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State of Florida

Public Service Commission

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TALLAHASSEE, FLORIDA 32399-0850

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

DATE: October 14, 2010~~September 30, 2010~~

TO: Office of Commission Clerk (Cole)

FROM: Division of Economic Regulation (L'Amoreaux, Dowds)
Office of the General Counsel (Bennett, Jackson)

RE: Docket No. 100262-EI – Review of 2010 Electric Infrastructure Storm Hardening Plan filed pursuant to Rule 25-6.0342, F.A.C., submitted by Progress Energy Florida, Inc.
Docket No. 100263-EI – Review of 2010 Electric Infrastructure Storm Hardening Plan filed pursuant to Rule 25-6.0342, F.A.C., submitted by Tampa Electric Company.
Docket No. 100264-EI – Review of 2010 Electric Infrastructure Storm Hardening Plan filed pursuant to Rule 25-6.0342, F.A.C., submitted by Florida Public Utilities Company.
Docket No. 100265-EI – Review of 2010 Electric Infrastructure Storm Hardening Plan filed pursuant to Rule 25-6.0342, F.A.C., submitted by Gulf Power Company.
Docket No. 100266-EI – Review of 2010 Electric Infrastructure Storm Hardening Plan filed pursuant to Rule 25-6.0342, F.A.C., submitted by Florida Power & Light Company.

AGENDA: 10/26/10~~10/12/10~~ – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Brisé

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\ECR\WP\100262.RCM.DOC

Case Background

The hurricanes of 2004 and 2005 that made landfall in Florida resulted in extensive storm restoration costs and lengthy electric service interruptions for millions of electric investor-owned utility (IOU) customers. On January 23, 2006, the Florida Public Service Commission (Commission) staff conducted a workshop to discuss the damage to electric utility facilities resulting from these hurricanes and to explore ways of minimizing future storm damages and customer outages. State and local government officials, independent technical experts, and Florida's electric utilities participated in the workshop.

On February 27, 2006, the Commission issued Order No. PSC-06-0144-PAA-EI, requiring the IOUs to begin implementing an eight-year inspection cycle of their respective wooden poles.[1] In that Order, the Commission noted:

> The severe hurricane seasons of 2004 and 2005 have underscored the importance of system maintenance activities of Florida's electric IOUs. These efforts to maintain system components can reduce the impact of hurricanes and tropical storms upon utilities' transmission and distribution systems. An obvious key component in electric infrastructure is the transmission and distribution poles. If a pole fails, there is a high chance that the equipment on the pole will be damaged, and failure of one pole often causes other poles to fail. Thus, wooden poles must be maintained or replaced over time because they are prone to deterioration. Deteriorated poles have lost some or most of their original strength and are more prone to fail under certain environmental conditions such as high winds or ice loadings. The only way to know for sure which poles are acceptable, which poles must be treated or braced, and which poles must be replaced is through periodic inspections. (p.2)

At the February 27, 2006 internal affairs meeting, the Commission was briefed by staff on additional actions to address the effects of extreme weather events on electric infrastructure. The Commission also heard comments from interested persons and Florida's electric utilities regarding staff's recommended actions. Ultimately, the Commission decided:

1. All Florida electric utilities, including municipal utilities and rural electric cooperative utilities, would provide an annual Hurricane Preparedness Briefing.

2. A proposed agency action recommendation would be filed by staff for the April 4, 2006 agenda conference requiring each IOU to file plans and estimated implementation costs for ongoing storm preparedness initiatives.

3. A docket would be opened to initiate rulemaking to adopt distribution construction standards that are more stringent than the minimum safety requirements of the National Electrical Safety Code (NESC).

[1] Docket No. 060078-EI, In re: Proposal to require investor-owned electric utilities to implement ten-year wood pole inspection program.

4. A docket would be opened to initiate rulemaking to identify areas and circumstances where distribution facilities should be required to be constructed underground.

On April 25, 2006, the Commission issued Order No. PSC-06-0351-PAA-EI, requiring all IOUs to file plans and estimated implementation costs for 10 ongoing storm preparedness initiatives (Ten Initiatives) on or before June 1, 2006.[2] The Ten Initiatives are:

1. A Three-Year Vegetation Management Cycle for Distribution Circuits
2. An Audit of Joint-Use Attachment Agreements
3. A Six-Year Transmission Structure Inspection Program
4. Hardening of Existing Transmission Structures
5. A Transmission and Distribution Geographic Information System
6. Post-Storm Data Collection and Forensic Analysis
7. Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems
8. Increased Utility Coordination with Local Governments
9. Collaborative Research on Effects of Hurricane Winds and Storm Surge
10. A Natural Disaster Preparedness and Recovery Program.

These Ten Initiatives were not intended to encompass all reasonable ongoing storm preparedness activities. Rather, the Commission viewed these initiatives as the starting point of an ongoing process.[3] By Order Nos. PSC-06-0781-PAA-EI (addressing Tampa Electric Company, and Florida Public Utilities Company), PSC-06-0947-PAA-EI (addressing Progress Energy Florida, Inc., and Gulf Power Company), and PSC-07-0468-FOF-EI (addressing Florida Power & Light Company), the Commission addressed the adequacy of the IOUs' plans for implementing the Ten Initiatives.

The Commission also pursued rulemaking to address the adoption of distribution construction standards more stringent than the minimum safety requirements of the NESC and the identification of areas and circumstances where distribution facilities should be required to be

[2] Docket No. 060198-EI, In re: Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates.
[3] Order No. PSC-06-0947-PAA-EI, page 2, issued November 13, 2006, in Docket No. 060198-EI, In re: Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates.

constructed underground.[4] Rule 25-6.0342, Florida Administrative Code (F.A.C.), was ultimately adopted.[5]

Rule 25-6.0342, F.A.C., requires each IOU to file an Electric Infrastructure Storm Hardening Plan for review and approval by the FPSC. The Rule also requires a description of construction standards, policies, practices, and procedures to enhance the reliability of overhead and underground electrical transmission and distribution facilities. The Rule requires, at a minimum, that each IOU's plan address the following items:

(a) Compliance with the NESC.

