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November 27, 2007

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Ms. Ann Cole, Director
Commission Clerk and Administrative Services
Room 110, Easley Building
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

Re: Docket No. 070300-EI

Dear Ms. Cole:

Enclosed for filing on behalf of Florida Public Utilities Company are an original and fifteen copies of the Direct Testimony of P. Mark Cutshaw on behalf of Florida Public Utilities Company in the above referenced docket.

Please acknowledge receipt of this letter by stamping the extra copy of this letter "filed" and returning the same to me.

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Enclosure

cc: Mr. P. Mark Cutshaw
Parties of Record

Thank you for your assistance with this filing.

Sincerely yours,

Norman H. Horton, Jr.

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**DIRECT TESTIMONY
OF
P. MARK CUTSHAW**

IN

**FLORIDA PUBLIC UTILITIES COMPANY
DOCKET NO. 70300-EI**

**IN RE: FLORIDA PUBLIC UTILITIES COMPANY
STORM HARDENING PLAN FOR THE
YEARS 2007 -2009**

1 **Q. Please state your name, affiliation, business address and summarize your**
2 **professional experience and academic background.**

3 A. Witness Cutshaw: My name is P. Mark Cutshaw. I am the General
4 Manager, Northeast Florida for Florida Public Utilities Company (FPU). My
5 business office address is 911 South 8th Street, Fernandina Beach, Florida
6 32034. I joined FPUC in May 1991 as Division Manager in the Marianna
7 (Northwest Florida) Division. In January 2006, I moved into my current
8 position of General Manager in our Northeast Florida Division. I graduated
9 from Auburn University in 1982 with a B.S. in Electrical Engineering and
10 began my career with Mississippi Power Company in June 1982. While at
11 Mississippi Power Company I held positions of increasing responsibility that
12 involved budgeting, operations and maintenance activities at different company
13 locations. My work experience at FPUC includes all aspects of budgeting,
14 customer service, operations and maintenance in both the Northeast and
15 Northwest Florida Divisions. In 1993, I participated in the Cost of Service
16 study for the Marianna Division Rate Case Filing and testified during the

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1 proceeding. I also participated in the 2003 rate case filing that consolidated the
2 rates for both divisions. I have also been involved with other filings, audits and
3 data requests before the FPSC.

4 **Q. Are you also familiar with the operations and management of the**
5 **Northeast and Northwest Florida divisions?**

6 A. Yes. As General Manager and having worked in both divisions, I am
7 familiar with all aspects of the operations and management. I have also been
8 responsible for collecting the information necessary to file this plan.

9 **Q. What is the purpose of your testimony in this proceeding?**

10 A. I will cover the Company's Storm Hardening Plan for the years 2007
11 through 2009 as filed July 3, 2007.

12 **Q. Please describe your service area and the customers that will be impacted**
13 **by this plan.**

14 A. The service area is divided into the Northeast and Northwest Florida
15 Divisions with a total of approximately 28,000 customers. The Northeast
16 Florida Division is located in Nassau County with the service area being
17 confined to Amelia Island. The Northwest Florida Division is located in
18 portions of Jackson, Calhoun and Liberty Counties with the majority of the
19 customer base being located in Jackson County.

20 **Q. Please summarize the Company's Storm Hardening Plan and the proposed**
21 **amendment regarding Vegetation Management.**

22 A. The Company's Storm Hardening Plan is comprise of seven sections that
23 address the following items. It should also be noted that a Petition for

1 Amendment was filed to modify the initially proposed Vegetation Management
2 Plan as described below.

3 Section 1.0 is the Wood Pole Inspection Plan that involves the inspection along
4 with strength and loading assessments of all wood distribution poles on an eight
5 year cycle.

6 Section 2.0 is the Ten Part Storm Preparedness Plan which includes the
7 following.

8 Section 2.1 is the Vegetation Management Plan which includes a three year
9 trim cycle on all main feeders and a six year trim cycle on all laterals. The
10 plan also addresses the collection of data for the program, a hazard tree
11 program and transmission line program.

12 Section 2.2 is the Joint-use Pole Attachment Audit which involves an audit
13 of all attachments in order to determine the number of attachments and a
14 general assessment of the attachments. The strength and loading
15 assessments will not occur during this inspection but will occur during the
16 pole inspection program.

