 MS. GERVASI: Thank you.

18 THE WITNESS: I have a copy now.

19 BY MS. GERVASI:

20 Q If you will please turn to Page 2 of that order, Mr.
21 Miranda. And do you see that the ten storm preparedness
22 initiatives are listed on that page?

23 A Yes.

24 Q Can you please direct your attention to Initiative
25 6 on Page 2 of that order, post-storm data collection and

1 forensic analysis. Do you see that?

2 A Yes.

3 Q Does FPL have a post-storm forensic review program to
4 identify, among other things, tree-caused electric service
5 outages?

6 A Yes. Following the 2004 hurricane season, one of the
7 areas for improvements that was identified was to enhance our
8 forensic capabilities following a hurricane. So in the 2005
9 hurricane season, we deployed forensic teams to go out and
10 analyze what was the root cause of our outages following the
11 storm. And off that came a series of studies, most notably the
12 KEMA study that was performed that looked at our forensics and
13 provided an overview as part of the storm securitization
14 hearings that came before you.

15 In addition to that, as part of this request we have
16 also been asked to enhance our forensics capability to expand
17 it to look at additional cost codes and also to look at our
18 overhead versus underground performance going forward. So, on
19 March 1, we will be filing our proposed forensics initiatives
20 and how that will, you know, be implemented during any storm
21 that may occur in the 2007 season going forward.

22 Q Thank you. Could you please direct your attention to
23 Initiative 8 on that same order, Page 2 of that order. And do
24 you see that by Initiative 8 the Commission promoted increased
25 utility coordination with local governments?

1 A Yes.

2 Q Are you also aware that the 2006 legislature
3 established a section of the law concerning electric
4 transmission and distribution line right-of-way maintenance?

5 A Yes.

6 Q Are you familiar with the language of that new
7 section of the statute?

8 A Not entirely. I am familiar that it gives us more
9 rights to trim trees that are within the right-of-way.

10 Q Are you aware that there is language contained in
11 that legislation concerning the coordination of local
12 governments and electric utilities with respect to vegetation
13 maintenance?

14 A Yes. It requires that we notify them prior to
15 conducting our trimming.

16 Q And to the best of your knowledge, was this
17 legislation something that FPL encouraged or at least did not
18 oppose?

19 A Did not oppose and support it.

20 Q Are you aware of any efforts by FPL to formally
21 establish coordinated vegetation management plans within the
22 City of North Miami?

23 A We have very extensive relationships with the City of
24 North Miami, and maybe I can start at the multiple layers at
25 which we interface with the City of North Miami. Maybe I will

1 start with our external affairs rep. The role of our external
2 affairs rep is to be the liaison with the City as far as the
3 mayor and the commissioners within that city, and her role --
4 she has been the City of North Miami liaison for approximately
5 ten years -- is to make sure that we communicate and interface
6 any issues that may come up that require a response from
7 Florida Power and Light.

8 Typically, these are higher level issues, you know,
9 such as this issue with the vegetation trimming. We also have
10 a group of folks that are called account managers. We have an
11 account manager that is assigned to the City of North Miami and
12 her role is to be the daily interface with the City should
13 there be a tree issue, any kind of issue that pops up on the
14 individual customer level. Her job will be to interface and
15 make sure that we reach resolution, follow up with the City,
16 handle day-in/day-out activities that are associated with the
17 City. And then the third component of our relationship with
18 the City is during a storm event. Typically, the cities will
19 open up their EOCs, and at those EOCs we will have a
20 representative on-site within the EOC to coordinate any
21 activities as it relates to the City.

22 As part of this ten-point plan, we are also enhancing
23 our processes as they relate to storm. And some of the
24 enhancements that will be occurring will be we will actually
25 have during a hurricane event a government web page where each

1 city can come in and see the specific status of their customer
2 outages, what initiatives that are going on within that city,
3 and it gives them a forum to kind of get a quick status
4 overview of where they are at during a hurricane event.

5 We are also going to be expanding our community
6 outreach programs where we are going to be doing presentations
7 to all our communities to share with them "Right Tree-Right
8 Place", overhead/underground conversions, any process that is
9 important to that city we will communicate.

10 One of the things that we will need to do following
11 this will be obviously to communicate with our cities, here is
12 the vegetation plan, but not just limit it to vegetation. It
13 is really to communicate our entire hardening portfolio. Which
14 facilities are going to get trimmed, which facilities are going
15 have their poles inspected, which facilities are going to have
16 their infrastructure hardening. So our goal will be to meet
17 with these city representatives and provide a composite
18 overview of all the hardening initiatives that we have going
19 forward with their representative cities.

20 Q Do you agree that coordinated city/utility vegetation
21 management plans can result in lower storm restoration costs?

22 A Yes.

23 Q Is one of your current functions at FPL to implement
24 storm hardening for FPL?

25 A Yes.

1 Q Are FPL's proposed changes to its vegetation
2 management program included in FPL's storm hardening
3 activities?

4 A Yes, it is one of the key points within our storm
5 secure initiative.

6 Q And you are also responsible for the implementation
7 of FPL's proposed changes to its vegetation management program,
8 is that correct?

9 A Yes, I am.

10 Q Considering that Commission Initiative 8 promotes
11 utility coordination with local governments, wouldn't it be
12 reasonable to expect FPL to inform the Commission of FPL's
13 specific efforts to address the City's vegetation concerns?

14 A Yes.

15 Q Would it be fair to say that on a going-forward basis
16 FPL will improve its efforts to disclose how its vegetation
17 management program will impact the cities it currently serves?

18 A We provide our full cooperation. Before us, I know
19 the City is here, we want to fully cooperate, share with them
20 all of our plans, what we plan on trimming, what we plan on
21 inspecting, what we plan on hardening going forward. So, yes,
22 we will be enhancing our communications with all of our cities
23 to make sure that our hardening initiatives are communicated
24 not only with our cities, but with our customers. All of our
25 customers need to know what our hardening plans are.

1 Q Thank you. Is FPL's proposed vegetation management
2 program going to increase or decrease FPL's vegetation
3 management activities within the City of North Miami?

4 A It will increase our vegetation trimming.

5 Q Do you know of any documents or exhibits that you
6 have provided for the purposes of this hearing that show that
7 increased vegetation activity will occur within the City as a
8 result of FPL's six-year average trim cycle for lateral
9 circuits?

10 MR. BUTLER: Excuse me, Ms. Gervasi. Are you asking
11 about exhibits he prepared or exhibits that have been
12 identified for the record in the hearing?

13 MS. GERVASI: That would be any exhibits at all.

14 THE WITNESS: I have lost track of which exhibit
15 number it is. It is the one that had the -- let me see.
16 John, can you help me out, which exhibit number it
17 is?

18 MR. BUTLER: I'm suspecting that Mr. Miranda may be
19 referring to the FPL fact sheet that I think was marked as
20 Exhibit 2.

21 THE WITNESS: Correct.

22 BY MS. GERVASI:

23 Q Okay. Thank you. Are there others?

24 A Yes, I have a copy. In this fact sheet one of the
25 items that we show is the amount of trimming that we will be

1 conducting over the next three years within the City of North
2 Miami. It will be 51 miles versus a previous of 20 miles for
3 the previous three years under laterals. In this particular
4 case, it will be two and a half times the amount of trimming
5 that we have done.

6 The other component you see there is lateral average
7 age since last trim. Currently, the City of North Miami sits
8 on an average cycle on their laterals of 7.6 years. With the
9 trimming that we would be conducting over the next three years
10 there will be a 17 percent improvement in that cycle and will
11 put them at 6.3 years average lateral cycle trim. So we will
12 be increasing the amount of trimming we will be conducting
13 within the City over the next three years while maintaining our
14 feeder trim cycle, any mid-cycle trimming that needs to occur,
15 and responding to any customer trim requests, as well.

16 Q Is the six-year average trim cycle program that FPL
17 supports a hard cycle program that will cause FPL to stop doing
18 all mid-cycle activities that it's currently doing?

19 A It is an average six-year cycle, so that means that
20 we will have some feeders that will be on five year -- I mean,
21 some laterals on five years, some on six, some on seven, but we
22 will continue our mid-cycle program as it is a very effective
23 tool as described earlier and maintaining that cycle trim
24 period.

25 Q Is it correct that growth causes FPL to add more

1 lateral circuits?

2 A Growth, yes. We do add more circuits every year.

3 Q Is FPL's increased vegetation management activities
4 due to growth?

5 A Typically we will have some growth, but the increased
6 vegetation is really to address the existing lateral
7 population. If you look at the laterals that we install today,
8 about 70 percent of our new laterals are underground
9 facilities. The majority of what we install today are
10 underground facilities. The overhead laterals is a relatively
11 small percentage of the overall population that we install new
12 going forward.

13 MS. GERVASI: Thank you. I don't have any further
14 questions.

15 CHAIRMAN EDGAR: Mr. Butler.

16 MR. BUTLER: Just a few redirect.

17 REDIRECT EXAMINATION

18 BY MR. BUTLER:

19 Q Mr. Miranda, do you have -- this may be hard, because
20 I bet you haven't been writing the exhibit numbers down. Do
21 you have Exhibit 16, it is entitled "Florida Power Historical
22 and Suggested Cost of Tree Trimming" at the top of it. It has
23 got statistics from 2005 through 2012.

24 A I believe I do.

25 Q It has columns for year, cost, miles trimmed, total

1 miles trimmed across the top?

2 A Yes, I have that.

3 Q Okay. For the years -- well, in the cost column
4 generally, does that cost column include amounts that FPL would
5 have incurred for vegetation management in connection with
6 storm restoration activities?

7 A No, it does not.

8 Q Did FPL incur storm restoration related vegetation
9 management costs in the 2004 and 2005 storm seasons?

10 A Yes, it did.

11 Q Okay. Then that would not be included in what is
12 shown there for 2004 and 2005?

13 A That is correct.

14 Q If you look in the column on this same Exhibit 16 for
15 miles trimmed of laterals, how would you characterize the
16 pattern of miles trimmed each year for the next several years
17 starting in 2007?

18 A Going forward starting with this year, we will be
19 continuing to ramp up our lateral trim miles throughout the
20 next six years.

21 Q The last figure that is shown here is 2012 of
22 3,700 miles, is that right?

23 A That's correct.

24 Q Approximately what percentage of FPL's total system
25 lateral miles does 3,700 represents?

1 A It represents about 1/6th of our miles, on our
2 lateral miles.

3 Q And how many miles on average a year would FPL need
4 to trim in order to be on a six-year average cycle?

5 A It would be approximately 1/6th.

6 Q Would you turn to what was identified as Exhibit 14.
7 This is the one that says Florida Power lateral trimming per
8 year in North Miami at the top of it.

9 A Okay.

10 Q Do you have that one?

11 A Yes. The one with just one column?

12 Q One column, yes, of the numbers from 2004 through
13 2013.

14 A Yes.

15 Q The number for 2013 of 28.5, do you see that?

16 A Yes.

17 Q How many miles, approximately, of laterals in the
18 City of North Miami would FPL need to trim to be on a six-year
19 cycle for the City of North Miami?

20 A It would be 28.5.

21 Q Now, if you look at 2007 through 2009, those are
22 the -- are those the first three years of implementing the
23 six-year proposal?

24 A That's correct.

25 Q How would you characterize those numbers relative to

1 the 28.5, are they bigger or smaller?

2 A Smaller.

3 Q Can you explain why the numbers are smaller in those
4 years than the 28.5?

5 A Since we are beginning implementation in 2007, you
6 can see that the total miles for 2007 as a composite of FPL is
7 1,900 miles. The first couple of years of our vegetation
8 program will be targeting not only those feeders from a
9 reliability perspective, but also because of age. And we
10 suspect that since some of these feeder's surface with their
11 laterals have not been trimmed in awhile, although from a
12 reliability perspective they have performed very well, we are
13 expecting that there will be quite a bit of tree density that
14 we will have to remove from those lines. So the first few
15 years we will be tackling probably the more difficult miles as
16 it relates to the age of laterals since they have last been
17 trimmed.

18 Q Would you turn to your Exhibit MBM-1, please.

19 A Okay.

20 Q This shows in the second column, tree SAIFI in ten
21 years, is that right?

22 A That's correct.

23 Q What is the difference in tree SAIFI shown here you
24 would project after ten years between the FPL current plan, if
25 you kept doing that, and the FPL three-year/six-year proposal?

1 A The relative difference would be subtracting the
2 .16 from .14, so it would be a difference of .02.

3 Q I'm sorry, I'm asking for the comparison between
4 FPL's current plan going forward and the three-year/six-year
5 proposal?

6 A Oh. It is .22 to .16.

7 Q And so the difference would be what?

8 A .06.

9 Q Okay. And, the third column from the right, ten-year
10 average annual incremental costs in millions, what does that
11 represent?

12 A The third column from the right, those would be the
13 additional costs above our current vegetation program of
14 59 million. So what this represents is looking at the ten-year
15 cost of a three-year/six-year lateral vegetation program, a
16 three-year/three-year lateral vegetation program, dividing that
17 total cost by ten and subtracting the incremental cost, the
18 costs from our current program. So the 12.9 represents the
19 column before of 71.9 million, which is the ten-year average
20 annual cost, minus 59, which gives you \$12.9 million of
21 incremental cost on an annual basis.

22 Q And then what does the 43.5 million, the top box
23 there for the three-year/three-year program, what does that
24 represent?

25 A That represents the incremental cost for implementing

1 the three-year/three-year lateral vegetation program of
2 43.5 million versus our proposal of 12.9 million.

3 Q And what is the difference that FPL projects after
4 ten years in SAIFI for going from the three year/six year to
5 the three year/three year proposal?

6 A On a relative basis it goes from .16 to .14, so it is
7 a .02 difference.

8 Q And is that difference bigger or smaller than the
9 difference between FPL's current plan going forward and FPL's
10 three/six year proposal?

11 A Smaller.

12 MR. BUTLER: Thank you.

13 That is all that I have. Thank you.

14 CHAIRMAN EDGAR: Okay. Let's take up the exhibits.

15 MR. BUTLER: I would move the admission of Exhibits
16 11 and 12.

17 CHAIRMAN EDGAR: No objection? Show Exhibits 11 and
18 12 entered into the record.

19 (Exhibits 11 and 12 admitted into the record.)

20 MR. ARMSTRONG: The City moves Exhibits 13 through
21 17.

22 MR. BUTLER: Madam Chairman.

23 CHAIRMAN EDGAR: Mr. Butler.

24 MR. BUTLER: I object only to the two lines on
25 Exhibit 17 that talk about people impacted. You may remember

1 the discussions we had about whether there is information
2 evidence in the record concerning those lines, and I would ask
3 that those be struck from the exhibit, or at least not admitted
4 with it.

5 CHAIRMAN EDGAR: Mr. Armstrong, that is acceptable to
6 you?

7 MR. ARMSTRONG: Yes, the City agrees.

8 CHAIRMAN EDGAR: Okay. So on Exhibit 17, the line
9 people impacted, the numbers across in the three columns, and
10 the language in the parens will be struck. And with that
11 change, then Exhibit 17 is acceptable, Mr. Butler?

12 MR. BUTLER: That's correct.

13 CHAIRMAN EDGAR: Okay. And Mr. Armstrong concurs
14 with that change. So, with that so noted, we will enter
15 Exhibits 13, 14, 15, 16, into the record, 17 into the record as
16 amended.

17 And, Ms. Gervasi.

18 MS. GERVASI: And Staff would move Exhibit 18.

19 CHAIRMAN EDGAR: No objection?

20 MR. BUTLER: No objection.

21 MR. ARMSTRONG: No objection.

22 CHAIRMAN EDGAR: Okay. We will enter Exhibit 18 into
23 the record.

24 (Exhibit Number 13 through 18 admitted into the
25 record.)

1 CHAIRMAN EDGAR: Okay. That concludes, I believe,
2 the --

3 MR. BUTLER: May Mr. Miranda be excused?

4 CHAIRMAN EDGAR: I'm sorry. Yes, absolutely. My
5 apologies, Mr. Miranda. Thank you for your patience. You may
6 be excused.

7 And that concludes the direct testimony portion of
8 this proceeding. We will move to the rebuttal witnesses.

9 Mr. Armstrong, it will be your witness to call.

10 MR. ARMSTRONG: The City calls Terry Lytle.

11 CHAIRMAN EDGAR: Okay. Commissioner Carter is going
12 to preside from this point forward. You are in good hands.

13 Commissioner Carter.

14 COMMISSIONER CARTER: Thank you, Madam Chairman. You
15 are recognized.

16 MR. ARMSTRONG: Thank you, Commissioner Carter.

17 TERRY LYTLE

18 was called as a rebuttal witness on behalf of City of North
19 Miami, and having been duly sworn, testified as follows:

20 DIRECT EXAMINATION

21 BY MR. ARMSTRONG:

22 Q Mr. Lytle, you testified earlier this morning, you
23 are under oath?

24 A Yes.

25 Q Do you have before you your rebuttal testimony that

1 you prefiled in this docket?

2 A Yes, I do.

3 Q If I were to ask you the questions contained in this
4 rebuttal testimony, would your answers be the same?

5 A Yes, they would.

6 Q Was this testimony prepared by you or under your
7 supervision?

8 A Yes, it was.

9 Q You actually have a couple of demonstrative exhibits,
10 as well, correct?

11 A Yes, I do.

12 Q Do you have a prepared summary of your testimony?

13 A Yes, I do.

14 Q Could you provide that for us now?

15 A Yes, I will. The USDA has divided the state into
16 zones called hardiness zones based on climate. South Florida
17 is in a hardiness horizon where the trees are fast growing and
18 they grow all year. FPL's proposed six-year trim cycle for
19 laterals is not appropriate for the trees in this hardiness
20 zone.

21 In John Harris' testimony he states that he observed
22 tree trimming along utility lines in the City. He included
23 photos of six sites in his testimony. Five of those six sites
24 were not within the City. The trees he claims were improperly
25 trimmed were not in the City of North Miami and were not

1 maintained by the City.

2 If you need to remove a significant portion of a
3 tree, the accepted practice is to trim it over more than one
4 cycle. If you remove too much of the tree it becomes unstable
5 and prone to decay and failure. In addition, trees respond to
6 radical pruning by rapidly growing new leaves. If this is --
7 I'm sorry, if this is a tall growing tree near a power line,
8 you just created the opportunity for unsecure large new limbs
9 to easily break off in a wind event and strike utility lines or
10 property.

11 The City has about 23 miles of tree-lined alleys, and
12 power lines run through those alleys. The trees are not on
13 City property, so the City cannot maintain them. If these
14 trees are trimmed responsibly they won't fail and damage
15 property or power lines and they will continue to provide shade
16 and maintain property values. If the trees are trimmed to keep
17 their branches from interfering with the lines for six years,
18 large portions of the trees will be removed at one time leaving
19 them unstable and prone to decay and failure. They will be
20 providing no shade and they will be eyesores in the
21 neighborhood. FPL's proposal does not provide any assurance
22 that these trees will be trimmed properly.

23 And that concludes my statement.

24 MR. ARMSTRONG: Thank you, Mr. Lytle. The City
25 requests that the testimony be moved into the record as though

1 read.

2 COMMISSIONER CARTER: The testimony of the witness
3 will be entered into the record as though read.

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TERRY LYTLE

1
2 was called as a witness and, after having been first duly sworn,
3 was examined and testified on his oath as follows:

4 DIRECT EXAMINATION

5 BY MS. ANTONATOS:

6 Q What is your full name and position with the City of
7 North Miami?

8 A My name is Terry Lytle. I m the Parks and Recreation
9 Director for the City of North Miami.

10 Q Let the record reflect we re here for Public Service
11 Commission Docket Number 06018-EI.

12 Are you the same Terry Lytle who was previously --
13 who has previously given testimony before a court reporter on
14 November 7, 2006 in this matter?