(b) Extreme wind loading (EWL) standards for: (i) new construction; (ii) major planned work, including expansion, rebuild, or relocation of existing facilities; and (iii) critical infrastructure facilities and along major thoroughfares.

(c) Mitigation of damage due to flooding and storm surges.

(d) Placement of facilities to facilitate safe and efficient access for installation and maintenance.

(e) A deployment strategy including: (i) the facilities affected; (ii) technical design specifications, construction standards, and construction methodologies; (iii) the communities and areas where the electric infrastructure improvements are to be made; (iv) the impact on joint use facilities on which third-party attachments exist; (v) an estimate of the costs and benefits to the utility of making the electric infrastructure improvements; and (vi) an estimate of the costs and benefits to third-party attachers affected by the electric infrastructure improvements.

(f) The inclusion of Attachment Standards and Procedures for Third-Party Attachers.

On May 7, 2007, the storm hardening plans were filed by Tampa Electric Company (TECO), Progress Energy Florida, Inc. (PEF), Gulf Power Company (Gulf), and Florida Power & Light Company (FPL). Docket Nos. 070297-EI (TECO), 070298-EI (PEF), 070299-EI (Gulf), and 070301-EI (FPL) were opened to address each filing. On June 19, 2007, the Commission voted to set the dockets directly for a formal administrative hearing, with the additional mandate for staff to conduct a series of informal workshops to allow the parties and staff to identify disputed issues and potential areas for stipulation. By Order No. PSC-07-0573-PCO-EI, issued July 10, 2007, the dockets were consolidated for purposes of the hearing with the understanding

[4] Order No. PSC-06-0556-NOR-EU, issued June 28, 2006, in Docket No. 060172-EU, In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, to address effects of extreme weather events, and Docket No. 060173-EU, In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.

[5] Order No. PSC-07-0043A-FOF-EU, issued January 17, 2007, in Docket No. 060172-EU, In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, to address effects of extreme weather events, and Docket No. 060173-EU, In re: Proposed amendments to rules regarding overhead electric facilities to allow more stringent construction standards than required by National Electric Safety Code.

that each utility's plan would be ruled on separately. FPUC requested to file its storm hardening plan as part of its petition for a general rate increase and have it addressed in its rate case.[6] FPUC's storm hardening plan was approved May 19, 2008.[7]

A formal administrative hearing was held October 3-4, 2007. During the course of the hearing, the parties reached agreement on a number of issues and the dockets were subsequently stipulated. The Commission was also presented with a stipulated agreement entitled "Process to Engage Third-Party Attachers." This process, as designed, would allow for the exchange of information between the parties. Per the stipulation, information would be shared among the parties and annual status reports wouldl be filed with the Commission.[8] In addition, the stipulation stated that any disputes or challenges to issues related to a utility's plan would be resolved by the Commission in accord with Rule 25-6.0342(7), F.A.C. A customer, applicant for service, or attaching entity could file a request for dispute resolution at any time.

On May 3, 2010, FPL, PEF, TECO, Gulf, and FPUC each filed 2010-2012 storm hardening plan updates as required by Rule 25-6.0342(2), F.A.C.. Docket Nos. 100262-EI (PEF), 100263-EI (TECO), 100264-EI (FPUC), 100265-EI (Gulf), and 100266-EI (FPL) were opened to address the updates. FPUC filed an amended storm hardening update on May 28, 2010. On June 10, 2010, staff conducted a workshop to better understand each IOU's plan. In addition to the workshop, staff sent data requests to the IOUs to obtain clarification and additional information.

This recommendation addresses the IOUs' plan updates as required by Rule 25-6.0342. For each utility, staff's recommendation will address:

I. Wooden Pole Inspection Program

II. Ten Initiatives

III. National Electric Safety Code (NESC) Compliance

IV. Extreme Wind Loading (EWL) Standards

V. Mitigation of Flooding and Storm Surge Damage

VI. Facility Placement

VII. Deployment Strategies

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[6] Order No. PSC-08-0019-PCO-EI, issued January 4, 2008, in Docket No. 070300-EI, In re: Review of 2007 Electric Infrastructure Storm Hardening Plan files pursuant to Rule 25-6.0342 F.A.C., submitted by Florida Public Utilities Company, and in Docket No. 070304-EI, In re: Petition for rate increase by Florida Public Utilities Company.

[7] Order No. PSC-08-0327-FOF-EI, issued May 19, 2008, in Docket No. 070300-EI, In re: Review of 2007 Electric Infrastructure Storm Hardening Plan files pursuant to Rule 25-6.0342 F.A.C., submitted by Florida Public Utilities Company, and in Docket No. 070304-EI, In re: Petition for rate increase by Florida Public Utilities Company.

[8] Order Nos. PSC-07-1020-FOF-EI, PSC-07-1021-FOF-EI, PSC-07-1022-FOF-EI, PSC-07-1023-FOF-EI, issued December 28, 2007, in Docket Nos. 070297-EI, 070298-EI, 070299-EI, and 070301-EI, and Order No. PSC-08-0327-FOF-EI, issued May 19, 2008, in Docket No. 070300-EI.

VIII. Attachment Standards and Procedures

IX. Conclusion

Attachment A describes the storm hardening requirements for each IOU. Attachments B through F contain a comparison for each IOU of the provisions of the approved and updated storm hardening plans, and the costs of implementing the approved and updated plans.

The Commission has jurisdiction over this matter pursuant to Sections 360.04 and 366.05, Florida Statutes (F.S.).

Glossary

1. Annual Electric Utility Distribution Reliability Report – A report, required by Rule 25-6.0455, Florida Administrative Code (F.A.C.), that contains data pertaining to distribution reliability. In the report, each utility is to provide information regarding established service reliability metrics or indices that are intended to reflect changes over time in system average performance, and sub-regional performance.