17 Section 2.3 is the Inspection of Transmission Structures which includes a
18 detailed inspection of all 138 KV and 69 KV transmission lines and
19 substations. The inspection will ensure all facilities are inspected on a six
20 year cycle.

21 Section 2.4 is the Storm Hardening Activities for Transmission Structures
22 which includes schedule to replace all wood 69 KV structures with
23 concrete. The initial plan included a fifteen year replacement for these

1 structures. However, in Docket #070304-EI, it has been proposed to
2 extend this to a twenty year schedule.

3 Section 2.5 is the completion of the Geographic Information System in
4 both divisions.

5 Section 2.6 is the Post Storm Data Collection and Forensic Analysis which
6 include the development of the program and the collection data from
7 forensic analysis after any major storm event.

8 Section 2.7 is the collection of Outage Data for Overhead and Underground
9 Systems.

10 Section 2.8 is the Coordination with Local Governments which includes an
11 increased level of interaction with local governments during storm events
12 as well as discussions on vegetation management and undergrounding
13 issues.

14 Section 2.9 is the Collaborative Research which includes involvement with
15 storm hardening research with other utilities and the Public Utility
16 Research Center at the University of Florida.

17 Section 2.10 is the Disaster Preparedness and Recovery Plan.

18 Section 3.0 is the Compliance with NESC Overhead Requirements which
19 addresses the level at which all FPU facilities will meet or exceed the
20 NESC requirements. This section also addresses the plan for incorporating
21 the Extreme Wind Loading Standards for facilities along major highways
22 or providing service to critical infrastructure.

1 Section 4.0 is the Mitigation of Damage Due to Storm Surge and Flooding
2 which includes plans to address these issues when practical and cost
3 effective.

4 Section 5.0 is the Placement of New and Replacement Facilities which
5 requires that all new facilities will be placed on public rights of way or
6 private easements that are readily accessible and provide for safe and
7 efficient work space.

8 Section 6.0 is the Deployment Strategy and includes the following.

9 Section 6.1 is the Description of Facilities Affected which includes the
10 proposed methods for deployment of many of the items included in the
11 storm hardening plan. The detailed specifications have yet to be developed
12 and are contingent upon the final resolution of the Rate Proceeding in
13 Docket #070304.

14 Section 6.2 addresses the deployment within the Communities and Areas
15 Affected by Electric Infrastructure Improvements.

16 Section 6.3 addresses the Upgrading of Joint Use Facilities and identifies
17 the proposed projects that will impact third party attachers.

18 Section 6.4 addresses the Estimated Cost and Benefits for the projects
19 included in the plan. This includes the cost of projects but does not include
20 the benefits analysis due to a lack of data needed to support the
21 assumptions.

22 Section 7.0 is the Joint Use Impact associated with the Storm Hardening
23 Plan and includes the following.

1 Section 7.1 is the Wood Pole Inspections which addresses the process for
2 determining how the inspection process will occur.

3 Section 7.2 is the Joint Use Audit program.

4 Section 7.3 is the Attachment Standards and Procedures which allows the
5 continuation of the current contracts with third party attachers.

6 Section 7.4 is Soliciting Input from Third Party Attachers.

7 Section 7.5 is the Estimate of Costs and Benefits from Third Party
8 Attachers.

9 **Q. What impact will this plan have on the continuing operations of the**
10 **Company**

11 A. During the informal workshops as the storm hardening plans were being
12 developed, the Company indicated a willingness to address these issues but also
13 indicated the negative financial impact these would have on the Company. On
14 September 20, 2006 in Docket #060638-EI the Company filed a petition to
15 allow cost recovery of storm preparedness initiatives through a storm surcharge.
16 The docket also offered other options to address the financial impact this would
17 have on the Company. As of this date, the docket remains open and
18 unresolved. On April 27, 2007, Docket #070304-EI was filed on behalf of the
19 Company, in part, to address the financial implications of the Storm Hardening
20 Plan. The storm hardening costs are included in this filing and result in a
21 significant part of the rate increase requested.

22 **Q. Will the final resolution of Docket #070304 have an impact on the**
23 **Company's Storm Hardening Plan?**

1 A. Yes. Based upon the final order issued in Docket #070304-EI,
2 modifications may be necessary to the Company's Storm Hardening Plan.