15 A Yes, I am.

16 Q And what is the purpose of your rebuttal testimony
17 today?

18 A It s in response to FPL s rebuttal to our comments
19 regarding this case and their six-year trimming cycle.

20 Q Would that be comprised of testimony, rebuttal
21 testimony given by Miranda, Slaymaker and Harris?

22 A That s correct.

23 Q And have you read their testimony?

24 A Ye, I have.

25 Q What is your general opinion of FPL s proposed
26 alternative, which would apply a three-year/six-year lateral
27 average trim cycle?

28 A The six-year cycle that they would like to implement

1 in the state of Florida does not apply to South Florida. It
2 doesn't take into consideration that the weather conditions,
3 plant species and so on that grow in South Florida don't grow in
4 the rest of the state.

5 We're a unique growing area, and in such, the trees
6 grow faster, they grow longer and more direct trimming is
7 required in this area.

8 Q So, FPL is not taking into account the fact that South
9 Florida is a unique area? And is there something along those
10 lines called the hardy demarcation line?

11 A That's correct. That line, basically, defines the
12 plant hardiness zones within the state of Florida and where a
13 certain species of plant would grow the entire year, and in the
14 lesser part, the Northern part of the state of Florida, when the
15 weather turns cold, the trees stop actively growing.

16 And in South Florida, you have more of a tropical
17 season, a 10B hardiness zone where the trees grow pretty much
18 year round, and you have species of tree that grows a lot
19 faster, a lot larger and a lot quicker than in the northern part
20 of the state.

21 Q We just discussed what FPL is not taking into account.
22 But does the purpose behind FPL's proposal, again, the three-
23 year/six-year lateral average cycle, express concern over
24 overtime for employees, execution, flexibility, larger and
25 scarcer work force and contractor premium start-up costs?

26 A I don't understand that.

27 Q Well, let me direct your attention to page 13 of
28 Miranda's testimony. Page 13 of Miranda's testimony, he was

1 asked, Please summarize why you believe that FPL s three-year/
2 six-year proposed alternative provides the best balance between
3 costs and benefits at this time?

4 And his response was, It does provide the best
5 balance because lateral circuit miles make up a greater
6 percentage of the overall population of primary circuits,
7 overtime and contractor premium costs and avoidance of execution
8 risk.

9 And underneath that, there is a mention of execution
10 flexibility.

11 Could you please give me your opinion on those
12 factors?

13 A I m not absolutely sure, when he starts saying lateral
14 circuits and feeder lines and so on, exactly what he s applying
15 to. I don t know exactly how he applies this.

16 He s using terminology -- I m not exactly sure how
17 they apply that the lateral circuit miles make up a greater
18 percentage. He says about the increasing resources required to
19 carry out the work. I don t think that they trim on overtime,
20 now.

21 Again, he s stating this for FPL s records. I don t
22 see their crews out trimming on overtime. I see them out there
23 throughout the course of a day in a week. Of course, I m not
24 out in the streets. I haven t seen them out Saturday, but they
25 maybe working Saturdays, depending on their schedule, but there
26 are contractors down here that I have seen and dealt with pretty
27 much work five days a week and they work almost year round, with
28 the exception of a hurricane.

1 And then you have everybody coming down from up north,
2 and then everybody is trimming.

3 So, I don't really know exactly what he's leading to
4 with this.

5 Q Do those factors seem to be associated with costs?

6 A I would say so. It avoids an execution risk. I don't
7 know if this is an execution where we -- For example, we have a
8 contractor come out, he charges us to set up to do a job, which
9 is an additional job.

10 So, if you are going to do two jobs, it's better to
11 have him do both at the same time, and pay one setup fee.

12 Q Couldn't it be that where the state and the PSC is
13 faced with FPL moving to a new proposal, whether it be the
14 three-year/three-year proposal or the three-year/six-year
15 proposal, that Miranda there is describing what the risk
16 associated with the three-year/six-year proposal may be?

17 A Well, bottom line, his answer in here was he
18 believes that the three-year/six-year proposal provides the best
19 balance between cost and benefits. And that's got to be cost
20 and benefits to FPL, not necessarily to the residents that
21 they're providing service to.

22 Q Okay. So, would you venture to say that there are
23 some factors that need to be considered that are not being
24 considered in Miranda's cost benefit analysis?

25 A Yes, I would. I need -- I believe they need to look
26 at service to the customers, in anticipation that if they're
27 going to provide power under the circumstances within the state
28 of Florida, for guaranteeing power during storms or after storms

1 or during any type of power interruption that may be
2 preventable.

3 Q And do you think that the risk he mentions,
4 particularly with regard to avoidance of execution risk is
5 realistic?

6 A I don t know what he means by execution risk.

7 Q Well, on line 19, page 13 of Miranda s testimony, he
8 describes one of the factors being avoid the execution risk
9 associated with the three-year options, increased contractor
10 labor requirements.

11 Do you understand that to mean that there s a risk
12 associated with increased contractor labor requirements?

13 A A financial risk maybe.

14 Q Thank you.

15 What is your opinion, if any, of Miranda s conclusions
16 as stated on page 7 of his prepared statement, based on the
17 Edison Electric Institute Report?

18 A Which is which portion of this?

19 Q Begins on line 3. Let me ask you this: Have you seen
20 Edison s latest report?

21 A No.

22 Q Thank you.

23 Referring to page 7 of Miranda s testimony, it appears
24 that s concluding from the Edison Electric Institute Report that
25 FPL compares favorable to certain other industries, and he
26 mentions a percentage of total outages of 16 percent.

27 Would you venture to guess what is some of those other
28 industries, maybe?

1 A Unless he s talking about other utility industries,
2 you know, throughout the country. That s the only thing I would
3 expect.

4 Q Are cable companies considered a utility?

5 A Yes, they are, and telephone.

6 Q Are you aware on this docket, comments were filed by
7 an engineer on behalf of the Florida Telecommunications
8 Association by the name M. T. Mickey Harrelson?

9 A I am, now, yes.

10 Q And Exhibit B that Mickey Harrelson attached and filed
11 on this docket, what sort of things does it mention that could
12 pose a problem where there would be certain factors?

13 A He was talking about the tree limbs flying, debris
14 flying and so on, hitting the poles and the lines. In addition,
15 the rotting of poles and they also tie down poles -- they use a
16 guy wireman to do certain sections of the poles. He pointed out
17 they were either broken or ineffective.

18 The guy wireman is something that s anchored to the
19 top of the pole down to an angle maybe perpendicular to the
20 lines to keep those poles from swaying in wind. What s pointing
21 out, in many instances, found that they re not going to do the
22 best effect of maintaining the lines, and that where, again, the
23 things they re hitting these utility lines, being power,
24 telephone, cable, TV -- and I can t think of other utilities
25 that would be on there, but I m sure there are -- being struck
26 by falling trees whether -- for whatever reason, the tree limbs
27 breaking ut and falling and other debris.

28 Q If a power line is hit by falling tree or debris,

1 could that lead to power outages?

2 A Oh, definitely.

3 Q Is there something that the City of North Miami is
4 concerned with?

5 A We re concerned with anything that hits those lines.

6 Q In Miranda s Cost Benefit Analysis, is it clear that
7 these sort of factors are taken into account by FPL?

8 A Well, not by the groups that we deal with. The group
9 we deal with at FPL is predominantly maintaining of the trees.

10 Q The tree trimming --

11 A Asplundh crews. FPL does not maintain their utility
12 lines. They re maintained by a contractor. In most instances,
13 it s Asplundh or one of their subsidiaries, and they do the tree
14 trimming, under contract.

15 But their sole responsibility is not to inspect
16 poles or lines or guy wires. Just they have a guideline -- Say
17 this is a certain size line, trim everything back in this area
18 of the line, ten feet, twenty feet, whatever that standard
19 happens to be.

20 MS. ANTONATOS: Madam court reporter, could you read
21 back the question about Cost Benefit Analysis?

22 (Thereupon, the requested portion of the testimony
23 was read back by the court reporter.)

24 Q Apart from the groups that you observed working on
25 behalf of the FPL here in the City of North Miami to do tree
26 trimming contract work, I m asking whether any of the factors
27 you re now aware of by virtue of comments filed by engineer
28 Mickey Harrelson with the Cable Association, does it appear to

1 you that Miranda s Cost Benefit Analysis took a look at any of
2 those dangerous conditions?

3 A Regarding the other utilities, being the other
4 conditions like rotting poles? Is that what you mean?

5 Q Well, according to Mickey Harrelson s comments.

6 A No. I understand what you are saying. I don t
7 believe that FPL is concerned about any of the other things that
8 they re concerned with, strictly theirs.

9 Q Strictly their what?

10 A Their electric lines on the poles. That s all they re
11 concerned with, just trimming the FPL lines. Anything else on
12 the pole, they re not concerned with.

13 Q Okay. Obviously, FPL is not concerned with trimming
14 poles associated with other industries.

15 But do you think that FPL should be concerned with
16 some of the comments made by Mickey Harrelson as it relates to
17 FPL s poles and the Cost Benefit Analysis Miranda mentioned?

18 A I guess I don t have a real opinion on what FPL should
19 do about that. I would think that they probably have an
20 agreement to utilize FPL s poles, but I don t know what that
21 would be as far as maintenance. I don t have any knowledge of
22 that.

23 Q Did you have the opportunity to review Exhibits One
24 and Two attached to Miranda s testimony?

25 A I have seen this. I don t understand it.

26 Q What, if you know, does SAIFI represent?

27 A I don t know.

28 Q Do you believe that FPL has the same concerns that you

1 do?

2 A No.

3 Q And what are your concerns?

4 A Maintaining power to the residents to the City of
5 North Miami on a minimal power interruptions.

6 Q Minimal as to duration as well as frequency?

7 A Definitely the frequencies. Momentary outages can be
8 just as aggravating and problematic as long-term outages.

9 I think that FPL s responsibility is to provide power
10 24 hours a day, 7 days a week, with minimal, if any,
11 interruptions in service.

12 Q Does the City and yourself have any environmental
13 concerns?

14 A Our concerns are environmental concerns, is that the
15 trees that they do have a maintenance relationship with are
16 trimmed in a correct manner and in a frequent manner enough to
17 maintain their health.

18 Q Is it your opinion that some trees grow faster than
19 others?

20 A Yes, definitely.

21 Q And being that we re in South Florida, is that
22 particularly true here?

23 A It s definitely true here.

24 Q Are you familiar with any invasive tree species in
25 North Miami?

26 A Yes, we have. There s Hollys growing in -- call it
27 typical tropical Holly. Pepper is invasive. The Australian
28 Pines grow here, Melaleuca. Some of these trees grow extremely

1 quickly, get extremely bushy. And frequently they re in
2 proximity to a utility line.

3 Q You were involved in answering Interrogatories on
4 behalf of the City of North Miami, as propounded by FPL; were
5 you not?

6 A Uh-huh. Yes.

7 Q And with regard to Interrogatory 20, propounded by
8 FPL, which was a multi-part Interrogatory, it asked, Does the
9 City compile data on tree failures within the City?

10 And it further asked the City to identify all trees
11 that the City contends failed as a result of FPL s trimming
12 practices; and describe, in detail, for each tree, the basis for
13 such contention.

14 Were any trees identified in subpart C to
15 Interrogatory 20?

16 A No, we did not identify the trees.

17 Q And why is that?

18 A The trees that the City really maintains records on
19 were ones that are tied in with our database, which is on City
20 property, being rights-of-way and City properties which we
21 haven t had any.

22 The trees that we have seen fail are on private
23 property and we typically do not maintain any records on that.
24 We may respond to homeowner request or in certain instances
25 where they ve had a failure to a tree that may have been trimmed
26 a year or two years -- it s failed, and you go back and look at
27 it a year or two years later and find out that there s that very
28 distinct possibility that it failed because it was trimmed the

1 way it was a few years before.

2 Q Are you saying that where the City responded with the
3 answer, None, to Interrogatory sub-part 20C, that it was
4 because no tree failure records were in the ACRT database?

5 A Yes, that s correct.

6 Q But do you know of a situation where a tree has fallen
7 in the City of North Miami?

8 A Definitely there was a large tree that was growing in
9 proximity to utility lines. Half of that tree -- half of the
10 tree s canopy was removed.

11 Q Was half the tree s canopy removed by FPL?

12 A By Asplundh crews. Now, it didn t come to our
13 attention at that point in time, so, a definite date, and so on
14 when this was done -- I have no idea, but it s not something
15 that the homeowner did, and the City definitely didn t trim it.

16 Q When this was done, you re referring to when half of
17 the tree was taken out of --

18 A That s correct. That s correct. And that would have
19 been done, more than likely, a year or two years before that.
20 Then, when we got the right conditions during hurricane Wilma,
21 and with the tree in that condition, it fell in the direction
22 of the remaining canopy.

23 Q Is it fair to say that the improper tree trimming,
24 with trimming half of the tree, came to your attention after
25 hurricane Wilma?

26 A That correct. When I arrived on site, I was called
27 because when the tree came over, it ripped out a lot of
28 underground utilities. And here is this tree out there with the

1 flat side on the --

2 Q Is that in violation of Best Management Practices?

3 A In my opinion, it is, yes.

4 Q Did you, also, have the opportunity to review John
5 Harris testimony?

6 A Yes, I did.

7 Q And are you familiar with the photographs that he
8 attached to his testimony --

9 A Yes.

10 Q -- known as JAH1?

11 A Yes.

12 Q Are those photographs of trees in the City of North
13 Miami?

14 A Four of the five are not within the City limits. We
15 do not maintain them.

16 Q Of the six photos, which one do you contend is within
17 the City limits?

18 A Okay. You re -- The photos in the City limits are --
19 is photo Four. And, if I could state here, his comments in his
20 response is, The tree that is under the utility lines is
21 alright.

22 Okay. The larger Black Olives -- and that is a quote.
23 The larger Black Olives to the left was V-cut for a V for line
24 clearance by FPL.

25 The trimming of the larger Black Olives, for line
26 clearance, appears to have been done without compliance to
27 applicable codes, with regrowth of the canopy following the
28 directional pruning expectations.

1 That is fine. The Oak tree, though, is something
2 that s on private property, and probably done with -- I don t
3 think that anybody would have trimmed it. We well not trim
4 around a utility line.

5 Q Let s slow down here a little bit. You just quoted
6 the caption that appears underneath the fourth photograph out of
7 the six photographs; correct?

8 A Uh-huh.

9 Q And this is the one located withing the city limits;
10 correct?

11 A Right.

12 Q And there are three different trees discussed under-
13 neath this photo; is that correct?

14 A That s correct.

15 Q If I m looking at this photo and I m reading what s
16 underneath the photo, how many of the three trees discussed
17 actually sits in city property?

18 A One.

19 Q Would that be the Black Olive tree?

20 A That s correct.

21 Q And the Black Olive tree is an example of correct tree
22 trimming practices; correct?

23 A That is a tree that had FPL would have trimmed -- You
24 can see in the photograph that they trimmed around utility lines
25 there.

26 Q And from looking at the photograph, the utility lines
27 are on top of the Black Olive tree, but not in conflict;
28 correct?

1 A That s correct.

2 Q And the tree to the right, it appears to be a dead
3 tree; is that correct?

4 A Yes.

5 Q Would you describe that dead tree as a Live Oak?

6 A No. I m not sure exactly what it is. It s possibly a
7 Black Olive, but it appears to be dead.

8 Yeah, in this photograph, and he states here that the
9 dead Black Olive in the center of the photo is not within
10 clearance and distance of lines.

11 So, he s stating it is dead. I have not, personally,
12 seen it, but it s not on city property. It s something that s
13 on private property.

14 Q Thank you.

15 Let s look at another photograph. Could you, please,
16 look at photograph one of six and tell me what that depicts?

17 A Well, first of all, it s not our tree. It s not
18 within the city limits.

19 What he is saying here is it is correctly pruned for
20 utility clearance, but, in contrast, the trimming for the road
21 clearance did not follow applicable standards because it left
22 large stub cuts.

23 In other words, it left stubs on the side of the tree.
24 Again, that s not a city tree. It s not within North Miami.

25 Q Okay. So, if he s trying to show that the City of
26 North Miami made a mistake in trimming something on this
27 particular tree, again, it was not a tree that North Miami
28 performed any tree trimming on; correct?

1 A That s correct.

2 Q Thank you. From your review of Harris testimony,
3 does he discuss any exceptions to standard tree trimming
4 practices?

5 A He did describe a couple of exceptions. I believe he
6 was talking about the drop-crotch cutting.

7 Q Before we get to that, look at page 5 of Harris
8 testimony.

9 A Okay. In this exception, what he s talking about is
10 that there are exceptions within the Miami Dade County Code that
11 allow an exception contrary to best management practices to
12 allow more than one third of the canopy trimmed, if the tree is
13 considered a hazard, if it s hazard reduction or clearance
14 pruning. Okay.

15 Q And the example that you gave where you had first-hand
16 knowledge of Asplundh trimming half the tree, is that considered
17 trimming more than one third of the canopy?

18 A Definitely.

19 Q All right. So, if the County or Miami-Dade County s
20 ordinance has an exception to the limit on only trimming one
21 third of the canopy, they does it seem okay to you that Asplundh
22 took off half of the tree?

23 A It s in the way that it was taken off, that they just
24 cut off the side of it. It s like cutting an orange in half.
25 Instead of cutting the limbs in the appropriate locations, half
26 of the tree was gone.

27 Q Aren t there exceptions for certain situations such as
28 hazard?

1 A That s what I would look for is hazard. What they
2 were looking for is to get the most cut for their buck. Take it
3 off now so we don t have to come back two years from now and do
4 it again.

5 Q Referring to Exhibit Three of Harris testimony, which
6 is section 18A-11 of the County Landscape Maintenance Ordinance,
7 and following down to Number C3, the exception is there. Could
8 you refer to that portion of the exhibit?

9 A Okay. It says cutting of lateral branches that
10 results in the removal of more than one third of all branches on
11 one side of a tree shall be allowed, if required, for hazard
12 reduction or clearance pruning.

13 Q So, is that a very limited exception in your mind?

14 A I think this could be vaguely interpreted to remove --
15 possibly remove half a tree, if that s what they wanted. But,
16 again, it s the way that the trimming is done, in my opinion.
17 It s not a hedge. You don t go out and just cut off of the side
18 of a tree. There s a certain way to remove those.

19 Again, if you are going to remove half a tree, there
20 is a way you would come back to the trunk and remove those. You
21 wouldn t just come back and cut it.

22 Q Is a drop-crotch cut or a V-cut an accepted practice
23 under the best management practices.

24 A Yes, it is.

25 Q And what is that typically used for?

26 A Usually height reduction in a tree. You used a
27 drop-crotch cut or you would use it in an instance where you
28 wanted to reduce the height underneath the utility lines and

1 give that direction from upward growth to outward growth.

2 Q Let me direct your attention, now, to page 7 of
3 Harris testimony, starting on line 5, page 7 or Harris
4 testimony. Does he mention -- does he make a statement about
5 all trimming?

6 A His statement here is, All trimming and pruning
7 changes the natural shape of a tree.

8 No, I don't agree with that. If a tree is trimmed
9 correctly and you went out there, you may not even notice that
10 it was trimmed.

11 Q Is there such a thing as directional tree trimming or
12 directional pruning?

13 A You can, over a period of time, which is more the
14 accepted practice, you want to remove as little as required, but
15 you want to remove it over a period of years. So, the accepted
16 practice has been if you are going to prune a tree, do not
17 remove more than 30 percent of the tree at tree trimming.

18 If you need to remove more than that, then take two
19 years to do it and remove a little bit over a two-year period
20 in, say, two pruning cycles.

21 Or in some instances, you try to rehabilitate a tree.
22 You want to correct its direction of pruning. That takes a
23 period of years to do. It's not something that you are going to
24 do with one trimming cycle.

25 Q Can improper trimming lead to a weakened tree?

26 A Yes. If you remove too much now, a tree -- of course,
27 a tree's response is -- A tree manufactures its own food. It
28 doesn't go to the store and buy it the way we do. So, if you

1 remove too much foliage, the tree s response is to go full into
2 reproduction.

3 If it s a tree that seeds -- If you remove too much,
4 the tree may seed. It s going to grow more leaves. The tree
5 manufactures its food through photosynthesis. And if you remove
6 too much of that foliage, a tree s response is, I need more to
7 make up for it.