2. Extreme Wind Loading (EWL) – A construction standard defined by NESC section 25, Rule 250C. This standard details loading requirements for Grade B and Grade C construction and maps EWL standards for regions in North America.

3. Florida Emergency Operation Center (EOC) – A central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level in an emergency situation, and ensuring the continuity of operation of a company, political subdivision or other organization.

4. Geographic Information Systems (GIS) – Any system that captures, stores, analyzes, manages, and presents data that are linked to locations.

5. Grade B Construction – In general, the National Electric Safety Code classifies Grade B construction as the highest construction grade and it is used for all supply circuits crossing over railroad tracks; for open-wire supply circuits of over 7500 volts (V) or constant-current circuits exceeding 7.5 amperes (A) where crossing over communication circuits; and in urban and suburban districts.

6. Grade C Construction – Grade C is typically the National Electric Safety Code minimum standard for most electrical distribution facilities. Grade C is specified for open-wire supply circuits of over 7,500V in rural districts where crossing over or in conflict with supply circuits of 0 to 750V, excluding services; and for open-wire supply circuits of 750V to 7,500V in urban districts under nearly all conditions except as noted for Grade B construction, and also where crossing over or in conflict with communication circuits.

7. Investor-Owned Electric Utilities (IOUs) – Utilities that are privately owned and organized as a tax paying business, usually financed by the sale of securities in the capital markets. There are five investor-owned electric utilities in Florida.

8. Mid-Cycle Trimming (also known as hot spot trimming, proactive trimming, etc) – Vegetation (e.g., tree) trimming that occurs outside of a regular schedule or cycle.

9. National Electric Safety Code (NESC) – Safety standards published exclusively by IEEE. The 2007 National Electric Safety Code, approved June 16, 2006 by the American National Standards Institute (ANSI), covers basic provisions for safeguarding of persons from hazards arising from the installation, operation, or maintenance of (1) conductors and equipment in electric supply stations, and (2) overhead and underground electric supply and communication lines. It also includes work rules for the construction, maintenance, and operation of electric supply and communication lines and equipment. The standards are applicable to the systems and equipment operated by utilities, or similar systems and equipment, of an industrial establishment or complex under control of qualified persons.

10. Public Utility Research Center (PURC) – A research institute located at the University of Florida. PURC is an internationally recognized academic center dedicated to research and providing training in utility regulation and strategy, as well as the development of leadership in infrastructure policy.

Discussion of Issues

Issue 1: Should the Commission approve Progress Energy Florida, Inc.'s (PEF) updated 2010-2012 storm hardening plan?

Recommendation: Yes, the Commission should approve the updated storm hardening plan filed by Progress Energy Florida, Inc. (L'Amoreaux)

Staff Analysis: On Attachment B, staff has provided a summary of PEF's currently approved storm hardening plan and the proposed changes contained in its updated plan. In addition, where available, staff has shown the costs associated with the 2007-2009 and 2010-2012 plans. Components of PEF's updated plan are summarized below.

I. Wooden Pole Inspection Program

PEF is continuing its eight-year wooden pole inspection as required by Commission Order No. PSC-07-0078-PAA-EU.[9] PEF will continue to file the results of these inspections in PEF's Annual Electric Utility Distribution Reliability Report.

II. Ten Initiatives

Initiative One – Three-Year Vegetation Management Cycle for Distribution Circuits

PEF proposes to continue its previously approved plan for this initiative. PEF has a three-year average trim cycle for feeders and a five-year trim cycle for distribution laterals.

Initiative Two – Audit of Joint-Use Attachment Agreements

PEF proposes to continue performing joint-use pole loading analyses on an eight-year cycle in conjunction with its wooden pole inspection program and annual partial system audits of pole attachments.

Initiative Three – Six-Year Transmission Structure Inspection Program

PEF proposes to continue its existing transmission structure inspection program, which is on a five-year cycle for structures. PEF proposes to continue conducting inspections of all of its substations each year.

Initiative Four – Hardening of Existing Transmission Structures

PEF is not proposing any changes to its currently approved plan for Initiative Four. PEF currently upgrades its existing transmission structures during roadway relocation projects and as other maintenance activities provide cost-effective opportunities. A primary component of this initiative includes changing out existing wooden transmission poles with either concrete or steel poles. Over the next seven years, PEF estimates the program will reduce its percentage of

[9] Docket No. 060531-EU, In re: Review of all electric utility wooden pole inspection program.

wooden transmission poles from 75 percent to 50 percent. PEF does not plan to expand its program at this time.

Initiative Five – Transmission and Distribution Geographic Information System

PEF completed the transition to the new G-electric system and retired the old FRAMME GIS system in 2008. The move to G-electric is a multi-year, resource-intensive process that moves from a location-based GIS system to an asset-based GIS system, consistent with Commission Order No. PSC-06-0351-PAA-EI. PEF created a team dedicated to upgrading its work management system. The scope of this project includes the implementation of the Facilities Management Data Repository (FMDR) along with the Compliance Tracking System (CTS). This project is currently in the design phase, with a targeted in-service date of 2011.

Initiative Six – Post-Storm Data Collection and Forensic Analysis

PEF proposes to continue its previously approved plan for Initiative Six. PEF currently has data gathering procedures, which are able to provide PEF Forensic Assessors (distribution) and Consultants (transmission) with information so that they will be able to make recommendations for improvements to PEF's system when needed. PEF did not experience a hurricane event during 2007-2009; therefore, no significant forensic data is available at this time.

Initiative Seven – Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems

PEF's updated plan continues to assess differences in damage sustained by underground and overhead facilities, and determines whether customer outages are caused by failures in underground or overhead components. PEF states that it did not experience a hurricane event during 2007-2009; therefore, no significant outage data is available to differentiate between overhead and underground facility performance.

Initiative Eight – Increased Coordination with Local Governments

PEF proposes to continue coordinating year-round with local governments through its community relations team. PEF representatives will continue to hold various meetings and expositions with local governments, county Emergency Operation Centers (EOCs), and first responders. PEF also proposes to work with counties and cities on projects such as briefings in counties where they provide service, annual storm planning, and collaborating with the Council of Neighborhood Associations (CONA).