3 **Q. Please describe the basis for the contents of the Storm Hardening Plan.**

4 A. The hurricane activities during the 2004 and 2005 storm seasons were
5 considered during the development of the Storm Hardening Plan. Experiences
6 from previous hurricanes were also included in the development. Management
7 experience in analyzing the damage concluded that the majority of the damages
8 were from tornadoes, wind blown debris and trees. From this it was determined
9 that the Vegetation Management program was the key to addressing the
10 majority of the outages. Undergrounding was also a consideration in that fact
11 that this could be used to mitigate problems with tornadoes, wind blown debris
12 and trees. The majority of new construction is now underground but the large
13 investment in overhead construction makes the conversion to underground very
14 costly and does not appear to be cost effective at this time. Concerns also exist
15 regarding undergrounding in coastal areas that are subject to storm surges as
16 well as the overall operational issues that extend outages times significantly
17 during the routine operation of these underground systems.

18 The company has attempted to address all aspects of the Storm Hardening and
19 Pole Inspection requirements in the Storm Hardening Plan. However, based
20 upon a limited amount of data in some areas, the cost effectiveness can not be
21 provided without assumptions based upon management experience and have not
22 been included. Included in the plan are the following items that will be the most
23 effective improving the overall storm preparedness and reducing outages times.

1 Vegetation Management – The Company has recognized for many years that
2 tree contact has resulted in a significant amount of customer outages. During
3 the previous two rate proceedings, the Company has requested but was denied
4 increasing vegetation management activities to the level needed to have an
5 impact on these outages and improve service to our customers. The three year
6 main feeder trim cycle and six year lateral trim cycle combined with a danger
7 tree program will have a positive impact on reducing outages.

8 Wood Pole Inspections – The pole inspections included in the storm hardening
9 plan will provide some additional benefits over and above the current inspection
10 program. The major benefit is a more detailed inspection of the pole which will
11 include sounding, boring, excavation and re-treatment of the pole which will
12 identify decayed pole issues. Also, the strength and loading assessment will
13 identify those poles that may not be adequate to support all attachments in
14 accordance with the NESC requirements. The strength and loading assessment
15 is not being performed in the current inspection program.

16 Inspection of Transmission Facilities – This program will provide additional
17 detail to the current inspection program for all transmission facilities. The
18 inspection will allow for detailed, hands on inspection of all transmission and
19 substation facilities to ensure the integrity of the system during storm events.

20 Storm Hardening Activities for Transmission Structures – A February 20, 2006
21 letter from the FPSC recommended that “each investor owned utility should be
22 required to prepare and file plans implementing a program that replaces existing
23 wood transmission structures with steel and concrete construction by a certain

1 date". The plan was developed and submitted that would replace wood poles
2 with concrete over 15 year period which was modified in the rate proceeding to
3 20 years in order to decrease the revenue requirements for this plan. Although
4 the wood poles in place meet the NESC requirements, the plan was developed
5 to address the issues prior to reaching the end of the life expectancy of the poles
6 and to eliminate the possibility of future damage to the poles caused by
7 woodpeckers.

8 All other initiatives we included and could provide some benefits to reducing
9 outages and decreasing restoration times. Additional information on each of
10 them is included in the Storm Hardening Plan.

11 **Q. To what extent has the Company incorporated the NESC criteria into the**
12 **Storm Hardening Plan.**

13 A. All Company transmission and distribution facilities were originally
14 designed to meet or exceed the NESC criteria. The specifications used have
15 included Grade B and Grade C construction standards and are based on the
16 location and the type facilities. In the Northeast Florida Division Grade B
17 construction has been used for many years due to the coastal location. In the
18 Northwest Florida Division Grade C has been used in some instances with
19 Grade B construction being used for rebuilding of feeders.

20 **Q. To what extent has the Extreme Wind Loading Criteria been incorporated**
21 **into the Storm Hardening Plan?**

1 A. The Storm Hardening Plan includes the following projects that were
 2 proposed to include the Extreme Wind loading criteria. These projects include
 3 the rebuilding of main feeders providing service to critical infrastructure.