8 Plus, if you, also, remove too much of a tree and
9 depending on the size of the cuts, you also open the possibility
10 for introduction of decay into the tree.

11 Q Do you have a stump or a tree branch in your office?

12 A Yes, I have a couple of them.

13 Q Could you show me one of them?

14 A Uh-huh.

15 Q Is this an example of a properly cut tree?

16 A What that shows you is the relationship between a
17 branch and the trunk of a tree?

18 Q Are these the proper proportions?

19 A For a branch, it is, yes.

20 Q What s proper about the branch proportion?

21 A The branch has been in there forever. You can see the
22 branch collar, which is the portion where the trunk is growing
23 up and this tissue wraps around the branch, which gives it
24 support.

25 And this limb, the way this piece is cut, you can see
26 where the limb has been with this tree for years because of the
27 direction of this tissue that wraps around it right here.

28 Q With the strong support of this branch collar, would

1 this tree fare well in a hurricane?

2 A Yes, it should.

3 Q Thank you.

4 Do you, also, have another stump or branch that did
5 not fare well in a hurricane?

6 A This is a limb that was -- I believe when I got this,
7 this had gone off of a limb that had been hat-racked, and it is
8 sprouted back, and it is approximately, as you recall, about 10
9 or 11 feet long.

10 This probably weighs only about a pound and a half,
11 and this is only 8 inches long. This shows when you trim a tree
12 incorrectly, where it would break.

13 Q From looking at that branch, is that a branch or a
14 trunk?

15 A This is a branch.

16 Q How are you able to tell it was incorrectly trimmed?

17 A You can see on the base of it that -- Let me correct
18 this. This was not a branch that was incorrectly trimmed.

19 This is the result from a branch that was incorrectly
20 trimmed. This is the result of trimming a branch in the
21 incorrect manner, and the sprout that comes back as a result of
22 the trimming that was done incorrectly.

23 Q Comes back weak instead of strong; correct?

24 A That s correct. It s not securely anchored to the
25 tree that it was growing from. It sprouted back on an existing
26 stub. And that s where it broke. And I don t remember the
27 conditions of this, but it s a prime example of the reasons you
28 don t hat-rack, and it s important to trim a tree in the correct

1 manner.

2 Q What is hat-racking again?

3 A Cutting it off on any point of the limb other than the
4 natural juncture of limbs.

5 Q If an unnatural juncture of a tree is trimmed, does
6 that lead a tree to believe it s dying?

7 A Not necessarily dying. A tree s response would be to
8 try to callus out of or compartmentalize a cut or a wound.

9 If a person is cut, the wound heals off. If you cut
10 a branch that s too large off of a tree, the tree s response is
11 to try to compartmentalize or callus that over or scar tissue.
12 And if the cut is big enough, the tree has a hard time doing
13 that. In many instances, it cannot.

14 Q It cannot compartmentalize what?

15 A Callus or wounds off of the tree. It s like cutting
16 off your finger. We would try to stretch the skin over that
17 cut-off finger in order to keep infection out.

18 The tree can t do that.

19 Q Because trees compartmentalize?

20 A It s their attempt to keep out decay and preserve
21 their health.

22 Q Is callusing the same thing?

23 A Yes, callusing is what you would call it for the tree
24 trying to seal off a wound.

25 Q Did you have the opportunity to review Slaymaker s
26 testimony?

27 A Not in its entirety.

28 Q Let me direct your attention to Slaymaker s testimony

1 on page 4, where the County Code is cited. Do you see any
2 mention there about branch collar?

3 A Yes, I do. Says all cuts shall be clean, flush and
4 at junctions, laterals and/or crosses. All cuts shall be made
5 as close as possible to the trunk or parent limb without cutting
6 into the branch collar or leaving a protruding stub.

7 Q Because it would harm the tree, if somebody were to
8 cut into the branch collar?

9 A That s correct.

10 Q Now, where you ve seen or where there have been
11 allegations of a conflict between North Miami Code, perhaps, and
12 Miami Dade County Code, maybe in Harris testimony, which code
13 would you follow?

14 A The stricter of the codes.

15 Q The stricter of the two codes; correct?

16 A That s correct.

17 Q And have you been following in the City of North Miami
18 the DERM Code?

19 A Yes.

20 Q What is witches broom, as discussed on page 11 of
21 Slaymaker s testimony?

22 A Typically what happens is if you cut a branch off or a
23 trunk or any type of tree tissue, other than what he is talking
24 about in his first section outside the branch collar, the tree
25 loses its direction and it will sprout back all over the cut, in
26 fact make something like a witch s broom.

27 Q What line are you, when you say outside the branch
28 color is discussed?

1 A That was in his -- where we just removed, where it
2 says that all cuts shall be made just outside the branch collar
3 or outside the branch collar.

4 Q Are you on page 11?

5 A I don t have it. Right, right there.

6 Q So, in addition to hat-racking, is witch s broom
7 something that needs to be avoided?

8 A Yes. Witch s broom is a condition generated by
9 hat-racking or illegal cutting of a tree, outside of best
10 management practice.

11 Q Would removing the whole side of a tree create either
12 a witch s broom or hat-racking situation?

13 A Yes, it could.

14 Q If half of a tree has been removed, does that create
15 a dangerous situation?

16 A In my opinion, it does. It throws the whole tree off
17 balance. Something that you may be able to do over a period of
18 time, but you certainly don t do it all in one shot.

19 Q And if the tree is unbalanced and the hurricane-force
20 winds come over in this hurricane-prone weather, what happens?

21 A It could tip over.

22 Q Would it tip over in the direction where the remaining
23 canopy is?

24 A I have seen that happen during a hurricane, true, and
25 even though the wind was coming from another direction, the
26 imbalance of the tree in the high winds disturbed the roots, and
27 it still fell in the direction of the weight of the tree.

28 Q How are we doing on time? What time is it?

1 A It s 10:30.

2 Q Let me direct your attention, now, to page 9 of
3 Slaymaker s testimony. Are you there?

4 A Yes.

5 Q Are you familiar with RTRP?

6 A No, I m not.

7 Q Are you familiar with right tree right place?

8 A Okay. I am definitely familiar with that.

9 Q Are you a proponent of right tree right place?

10 A Yes, I am, so is the City.

11 Q Okay. And as far as you know, does FPL have a RTRP
12 initiative?

13 A Yes, they do.

14 Q And how is it working?

15 A For us sometimes it s hard, and I m sure it s hard
16 with FPL, the ability to enforce it. I think the thing is an
17 education. I think the Right Tree Right Place Program has
18 educated a lot of municipalities, including this one, and we
19 follow that, but sometimes it s hard to get that resident to do
20 that. They may not be aware of it.

21 If we have the opportunity to discuss it with them, we
22 do that.

23 Q Discuss it with the property owners, you mean?

24 A If they would come in off the street and say, Hey, I
25 want to plant a tree in the backyard.

26 Q Let me finish my question or line of thinking before
27 you respond, Mr. Lytle.

28 Also on page 9 of Slaymaker s testimony, there s

1 mention of avoiding future conflicts by using the RTRP
2 guidelines, do you read that to mean future conflict between
3 trees and wires?

4 A Yes.

5 Q Okay. And by his use of the word, Future, there
6 in
7 practice right now by FPL, is FPL RTRP or right tree right place
8 initiative geared towards the future, as you understand it?

9 A Yes.

10 Q Okay. Approximately how many miles of alleys would
11 you say the City of North Miami has here?

12 A Twenty-three point two, approximately.

13 Q And do you find that those alleyways, which are not on
14 City property, by the way, have certain types of trees in them?

15 A Yes.

16 Q What sort of trees do you find there, typically?

17 A Mostly invasive, fast-growing trees.

18 Q And is that a concern for the City?

19 A It s a concern for FPL.

20 Q Is that because FPL s wires go around those alleyways
21 and people s yards, not just along City streets?

22 A That s correct, yes.

23 Q If FPL s utility lines or utility wires present a
24 conflict with City trees located in the swales, what can be done
25 about that?

26 A FPL currently trims those, and the City works in what
27 I hope is considered a partnership in trimming them.

28 Q Okay. So, the City is often a liaison, is that what

1 you are saying, between property owners and FPL?

2 A Yeah, we deal with FPL for the trees in the streets
3 because those are trees maintained by the City. And we also
4 work as a liaison, many instances with homeowners and FPL
5 trimming trees.

6 Q Let s slow down and start with the trees, our City
7 trees. Are those sometimes called street trees?

8 A Yes.

9 Q Okay. And you find that the City and FPL co-operated
10 with regard to trimming those City trees?

11 A Yes.

12 Q Okay. But if the wires are running through people s
13 backyards and by the alleyways where those 23.2 miles of alleys
14 exist, the City doesn t have too much control over that;
15 correct?

16 A That s correct.

17 Q And as things currently are, there s no fixed or hard
18 trimming cycle being done by FPL right now; is there?

19 A I don t know.

20 Q Would you recommend one for the laterals?

21 A Yes.

22 Q And would you also recommend it for the alleyways?

23 A I definitely recommend it for the alleys.

24 Q Exhibit 5 to John Harris testimony discusses
25 cycle pruning. Can you elaborate on cycle pruning, especially
26 as it relates to the longer growing season in South Florida?

27 A This goes for the cycle pruning and maintenance
28 cycles, that the maintenance cycles should be generally shorter

1 in areas where longer growing seasons exist, being South Florida
2 and our growing area, with a higher percentage of fast-growing
3 trees, which is, again, in our area. And this is a
4 consideration to be taken in with cycle pruning.

5 Q So, in our area, which is a fast tree growing area,
6 where trees grow year round, would you recommend a six-year tree
7 trimming cycle? Is that short enough?

8 A I don t believe so.

9 Q Would you please summarize your testimony?

10 A My testimony would be with FPL wanting to initiate a
11 six-year trimming cycle, that the infrequent tree trimming can
12 lead to tree problems such as falling trees and premature tree
13 failure.

14 If FPL is proposing a six-year cycle on laterals, yet
15 many people experienced power outages even though FPL is
16 supposed to be performing line clearance more frequently than
17 every six years now.

18 And in addition to best providing service to customers
19 and preventing service interruptions, FPL should focus on
20 maintaining the integrity of the trees and on preventing
21 premature tree failure instead of focusing just on costs to FPL
22 to trim laterals as often as they need to be trimmed.

23 Q So, with the current tree trimming practice, you re
24 seeing problems?

25 A Yes.

26 Q Thank you.

27 Does that conclude your testimony?

28 A Yes, it does.

1 MR. ARMSTRONG: Thank you. Mr. Chairman, as to his
2 demonstrative exhibits, we discussed this at the prehearing
3 conference. There are couple of demonstrative exhibits that he
4 can explain to the Commission now and the parties, if that is
5 okay.

6 MR. BUTLER: I have no objection to it as long as it
7 stays within the explanation that appears in Mr. Lytle's
8 rebuttal testimony.

9 COMMISSIONER CARTER: Staff, have you had an
10 opportunity to review this?

11 MS. GERVASI: This was an item that we discussed
12 during the prehearing conference, the use of two demonstrative
13 exhibits, and we have no objection to it.

14 COMMISSIONER CARTER: All right, then. Let her rip.

15 BY MR. ARMSTRONG:

16 Q Mr. Lytle.

17 A Bring out the wood. I have two pieces of evidence
18 here that show two things for tree maintenance. This piece
19 here is a piece of tree that was removed that shows the branch
20 structure on a mature tree and the way that the branch is held
21 onto that tree. So that if you trim a tree in a correct manner
22 you look for a piece to cut on a branch right outside -- this
23 is what they call a branch collar. And if you can see, this
24 branch goes all the way down into the center of the tree so
25 that when the wind is blowing, or this tree is subjected to any

1 kind of stress on the outside, it has the whole trunk of that
2 tree holding onto that limb from the inside, right in through
3 here.

4 And, also, when you cut this tree at this branch
5 collar, if you are pruning the tree correctly, the tree has the
6 ability to try to compartmentalize or callous off the tree cut
7 to keep decay from entering into the tree. It isn't always
8 successful, but that is what the tree attempts to do. And a
9 lot of times you will see trees that have been trimmed and you
10 will see the rounding off of that callous, and that's the
11 tree's attempt to keep that decay from getting into the trunk
12 and rotting it out.

13 Now, when a tree is trimmed off outside this branch
14 collar, what happens is you get a fast flush growth of new
15 sprouts that come out on that cut. And what happens is this is
16 what they typically call a witch's broom. You will see a whole
17 mass of sprouts, and what will happen is very quickly in some
18 species of tree this was a sprout.

19 This sprout when it came down blew off in a breeze,
20 and what this shows is here is the old limb right here which
21 the base of it was cut off. This sprout matured and became --
22 I think this thing was probably about eight or nine feet long.
23 It probably weighed about 15 or 20 pounds when it came down off
24 the top of the tree. All that was holding it on that tree was
25 this little piece of growth right here. So it is not like this

1 piece where it is held in in here. The cut was incorrect.

2 And in a minimal windstorm this is what happens.

3 And, of course, my concern is, is when you get any kind of
4 breeze and you get this a year or two years after the tree has
5 been pruned, this is going to come down. It is either going to
6 hit power lines, it's going to hit people, or it is going to
7 hit property. So that is what this one shows right here. And
8 this is just a piece of it. This limb was probably about this
9 size when it was cut off. This is what sprouted back in
10 probably three or four years, maybe less.

11 COMMISSIONER CARTER: These two items, the one that,
12 I guess you say this was properly cut?

13 THE WITNESS: That was properly trimmed, that's
14 correct.

15 COMMISSIONER CARTER: What type of tree was this
16 from?

17 THE WITNESS: That is a black olive.

18 COMMISSIONER CARTER: Okay. That would be
19 Demonstrative Exhibit A. And what I'm holding in my hand, we
20 will call it Demonstrative Exhibit B, is from --

21 THE WITNESS: That is from an Australian pine.

22 COMMISSIONER CARTER: An Australian pine. Now, which
23 one is the native species and which one is an invasive species?

24 THE WITNESS: That is an invasive species right
25 there.

1 COMMISSIONER CARTER: Demonstrative Exhibit B?

2 THE WITNESS: Yes.

3 COMMISSIONER CARTER: Okay. Thank you.

4 MR. ARMSTRONG: Thank you, Mr. Lytle.

5 The witness is available for cross now. Thank you.

6 COMMISSIONER CARTER: Mr. Butler, you may proceed.

7 MR. BUTLER: Thank you, Commissioner Carter.

8 I'm going to have my assistant hand out copies of
9 Mr. Lytle's sworn statement, the January 11th one, which is his
10 rebuttal testimony. The only difference between this and what
11 you have is that we have handwritten page numbers in the upper
12 right corner. I think you may find if yours is like ours that
13 the pages are very hard to read there.

14 So, let me just ask, Commissioner McMurrian and
15 Commissioner Carter, do you have that problem that it is hard
16 to see a page number in the upper right corner of his -- excuse
17 me, his rebuttal testimony? If it is not a problem, I don't
18 need to hand these out.

19 COMMISSIONER CARTER: (Inaudible. Microphone off.)

20 MR. BUTLER: Okay. Very good.

21 CROSS EXAMINATION

22 BY MR. BUTLER:

23 Q Mr. Lytle, can you tell us about the circumstances of
24 the two tree limbs that you have provided as demonstrative
25 exhibits?

1 A The two pieces of limbs there, the one for the
2 Australian pine tree --

3 Q Yes.

4 A In my tours, this was during a wind event, not a
5 hurricane, and that came in off of one of our trucks. It had
6 fallen into a street.

7 Q It fell into the street and then it came in to you
8 off of one of your trucks, you say?

9 A Yes, it did. Well, I was in the field at the time,
10 but, you know, I know where the truck was when it picked it up.

11 Q So you didn't see the tree that it was connected to
12 before it fell off, is that right?

13 A No. But one thing, there's only two Australian pines
14 close to it.

15 Q Do you know what the trim history was of the tree
16 from which that demonstrative exhibit came?

17 A No, I don't. It was located in the proximity of
18 power lines.

19 Q But you don't know how recently before this piece
20 fell off it would have been trimmed?

21 A Well, by the growth rate, in my opinion it's two to
22 three years old.

23 Q What about the piece from the black olive tree, where
24 did that come from?

25 A That came off a tree that was removed. I don't know

1 under what conditions it was removed, but at that point in time
2 I was looking for something, and that piece is fairly old. We
3 train staff on how to cut trees, and I wanted to show them the
4 importance of what it is to have that branch collar and the
5 reason that you don't remove the limbs.

6 Q Do you know what entity made the cut that resulted in
7 the branch collar that you were describing?

8 A I did.

9 Q You cut the --

10 A I cut that piece.

11 Q And do you know where this tree was located?

12 A No, I don't know where it was actually located.

13 Q Now, your rebuttal testimony says it is intended to
14 respond to the prefiled testimony of FPL Witnesses Miranda,
15 Harris, and Slaymaker, correct?

16 A That's correct.

17 Q Isn't it true that at the time of your deposition you
18 had only skimmed the testimonies of Mr. Slaymaker and Mr.
19 Miranda?

20 A I had skimmed them, yes.

21 Q Is it also true that as of the time of your
22 deposition, other than reading Mr. Harris' testimony and
23 skimming those of Mr. Slaymaker and Mr. Miranda, you had not
24 done anything else to prepare for the sworn statement that you
25 gave on January 11 in rebuttal to FPL's witnesses?

1 A Yes, that's correct.

2 Q And at the time of the deposition you had no reason
3 to dispute any of the data shown on Exhibit MBM-1 of
4 Mr. Miranda's testimony, is that right?

5 A That's right.

6 Q And at the time of the deposition, you had no reason
7 to dispute any of the dollar amounts that are shown as net
8 present value figures on Exhibit MBM-2, is that correct?

9 A That's correct.

10 Q Now, am I correct that you have performed no
11 independent analysis of the costs and benefits of vegetation
12 management alternatives to rebut the data and conclusions in
13 Exhibits MBM-1 and 2?

14 A That's correct.

15 Q And at the time of your deposition, you didn't know
16 whether FPL's three-year/six-year proposal would represent an
17 increase or a decrease in trimming activity compared to what it
18 was currently doing in the City, is that right?

19 A That's correct.

20 Q I would like you to turn to Page 7 of your rebuttal
21 testimony. Do you have that?

22 A Yes, I do.

23 Q On Lines 12 through 20, you talk about some factors
24 you think should be considered in evaluating the costs or
25 benefits of tree-trimming alternatives, is that right?

1 A Starting with the question on Line 7?

2 Q No, on Line 12. So would you venture to say that
3 there are some factors that need to be considered that are not
4 being considered?

5 A Yes.

6 Q Do you see that?

7 A Yes.

8 Q Isn't it true that as of the time of your deposition,
9 you didn't know whether FPL would be able to pass on the cost
10 to other customers of any additional costs that it incurred in
11 order to provide a higher level of tree trimming within the
12 City of North Miami?

13 A No, I didn't know if they were going to pass that on
14 or -- I don't know, do they give rebates if they don't?

15 Q Am I correct that you haven't investigated that
16 further since your deposition?

17 A No, I have not.

18 Q On Page 8 of your rebuttal testimony you refer to an
19 EEI report that Mr. Miranda mentioned in his testimony, do you
20 see that?

21 A Line --

22 Q I think the reference is on Lines 10 and 11.

23 A Exhibit B is the question?

24 Q No, I'm sorry. This is in your --

25 A Rebuttal testimony.

1 Q Rebuttal testimony.

2 A Page 8.

3 Q Page 8, on Lines 8 through 11. What is your opinion,
4 if any, of Miranda's conclusions as stated on Page 7 of his
5 prepared statement based on the Edison Electric Institute
6 Report.

7 COMMISSIONER CARTER: Mr. Butler, I don't think we
8 are on the same page here. I think that what you are referring
9 to seems to me, from the documents I have, is on -- it looks
10 like it is on Page 7, Line 15. From the document we have, it
11 is on Page 7, Line 15. You can verify that, if I'm on the
12 right page with you, Mr. Lytle. It says at Line 15, "What is
13 your opinion, if any, of Miranda's conclusion as stated on Page
14 7 of his prepared statement based upon the Edison Electric
15 Institute report?" Is that where you are, too?