Initiative Nine – Collaborative Research on Effects of Hurricane Winds and Storm Surge

The electric utilities previously established a non-profit, member-financed organization to coordinate all research efforts through the Public Utility Research Center (PURC), located in the Warrington College of Business at the University of Florida. PURC's work is focused on three main areas of concern: hurricane wind effects, vegetation management, and undergrounding of electric infrastructure. PEF entered into a Memorandum of Understanding with PURC that extends PURC's research efforts for the IOUs through December 31, 2011.

Initiative Ten – Natural Disaster Preparedness and Recovery Program

PEF proposes to continue refining its storm recovery plan. This plan is reviewed and updated annually based on lessons learned from the previous storm season and organizational needs.

III. National Electric Safety Code (NESC) Compliance

PEF's updated plan addresses the extent to which, at a minimum, PEF complies with the NESC pursuant to Rule 25-6.0342(2), F.A.C.

IV. Extreme Wind Loading (EWL) Standards

New Construction – PEF's updated plan continues its approved approach which adheres to current NESC requirements, executes maintenance plans, and adopts prudent end-of-life equipment replacement programs. PEF has not adopted EWL standards for new distribution construction. PEF reasoned that its own experience coupled with industry experience shows that flying debris and vegetation are the primary causes of distribution pole damage, and these are conditions that EWL standards, and any other overhead construction standard, cannot address. With respect to transmission, however, PEF does apply EWL criteria to its new construction of poles, rebuilds, and relocations of existing facilities.

Major Planned Work – In its updated plan, PEF continues its approach of not applying EWL standards to major planned distribution work, including expansions, rebuilds, or relocations of existing facilities. Staff notes that while Rule 25-6.0342, F.A.C., requires that a utility company's plan address the extent to which EWL standards are adopted for various types of facilities, it does not require a utility to adopt a particular standard. However, consistent with NESC Rule 250C, PEF will continue to use the EWL standards for all major planned transmission work, including expansions, rebuilds, and relocations of existing facilities.

Critical Infrastructure (CIF) – PEF proposes to continue its approach of not applying EWL standards to any of its distribution level CIF. With respect to transmission, PEF proposes to continue the use of EWL standards for all major planned transmission work, including expansions, rebuilds, and relocations of existing facilities, irrespective of whether they can be classified as "critical" or "major."

V. Mitigation of Flooding and Storm Surge Damage

PEF proposes use of a two-prong approach to mitigate damage to underground and supporting overhead transmission and distribution facilities due to flooding and storm surges. First, PEF will seek to identify areas where underground equipment should not be used. Second, in areas where underground equipment may be exposed to minor storm surge or shorter term water intrusion, PEF will use its Asset Investment Strategy Model to identify areas where projects can be put into place to test whether flood mitigation techniques and devices protect equipment such as switchgears, pad-mounted transformers, and pedestals. In selected project

sites, PEF will test and monitor installation of stainless steel equipment, submersible connectors, raised mounting boxes, cold shrink sealing tubes, and submersible secondary blocks. These projects will be analyzed to determine how each performed relative to PEF's current design with respect to outage prevention, reduced maintenance, and reduced restoration times. PEF also proposes to continue to utilize Geo Media software to determine the optimum locations for submersible underground facilities. This method allows PEF to visually determine which geographic areas would most benefit from submersible facilities.

VI. Facility Placement

PEF proposes to continue to use front lot construction for all new distribution facilities and all replacements of distribution facilities unless a specific operational, safety, or other site-specific reason exists for not using such construction at a given location. In the updated plan, PEF provided its Distribution Engineering Manual as an aid to facilitate a better understanding of its construction method.

VII. Deployment Strategies

Facilities Affected, Including Specifications and Standards – PEF previously engaged industry expert Davies Consulting to develop a comprehensive prioritization model that has helped PEF identify potential hardening projects, procedures, and strategies. The model has since been improved and enhanced to better reflect the changes in PEF's overall storm hardening strategy. Geo Media has also been incorporated into this model. As more data becomes available, PEF proposes to continue to adjust its prioritization model as appropriate. PEF proposes adding feeder ties to its plan as a hardening alternative. Feeder ties connect feeders together in order to allow for service to be switched from one feeder to another. This method will increase flexibility and minimize the duration of customer outages.

Areas of Infrastructure Improvements – PEF's updated plan provides a detailed description of communities and areas where electric infrastructure improvements will be made, including facilities identified by the utility as critical infrastructure and facilities along major thoroughfares.

Joint-Use Facilities – PEF proposes to continue performing joint-use pole loading analyses on an eight-year cycle in conjunction with its wooden pole inspection program and annual partial system audits of pole attachments. PEF proposes to continue to meet with all joint-use attachers and provide attachers with information on where specific hardening projects are taking place and any cost or impact to those joint-use attachers.

Utility Cost/Benefit Estimates – PEF provided estimates of costs to be incurred in connection to its updated plan. However, no quantification of benefits was included in its filing. PEF asserts that since no major storms have impacted its service territory since plan implementation, the Company has minimal evidence of improved network performance due to storm hardening projects. Please refer to Attachment B for a comparison of PEF's costs associated with implementation of its approved and updated storm hardening plans.

Attachers Cost/Benefit Estimates – PEF provided its Joint-Use Pole Attachment Guidelines with its updated plan. The report details contractual agreements, permits, pole attachment and overlash attachment procedures, costs, and other guidelines.

VIII. Attachment Standards and Procedures

PEF's updated plan includes written Attachment Standards and Procedures addressing safety, reliability, pole loading capacity, and engineering standards and procedures for attachments by others to the utility's electric transmission and distribution poles. These standards meet or exceed those of the NESC pursuant to Rule 25-6.034, F.A.C.