4	<u>2007</u>	<u>Division</u>	<u>Critical Load</u>	<u>Feeder</u>	<u>Miles</u>	<u>Estimated</u>
5						<u>Cost</u>
6		Northwest	Prison/H.S. Shelter	#9932	0.5	\$62,500

8	<u>2008</u>	<u>Division</u>	<u>Critical Load</u>	<u>Feeder</u>	<u>Miles</u>	<u>Estimated</u>
9						<u>Cost</u>
10		Northwest	Sewer Treatment	#9992	1.1	\$141,600
11		Northeast	Hospital	#209	1.2	\$154,500

13	<u>2009</u>	<u>Division</u>	<u>Critical Load</u>	<u>Feeder</u>	<u>Miles</u>	<u>Estimated</u>
14						<u>Cost</u>
15		Northwest	Prison/H.S. Shelter	#9932	3.2	\$424,360
16		Northeast	Sewer Treatment	#214	0.6	\$79,600

17 Each of these projects will be evaluated when complete to determine the
 18 effectiveness of the construction methods and associated costs. These will be
 19 further evaluated when exposed to storm conditions to determine the overall
 20 performance compared to standard construction techniques. Based on the
 21 results of the final evaluation, additional projects may be proposed.

22 **Q. Will the Extreme Wing Loading criteria be used for all construction**
 23 **activities?**

1 A. No. The Company will use the projects listed above to perform a
2 comparative analysis to other facilities constructed under existing specifications.
3 Future reliability and forensic analysis results will provide the data and
4 information needed to make a determination on the overall effectiveness of
5 utilizing the Extreme Wind Loading criteria for distribution facilities. Past
6 experience during storm events indicates that tornadoes, wind blown debris and
7 trees result in the majority of the outages and that straight line winds associated
8 with storms has not resulted in any significant damage to poles. In these cases,
9 it does not appear that the EWL criteria will have any effect on reducing these
10 types of outages.

11 **Q. To what extent has the Company incorporated construction standards that**
12 **are designed to mitigate damage resulting from flooding and storm surges?**

13 A. The Company is continuing to analyze and develop specifications that are
14 designed to mitigate damage from flooding and storm surges. The details of
15 these efforts are included in the Storm Hardening Plan. Transmission and
16 underground facilities are being installed in such a manner that the impact due
17 to storm surges and flooding should be minimal. The primary objective in the
18 Northeast Florida Division is to protect the underground facilities by installing
19 more secure pad mounted equipment and installing all conductors in conduit.

20 **Q. To what extent has the Company incorporated the placement of new and**
21 **replacement facilities that allow for safe and efficient access for the**
22 **installation and maintenance of those facilities?**

1 A. All new facilities will be located on public rights of way or private
2 easements that allow for safe and efficient access. Although the vast majority
3 of all Company facilities are located on public rights of way or private
4 easements, those facilities that are not easily accessible will be addressed when
5 practical and cost effective.

6 **Q. To what extent has the Company included a description of its deployment
7 strategy and facilities affected including design specifications, construction
8 specification and methodologies.**

9 A. The Company has included a deployment strategy in Section 6.1 of the
10 Storm Hardening Plan that includes an implementation date on or before May
11 2008. The intent is to follow the deployment strategy, however, as previously
12 mentioned; the final resolution of Docket #070304 will have an impact actual
13 implementation of the program and on the actual date of deployment.

14 **Q. To what extent has the Company included a detailed description of the
15 communities and areas where electric infrastructure improvements will
16 occur on facilities to critical infrastructure and along major thoroughfares?**

17 A. The Company has included this information in Section 6.2 of the Storm
18 Hardening Plan. The plans include initiatives that will occur within all areas of
19 the company service territory.

20 **Q. Has the Company provided a reasonable estimate of the costs and benefits
21 of making electric infrastructure improvements including the effect on
22 reducing storm restoration costs and customer outages?**

1 A. The Company has identified the estimates of costs associated with the
2 making electric infrastructure improvements. These costs are included in
3 Section 3.4 and Section 6.4 of the plan. The benefits analysis has not been
4 completed due to the lack of verifiable data necessary to prepare this analysis.

5 **Q. Has the Company addressed the extent to which electric infrastructure**
6 **improvements involve joint use facilities on which third party attachments**
7 **exists.**

8 A. The Company has included impact to joint use facilities in Section 6.3 and
9 Section 7.1 of the Storm Hardening Plan. The plan includes information on
10 feeder upgrades that incorporate the extreme wind loading and the joint use
11 poles that will be replaced as a result of the wood pole inspection program.

12 **Q. Has the Company solicited input from third party attachers.**

13 A. The storm hardening plan has been provided to all third party attachers and
14 input has been received regarding the plan. The Company will continue to
15 communicate with and seek input from all third party attachers during this
16 process in order to develop effective joint use attachment procedures and
17 address issues that arise during the discussions.