16 MR. BUTLER: That is what I am reading, but on what I
17 have --

18 COMMISSIONER CARTER: This is on Page 7. Mr. Lytle,
19 is that --

20 THE WITNESS: I have Page 7. That is mine, too.

21 COMMISSIONER CARTER: We are on a different --

22 MR. BUTLER: Unfortunately, staff has --

23 COMMISSIONER CARTER: Just provide Mr. Butler with a
24 copy of this so we can all be on the same page here. Give Mr.
25 Lytle a copy, as well. Why don't you just give Mr. Butler a

1 copy of what we have, it will be easier since we are all on the
2 same page.

3 MR. BUTLER: Except I'm not sure staff has a copy of
4 what you have. They seem to have the same thing that I do.

5 COMMISSIONER CARTER: All right. Let's take a
6 five-second break here.

7 (Off the record.)

8 COMMISSIONER CARTER: Back on the record.

9 MR. BUTLER: Okay. Let's try this again.

10 BY MR. BUTLER:

11 Q Mr. Lytle, looking at what, I think, in the version
12 you have and I'm now looking at and the Commissioners have,
13 Page 7, Lines 15 to 17 is where the reference to the EEI report
14 appears, is that right?

15 A Yes, it is.

16 Q Isn't it true that at the time you gave your
17 January 11 sworn statement, which is your rebuttal testimony,
18 you had not read the EEI report on which you were commenting?

19 A I had not read it, that's correct.

20 Q If you turn the page to Page 8, you will see on Line
21 6 a question and then an answer, a series of answers about an
22 Exhibit B that had been prepared by Mickey Harrelson (phonetic)
23 of the Florida Telecommunications Association?

24 A Yes.

25 Q Do you see that? Isn't it true that at the time you

1 prepared your January 11 sworn statement you had never met Mr.
2 Harrelson?

3 A I have not met him.

4 Q And at that time, at least, you had never spoken to
5 him?

6 A That's correct.

7 Q And that you had done no independent analysis of his
8 comments?

9 A That is correct.

10 Q And that you did not know what his comments were
11 based on?

12 A No.

13 Q Let's see, I have got to be sure I've got my
14 references right here now. Hold on. I'm sorry. Okay.

15 On Page 28 of your rebuttal testimony, starting on
16 Line 9, you were asked to summarize your testimony. Do you see
17 that?

18 A Yes, I do.

19 Q You make the statement there, starting on Line 14,
20 "FPL is proposing a six-year cycle on laterals, yet many people
21 experience power outages even though FPL is supposed to be
22 performing line clearance more frequently than every six years
23 now. Do you see that?

24 A Yes, I do.

25 Q Other than what you may have heard here today, do you

1 have any information on how FPL's reliability statistics for
2 the City compare to the statistics for FPL's system as a whole?

3 A I don't totally understand the question.

4 Q Do you have any information available to you other
5 than what you may have heard here at the hearing today, about
6 how FPL's reliability statistics for the City compare to FPL's
7 reliability statistics for its system as a whole?

8 A No, I don't.

9 Q Do you have a copy of your deposition with you?

10 A No, I don't.

11 MR. BUTLER: Would counsel for the City be able to
12 provide a copy to him of that? If not, I can provide him one.

13 BY MR. BUTLER:

14 Q Mr. Lytle, isn't it true that at your deposition you
15 agreed that if FPL's six-year proposal actually represented
16 more pruning, not less pruning, that that would address your
17 concern about FPL's proposal?

18 A If we have more pruning than we currently have, yes,
19 it starts addressing my concerns.

20 MR. BUTLER: Thank you. That's all the questions I
21 have.

22 Thank you, Mr. Lytle.

23 COMMISSIONER CARTER: Staff.

24 MS. GERVASI: Staff has no questions.

25 COMMISSIONER CARTER: Redirect.

1 MR. ARMSTRONG: No questions. Thank you.

2 COMMISSIONER CARTER: Thank you. Okay, then. Is
3 that it for the witness? Mr. Lytle, you may be excused.

4 The next witness.

5 MR. ARMSTRONG: The City calls Mr. Keith Miller for
6 his rebuttal.

7 Mr. Chairman, Mr. Miller was previously sworn this
8 morning.

9 COMMISSIONER CARTER: Okay.

10 **KEITH MILLER**

11 was called as a rebuttal witness on behalf of the City of North
12 Miami, and having been duly sworn, testified as follows:

13 **DIRECT EXAMINATION**

14 BY MR. ARMSTRONG:

15 Q Good afternoon, Mr. Miller.

16 A Good afternoon.

17 Q Do you have before you your prefiled testimony in
18 this docket, rebuttal testimony?

19 A Yes, I do.

20 Q If I were to ask you the questions contained in that
21 rebuttal testimony, would your answers be the same?

22 A Yes, they would.

23 Q Do you have any changes?

24 A No, sir.

25 Q Do you have any exhibits that you are proposing to

1 submit?

2 A The USDA, yes.

3 Q You have one exhibit, right?

4 A That's correct.

5 Q And it is identified as Rebuttal KM-1, correct?

6 A Correct.

7 Q And it is under the title "USDA Plant Hardiness
8 Horizons by Florida Counties," correct?

9 A That's correct.

10 Q Do you have a summary of your testimony?

11 A I do.

12 Q Would you please provide that?

13 A Commissioners, counsel --

14 MR. ARMSTRONG: Mr. Miller, if you can excuse me one
15 second.

16 Mr. Chairman, if we could have Mr. Miller's testimony
17 incorporated into the record as though read.

18 COMMISSIONER CARTER: Mr. Miller's testimony will be
19 entered into the record as though read.

20 MR. ARMSTRONG: Thank you very much.

21

22

23

24

25

1 Thereupon:

2

KEITH MILLER

3 was called as a witness and, after having been first duly sworn,
4 was examined and testified on his oath as follows:

5

DIRECT EXAMINATION

6 BY MS. ANTONATOS:

7 Q Good morning.

8 A Good morning.

9 Q Please, let the record reflect we re here on Public
10 Service Commission Docket Number 06-0198 EI.

11 State your name and position with the City of North
12 Miami for the record.

13 A Keith Miller, Park Superintendent.

14 Q And for how long have you been park superintendent?

15 A I was recently promoted to park superintendent from
16 park supervisor, having been with the City for nearly 20 years.

17 Q Thank you.

18 And do you have a degree from the University of
19 Florida?

20 A I don t have a degree from the University of Florida,
21 but I ve had extensive studies through the University of
22 Florida.

23 I have a degree in horticulture.

24 Q And where is your degree in horticulture from?

25 A Miami-Dade.

26 Q And are you also an arborist?

27 A I am not an ISA certified arborist, but I ve been in
28 the tree trimming/horticultural business for 30 years.

1 Q Are you the same Keith Miller who previously gave
2 testimony on November 7, 2006, in the City Attorney s Office?

3 A State Attorney s Office?

4 Q No, City.

5 A Yes.

6 Q What is the purpose of your rebuttal testimony today?

7 A To refute and give rebuttal to some of the testimony
8 that I ve read.

9 Q Would that be testimony of Miranda, Slaymaker and
10 Harris?

11 A That s correct.

12 Q Let s start with Miranda. Have you had the
13 opportunity to review the prepared direct testimony and exhibits
14 of Manuel B. Miranda?

15 A Yes.

16 Q I d like to refer you to page 10 and 11 of Miranda s
17 testimony. On page 10 and 11 of Miranda s testimony, he
18 discusses what would be needed to support the 3-year option or a
19 tree trimming proposal.

20 Do you have an opinion on this?

21 A I m a proponent of the three-year tree trimming cycle.

22 Q As you review his testimony, did you see that he has
23 placed any emphasis on execution risks and hard costs?

24 A I did.

25 Q And what is your opinion of those perceived barriers?

26 A Well, if you re referring to his contention that there
27 would be greater overtime costs and more expenses and start-up,
28 I would need more evidence of his supporting that contention,

1 you know.

2 I would feel that regular cycled tree trimming would
3 not require overtime, and that currently, they re trimming the
4 same number of trees in North Miami as they would be in the
5 future. And they do that during regular working hours.

6 So, I don t understand why there would be overtime
7 costs.

8 Also, the start-up for new business, I guess, is what
9 he s referring to. And I would -- I have a problem
10 understanding what he means by start-up, when there s available
11 tree trimming services all over the country, many of which don t
12 do tree trimming in the winter, in the northern parts of the
13 country.

14 Being South Florida is in a tropical environment, the
15 U. S. Department of Agriculture has planted hardiness zones, and
16 we reside in Zone 11, which in the scales of the USDA
17 temperatures rarely fall below 40 years, which relates to the
18 fact that trees in South Florida, especially North Miami, grow
19 all year round.

20 Q Look at page 11 where Miranda discusses the need to
21 resolve community and customer barriers.

22 Are you aware of any community and customer
23 barriers --

24 A No.

25 Q -- to having a fixed hard cycle of lateral trimming in
26 the City of North Miami?

27 A No, I m not aware of any barriers.

28 Q And you mentioned that you are not sure what Miranda

1 means by start-up costs or cost. I'd like to direct your
2 attention to FPL's response to staff's -- meaning staff at the
3 Florida Public Service Commission -- first set of
4 Interrogatories. In response to one of staff's interrogatories,
5 which I have here, FPL provided a definition for premium costs.

6 Q Could you please take a look at it?

7 A Okay. I read it.

8 Q Now, going back to the mention Miranda makes of
9 premium start-up costs, I see that in several places on page 13
10 of his testimony. Could you please refer to page 13 of
11 Miranda's testimony, which I have right here.

12 Q Looking at the top of page 13 of Miranda's testimony,
13 are you under the impression that FPL -- If FPL goes to a
14 three-year /six-year cycle, as it is proposing, are you under
15 the impression that it would do so quickly or gradually?

16 A Gradually. Well, he's stating that this won't be
17 implemented until 2013.

18 Q So, that sounds fairly gradual; right?

19 A Yeah, if at all, until 2013.

20 Q Okay. Is he also stating that this is a way of
21 controlling costs, specifically those premium start-up costs?

22 A Absolutely.

23 Q Okay.

24 Q Now, I think you indicated a few moments ago that with
25 a hard cycle, you didn't foresee a lot of overtime; is that
26 correct?

27 A That's correct.

28 Q And as far as any contractor premium start-up costs,

1 do you think that in the long term, that cost would be worth it?

2 A Which? Which cost?

3 Q Contractor premium start-up costs that FPL is trying
4 to diminish.

5 A Do I think it would be a benefit to them to employ
6 new contractors?

7 I m not sure I understand the question.

8 Q Yes. I think that by contractors, they mean tree
9 trimmers.

10 Do you think that over the long term for FPL to hire
11 or employ more tree trimmers is a cost that would make sense in
12 the long term?

13 A Well, probably not. I mean, if they intend on tree
14 trimming for line clearance and perpetuity, then they would have
15 to do that alternatively, if they were to use the right tree
16 right place mitigation that they have mentioned, or they trimmed
17 trees for structural integrity, eventually these two would lead
18 to minimum amount of trimming, and, therefore, it would not need
19 what it is they re proposing, that they would need if they don t
20 go to the three-year/six-year trimming cycle.

21 Q Are there situations where FPL utility wires go
22 through a tree?

23 A Yes.

24 Q Is there a way to directionally prune that tree so
25 the branches grow around the power line, so as to have no
26 conflict?

27 A Yes.

28 Q And is it better to put a tree like that, or any

1 tree, for that matter, on a fixed tree trimming cycle so that
2 after a period of, perhaps, ten years, it won t have to be
3 trimmed any more?

4 A That would be the primary goal of structural pruning
5 on trees in conflict with wires.

6 Q So, in terms of costs, do you believe that premium
7 start-up costs that FPL s Miranda is discussing on page 13 are
8 huge barriers to moving to a three-year/three-year cycle?

9 A I hate to say, but I m not sure I understand the
10 question. Could you repeat that?

11 Q Well, let me see if I can rephrase my question.

12 Going back to page 12, there s a chart on the bottom
13 of page 12. Underneath the chart discusses a substantial
14 increase in tree trimming expenditures for the years to come.
15 And this is in context of the proposed three-year/three-year
16 alternative.

17 Actually Miranda has expressed a concern with the
18 premium start-up costs. Are you equally concerned with the
19 premium start-up costs?

20 A No.

21 Q Now, I d like to refer to, once again, page 13 of
22 Miranda s testimony, which is the summary. And there are
23 several bullets there in which he discusses the best balance
24 between cost and benefits.

25 Could you please discuss each of those items as you
26 understand them?

27 A Well, okay. The first bullet discussed or claims
28 that there is a lower density of customers on lateral circuits

1 than feeder circuits. And he qualifies that by saying it s on a
2 per mile basis.

3 I would have a problem with that because my
4 interpretation of lateral lines are the lines that service
5 residential areas and businesses. And feeder lines are
6 transmission lines that feed the substations, which feeds the
7 laterals. So, I would think that there would be more density on
8 lateral circuits, lateral lines, lines that run through the
9 alleys, through people s backyards, through the City swales, as
10 opposed to the high tension wires that run higher up on the
11 poles.

12 Q That s a good point because page 4 of Miranda s
13 testimony does attempt to find FPL s laterals. Will you refer
14 to that before you turn back to page 13?

15 Okay. Now, looking at page 4 of Miranda s
16 testimony --

17 A FPL s --

18 Q Let me ask the question first.

19 What is your understanding of Miranda s understanding
20 of FPL s laterals?

21 A He s giving the example that laterals are fused
22 circuits that run off the feeder lines.

23 Q Do you agree with that?

24 A Yeah. That s my interpretation of a lateral?

25 Q Now, going back to page 13, would you discuss the next
26 bullet, which mentions overtime and contractor premium costs.

27 A Well, he s claiming that there was going to be a
28 gradual increase in overtime and contract premium start-up

1 costs.

2 Q You already said you don t agree with that; correct?

3 A Correct.

4 Q And what is his next point?

5 A He is substantiating that the proposal for the
6 three-year/six-year cycle will avoid execution risks that would
7 be associated with the three-year/three-year option.

8 Q Do you foresee execution risks as a big impediment to
9 the three-year/three-year cycle?

10 A No.

11 Q His next point is in support of a three-year/six-year
12 proposal, in lieu of a three-year/three-year proposal, because
13 he says a three-year/six-year proposal promotes execution,
14 flexibility to target or trim lateral circuit areas.

15 Is that your understanding of what s currently being
16 done by FPL and the City?

17 A Yes.

18 Q Okay.

19 If FPL were to move to a hard cycle, do you see
20 anything barring FPL from doing both, having a hard cycle and
21 having execution flexibility?

22 A No.

23 Q And are you aware of any community or customer
24 barriers in the City of North Miami?

25 A No. I m not sure what he s referring to by barriers.

26 Q Well, in proper context on page 14, does he point
27 out that FPL s plan is to gradually implement its proposal to
28 give it and the commission an opportunity to address community

1 and customer acceptance barriers with moving to a fixed cycle to
2 tree trimming, but you re not aware of any such community and
3 customer exception barriers included in the City of Miami? Are
4 you?

5 A No. I would say, if I understand his contention, that
6 residents in North Miami would be proponents of the three-year
7 trimming cycle, more frequent, consistent, reliable tree
8 trimming cycles.

9 Q Going back to the USDA plant hardiness zones that you
10 testified to earlier, trees grow fairly fast in North Miami;
11 don t they?

12 A All the year round.

13 Q That s because North Miami is located in a particular
14 hardy demarcation zone; correct?

15 A That s correct.

16 Q Which zone is that?

17 A Zone 11.

18 Q And where the trees grow year round, a more
19 frequent tree trimming cycle is desirable; correct?

20 A Correct.

21 Q Have you had the opportunity to review Exhibits One
22 and Two in Miranda s testimony?

23 Could you please answer out loud?

24 A Yes.

25 Q What does MBM1 depict?

26 A It might be easier for you to interpret that. I ve
27 never seen that chart other than right now.

28 I guess it s comparing costs with the three-year/

1 six-year cycle.

2 Q Well, I m quite sure you saw it yesterday, so let me
3 ask you if you are familiar with SAIFI and what that represents.

4 A Well, SAIFI is a systems average interruption
5 frequency index that they use to measure the number of average
6 customers interruption. That s basically during a specific
7 period that they do that. Frequency. It s frequency of it.

8 Q The number of times a customer is interrupted;
9 correct?

10 A Correct.

11 Q And by interruptions, we mean power outages; correct?

12 A Correct.

13 Q And are you also familiar with something known as
14 SAIDA?

15 A Yes. That s the system s average interruption
16 duration.

17 Q Now, SAIDA measures duration. What is that driven
18 by?

19 A Tree failures.

20 Q Does SAIDI appear on FPL exhibits?

21 A I don t see any reference to SAIDI.

22 Q Do you think it should be a consideration by FPL?

23 A Absolutely.

24 Q Are you aware that the Florida Cable
25 Telecommunications Association has filed comments on this
26 docket?

27 A Yes.

28 Q I d like to show you Exhibit B of those comments. I m

1 wondering if you could refer to this and mention some of the
2 major causes to distribution lines that are mentioned there.

3 A They cite trees, tree limbs, flying debris, rotten
4 poles and ineffective guy wires.

5 Q Are those the sort of things that, in hurricane force
6 winds could lead to tree failure?

7 A To tree failure or power outage.

8 Q Both?

9 A Both, yes.

10 Q And why is that?

11 A Well, when you have a flying projectile, it can
12 damage or take down wires.

13 Q It could collide with and land on a facility; is that
14 what you re saying?

15 A Absolutely.

16 Q And then that could lead to what type of power outage?

17 A Electrical power outage. I mean, what can happen is
18 it hit a transformer, a conductor, another tree, which would
19 take down the wires. A tree would fall on the pole, if the pole
20 is stressed and the guy wire in not in good and --

21 Q Is this type of power outage typically something that
22 could last for a long duration?

23 A Absolutely.

24 Q Have you had the opportunity to review the prepared
25 direct testimony and exhibits of William R. Slaymaker as his
26 testimony relates to FPL s right tree right place initiative?

27 A Yes.

28 Q Could you please refer to page 8 of Slaymaker s

1 testimony?

2 A Okay.

3 Q Does Slaymaker mention that FPL was honored somehow?

4 A Yes. He cites that FPL was honored in 2006 with the
5 Advocacy Excellence Award for Right Tree Right Place Program.

6 Q Do you happen to know what the criteria is for such a
7 reward?

8 A I do not.

9 Q And are you at all familiar with FPL s right tree
10 right place initiative and how it works?

11 A I am.

12 Q Can you tell me about it?

13 A Right Tree Right Place Program is guidelines for the
14 use of tree species as it relates to over-head wires. In other
15 words, if you need to plant a tree under the wire, you use a
16 species that only grows to a mature height of 15 or 20 feet.

17 If you are using certain palm species, they need to be
18 offset from the wire a certain number of feet. Basically it s a
19 program that looks at amalgamating and wires in the same
20 environment, without having a conflict.

21 Q So that the tree and wires can co-exist?

22 A Correct.

23 Q Is it more forward looking into the future, would you
24 say?

25 A Yes. I would think, primarily, that it would work
26 very well in a new development situation.

27 Q And have you had the opportunity to look at John
28 Harris prepared testimony?

1 A Yes.

2 Q Does Harris emphasize an exception to Miami-Dade s
3 Code conditions general rule that no more than one third of a
4 tree s canopy should be removed during trimming?

5 A Yes.

6 Q Could you please refer to page 5 of Harris testimony
7 and tell me whether you agree or disagree with the exception he
8 discussed there?

9 A Although Miami-Dade County does provide an exception,
10 I believe that a tree can be trimmed structurally, to avoid
11 using implementing the exception.

12 The exception relates to hazard reduction or clearance
13 pruning. I don t think it was the intent of the code to create
14 a hazard by removing half of a tree, which, in the future, could
15 be even a greater problem.