IX. Conclusion

PEF's updated plan is largely a continuation of its current, Commission-approved plan. Since Florida has not been affected by any named storms in the past few years, data are not available to evaluate the effects of hardening efforts on PEF's infrastructure. However, staff believes PEF is taking proactive steps to improve its system to withstand severe weather events and thus presents a reasonable approach to storm hardening that has the potential to enhance reliability and reduce restoration costs and outage times. Therefore, staff recommends the Commission approve PEF's updated storm hardening plan.

Issue 2: Should the Commission approve Tampa Electric Company's (TECO) updated 2010-2012 storm hardening plan?

Recommendation: Yes, the Commission should approve the updated storm hardening plan filed by Tampa Electric Company. (L'Amoreaux)

Staff Analysis: On Attachment C, staff has provided a summary of TECO's currently approved storm hardening plan and the proposed changes contained in its updated plan. In addition, where available, staff has shown the costs associated with the 2007-2009 and 2010-2012 plans. Components of TECO's updated plan are summarized below.

I. Wooden Pole Inspection Program

TECO is continuing its eight-year wooden pole inspection as required by Commission Order No. PSC-07-0078-PAA-EU. TECO will continue to file the results of these inspections in TECO's Annual Electric Utility Distribution Reliability Report.

II. Ten Initiatives

Initiative One – Three-Year Vegetation Management Cycle for Distribution Circuits

TECO proposes no changes to its previously approved trim cycle. Currently, both feeder and lateral circuits are trimmed, on average, every three years.

Initiative Two – Audit of Joint-Use Attachment Agreements

In 2008, two initiatives associated with TECO's pole inspection program were implemented: comprehensive loading analysis and pole attachment audits. A comprehensive loading analysis was performed on all joint-use poles that were screened as being potentially overloaded during the pole inspection program. A pole attachment audit was completed in the last quarter of 2008. The audit is scheduled to be conducted on a three-year cycle going forward, with the next audit beginning in 2011. In 2009, TECO integrated receiving, review, and authorization of pole attachment applications into its GIS. TECO is not proposing any changes to this initiative at this time.

Initiative Three – Six-Year Transmission Structure Inspection Program

TECO performs multi-pronged inspections on a one-, six-, or eight-year cycle, depending on the individual transmission inspection activity. TECO also conducts annual ground patrol, aerial infrared patrol, and substation inspections. TECO proposes to continue these practices in its updated plan. The six-year cycle will include above ground inspections, while groundline inspections will be performed on an eight-year cycle. TECO proposes to continue its review of sites located in Flood Zone 1 (as defined in Hillsborough County's hazard flood maps). The major focus will be on the elevation and water resistance of control cabinets and related equipment. However, practical modifications will be made if necessary. TECO also proposes to convert from fuses or ground switch protection to circuit switchers at two locations per year over the next three years based on current expansion plans.

Initiative Four – Hardening of Existing Transmission Structures

TECO currently upgrades its existing transmission structures during roadway relocation projects and as other maintenance activities provide cost-effective opportunities. TECO's updated plan proposes replacement of wooden transmission structures with non-wooden structures based primarily on pole inspection results. Additionally, the company proposes to utilize non-wood structures for all new transmission line construction projects, as well as system rebuilds and line relocations. TECO anticipates 10 transmission line relocation projects within the next three years. These projects are a combination of road construction and new development. It is estimated that at least 75 wood poles will be replaced with non-wood poles during the next three years due to these projects.

Initiative Five – Transmission and Distribution Geographic Information System

TECO established and accepted its GIS in September 2009. TECO's GIS databases contain all facility data for transmission, substation, distribution, and lighting facilities. This system will enhance post-storm damage assessment, forensic analysis, joint-use administration, and the evaluation of construction standards and potential hardening projects.

Initiative Six – Post-Storm Data Collection and Forensic Analysis

TECO has hired a consultant to perform forensic analysis and data collection, such as identifying the type of damage to poles, structures, conductors, equipment, and hardware. This consultant is to provide a report containing data collected, results of its findings and recommendations on improving system performance. However, TECO did not experience a hurricane event during 2007-2009; therefore, no significant forensic data is available at this time.

Initiative Seven – Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems

TECO has had no storm activity requiring an overhead and underground performance review or report. However, TECO asserts it has measures in place to track initiatives related to GIS, post-storm data collection, and outage data should it experience any major storm events in the future.

Initiative Eight – Increased Utility Coordination with Local Governments

TECO proposes to continue conducting workshops with local governments and county EOCs to discuss pre-storm preparedness and hazard mitigation, and to set common priorities to be applied during emergency events. In addition, the Company will continue to conduct damaged facility reporting training, and to share information on the costs and benefits of undergrounding electric facilities.

Initiative Nine – Collaborative Research on Effects of Hurricane Winds and Storm Surge

The electric utilities previously established a non-profit, member-financed organization to coordinate all research efforts through the PURC, located in the Warrington College of Business

at the University of Florida. PURC's work is focused on three main areas of concern: hurricane wind effects, vegetation management, and undergrounding of electric infrastructure. TECO entered into a Memorandum of Understanding with PURC that extends PURC's research efforts for the IOUs through December 31, 2011.

Initiative Ten – Natural Disaster Preparedness and Recovery Program

TECO proposes to continue working with county EOCs to review restoration priorities in the company's service areas. TECO's Energy Delivery department will continue many activities throughout the storm season. These activities include facilitating training sessions, staging sites to ensure primary and backup locations for distribution and transmission facilities, holding conference calls, and reviewing all employees' storm assignments and communication roles. In addition, TECO proposes to conduct mock drills that address hurricane issues.

III. National Electric Safety Code Compliance

TECO's updated plan addresses the extent to which, at a minimum, TECO complies with the NESC pursuant to Rule 25-6.0345(2), F.A.C. TECO's distribution facilities comply with, and in most cases exceed, the minimum requirements of the NESC. TECO's transmission structures also comply with the NESC.