18 **Q. Has the Company provided an estimate of the cost and benefits obtained to**
19 **third party attachers affected by the electric infrastructure improvements**
20 **include the effect on reducing storm restoration cost and customer outages**
21 **realized by third party attachers?**

22 A. Information regarding cost and benefits to third party attachers was not
23 included in the plan as the information was available at the time of filing.

1 Information has been received from Embarq which details the cost associated
2 with the Storm Hardening Plan. The benefits associated with these could not be
3 determined at this time. No other cost and benefit information was obtained for
4 other third party attachers.

5 **Q. Has the Company included written Attachment Standards and Procedures**
6 **addressing safety, reliability, pole loading capacity and engineering**
7 **standards and procedures for third party attachments to the transmission**
8 **and distribution systems?**

9 A. The Company currently has contacts with all third party attachers that
10 include the attachment standards and procedures. These contracts do not cover
11 certain issues regarding pole loading capacity and overlashing. These standards
12 will be developed and negotiated into new contracts that will cover these issues
13 and other issues related to storm hardening. These requirements will be
14 dependant upon the final approval of the Storm Hardening Plan in Docket
15 #070300-EI and Rate Proceeding in Docket #070304-EI.

16 **Q. Do the Company's attachment standards and procedures meet or exceed**
17 **the 2007 NESC requirements.**

18 A. Yes. The standards and procedures have been in use by all parties for
19 many years.

20 **Q. Is the Company proposing any changes to the attachment standards and**
21 **procedures?**

22 A. No. At this time the existing contracts will continue to guide the
23 installation of any new attachments. Any future changes will be negotiated and

1 dependant upon the final approval of the Storm Hardening Plan in Docket
2 #070300-EI and Rate Proceeding in Docket #070304-EI.

3 **Q. What experience has the Company had with third party attachers**
4 **overlashing new cable to existing cable or messenger wire and will this**
5 **require any changes to the standards and procedures.**

6 A. The Company has very few cases in which overlashing has occurred within
7 the service area and none have occurred recently. At this time, there will be no
8 changes to the current contracts regarding this issue but will be considered
9 during future negotiations. However, should this occur, the additional size of
10 the cable will be considered in the pole loading calculations in order to ensure
11 the pole is capable of meeting the additional loading requirements. If the
12 overlashing causes an overloading condition on the pole, the contract language
13 will address whether or not any direct cost will be the responsibility of the third
14 party attacher.

15 **Q. Does this plan meet the desired objectives of enhancing reliability and**
16 **reducing costs and outage time in a prudent, practical and cost effective**
17 **manner?**

18 A. As described above, management experience indicates that the objectives
19 of this plan will enhance reliability and reduce outage cost in a practical,
20 prudent and cost effective manner. However, the prudence and cost
21 effectiveness of the plans can not be measured by verifiable data at this time.

22 Based upon past experience, tornadoes, wind blown debris and tree contact have
23 resulted in the majority of the storm related outages and many of the initiatives,

1 with the exception of vegetation management, will not address these specific
2 issues. The other programs included in the Storm Hardening Plan will provide
3 for improvement in aspects of storm and routine operations and will enhance the
4 overall reliability and reduce outage times.

5 It should also be noted that the Company has not experienced severe storm
6 conditions that are realistically possible based upon the location of the service
7 territory. Should this occur additional data may be available to provide the cost
8 benefit data for all the initiatives.

9 **Q. In what manner will the Company continue to evaluate the effectiveness of**
10 **the Storm Hardening Plan.**

11 A. The Company will continue to comply, as possible, with all the data
12 collection requested by the FPSC which will allow a more detailed analysis in
13 the future. This data covers all aspects of the storm hardening initiatives which
14 will allow more specific analysis on all initiatives.

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

16 A. Yes.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that true and correct copies of the foregoing have been served by U. S. Mail this 27th day of November, 2007 upon the following:

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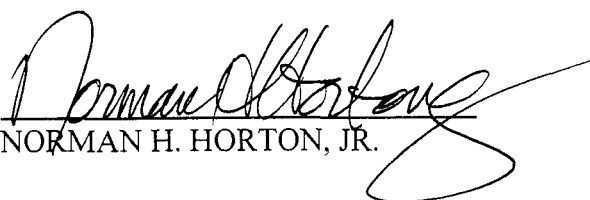
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