16 Q Do you view removing one third of a tree, which is
17 actually as much as up to half of a tree, do you view that as
18 exploiting the exception?

19 A Absolutely, yeah. I would agree with that. I would
20 believe that that would be the time to employ the Right Tree
21 Right Place program.

22 If you have to remove more than a third of a tree,
23 let s say a half of a tree, the tree becomes a hazard because,
24 now, it s unbalanced.

25 Q Is it unbalanced above ground as well as underground?

26 A Yes. There is a root shoot ratio that says that for
27 the amount of growth above the ground, there is an equal amount
28 below the ground in the root system. So, theoretically, if you

1 remove half of the tree, half of the root system has been
2 compromised to a degree, because it doesn't have the support.

3 Also, the tree will go into a recovery phase because
4 it senses that it's dying. And it will grow back with a
5 vengeance every place it can bring out a sprout.

6 Q And once the roots are compromised like that and the
7 tree starts to grow back with a vengeance after having been
8 improperly cut, more than one half of the tree having been taken
9 off, when the sprouts occur, are they in an improper proportion
10 from where they're sprouting from?

11 A Yes.

12 Q Do you want to elaborate on that?

13 A Proper pruning techniques not only suggest not moving
14 more than one third of a tree at any given trimming, but it also
15 stipulates that the branches that are being removed need to
16 leave a proportional sized branch connecting to the remaining
17 branch.

18 For example, if you have a six inch branch, you trim
19 back to a six-year cycle, you need to leave a lateral or leader
20 into a two or three inch diameter in order to have a
21 proportional connection of the lateral branches to the main
22 branches.

23 Conversely, if you trim off half of the tree and the
24 tree begins to sprout back because it's normal reaction is to
25 survive, it's going to sprout back very small branches connected
26 to the locations on the branch that are of much greater
27 diameter. And these connections, these sprout connections are
28 not going to be stable.

1 Q Well, let's go back to what you said about a leader.
2 If I'm understanding correctly, there's something called a
3 leader branch; right?

4 A Correct.

5 Q Could you analogize a leader branch to a fishing pole
6 insofar as it's supposed to be tapered?

7 A That's a good analogy. A fishing pole has a greater
8 diameter at the base, tapering out to the tip to allow for
9 flexibility.

10 Q And if half of a tree is cut off, so that the
11 attachments are little sprouts on a very wide diameter branch,
12 can a tree survive like that?

13 A I can say that the tree may survive, but it is putting
14 it in great peril for a number of reasons. These branches are
15 subject to the slightest, little wind, that are going to be
16 breaking off.

17 The tree is now weighted on one side and has no
18 counterbalance weight on the other. So, in a strong wind,
19 physics would apply to the pressure pushing from the wind into
20 the canopy of the tree, it's going to topple the tree.

21 That's going to impede roadway traffic for emergency
22 vehicles. If a tree goes down and takes wires down and no
23 emergency vehicles can get in there, FPL hasn't restored the
24 power --

25 Q Does the tree become like a sail in the wind?

26 A Exactly. That's a great example. If you have a sail
27 and the sail catches the strong wind, it lifts up the opposite
28 side of the hull. So, if you have wind pushing up from the

1 east, the hull is going to lift up on one side. It goes down on
2 one side and up on the other side, and that s exactly what the
3 root system is going to do when the wind hits half the remaining
4 canopy in the tree and the root system has been compromised
5 because of the reduction in the canopy on one side. The root
6 system is not going to be able to sustain that pressure and it s
7 going to pop up out of the ground.

8 Q For all those reasons, you didn t recommend tree
9 trimmers to cut off half of the tree; correct?

10 A Correct. That, again, would be the perfect time to
11 implement the Right Tree Right Place Program. That would be the
12 time to say, Okay. We need to implement the exception to the
13 Dade County Code, because we need to remove half the tree.

14 Removing half the tree would be creating a hazard.
15 So, it needs to be removed. And if you spent the cost at that
16 point in time to remove the tree and planting the right tree in
17 the right place, you may never have to trim that spot ever
18 again.

19 Q As far as you know, if FPL s right tree right place
20 initiative being used to remove situations like this?

21 A I have not seen that done unless compelled to do so.

22 Q I d like to refer you, now, to page 7 of Harris
23 testimony where he says that all trimming and pruning changes
24 the natural shape of a tree. Do you agree with that statement?

25 A No.

26 Q Why not?

27 A Trees have a natural habit of growth characteristic to
28 its species. That characteristic is the same when it s six feet

1 tall, 16 feet tall or 60 feet tall. It has a natural habit of
2 growth.

3 So, if you trim a tree, you trim it back to its
4 previous character or habit of growth, moving it proportionately
5 all the way around the tree --

6 Q Are you referring to trimming it properly?

7 A That s correct. If you trim a tree properly, you
8 don t change the character of the tree. You may reduce the
9 canopy in the tree, but you don t destroy the character of the
10 tree.

11 Trees are not meant to grow on one side, shade trees
12 in the streets --

13 Q Have you had the opportunity to review the photographs
14 attached to Harris testimony? Please answer out loud.

15 A Yes, I have.

16 Q And how many photos has he attached?

17 A Six.

18 Q Are any of those photos in the City of North Miami?

19 A Only one.

20 Q Which one is that?

21 A Page 4.

22 Q Would you please describe what you see on page 4?

23 A I see a variety of trees, a Black Olive tree with the
24 wires going through the center of it, where the tree has been
25 V-cut.

26 I see an Oak tree that s been hat-racked on private
27 property. And I see a nearly dead tree in the foreground,
28 probably due to nutritional deficiency.

1 Q And what point do you believe Harris is trying to make
2 by what he s written underneath that photograph?

3 A I need to take this call.

4 (Thereupon, a telephone call was taken by the
5 witness.)

6 Q What is his point?

7 A It appears to me that he is making it evident that he
8 knows different species of trees and proper and improper pruning
9 techniques.

10 Q And the tree under the wires with the V-cut, that s
11 properly trimmed, as far as you are concerned; right?

12 A Yes.

13 Q And does he agree it s properly trimmed?

14 A Yes.

15 Q Now, please flip to the photograph in front of that
16 one, if you would, and tell me what photograph you re looking
17 at.

18 A Page three.

19 Q And what is that a photograph of?

20 A It s a photograph of a Ficus tree that s been heavily
21 pruned.

22 Q In or not in the City of North Miami?

23 A Outside the City of North Miami.

24 Q Is that an invasive species, as far as you know?

25 A Yes, it is an invasive species.

26 Q Going back to the right tree right place initiative,
27 would that tree be a good candidate for that?

28 A Absolutely.

1 Q And why is that?

2 A This tree is an invasive species. It s desirable to
3 remove it so it doesn t proliferate.

4 Secondly, this tree is going to need trimming
5 constantly. So, it would seem to me that there would be more
6 costs associated with trimming this large tree over and over and
7 over again than it would to have a one-time expense to remove it
8 and plant the appropriate, right tree right place, underneath
9 the wires.

10 Q Do you care to summarize your testimony?

11 A Yeah.

12 Q Please summarize your testimony.

13 A I d like to say that in the City of North Miami, we
14 have between 15 and 18 thousand trees. And being that the City
15 of North Miami resides in zone 11 of the USDA plant hardiness
16 zones, our trees grow year round.

17 There are trees that are in conflict with wires.
18 Should those trees be trimmed for structural integrity, that may
19 eliminate the amount of trimming on that particular tree in the
20 future to the point that it may never have to be trimmed again,
21 because while wires running next to structurally sound trees
22 branches don t sway in the wind, and they don t fail.

23 Q Is that because they re strong?

24 A Because they re strong and they ve been healed
25 properly after a proper trimming.

26 Conversely, if you side clear or do just line
27 clearance for 10 feet or 15 feet, I m not sure what they trim,
28 you are only, in my opinion, putting a Band-aid on the

1 situation. You re trimming for the clearance.

2 That tree is going to refer. You re going to have to
3 trim it again. It s going to refer again.

4 So, there s only two alternatives that I see, either
5 remove the trees that you constantly have to trim and use the
6 Right Tree Right Place Program, so you don t have to trim those
7 again; or trim the existing trees around the wires by pruning
8 them properly, so that they grow up and over the wires.

9 Q Is that called directional pruning?

10 A That s one term, directional pruning, structural
11 pruning. It doesn t make sense to me to drastically prune a
12 tree by employing the exception to the Code, in turn creating a
13 hazard for both impeding roadway traffic during a hurricane
14 event or high wind event or because FPL is going to constantly
15 have to trim that tree over and over and over again.

16 Q And the road would be impaired, if the tree fell into
17 the road?

18 A If the tree fell into the road, it s going to block
19 the roadway. That s a big problem for emergency vehicles,
20 because the tree not only after that amount of drastic trimming,
21 the tree could decline and fall over, not associated with a wind
22 event.

23 So, they re creating the demise of the tree, the
24 potential demise of the tree.

25 Q So, a tree could, theoretically, fall over, absent any
26 wind?

27 A That s correct.

28 Q Because of its decay?

1 A Right.

2 Q Because of its state of decay?

3 A Correct.

4 Q Does that conclude your testimony?

5 A No.

6 We know that outages are primarily caused by tree
7 failure, and we've talked about, you know, the proper trimming
8 could prevent tree branch failure. So, they talk about
9 representative or execution flexibility program, which seems to
10 me to be more costly than to do structural pruning.

11 And in my opinion, the Right Tree Right Place Program
12 is a preventative program to prevent the cost of having to prune
13 trees, but more importantly, prevent the potential for wires to
14 be taken down by tree failure or branch failure, so they're
15 promoting a preventative program.

16 The tree trimming is not a preventative program,
17 whether you do it through regular trimming or an execution
18 flexibility. It's an ongoing cost.

19 Therefore, they should have concern that the increased
20 cost for trimming is going to cost them more to maintain their
21 loss.

22 Q When you say they and them, you mean FPL; correct?

23 A Correct, FPL. So, seems like they're promoting, on
24 one hand, a preventative Right Tree Right Place Program. On the
25 other hand, they're doing very minimal to do long term
26 prevention.

27 So, I think that mitigation of these problems needs to
28 be looked at as a solution to the overall costs that they are

1 stipulating here that is a factor that they re concerned with,
2 and to mitigate by structural pruning the trees, so they don t
3 have to be pruned again, eventually, mitigate the tree by
4 removal and using the Right Tree Right Place Program. And that
5 would eliminate a big cost to FPL, and it would minimize the
6 duration of outages and even frequency of outages that they have
7 cited in their Exhibit.

8 Frequency may not as applicable as the SAIDI Chart,
9 which is the duration. And SAIDI relates to tree failure.

10 Q SAIDI is driven by tree failure; correct?

11 A Yes.

12 Q Anything more?

13 A No. I think that concludes my testimony.

14 Q Thank you.

15 (Thereupon, taking of the sworn statement was
16 concluded.)

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KEITH MILLER

1 BY MR. ARMSTRONG:

2 Q Now, can you provide your summary, please?

3 A In my rebuttal testimony I stress again the
4 importance of structural pruning to maintain the integrity of
5 trees. If FPL trims laterals on a six-year cycle, they cannot
6 practice structural pruning when they have to remove more than
7 15 or 20 feet of the tree. Just because a six-year cycle is
8 more frequent as identified today doesn't mean it is adequate.
9 This type of trimming creates serious stability problems in
10 trees. It can kill trees or make them unstable and prone to
11 failure in winds, or it can cause the tree to react as if it is
12 dying so that it grows back with a vengeance sending out
13 numerous branches as identified in Mr. Lytle's exhibits that
14 become weakly attached. These type of branches fly off in
15 winds and hit moving vehicles, homes, electric lines.

16 In addition, if a fast growing tree is only trimmed
17 once every six years such that a significant part of the tree
18 is removed, the root system does not anchor the tree in the
19 ground properly any longer as evidenced in the past hurricane
20 seasons. Florida Power and Light does not account for the cost
21 created by the tree trimming practices it will have to employ
22 using a six-year cycle for trimming laterals. FPL seems to
23 assume that trimming a tree every six years has the same effect
24 as trimming every three years, and this is not the case.
25 Clearly, the Public Service Commissioner has already recognized

1 this.

2 If FPL practices structural pruning, then it cannot
3 improperly remove large portions of a tree in a single
4 trimming. If you trim more frequently, you can train trees to
5 grow around wires in a way that allows the trees to maintain
6 stability. Once trees reach this point of stability they
7 require minimal pruning, so it is really more cost-effective in
8 the long run.

9 Florida Power and Light cites community barriers as
10 the reason for using the six-year cycle, and this was not
11 supported today. North Miami will not object to --

12 MR. BUTLER: Excuse me, I'm sorry. I'm going to
13 object and move to strike the line about the community barriers
14 not being supported today. I don't see how that could possibly
15 be a summary of Mr. Miller's prefiled testimony.

16 COMMISSIONER CARTER: Mr. Armstrong.

17 MR. ARMSTRONG: I wasn't listening to his summary.

18 COMMISSIONER CARTER: Okay. The objection is duly
19 noted.

20 You are about done, aren't you, Mr. Miller?
21 Mr. Miller, you are about done with your summary anyway, aren't
22 you?

23 THE WITNESS: No, I have one more page.

24 COMMISSIONER CARTER: Okay. The objection --

25 MR. BUTLER: It's really to a fairly narrow part. He

1 made a comment about the barriers to implementation of FPL's
2 three-year/six-year proposal and added the comment that nothing
3 has been said here today to support it. I'm moving to strike
4 that portion of it because that can't possibly be a summary of
5 prefiled testimony. I mean, that is commenting on what he has
6 heard today which is not certainly part of his summary.

7 COMMISSIONER CARTER: The objection is sustained.

8 THE WITNESS: The residents of North Miami would not
9 object to a reasonable tree trimming, but they will object to
10 obsessive and unnecessary trimming and do often from my
11 nineteen years of experience. For this reason, the six-year
12 cycle would create more community barriers than a three-year
13 cycle, and a six-year trim will require a large percentage of
14 canopy to be removed. FPL estimated at two million people
15 losing power. Under the six-year proposal, I feel that would
16 create more community barriers.

17 Furthermore, FPL claims that it is using a three-year
18 cycle -- that if it uses a three-year cycle the contractor
19 costs will be too high because the demand for contractors will
20 exceed the supply. FPL's testimony does not explain how it
21 came up with the cost estimates for labor or for the limited
22 supply of crews. There are numerous tree trimming companies
23 who live in other areas of the country where trimming is not
24 required year-round unlike it is in Zone 10B where we live.

25 These people would be available for work during off

1 season, and it is not clear from the testimony where FPL
2 considered seasonal labor, if it did, why FPL believes the
3 seasonal labor would come at a premium cost. Tree trimmers in
4 the north don't trim trees in the winter and, therefore, it
5 creates a large supply to meet the demands of South Florida and
6 also gives FPL some bargaining power when it comes to paying
7 these people.

8 MR. BUTLER: I'm going to have to object to this
9 again, going beyond the scope of his prefiled rebuttal
10 testimony.

11 COMMISSIONER CARTER: Mr. Armstrong.

12 MR. ARMSTRONG: I'm listening now, and I know he
13 talks about tree trimming in the north.

14 MR. BUTLER: But he is elaborating on the theme, and
15 I wish he would stick to the testimony. I also would
16 specifically object, while I'm at it, to a reference a moment
17 ago to two million customers being out of service during
18 storms. I don't believe that is anywhere in his rebuttal
19 testimony.

20 COMMISSIONER CARTER: Mr. Miller, would you just
21 confine your comments -- duly noted on the objection -- just
22 confine your statements to what you have put in your rebuttal
23 testimony, please, sir.

24 THE WITNESS: I would like to emphasize that it is
25 more expensive to trim in perpetuity repaired down lines and

1 transformers caused by tree failures and to have longer
2 durations of power than it is to trim for structural integrity
3 and allow the tree to grow naturally around the wires. And
4 where invasive species are a problem, to use the "Right
5 Tree-Right Place" program to eliminate the problem altogether
6 which would save huge sums of money for FPL and benefit all the
7 parties concerned.

8 In summary, for all the reasons I have explained here
9 today, the City of North Miami believes that the
10 three-year/six-year cycle is not appropriate and will not be
11 effective as FPL predicts, especially in densely populated
12 urban environments such as North Miami.

13 That concludes my summary.

14 MR. ARMSTRONG: The witness is available for cross.

15 COMMISSIONER CARTER: Mr. Butler, you're recognized.

16 MR. BUTLER: Thank you, but I have no cross. Thank
17 you.

18 COMMISSIONER CARTER: Okay, then. You have
19 identified -- I think it is KM-1, is that right?

20 MR. ARMSTRONG: Yes, Mr. Chairman. I don't know if
21 staff has any questions.

22 MS. GERVASI: Staff has no questions, either.

23 MR. ARMSTRONG: So we do have just the one exhibit,
24 KM-1.

25 COMMISSIONER CARTER: I think we are on 19, is that

1 correct?

2 MR. BUTLER: That's right.

3 COMMISSIONER CARTER: And the title?

4 MR. ARMSTRONG: Right. The City would move Number
5 19, the title being "USDA Plant Hardiness Zones by Florida
6 Counties".

7 COMMISSIONER CARTER: Okay, show it done.

8 (Exhibit Number 19 marked for identification and
9 admitted into the record.)

10 COMMISSIONER CARTER: Mr. Miller, thank you so very
11 kindly. You may be excused.

12 Staff, are there any further matters?

13 MS. GERVASI: Staff is not aware of any other matters
14 that need to be addressed at this time.

15 COMMISSIONER CARTER: Any comments from either of the
16 parties?

17 MR. BUTLER: Are we going to be briefing this and
18 deciding based on the briefs?

19 MS. GERVASI: Commissioner, the briefs are scheduled
20 to be due on March the 5th with a recommendation due on
21 April 26th for a post-hearing agenda decision to be made on May
22 the 8th.

23 COMMISSIONER CARTER: Okay. I hope the parties were
24 taking notes.

25 MR. BUTLER: We were, thank you.

1 And since we are briefing it, I don't have anything
2 further that I need to say at this time.

3 COMMISSIONER CARTER: Commissioner McMurrin, any
4 comments?

5 Okay. It was a good day. It was a great day. Thank
6 you all for coming in and thank you for your time. We are
7 adjourned.

8 MR. BUTLER: Thank you, Commissioner.

9 (The hearing concluded at 3:30 p.m.)

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STATE OF FLORIDA)

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COUNTY OF LEON)

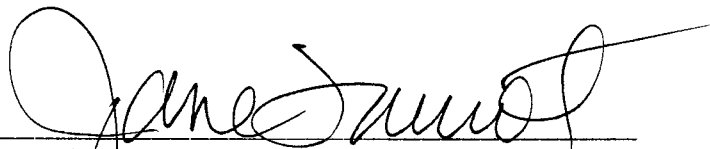
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I, JANE FAUROT, RPR, Chief, Hearing Reporter Services Section, FPSC Division of Commission Clerk and Administrative Services, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 16th day of February, 2007.



JANE FAUROT, RPR
Official FPSC Hearings Reporter
FPSC Division of Commission Clerk and
Administrative Services
(850) 413-6732

Vol. 1

EXHIBITS

1

2

NUMBER:

ID.

ADMTD.

3

1

List of Officially Recognized Documents

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Vol. 2

EXHIBITS

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EXHIBIT NO. 1

DOCKET NO: 060198-EI - REQUIREMENT FOR INVESTOR-OWNED
ELECTRIC UTILITIES TO FILE ONGOING STORM
PREPAREDNESS PLANS AND IMPLEMENTATION COST
ESTIMATES.