IV. Extreme Wind Loading Standards

New Construction – TECO has historically designed its distribution facilities based on NESC Grade B construction, and its updated plan indicates that it will continue this practice. TECO states in its updated plan that the safety factors considered in the NESC construction Grade B criteria provides for a system that is 87 percent stronger than the NESC construction Grade C criteria for TECO's service area.

Major Planned Work – TECO proposes to continue building to Grade B construction for all major planned expansions, rebuilds, or relocations of distribution facilities. Staff notes that while Rule 25-6.0342, F.A.C., requires that a utility's plan address the extent to which EWL standards are adopted for various types of facilities, it does not require a utility to adopt a particular standard.

Critical Infrastructure – TECO has identified CIF as those circuits feeding loads that are critical to the maintenance of basic services that include public health, distilled fuels, and transport hubs. TECO's current projects are part of a pilot program set up to evaluate the benefits of utilizing the NESC EWL requirements on the distribution system. The Company's pilot program focuses on distribution facilities serving two critical customers: a local hospital designated as a Level 2 Trauma Center and the Port of Tampa gasoline tank storage area. TECO states in its updated plan that since the Company's 2007-2009 plan did not receive final Commission approval until the end of 2007, implementation of these projects was delayed; therefore, these projects are included in the updated plan. When completed, the circuits feeding the hospital and the Port of Tampa will be rebuilt to meet EWL standards.

TECO is not proposing any further pilot hardening projects until the performance of these existing projects has been evaluated under storm conditions. The pilot projects will be monitored and analyzed to determine cost-effectiveness prior to consideration of wide spread application.

V. Mitigation of Flooding and Storm Surge Damage

TECO proposes to continue its current standard for all new and maintenance replacement of underground distribution facilities located in Flood Zone 1. TECO also proposes to convert from fuses or ground switch protection to circuit switchers at two locations per year over the next three years, based on its current expansion plans. The updated plan also proposes additional inspections in the downtown area in order to mitigate damage to underground distribution circuits due to flooding and storm surges.

VI. Facility Placement

TECO proposes to continue placement of all new distribution facilities in the public right-of-way. In addition, TECO proposes to continue evaluating community and customer requests to relocate overhead facilities from rear lot locations to the front of a customer's property on a case-by-case basis.

VII. Deployment Strategies

Facilities Affected, Including Specifications and Standards – TECO's updated plan contains a detailed three-year deployment strategy, which includes a description of the facilities affected by inspection programs, technical design specifications, construction standards, and methodologies.

Areas of Infrastructure Improvements – TECO's updated plan provides a detailed description of the communities and areas where electric infrastructure improvements will be made, including facilities identified by the utility as critical infrastructure and along major thoroughfares.

Joint-Use Facilities – TECO has taken steps to reduce the use of overlashed attachments (i.e., attaching to an existing attachment without prior engineering and authorization) by increasing its pole inspections. In a 2007 Stipulation between TECO and its attaching entities, the attaching entities agreed to submit to TECO prior notification of all proposed overlashed attachments.

Utility Cost/Benefit Estimates – TECO's updated plan includes estimates of costs to be incurred in connection with its updated plan for 2010 through 2012. TECO estimates deployment costs will be $113,429,000. This includes pole replacements, inspections of distribution and transmission facilities, vegetation management, and other projects. While TECO discussed benefits associated with overhead and underground electric service, the associated costs were not quantified. Please refer to Attachment C for a comparison of the costs associated with implementation of TECO's current and updated storm hardening plans.

Attachers Cost/Benefit Estimates – TECO believes its updated plan will provide benefits at minimal cost to all third party attachers. TECO did not state in its updated plan whether the Company had sought input or received estimate benefit information from attachers. TECO later clarified to staff that the Company continues to communicate with its attachers regularly, but no cost or benefit data has been provided from the attachers at this time.

VIII. Attachment Standards and Procedures

TECO's updated plan includes attachment standards and procedures addressing safety, reliability, and pole loading capacity. The updated plan also addresses engineering standards and procedures for attachments by others to the utility's transmission and distribution poles that meet or exceed the NESC (ANSI C-2) pursuant to Rule 25-6.034, F.A.C.

IX. Conclusion

TECO's updated plan is largely a continuation of its current Commission-approved plan. Since Florida has not been affected by any named storms in the past few years, no data are available to evaluate the effects of hardening efforts on TECO's infrastructure. However, staff believes TECO is taking proactive steps to improve its system to withstand severe weather events and thus presents a reasonable approach to storm hardening that has the potential to enhance reliability and reduce restoration costs and outage times. Therefore, staff recommends the Commission approve TECO's updated storm hardening plan.

Issue 3: Should the Commission approve Florida Public Utilities Company's (FPUC) updated 2010-2012 storm hardening plan?

Recommendation: Yes, the Commission should approve the updated storm hardening plan filed by Florida Public Utilities Company. (L'Amoreaux)

Staff Analysis: FPUC filed its updated storm hardening plan pursuant to Rule 25-6.0342, F.A.C., on May 3, 2010. However, FPUC filed an amended storm hardening plan on May 28, 2010, to include certain information that was not available at the time of its initial filing. Therefore, FPUC's amended plan will be addressed in this recommendation.

On Attachment D, staff has provided a summary of FPUC's currently approved storm hardening plan and the proposed changes contained in its updated plan. In addition, where available, staff has shown the costs associated with the 2007-2009 and 2010-2012 plans. Components of FPUC's updated plan are summarized below.

I. Wooden Pole Inspection Program

FPUC proposes to continue its eight-year wooden pole inspection as required by Commission Order No. PSC-07-0078-PAA-EU. However, FPUC proposes to visually inspect, sound, and selectively bore (if internal decay is suspected) all CCA poles under 16 years of age. Unless a pole fails sound and bore, a full excavation will not be performed on these poles. These inspections include visual inspections, sound and bore, excavation, testing, and strength and loading assessments. FPUC will continue to file the results of these inspections in FPUC's Annual Electric Utility Distribution Reliability Report.