DESCRIPTION: STAFF'S EXHIBIT

DOCUMENTS:

1. LIST OF OFFICIALLY RECOGNIZED DOCUMENTS

PROFFERED BY: STAFF

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-EI Exhibit No. 1
Company/ F P S C Staff
Witness: List of Officially Recognized Documents
Date: 02/05/07

List of documents to be officially recognized in this proceeding:

1. All Orders issued in Docket No. 060198-EI, including:
 - a. Order Number PSC-06-0351-PAA-EI, issued April 25, 2006
 - b. Order Number PSC-06-0451-CO-EI, issued May 23, 2006
 - c. Order Number PSC-06-0781-PAA-EI, issued September 19, 2006
 - d. Order Number PSC-06-0859-CO-EI, issued October 13, 2006
 - e. Order Number PSC-06-0871-PCO-EI, issued October 23, 2006
 - f. Order Number PSC-06-0947-PAA-EI, issued November 13, 2006
 - g. Order Number PSC-06-1012-CI-EI, issued December 8, 2006
 - h. Order Number PSC-07-0065-PHO-EI, issued January 25, 2007
2. Review of Florida' Investor-Owned Electric Utilities' Service Reliability in 2005, dated December 20, 2006.

NM Key Messages:

- * Feeders - 26 feeders - 90 miles, 1,600 customers/feeder
- * Laterals - 400 OH & 250 UG laterals, 170 miles, 55 customers/feeder
- * Feeders will remain on a 3 yr. avg. trim cycle
- * Currently NM better than rest of system - 7.6 yrs. vs. approx. 10 yrs.
- * Lateral trimming will increase (next 3 yrs. vs. previous 3 yrs.) - miles trimmed will increase 2.5 times and avg. trim cycle will be reduced 17% (7.6 vs 8.3)
- * Additional "hotspot" trimming and mid-cycle trimming will remain in effect
- * In 2007, all 20 CIF miles will be addressed (12 mid-cycle, 8 preventive maint)
- * Need support on RTRP/customer refusals

Lateral Trimming in NM (Total - 28 lateral circuits/171 lateral miles):

	<u>Miles</u>		<u>Miles</u>	
2004	15	2007	14	
2005	5	2008	24	
2006	0	2009	13	
2004-2006	20	2007-2009	51	2.5 X greater

Lateral Average Age Since Last Trim:

- 2006 - 7.6 years
- 2007 - 7.0 years
- 2008 - 6.5 years
- 2009 - 6.3 years 17% better than 2006

Lateral Circuit Age (Since Last Trim):

- 8 (32%) > than 10 yrs. (7 of these to be addressed by y/e 2008)
- 7 (26%) 7-10 yrs.
- 4 (16%) 4-6 yrs.
- 6 (24%) < 3 yrs.
- 25 (+ 1 UG = 26)

Feeder Trimming in NM (Total - 26 feeders - 90 feeder miles):

2004-2006 - 94 miles

2007-2009 - 88 miles

Hot-spotting and Mid-cycle trimming will also continue to be executed as necessary, 12 miles in 2007

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-EI Exhibit No. 2
Company/ CITY OF North Miami
Witness: FPL Fact Sheet
Date: 02.10.07

FPL LATERAL CIRCUITS: YEARS SINCE LAST TRIM

FPL has 26 lateral circuits, 25 above ground and one underground

A lateral circuit consists of a feeder and laterals off of the feeder

FPL has not trimmed 8, or 32%, of the lateral circuits in more than 10 years

FPL has not trimmed 7, or 28%, of the lateral circuits in 7 years or more

FPL has not trimmed 4, or 16%, of the lateral circuits in 4 to 6 years

FPL has trimmed 6, or 24%, of the lateral circuits within the last 3 years

FPL suggests that it will trim 7 of the 8 lateral circuits that have not been trimmed in more than 10 years by the end of 2009.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-ET Exhibit No. 3
Company/ City of North Miami
Witness: FPL Lateral Circuits: Years Since last trim.
Date: 02/05/07

Inspection Photo Pages

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The following are photographs taken during an independent inspection of work done by FPL VM in the City of North Miami. Work by FPL was done within last 1-2 years based on review of the condition of cuts and work records provided by FPL. The inspection was done on December 13, 2006 by John Harris, Landscape Economist, with Darlene Harris, professional photographer, assisting with the photography.



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Photo 1: Live Oak tree in center median of NE 8 Avenue, on the south side of corner of NE 8 Avenue and NE 119 Street in North Miami, Florida. Live Oak was trimmed for line clearance in upper canopy and for road clearance in lower canopy. See old pruning cut for road clearance in center of photo (dark cut wound with callous wood surrounding cut), and new stub cut at right side of tree canopy approximately directly over the head of John Harris. The re-growth of canopy in the upper canopy is a natural response to the level of trimming done to V cut, or directionally prune, this tree away from electric lines overhead (3 phase feeder lines). Approximately 30% of the canopy was removed for line clearing, and 10% of the canopy for road clearance. The trimming done for line clearance appears to have been done in compliance with applicable codes, regulations and standards. In contrast, the trimming for road clearance did not follow the applicable standards because it left the large stub cut.



1
2 Photo 2: A *Ficus benjamina* tree that has been trimmed for line clearance, for road
3 clearance, and by the property owner for driveway clearance and size/shape. This tree is
4 on the south side of the T intersection for NE 12 Avenue and NE 107/108 Street in North
5 Miami, Florida. It is on the west side of the residence's driveway. This species is exempt
6 from trimming or pruning standards in the City of North Miami. The aesthetic value of
7 this tree is low, and it could be one of the trees that are referenced by the City of North
8 Miami Direct Testimonies. Approximately 25-35% of the canopy was removed for line
9 clearance, 10-15% for road clearance, and 20-35% for driveway clearance and shaping,
10 for a total canopy removed of 55-65% for this tree (there is some overlap of canopy
11 removal percentages among trimmers). This tree is an example for trees that would be
12 better to remove than maintain by trimming; due to costs for all three entities and the
13 appearance of the tree today. The trimming done for line clearance appears to have been
14 done in compliance with applicable codes, regulations and standards (including the
15 City's, even though *Ficus benjamina* are exempt). The additional trimming for road
16 clearance and by the property owner is the main cause for the imbalanced canopy
17 appearance shown in the photograph.
18



1
2 Photo 3: A second *Ficus benjamina* tree at same location, to east of driveway. This tree is
3 showing decline from the major leaders removed by property owner for driveway
4 clearance. It may need removal within the next few years due to decline and rot in the
5 main leaders and trunk of the tree. This tree, due to declining health condition and the
6 location near the road and utilities, would be considered a Risk Tree by the tree
7 evaluation standards of the International Society of Arboriculture. The decline in health
8 is mainly due to the additional trimming for driveway clearance and/or road clearance,
9 which removed approximately 35-50% of the canopy. The line clearance trimming
10 removed approximately 30-35% of the canopy, which is within the applicable standards.
11



1
2 Photo 4: A Black Olive tree (left side of photo) that was trimmed for line clearance and
3 Live Oak tree (right side of photo) that was trimmed or hatracked by property owner or
4 their contractor. Trees are in residential front yard and Right-of-Way at NW of corner of
5 NE 11 Place and NE 123 Street. A dead smaller/younger Black Olive tree is in center of
6 photo and is in west side Right-of-Way on NE 11 Place. The larger Black Olive to left
7 side was V cut for line clearance by FPL. The trimming of the larger Black Olive for line
8 clearance appears to have been done in compliance with applicable codes, regulations
9 and standards, with re-growth of the canopy following the directional pruning
10 expectations. In contrast, the hatracking of the Live Oak cut back every leader on the
11 Live Oak to large (approximately 6-10 inch diameters) diameter stubs that have sprouted
12 reactionary growth with rotting wood seen at cut points. This is inconsistent with
13 accepted guidelines and, probably as a result, the Live Oak is showing signs of decline
14 with chlorotic colored foliage and less foliage in canopy than desirable for health of this
15 size tree (amount of live woody tissue). In contrast, the Black Olive trimmed for line
16 clearance shows regrowth of canopy and healthier colored foliage. The dead Black Olive
17 in center of photo is not under or within clearance distances of electric lines.
18



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2 Photo 5: Closeup of the upper canopy of the Live Oak from Photo 4, showing the cut
3 ends and conditions of canopy from hatracking.
4



5
6 Photo 6: Looking west from the corner of NE 6 Avenue and NE 107 Street, the north side
7 of the street has a 3 phase feeder line, with only smaller maturing trees planted under the
8 lines (a Crape Myrtle is under the lines). The south side of the street is planted with Black
9 Olive trees that provide canopy and shade to the road and properties. This is an example
10 of good planning for continued utility reliability based on keeping trees outside a
11 potential conflict with the overhead lines.
12

1 There are additional locations inspected and additional photographs from the inspection
2 visit. The photographs here represent the most extreme examples for trees that were
3 trimmed for utility line clearance, roadway clearance, or by property owners (or their
4 contractors). It was my intention to reduce the amount of materials for review by
5 choosing to show trees that represent appearances that are complained about in the City
6 of North Miami Direct Testimonies, with answers to resolve those complaints.

ANSI A300 (Part 1)-2001 Pruning
Revision of ANSI A300-1995

American National Standard

ANSI A100 (Part 1)-2001 Pruning
Revision of ANSI A100-1995

*for Tree Care Operations —
Tree, Shrub, and Other Woody Plant
Maintenance —
Standard Practices (Pruning)*



FLORIDA PUBLIC SERVICE COMMISSION
DOCKET

NO. 060198-EI Exhibit No. 5

Company/ FPL

Witness: John A. Harris (JAH-2)

Date: 02-05-07

ANSI®
A300 (Part 1)-2001
Revision of
ANSI A300-1995

American National Standard
for Tree Care Operations –

Tree, Shrub, and Other Woody Plant Maintenance –
Standard Practices (*Pruning*)

Secretariat
National Arborist Association, Inc.

Approved May 22, 2001
American National Standards Institute, Inc.
Headquarters:
1819 L Street, NW
Sixth Floor
Washington, DC 20036
New York Office:
25 West 43rd Street
Fourth Floor
New York, NY 10036

American National Standard
for Tree Care Operations –

Tree, Shrub, and Other
Woody Plant
Maintenance –
Standard Practices
(Pruning)

1 ANSI A300 standards

1.1 Scope

ANSI A300 standards present performance standards for the care and maintenance of trees, shrubs, and other woody plants.

1.2 Purpose

ANSI A300 standards are intended as guides for federal, state, municipal, and private authorities including property owners, property managers, and utilities in the drafting of their maintenance specifications.

1.3 Application

ANSI A300 standards shall apply to any person or entity engaged in the business, trade, or performance of repairing, maintaining, or preserving trees, shrubs, or other woody plants.

1.4 Implementation

Specifications for tree maintenance should be written and administered by an arborist.

2 Part 1 – Pruning standards

2.1 Purpose

The purpose of this document is to provide standards for developing specifications for tree pruning.

2.2 Reasons for pruning

The reasons for tree pruning may include, but are not limited to, reducing risk, maintaining or improving tree health and structure, improving aesthetics, or satisfying a specific need. Pruning practices for agricultural, horticultural production, or silvicultural purposes are exempt from this standard.

2.3 Safety

2.3.1 Tree maintenance shall be performed only by arborists or arborist trainees who, through related training or on-the-job experience, or both, are familiar with the practices and hazards of arboriculture and the equipment used in such operations.

2.3.2 This standard shall not take precedence over arboricultural safe work practices.

2.3.3 Operations shall comply with applicable Occupational Safety and Health Administration (OSHA) standards, ANSI Z133.1, as well as state and local regulations.

3 Normative references

The following standards contain provisions, which, through reference in the text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard shall apply the most recent edition of the standards indicated below.

ANSI Z60.1, *Nursery stock*

ANSI Z133.1, *Tree care operations - Pruning, trimming, repairing, maintaining, and removing trees, and cutting brush - Safety requirements*

29 CFR 1910, General industry ¹⁾

29 CFR 1910.268, Telecommunications ¹⁾

29 CFR 1910.269, Electric power generation, transmission and distribution ¹⁾

29 CFR 1910.331 - 335, Electrical safety-related work practices ¹⁾

4 Definitions

4.1 anvil-type pruning tool: A pruning tool that

ANSI A300 (Part 1)-2001 Pruning

5.7.4 Restoration

5.7.4.1 Restoration shall consist of selective pruning to improve the structure, form, and appearance of trees that have been severely headed, vandalized, or damaged.

5.7.4.2 Location in tree, size range of parts, and percentage of watersprouts to be removed should be specified.

5.7.5 Vista pruning

5.7.5.1 Vista pruning shall consist of selective pruning to allow a specific view.

5.7.5.2 Size range of parts, location in tree, and percentage of foliage to be removed should be specified.

5.8 Palm pruning

5.8.1 Palm pruning should be performed when fronds, fruit, or loose petioles may create a dangerous condition.

5.8.2 Live healthy fronds, inclining at an angle of 45 degrees or greater from horizontal with frond tips at or below horizontal, should not be removed.

5.8.3 Fronds removed should be severed close to the petiole base without damaging living trunk tissue.

5.8.4 Palm peeling (shaving) should consist of the removal of only the dead frond bases at the point they make contact with the trunk without damaging living trunk tissue.

5.9 Utility pruning

5.9.1 General

5.9.1.1 The purpose of utility pruning is to prevent the loss of service, comply with mandated clearance laws, prevent damage to equipment, avoid access impairment, and uphold the intended usage of the facility/utility space.

5.9.1.2 Only a qualified line clearance arborist or line clearance arborist trainee shall be assigned to line clearance work in accordance with ANSI Z133.1, 29 CFR 1910.331 - 335, 29 CFR 1910.266 or 29 CFR 1910.269.

5.9.1.3 Utility pruning operations are exempt from requirements in 5.1 Tree Inspection.

5.1.1 An arborist or arborist trainee shall visually inspect each tree before beginning work.

5.1.2 If a condition is observed requiring attention beyond the original scope of the work, the condition should be reported to an immediate supervisor, the owner, or the person responsible for authorizing the work.

5.9.1.4 Safety inspections of the work area are required as outlined in ANSI Z133.1 4.1.3, job briefing.

5.9.2 Utility crown reduction pruning

5.9.2.1 Urban/residential environment

5.9.2.1.1 Pruning cuts should be made in accordance with 5.3, Pruning cuts. The following requirements and recommendations of 5.9.2.1.1 are repeated from 5.3 Pruning cuts.

5.9.2.1.1.1 A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar, or leaving a stub (see Figure 5.3.2).

5.9.2.1.1.2 A pruning cut that reduces the length of a branch or parent stem should bisect the angle between its branch bark ridge and an imaginary line perpendicular to the branch or stem (see Figure 5.3.3).

5.9.2.1.1.3 The final cut shall result in a flat surface with adjacent bark firmly attached.

5.9.2.1.1.4 When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

5.9.2.1.1.5 Tree branches shall be removed in such a manner so as not to cause damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be pre-cut to avoid splitting of the wood or tearing of the bark (see Figure 5.3.2). Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

5.9.2.1.1.6 A final cut that removes a branch

ANSI A300 (Part 1)-2001 Pruning

with a narrow angle of attachment should be made from the bottom of the branch to prevent damage to the parent limb (see Figure 5.3.7)

5.9.2.1.2 A minimum number of pruning cuts should be made to accomplish the purpose of facility/utility pruning. The natural structure of the tree should be considered.

5.9.2.1.3 Trees directly under and growing into facility/utility spaces should be removed or pruned. Such pruning should be done by removing entire branches or by removing branches that have laterals growing into (or once pruned, will grow into) the facility/utility space.

5.9.2.1.4 Trees growing next to, and into or toward facility/utility spaces should be pruned by reducing branches to laterals (5.3.3) to direct growth away from the utility space or by removing entire branches. Branches that, when cut, will produce watersprouts that would grow into facilities and/or utility space should be removed.

5.9.2.1.5 Branches should be cut to laterals or the parent branch and not at a pre-established clearing limit. If clearance limits are established, pruning cuts should be made at laterals or parent branches outside the specified clearance zone.

5.9.2.2 Rural/remote locations – mechanical pruning

Cuts should be made close to the main stem, outside of the branch bark ridge and branch collar. Precautions should be taken to avoid stripping or tearing of bark or excessive wounding.

5.9.3 Emergency service restoration

During a utility-declared emergency, service must be restored as quickly as possible in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268, or 29 CFR 1910.269. At such times it may be necessary, because of safety and the urgency of service restoration, to deviate from the use of proper pruning techniques as defined in this standard. Following the emergency, corrective pruning should be done as necessary.

Exhibit JAH-3 -- Miami-Dade County Tree Preservation Code
Note: Verbatim as written in current code book and MuniCodes website

MIAMI DADE COUNTY CODE

Sec. 8AA-159. Location/Relocation of Facilities.

...

(d) Provider shall have the authority to trim trees upon or overhanging streets, alleys, sidewalks and public ways and places of the County so as to prevent the branches of such trees from coming in contact with the wires and cables of the Provider, in a manner approved by and acceptable to the County. When the County determines such trimming is necessary to protect the health safety and welfare of the public, such trimming may be done by it or under its supervision and direction at the expense of the Provider, if prior notification has been given to the Provider and the Provider thereafter failed to respond.

Sec. 18A-11. Landscape maintenance.

(A) An owner is responsible to ensure that landscaping required to be planted pursuant to this chapter, or the ordinances which were in effect prior to the effective date of this chapter, is: (1) installed in compliance with the Landscape requirements; (2) maintained as to present a healthy, vigorous, and neat appearance free from refuse and debris; and (3) sufficiently fertilized and watered to maintain the plant material in a healthy condition.

(B) If any tree or plant dies which is being used to satisfy current landscape code requirements, such tree or plant shall be replaced with the same landscape material or an approved substitute.

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

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

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

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

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

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

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

(Ord. No. 95-222, § 2, 12-5-95; Ord. No. 98-13, § 1, 1-13-98)

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET

NO. 060198-EI Exhibit No. 6

Company/ FPL

Witness: John A. Harris (JAH-3)

Date: 02-05-07

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET

NO. 06019 E-ET Exhibit No. 7

Company/EP PL

Witness: John B. Harris (SAH-4)

Date: 02-05-07

Exhibit JAH-4 -- City of North Miami Landscape Standards and Tree Preservation Codes
Note: Verbatim as written in current code book and MuniCodes website

CITY OF NORTH MIAMI CODE

ARTICLE II. TREES

Sec. 20-15. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Dripline means the natural outside end of the branches of a tree or shrub projected vertically to the ground.

Equivalent replacement means a tree which due to condition, size and location is determined by a city representative to be equivalent to the tree to be removed.

Equivalent value means an amount of money which reflects the replacement cost of a tree based on size, condition, location and market value.

Hatracking means to uniformly remove the major part of the tree's crown reducing it in height and leaving a number of large bare limbs, characterized by a number of stubbed off branches.

Prune means to cut away, remove, cut off or cut back parts of the tree or plant which will alter the natural shape.

Tree means any self supporting woody or fibrous perennial plant, possibly shrubby when young, which has a trunk diameter of at least one (1) inch measured four and one-half (4 1/2) feet above grade usually with one (1) main stem or trunk and a more or less distinct and elevated head with many branches.

Tree abuse means any action which does not follow acceptable trimming practices as established by the National Arborist Association.

Tree services/arborist means any person, company, corporation or service which for compensation or a fee, transplants, removes, prunes, trims, repairs, injects or performs surgery upon a tree, whether or not in addition to other services.

Trim means to reduce, shorten or diminish a plant or parts of a plant without altering the natural shape or growth characteristics.

(Code 1958, § 27-1)

Sec. 20-16. Applicability

(a) The regulations contained in section 20-21, pertaining to relocation, replacement and donation, shall apply to all undeveloped property, and developed multifamily, commercial and industrial property.

(b) The regulations contained in section 20-23, pertaining to tree trimming standards, and section 20-27, pertaining to tree abuse, shall not apply to city property owners or tenants. These standards shall apply to tree services/arborists or other contractors performing tree-related work on nonexempted trees.

(c) Except as exempted in this section, the terms and provisions of this article, shall apply to all real property within the city.

(d) Specifically exempt from the terms and provisions of this article are the following species of trees: *Ricinus communis* (castorbean); *Psidium guajava* (guava); *Schinus terbinthinifolius* (Brazilian pepper tree); *Aibezzia lebbek* (woman's tongue); *Metropium toxiferum* (poison wood); *Malaleuca leucadendra* (malaleuca); *Bischofia javanica* (bishop wood); *Casuarina equisetifolia* (Australian pine); *Brassia actino-phylla* (schefflera); *Ficus benjamina* (fig); *Ficus elastica* (rubber tree plant or fig); *Ficus anura* (fig); *Araucaria heterophylla* (Norfolk Island pine); and *Euphorbia tirucalli* (pencil tree) provided that removal along canal banks of those species of trees as set forth in this subsection shall be governed by section 20-21.1 of this article.
(Code 1958, § 27-1; Ord. No. 926, § 1, 11-22-94)

Sec. 20-17. Enforcement.

This article shall be subject to enforcement by the local Code Enforcement Boards Act, F.S. chapter 162, as amended, through the city code enforcement board. Enforcement may also be by suit for declaratory, injunctive or other appropriate relief in a court of competent jurisdiction.
(Code 1958, § 27-13)

Sec. 2-18. Permit for removal--Required.

It shall be unlawful for any person, directly or indirectly, to cut down, destroy, remove or move, effectively remove through damaging, any tree within the city without first obtaining a permit to do so as provided in this article.
(Code 1958, § 27-2)

Sec. 2-19. Same--Application.

(a) *Application not in conjunction with building permit.* Any person wishing to remove any tree not exempted by section 20-16, shall file an application with the department of community planning and development on a form provided therefor. The application shall include the reasons for removal and be accompanied by a site plan drawn to scale no smaller than one (1) inch equals sixteen (16) feet indicating the location, the size in estimated height and trunk circumference at four and one-half (4 1/2) feet aboveground, and the common name of the tree to be removed.

(b) *Application in conjunction with building permit.* Any person wishing to remove any tree defined in section 20-15 in conjunction with development for which a building permit is required, shall file an application with the department of community planning and development on a form provided therefor. The application shall include the reasons for removal and be accompanied by:

(1) A certified survey of the property showing:

- a. Location of all existing improvements, property lines, setback lines, walls and fences, and other planned areas or structures on the site;
- b. The location, size in estimated height and trunk circumference at four and one-half (4 1/2) feet aboveground and common name of all trees with a designation of all diseased trees and any trees endangering any roadway and pavement or utility lines.

(2) A site plan drawn to scale no smaller than one (1) inch equals sixteen (16) feet indicating:

- a. Designation of those trees to be removed, retained, moved to another location on site, and proposed location of new trees;
 - b. Proposed grade changes due to flood criteria fill requirements, or grade changes resulting from the proposed site development, which might adversely affect or endanger any trees on the site.
- (3) No building permit shall be issued until the site plan required by this section has been reviewed and approved by the building division.
- (4) No certificate of occupancy shall be issued until tree replacement, relocation or monetary donation, if required, has been accomplished.
- (Code 1958, § 27-3);

Sec. 20-20. Same--Issuance.

- (a) On receipt of an application, the site shall be field checked by a representative of the department of community planning and development. The city engineer shall review the application to determine what effect it will have upon the drainage, topography, and the natural resources of the area. Based upon a review of the above factors, and conditions set forth below, the permit shall either be granted or denied by the department of community planning and development of the city.
- (b) No permit shall be issued for the cutting down or removal of any tree unless one (1) of the following findings is made:
- (1) The location of the tree unreasonably restricts the beneficial use of the property;
 - (2) The location of the tree is in the portion of the site where a structure is proposed, and the relocation of the structure is not feasible or possible;
 - (3) The condition of the tree with respect to disease, danger of falling, proximity to existing or proposed structures, or interference with overhead or underground utility service including but not limited to lawful septic tanks, is such that it is in the furtherance of the public health or safety to permit its removal.
- (Code 1958, § 27-4)

Sec. 20-21. Relocation, replacement, donation.

- Except for an application to remove a tree pursuant to subsection 20-20(3), as a condition for approval of an application for removal, the department of community planning and development will allow the applicant to choose one (1) of the following options:
- (1) Relocate the tree on the site or to another location within the city, and guarantee its survival for a period of one (1) year;
 - (2) Plant and maintain an equivalent replacement on the site;
 - (3) Donate an equivalent replacement to the city, plant it on public property and provide a one (1) year survival guarantee;
 - (4) Replace the tree with an equivalent value donation plus an amount equal to the value of the tree multiplied by two (2), to cover the average costs of transportation, installation and tree establishment.
- (Code 1958, § 27-5; Ord. No. 951, § 1, 9-26-96)

Sec. 20-21.1. ...

Sec. 20-22. ...

Sec. 20-23. Trimming standards.

(a) Tree trimming shall follow acceptable trimming practices as established by the National Arborist Association and shall be consistent with the following standards:

(1) All cuts shall be clean, flush and at junctions, laterals or crotches. Tunneling or drop crotch trimming for overhead utility lines shall be followed.

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

(b) A deviation from the above practices and standards shall not be construed to violate this section to the extent such deviation is directly necessitated by the close proximity of the subject tree to a house, building or other similar structure.

(Code 1958, § 27-7)

Sec. 20-24. ...

Sec. 20-25. Public property.

No tree on public property shall be removed except as required by the City of North Miami.

(Code 1958, § 27-11)

Sec. 20-26. Emergencies.

If any tree is determined to be in hazardous or dangerous condition so as to endanger the public health, welfare, or safety, and requires immediate removal without delay, verbal authorization by phone may be given by the director of the department of community planning and development, the director of the parks and recreation department, or the city manager, and the tree removed without obtaining a written permit as required by this article. In the case of emergencies such as a hurricane or other disaster, the requirements of this article may be waived by the city manager during this period.

(Code 1958, § 27-12)

Sec. 20-27. Tree abuse--Prohibited; defined.

Tree abuse is prohibited. Abused trees may be required to be replaced. Tree abuse includes:

(1) Damage inflicted upon any part of a tree, including the root system, by machinery, mechanical attachment, storage of materials, soil compaction, excavation, vehicle accidents, chemical application or change to the natural grade;

(2) Damage inflicted to or cutting upon a tree which permits infection or pest infestation;

(3) Cutting upon any tree which destroys the natural shape;

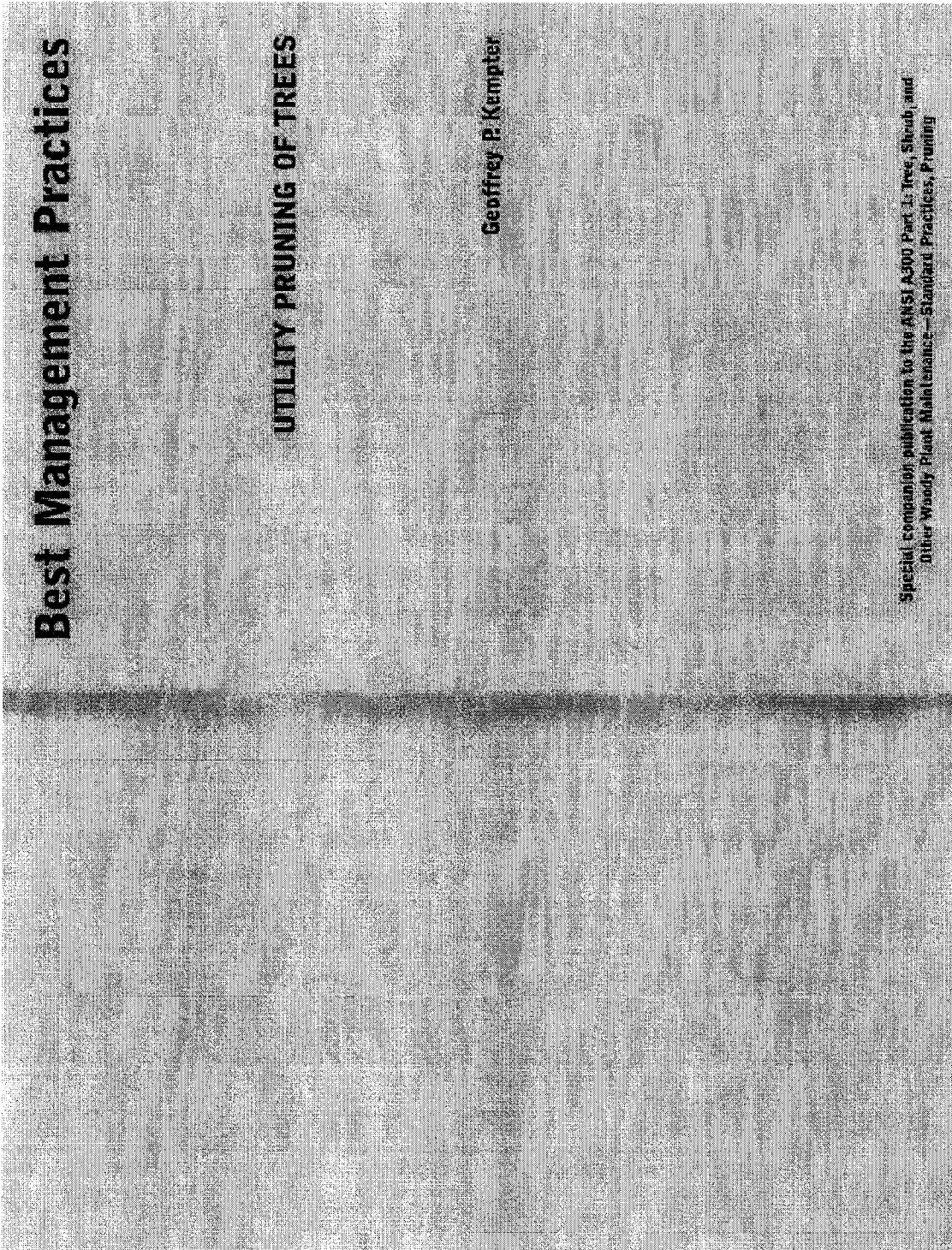
(4) Hatracking;

(5) Bark removal more than one-third of the tree diameter measured four and one-half (4 1/2) feet aboveground;

(6) Tears and splitting of limb ends or peeling and stripping of bark;

(7) Use of climbing spikes.

(Code 1958, § 27-8)



FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-EI Exhibit No. 8
Company/FPL
Witness: John A. Harris (JAH-5)
Date: 02-05-07

remove a branch over more than one pruning cycle rather than all at once. Subsequent pruning may also require cutting to laterals of less than recommended size, but only as a temporary measure.

Directional Pruning

Directional pruning is accomplished by pruning unwanted branches back to lateral branches or parent stems that are growing away from the facility (Figure 9). These lateral branches should be of sufficient size to become dominant, thus discouraging the growth of sprouts. This method is often referred to as *drop-cropping* or *normal pruning*. Directional pruning is most effective when natural tree characteristics such as size, shape, and expected growth rate are taken into consideration. It also is important to understand the effect of other factors, such as apical dominance, or expected tree response to pruning.

Apical dominance is the suppression of lateral buds (located along the sides of branches) by terminal buds (found at branch tips). When terminal buds are removed, apical dominance is reduced. The tree increasingly sprouts from lateral buds as a result, which is why trees respond with vigorous sprout growth when they are severely headed or topped over. Directional pruning serves as many terminal buds as possible, leading to less vigorous sprouting from lateral buds.

The effect of directional pruning on the shape of the tree depends

on the tree's natural growth habit and where the tree is relative to the facility. Trees growing directly beneath facilities assume a different shape than trees growing beside them (Figure 10). Removal of overhanging limbs may or may not be appropriate, depending on the type of facility, tree species, or other site conditions (Figure 11).

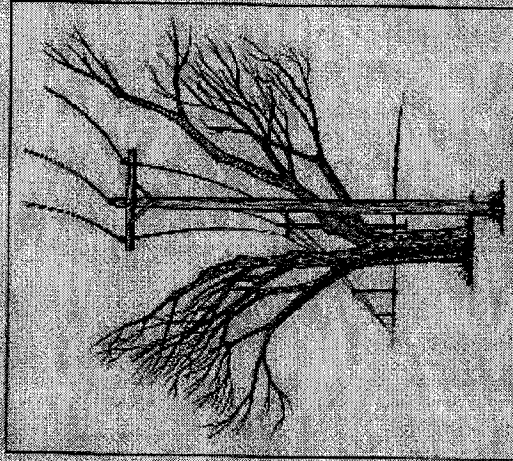
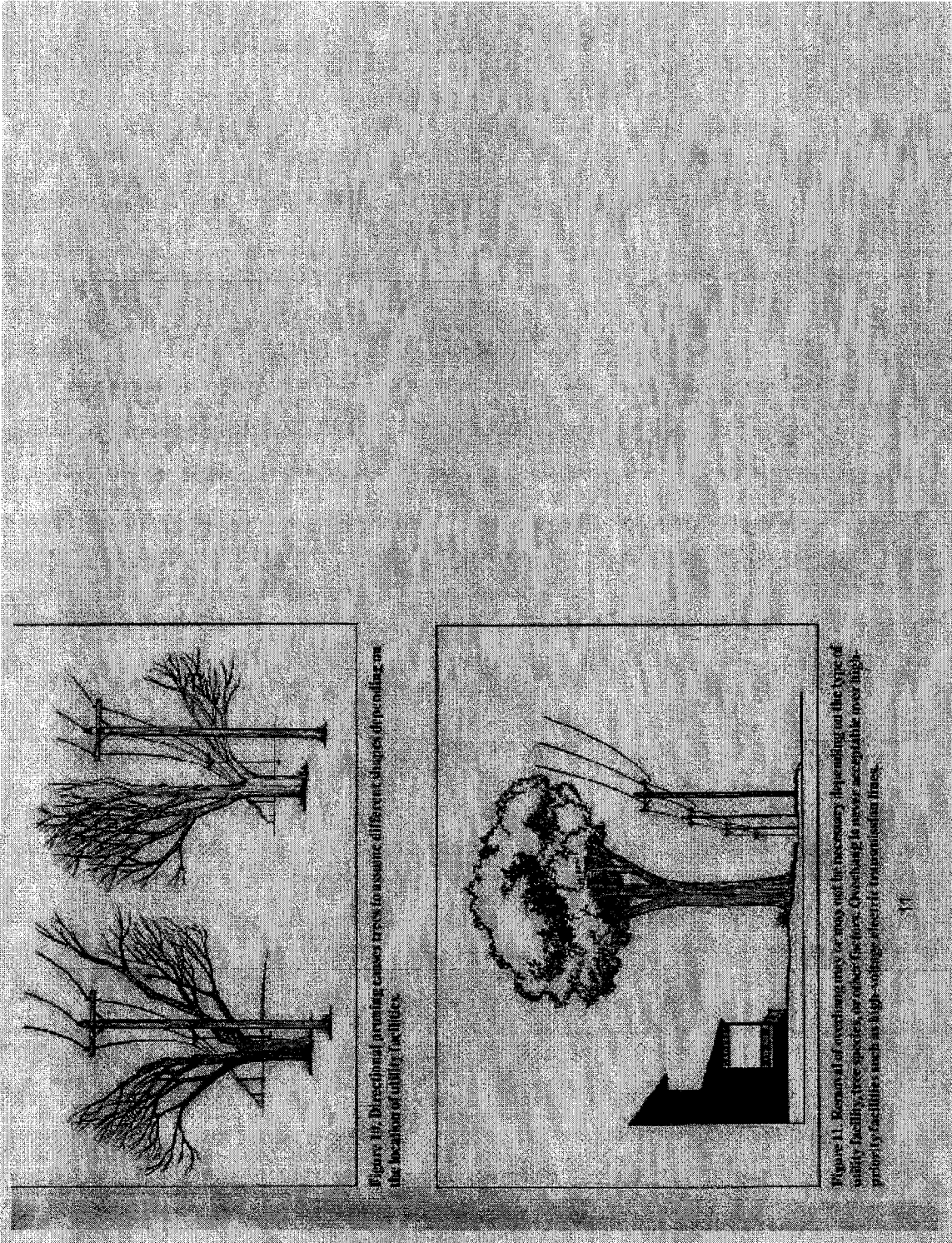


Figure 9. Directed pruning (also known as natural pruning) encourages growth away from structures.



Unfortunately, trees do not always have sufficiently large lateral branches growing in the right direction to assure dominance. Large trees with an eccentric, or upright, growth habit that are growing directly beneath a facility often pose this dilemma. If these trees are to be retained, it may be necessary to prune to smaller laterals in order to obtain the required clearance. Whenever practical, such trees should be removed and, if appropriate, replanted with compatible species.

Pre-Established Clearing Limits

Many pruning specifications require a minimum clearance between tree branches and utility facilities. If used, such pre-established clearing limits should allow for variables such as:

- tree species characteristics
- expected growth rate
- natural tree structure
- expected reaction to pruning
- wood strength
- overall tree health
- length of time until next scheduled pruning
- type of facility (voltage, construction type, etc.)

Factors such as the presence of other trees, buildings, terrain, and other site features also contribute to the shape or growth patterns of trees and should be taken into account when obtaining clearances.

Utility arborists should be familiar with the characteristics of trees in the areas where they work and should obtain clearances accordingly. For example, more clearance may be necessary on fast-growing or weak-wooded trees. When minimum clearances are required, pruning cuts should be made at the next suitable lateral or primary limb beyond the specified distance, whenever practical (see Figure 8).

Rounding Over and Notching Cuts

Rounding over or topping, as the now discredited practice of indiscriminately stubbing the entire crown of a tree (Figure 12). In this process, a series of heading cuts are made between lateral branches, notches in the lateral. This once widespread practice is now considered unacceptable because it severely damages trees and encourages rapid re-growth. Many tree species respond to heading, topping, rounding over, or other severe treatments with a flush of fast-growing sprouts, which can rapidly overtake conductors (Figure 13).

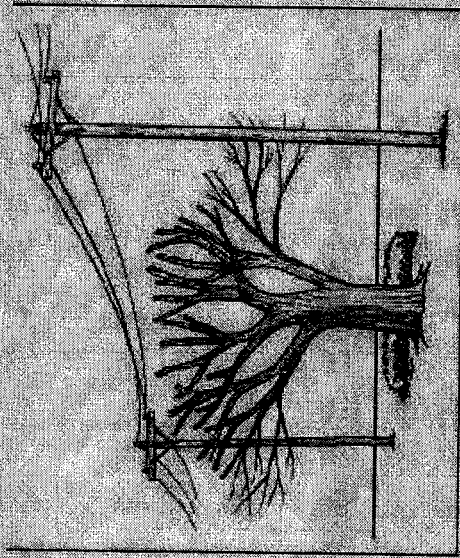


Figure 12. Reaching over, tapping, or striking severely damaged trees and its now a electrical hazard.

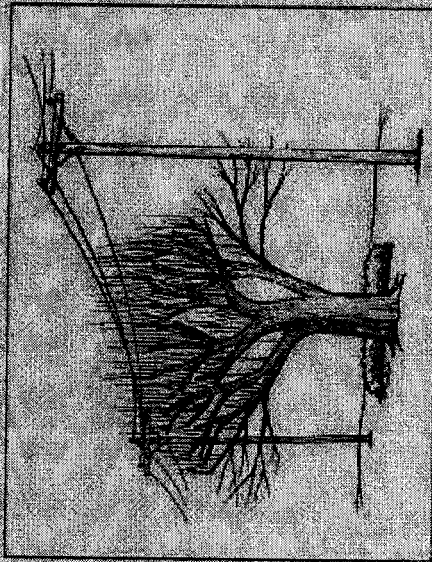


Figure 13. Mature trees required to maintain over with a bush of trees growing upwards directly under the electric facilities.

Trees sprout heavily following over or severe pruning and produce rapid new growth, often right back into the area in which it is desirable. In addition, repeated rounding over depletes food stores, weakens trees, and increases susceptibility to insects, diseases, and fire. In contrast, directional pruning cuts to lateral, which removes only what is necessary, protects tree health, and more effectively clears the facility.

Pollarding

Pollarding is an established pruning method that maintains certain species of trees and shrubs at a predetermined size by systematically removing annual growth. Many people mistakenly refer to the indiscriminate rounding over and heading of trees to reduce their size as *pollarding* (Figure 14).