II. Ten Initiatives

Initiative One – Three-Year Vegetation Management Cycle for Distribution Circuits

In its updated plan, FPUC proposes to continue its previously approved plan for Initiative One. Currently, FPUC has a three-year average trim cycle for feeders and a six-year average cycle for laterals. FPUC also proposes continuing annual inspections of feeders serving critical customers prior to storm season to identify and perform any mid-cycle trimming, to address danger trees located outside the normal trim zone that threaten main feeders, and to educate the public regarding maintenance and placement of trees.

Initiative Two – Audit of Joint-Use Attachment Agreements

In its updated plan, FPUC proposes to continue conducting a review of joint-use audits every five years. However, audits with joint-use attachers have not yet been completed as allowed by FPUC's pole attachment contracts. FPUC stated in its 2009 Annual Reliability Report, that joint-use contracts were either under review or being re-written. FPUC proposes in its updated plan to begin initiating audits in 2010 of all joint-use attachers. FPUC proposes to continue pole strength assessment and stress calculations for all FPUC-owned and third-party-owned poles through its eight-year wooden pole inspection cycle.

Initiative Three – Six-Year Transmission Structure Inspection Program

FPUC proposes to continue inspecting all transmission facilities owned by FPUC. FPUC states that it plans to have climbing inspections completed on all transmission facilities by year end 2010. The Company believes it is prudent and more cost-effective to retain a contractor to perform all or most of the inspections in a one or two year time period, rather than over a six-year period. FPUC also proposes to continue inspecting all of its substations once a year.

Initiative Four – Hardening of Existing Transmission Structures

FPUC's current plan requires that when it becomes necessary to replace a wooden pole due to construction requirements or concerns with the integrity of the pole, a concrete pole that meets current NESC codes and storm hardening requirements will be used. FPUC proposes to continue this plan.

Initiative Five – Transmission and Distribution Geographic Information System

Since January 2008, both divisions of FPUC have GIS capabilities. FPUC's GIS currently is being used for engineering new construction and for existing system maintenance projects. The Company's GIS also interfaces with its Customer Information System to function as a Customer Outage Management System (OMS). FPUC's OMS allows for data collection and retrieval capabilities for analyzing and reporting reliability indices. FPUC's Northwest Division proposes to begin analyzing trends in 2010 when three years' worth of data is available in order to gauge the effectiveness of storm hardening programs.

Initiative Six – Post-Storm Data Collection and Forensic Analysis

In its updated plan, FPUC proposes to continue employing contractors for post-storm data collection and forensic analysis, should a significant storm occur in either division. FPUC states that if damage caused by a storm is significant, forensic analysis will be performed after post-data collection is completed. Since FPUC has not experienced a hurricane event during 2007-2009, no significant forensic data is available at this time. The costs associated with this initiative will vary depending upon the degree of damage associated with the storm.

Initiative Seven – Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems

FPUC currently has the ability to report performance information differentiating between overhead and underground facilities. FPUC proposes to continue collecting outage data for overhead and underground systems in order to evaluate the reliability indices associated with the two construction types. In addition, FPUC believes this data will further improve the operation of its automated Customer Outage Management system. FPUC has had no severe storm-related outages since 2007; therefore, no reliability performance comparisons between overhead and underground facilities were provided.

Initiative Eight – Increased Utility Coordination with Local Governments

FPUC proposes to continue coordinating with local city and county emergency service agencies within its service areas. FPUC also proposes to continue its participation in regularly scheduled communication events with county emergency response organizations. FPUC continues to cooperate with local government in actively discussing both undergrounding and tree trimming issues as they arise.

Initiative Nine – Collaborative Research on Effects of Hurricane Winds and Storm Surge

The electric utilities previously established a non-profit, member-financed organization to coordinate all research efforts through the PURC, located in the Warrington College of Business at the University of Florida. PURC's work is focused on three main areas of concern: hurricane wind effects, vegetation management, and undergrounding of electric infrastructure. FPUC entered into a Memorandum of Understanding with PURC that extends PURC's research efforts for the IOUs through December 31, 2011.

Initiative Ten – Natural Disaster Preparedness and Recovery Program

FPUC proposes to continue refining its Disaster Preparedness and Recovery plan, which identifies how FPUC will operate in emergency conditions and efficiently restore service. The plan also covers the roles and responsibilities of FPUC's employees. FPUC's plan is contained within its Emergency Procedures and updated on an annual basis, if required.

III. National Electric Safety Code Compliance

FPUC's updated plan addresses the extent to which, at a minimum, FPUC complies with the NESC pursuant to Rule 25-6.0345(2), F.A.C. FPUC's distribution facilities comply with, and in most cases exceed, the minimum requirements of the NESC. FPUC's transmission structures also comply with the NESC.

IV. Extreme Wind Loading Standards

New Construction – In its updated plan, FPUC states that its existing distribution, transmission, and substation facilities continue to be in compliance with the NESC. FPUC notes that new specifications for distribution facilities have been developed that will allow certain future installations to exceed the NESC by utilizing the EWL standards. FPUC states that all of its remaining wooden transmission poles will be replaced with concrete poles that meet or exceed the NESC EWL standards. Although FPUC does not state how long this process will take, the Company asserts that when it becomes necessary to replace a wooden pole due to construction requirements or concerns with the integrity of the pole, a concrete pole meeting the current NESC requirements will be utilized. Work has been completed around certain substations that will reduce the possibility of wind blown debris damaging substation facilities.

Major Planned Work – FPUC's updated plan proposes to continue incorporating EWL standards described by the NESC code. These standards will continue to be evaluated along with

a cost/benefit analysis when new construction and major planned projects are being designed to determine the overall value and contribution to the reliability of the system.

Critical Infrastructure – FPUC states that it will focus on using EWL standards for distribution facilities along major highways and where service is provided to critical infrastructure, such as hospitals, water plants and sewage treatment plants. FPUC provides in the updated plan a list of CIF projects for the 2010-2012 time period.