True pollarding is a careful and deliberate process. It is accomplished by making straight, closely placed heading cuts, after which all new shoots are carefully removed

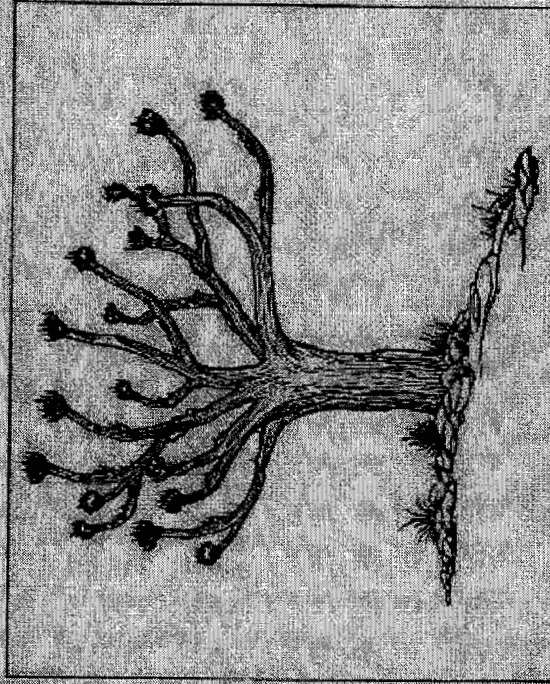


Figure 14. The practice of pollarding requires annual removal of all annual growth, without damaging the woody limbs that form at the ends of branches. Rounding over or stubbing is not the same as pollarding. Pollarding is generally not practical under utility facilities.

...of the original code. For more information on pruning, refer to *Pruning: Tree Pruning* (published by ISA).

Though pollarding is effective in controlling the size of certain tree species, the required frequency of pruning and accompanying cost make routine use of this method impractical along utility corridors.

Tree Response to Utility Pruning

Following pruning, the amount of sprout growth is determined by a number of factors, including:

- **Species:** Some tree varieties such as sycamores (*Platanus* spp.), cottonwood (*Populus* spp.), certain maples (*Acer* spp.), Linden (*Liriodendron* spp.), and others are known for prolific sprouting following pruning.
- **Pruning methods:** Trees cut back to suitable lateral sprout less than trees that are rounded over, headed back, or pruned to lateral top spatially maintain dominance.
- **Vitality:** Trees in good health, with plenty of stored reserves, are likely to respond with vigorous growth, often in the form of sprouts. Severely stressed trees may also invest their last reserves in heavy sprout growth.
- **Amount removed:** The higher the percentage of crown removed, the stronger the expected growth response from a given tree.

Cycle Pruning

Pruning for clearance is best done on regular, cyclical basis. Cycle pruning has many demonstrable advantages, including enhanced utility reliability, reduced biological and aesthetic impact on trees and neighborhood, and stabilized or reduced tree maintenance budgets. To allow for variation in tree growth rates among different species, clearance distances should be recommended for individual species based on expected growth rates.

Cycle length is the amount of time between scheduled pruning operations. The cycle length should be established to ensure that tree growth will not overcome utility facilities prior to the next scheduled pruning. The optimal pruning cycle length is determined by the amount of clearance that can realistically be obtained as well as the expected growth rates of the trees present. Maintenance cycles generally are shorter in areas with long growing seasons or with a high percentage of fast-growing tree species. Likewise, in areas with short growing seasons or many slow-growing tree species, maintenance cycles can be longer.

Emergency Service Restoration

Threat from Storms

Extreme weather, such as high winds or ice storms, often causes tree failures, which may severely impact utility facilities. Storms can be local events or can affect entire regions. The level of threat depends on the probability of severe weather occurring in an area, the tree density and species mix, and the amount of maintenance done on trees near utility facilities.

No geographical areas are completely free from the threat of storms, though some areas are more likely to experience severe storms on a regular basis. Utility storm response plans should include provisions for widespread tree failures. Additionally, a cyclical tree pruning program, using appropriate specializations, will help reduce the potential of damage to facilities caused by tree and branch failure during storms.

Deviation from Standards Following Storms

Following severe storms, tree damage is often widespread, and utility services may be interrupted across a large area. At such times, government authorities or utilities may declare an emergency. Emergency service workers, including utility arborists, are likely to be involved in a coordinated effort to restore critical services. Damaged trees have the potential to impede the safety of both the public and utility workers. To expedite restoration efforts under such urgent circumstances, it may be necessary for workers to deviate from standard pruning practices until the emergency is over and services are restored.

Corrective Pruning

Following a storm emergency, the condition of remaining trees should be assessed. Ideally, this assessment will be performed by utilities, local governments, and other property owners in a coordinated effort. Corrective pruning methods should be employed when practical and should follow clearly defined goals and objectives.

$$171 \div 6 = 28.5$$

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET

NO. 060198-EI Exhibit No. 9

Company/ City of North Miami

Witness: Average lateral Mike to be trimmed to

Date: 02/05/05 meet a 4 yr. cycle

LATERAL MILES TRIMMED

2004: 15
2005: 5
2006: 0

TOTAL: 20
÷ 3

6.66 Lateral Miles Trimmed per Year

FPL PROPOSED LATERAL MILES TRIMMED FOR NEXT 3 YEARS:

2007: 14
2008: 24
2009: 13

TOTAL 51
÷ 3

17 Lateral Miles Proposed to be Trimmed Next 3 years

- TO MEET A 6 YEAR TRIM CYCLE, 28.5 MILES OF LATERALS A YEAR MUST BE TRIMMED.
- FLORIDA POWER PROPOSES TO COMPLETE IMPLEMENTATION OF THE 6 YEAR CYCLE IN 2013.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-EI Exhibit No. 10
Company/City of North Miami
Witness: Lateral Miles Trimmed
Date: 02/05/07

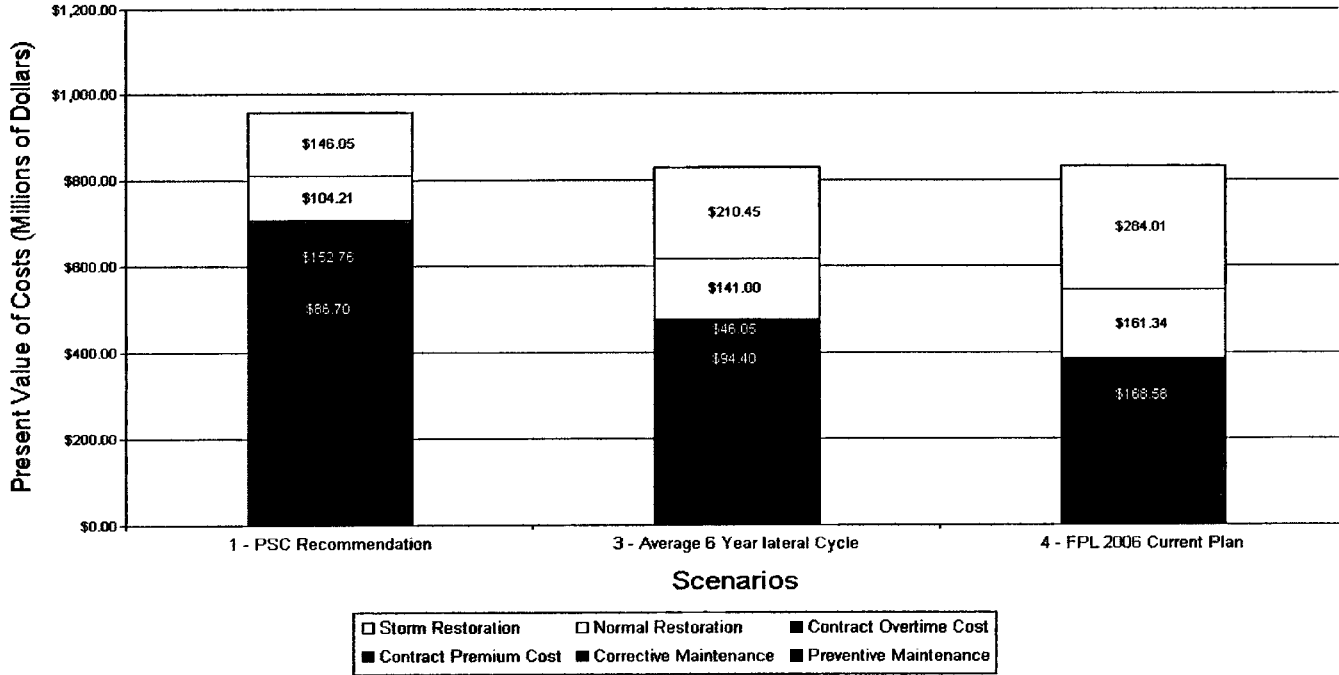
Scenario	Tree SAIFI in 10 years	Year 1 Incremental Tree Trimming FTE's Required	10 Year Annual Average Storm Avoided "CI"	Year 1 Hard Cost (Millions)	10 Year Average Annual Cost (Millions)	10 Year Average Annual Incremental Cost (Millions)	10 Year Average Cost per Avoided Storm CI	Dollar Savings per Storm CI
FPSC 3 yr. / 3 yr.	0.14	700	155,000	\$138.4	\$102.5	\$43.5	\$280	(\$145)
FPL 3 yr. / 6 yr.	0.16	227	100,000	\$65	\$71.9	\$12.9	\$129	\$6
FPL's Current Plan Going Forward	0.22	—	—	\$50.8	\$59	—	—	—

Notes:

- (1) Cost per storm CI is \$135/CI, based on FPL's actual total 2004 & 2005 hurricane restoration costs divided by the total number of Customers Interrupted (CI).
- (2) "Dollar savings per storm CI" is the difference between restoring a CI and the projected cost of avoiding a CI.
- (3) Under FPL's current plan there would be no avoided storm CI, since it is used as a baseline.

FLORIDA PUBLIC SERVICE COMMISSION
 DOCKET
 NO. 060198-EI Exhibit No. 11
 Company/ FPL
 Witness: Manuel B. Miranda (MBM-1)
 Date: 02-05-07

Ten Year Present Value of Costs Analysis



FLORIDA PUBLIC SERVICE COMMISSION
 DOCKET
 NO. 060198-EI Exhibit No. 12
 Company/ FPL
 Witness: Manuel B. Miranda (MBM-2)
 Date: 02-05-07

UTILITY

LATERAL TRIM CYCLE

TRANSITION PERIOD
BEFORE CYCLE
FULLY
IMPLEMENTED

TAMPA ELECTRIC	3	2-3 YEARS
FLORIDA PUBLIC UTILITIES	3	?
FLORIDA PROGRESS	5	?
GULF POWER	6	?
FLORIDA POWER & LIGHT	6	6 YEARS

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-E3 Exhibit No. 13
Company/ City of North Miami
Witness: Other Utility Lateral Trim Cycles
Date: 02/05/07

FLORIDA POWER LATERAL TRIMMING PER YEAR IN NORTH MIAMI

2004: 15

2005: 5

2006: 0

2007: 14

2008: 24

2009: 13

2010: ?

2011: ?

2012: ?

2013: 28.5

- FPL PROPOSES TO TRIM LESS IN 2009 THAN IT TRIMMED IN 2004
- FPL PROPOSES TO TAKE LONGER TO DO LESS THAN EVERY OTHER UTILITY

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET

NO. 060198-EI Exhibit No. 14

Company/ City of North Miami — Florida Power

Witness: Lateral Trimming Per Year in No. Miami

Date: 02/05/07

FPL ALLEGED COSTS OF 6 YEAR LATERAL TRIMMING CYCLE PROGRAM

<u>YEAR</u>	<u>Annual Cost</u>	<u>Lateral Miles Trimmed in City Of North Miami</u>
2005	\$ 34.3 M	5
2006	\$ 50.2 M	0
2007	\$ 65 M	14
2012	\$ 73.6 M	?

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET

NO. 060198-EI Exhibit No. 15

Company/ CITY OF North Miami

Witness: FPL Alleged Cost of Trimming Cycle

Date: 02/05/07 Program

Florida Power Historical and Suggested Cost of Tree Trimming

<u>Year</u>	<u>Cost</u> <u>(Millions)</u>	<u>Miles Trimmed</u>			<u>Total Miles Trimmed</u> <u>(Rounded)</u>
		<u>Laterals</u>	<u>Feeders</u>	<u>Mid-Cycle</u>	
2003	\$40.4	1902	5282	2800 (assume average of 2004 and 2005)	10,000
2004	\$38.6	4911	4379	3453	12,800
2005	\$39.3	1110	3,333	2277	6,700
2006	\$50.2	725	5,900	4,300	10,900
2007	\$65.0	1,900	4,400	4,000	10,300
2008	\$64.4	2,000	4,600	4,000	10,600
2009	\$68.4	2,700	5,200	4,000	11,900
2010	\$72.3	3,100	5,300	4,000	12,400
2011	\$73.0	3,300	5,600	4,000	12,900
2012	\$73.6	3,700	5,200	4,000	12,900

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET

NO. 060198-EI Exhibit No. 16

Company/City OF North Miami

Witness: FP Historical & Suggested Cost of tree

Date: 08/05/05

Trimming

Impacts of Feeder Customer Interruptions

Year	2001	2003*	2006**
Feeder Customer Interruptions	251	320	142
Customers Served Per Feeder	1,500	1,500	1,500
Customers Impacted (Average)	376,500	480,000	213,000
People Impacted (assuming 3 people/household)	1,129,500	1,440,000	639,000

**Impacts of Lateral Customer Interruptions Based on FPL System-Wide Average
Customers Served Per Lateral**

Year	2001	2003*	2006**
Lateral Customer Interruptions	13,166	18,987	8,733
Average Customers Served/Lateral	35	35	35
Customers Impacted	460, 810	664,545	305,655
People Impacted (assuming 3 people/household)	1,382,430	1,993,635	916,965

- In the City of North Miami, the average number customers served by a lateral is higher, 55, than FPL's system-wide average of 35.
- There are nearly 60% more customers served by a lateral in the City of North Miami than served by a typical FPL lateral.

* Before 2004 and 2005 hurricanes and storms.

** After 2004 and 2005 hurricanes and storms.

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-ET Exhibit No. 17
Company/ City of North Miami
Witness: Impacts of Feeder Customer
Date: 02/05/07

EXHIBIT NO. 18

DOCKET NO: 060198-EI - REQUIREMENT FOR INVESTOR-OWNED
ELECTRIC UTILITIES TO FILE ONGOING STORM
PREPAREDNESS PLANS AND IMPLEMENTATION COST
ESTIMATES.

DESCRIPTION: STAFF'S EXHIBIT

DOCUMENTS:

1. LFX-3 – NORTH MIAMI VEGETATION –RELATED RELIABILITY STATISTICS
MANUEL B. MIRANDA DEPOSITION

PROFFERED BY: STAFF

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 060198-EI Exhibit No. 18
Company/FPSC Staff
Witness: No. Miami Vegetation-Related Reliability Statistics
Date: 02/05/09

	North Miami 2006*	FPL System 2006*	U.S. (EEI) 2005**
<u>Overall Reliability Indicators</u>			
SAIDI	71.7	75.1	134.8
SAIFI	1.07	1.29	1.21
CAIDI	66.9	58.4	109.7
<u>Vegetation Related Indicators</u>			
Vegetation Outages vs. Total Outages (%)	7.0%	9.3%	17%
Vegetation CI vs. Total CI (%)	2.4%	6.4%	N/A
Vegetation SAIFI	0.03	0.08	N/A

* 2006 info preliminary – final available 3/1/07 – changes, if any, would be minor

** 2006 EEI info not available until late 2007

N/A – Information not available

North Miami Vegetation Statistics

- Lateral miles trimmed expected to increase 2.5 times (2004-2006 – 20 miles vs. 2006-2009 – 51 miles)
- Lateral average “time since last trim” scheduled to decrease 17% by 2009 (7.6 years vs. 6.3 years)

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET

NO. DL0198-EI Exhibit No. 19

Company/ CITY OF North miami

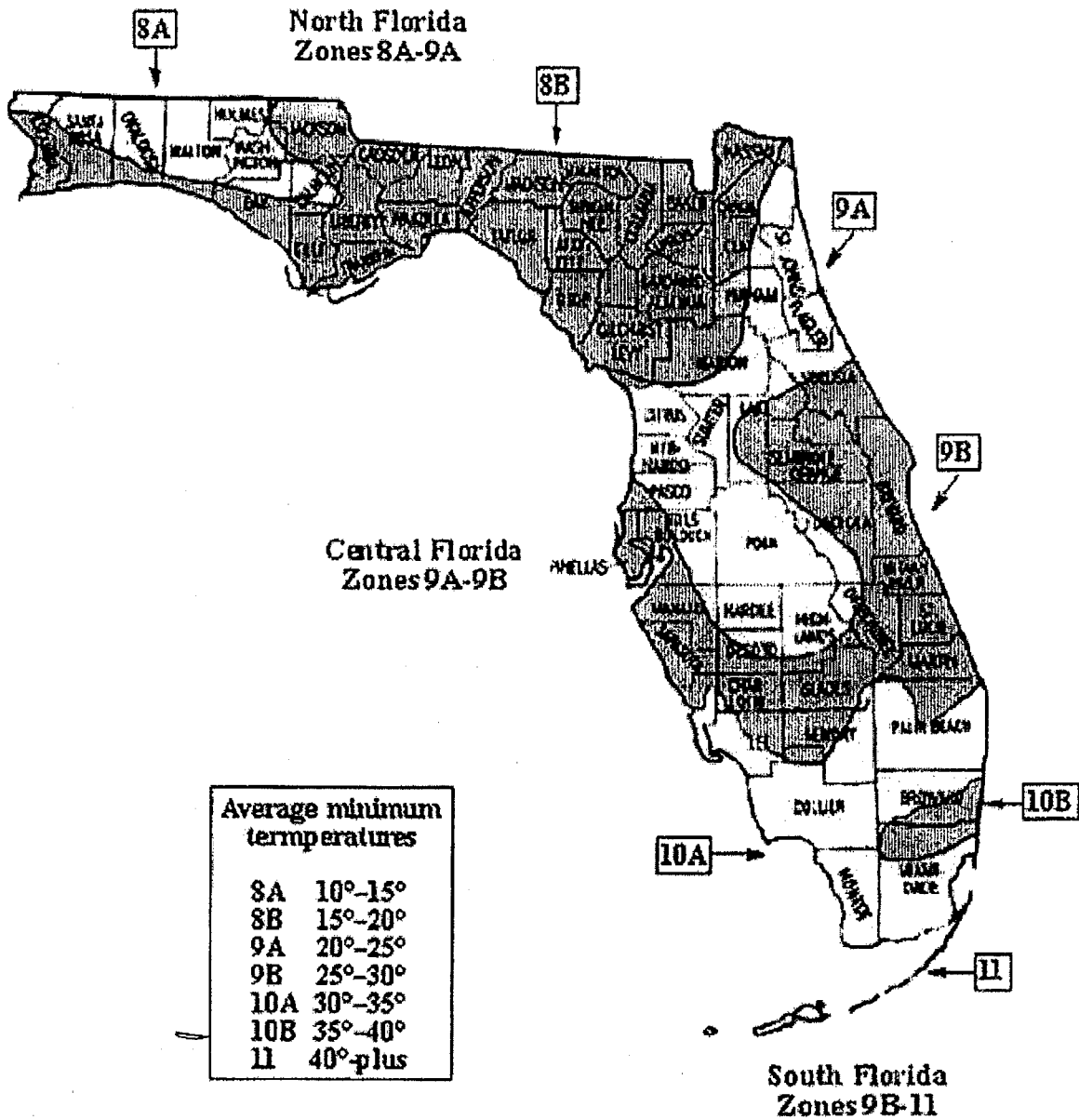
Witness: USDA Plant Hardiness Zones by

Date: 02/05/07 FL Counties

ORIGINAL

Docket No. 060
198-EI
North Miami re
buttal KM-1(1)

**USDA plant hardiness zones
by Florida counties**



Petitioner's Exh. # 19
1-11-07
L.Q.R.

DOCUMENT NUMBER-DATE

00447 JAN 16 5

EPSC-COMM...