V. Mitigation of Flooding and Storm Surge Damage

FPUC proposes to develop an expanded specifications book. This book will include details on how to mitigate damage of underground and overhead distribution and overhead transmission facilities. In the Northeast Florida Division, transmission lines are currently located near and across coastal waterways. To mitigate damage, FPUC proposes to use foundations and casings to stabilize the structures due to soil conditions. FPUC does not currently have transmission facilities in its Northwest division.

In both divisions, FPUC states that overhead distribution lines are subject to flooding and storm surge because lines are located near the coast or inland rivers. FPUC proposes to continue evaluating these areas and take the necessary actions to minimize damage. As for underground distribution lines, storm surges and flooding are most likely in the Northeast Florida Division. FPUC does not propose any changes to its underground distribution lines at this time. The Company states that a significant amount of underground infrastructure is in place and it is impractical to make any significant changes to what is currently installed. If it is determined in the future that storm surges may impact these facilities, FPUC proposes that its installation practices will be reevaluated.

VI. Facility Placement

Pursuant to Rule 25-6.0341, F.A.C., FPUC's updated plan proposes safe and efficient access for installation and maintenance placement of new and replacement distribution facilities. FPUC proposes to promote placement of facilities adjacent to public roads; to utilize easements, public streets, roads, and highways; to obtain easements for underground facilities; and to use right-of-ways for conversions of overhead to underground. Placement of facilities along rear lot lines will not occur except in certain commercial applications when open access concrete/asphalt driveways are located at the rear of the development.

VII. Deployment Strategies

Facilities Affected, Including Specifications and Standards – FPUC states in its updated plan that all areas of FPUC service territory are affected and benefit by infrastructure improvements. Transmission line inspections and transmission pole replacements will only affect the Northeast Florida Division, since there are no transmission facilities in the Northwest Florida Division. However, FPUC's distribution line rebuilding will equally benefit both divisions and comply with the NESC EWL standards.

Areas of Infrastructure Improvements – FPUC's updated plan provides a detailed description of communities and areas where electric infrastructure improvements will be made, including facilities identified by the utility as CIF.

Joint-Use Facilities – FPUC proposes several projects intended to upgrade existing facilities to CIF. Significant numbers of poles to be upgraded will have one or more joint-use attachments. FPUC provided a list of projects for the 2010-2012 time period in its updated plan. The design phase of these projects will include application of NESC EWL standards to all poles being installed and all joint use attachments.

Utility Cost/Benefit Estimates – FPUC states that it does not have the supporting data to develop the cost/benefit analysis for these programs. However, as these programs are implemented, data will be collected that can be used in the future to develop the associated benefits. Please refer to Attachment D for a comparison of the costs associated with implementing FPUC's current and updated storm hardening plans.

Attachers Cost/Benefit Estimates – FPUC sent notification to third party attachers of its updated and amended plan. At this time, no third party attachers submitted information regarding FPUC's plan. However, FPUC states that it will forward estimates of costs and benefits from third party attachers when they are received.

VIII. Attachment Standards and Procedures

FPUC's updated plan includes attachment standards and procedures addressing safety, reliability, and pole loading capacity. The updated plan also addresses engineering standards and procedures for attachments by others to the utility's transmission and distribution poles that meet or exceed the NESC pursuant to Rule 25-6.034, F.A.C.

IX. Conclusion

FPUC's updated plan is largely a continuation of its current, Commission-approved plan. Since Florida has not been affected by any named storms in the past few years, no data are available to evaluate the effects of hardening efforts on FPUC's infrastructure. However, staff believes FPUC is taking proactive steps to improve its system to withstand severe weather events and thus presents a reasonable approach to storm hardening that has the potential to enhance reliability and reduce restoration costs and outage times. Therefore, staff recommends the Commission approve FPUC's amended updated storm hardening plan.

Issue 4: Should the Commission approve Gulf Power Company's (Gulf) updated 2010-2012 storm hardening plan?

Recommendation: Yes, the Commission should approve the updated storm hardening plan filed by Gulf Power Company. (L'Amoreaux)

Staff Analysis: On Attachment E, staff has provided a summary of Gulf's currently approved storm hardening plan and the proposed changes contained in its updated plan. In addition, where available, staff has shown the costs associated with the 2007-2009 and 2010-2012 plans. Components of Gulf's updated plan are summarized below.

I. Wooden Pole Inspection Program

Gulf proposes to continue its wooden pole inspection program on an eight-year cycle utilizing the same inspection matrix approved by the Commission in 2007, with one minor exception. Gulf has performed full excavations and treatments on 954 poles over the past three years. Some of the poles showed minor decay but no excavated poles were rejected for defects. Therefore, Gulf proposes to discontinue the 1% sample of non-excavated poles program because the sample did not identify any poles that required a full excavation or treatment. Discontinuation of the 1% sample program will save approximately $22,500 over the next three years. Gulf will continue to file the results of these inspections in Gulf's Annual Electric Utility Distribution Reliability Report.

II. Ten Initiatives

Initiative One – Three-Year Vegetation Management Cycle for Distribution Circuits

Gulf proposes to continue its three-year trim cycle for feeders. However, in its updated plan, Gulf proposes to shorten the trim cycle on lateral lines to four years from the current six-year trim cycle, and to reduce the emphasis on danger tree removal in residential areas. In response to staff's data request, Gulf states that the decrease spending on danger tree removal will transfer to increased spending on lateral trimming. In addition, Gulf would like to place greater emphasis on removal of overhanging limbs that are located outside the normal trim zone. Gulf states that sixty-five percent of tree-related main line outages are now being caused by large overhanging limbs coming in contact with power lines. Gulf plans to evaluate reliability data at the end of each year to determine if this change is successful in improving system performance.

Initiative Two – Audit of Joint-Use Attachment Agreements

Gulf proposes to discontinue its random pole strength test pilot project. This change is based on the low failure rates observed during the three-year pilot project and changes to construction standards that require stronger Grade B construction. In 2007, five hundred poles were analyzed in this pilot project and forty-three poles failed. However, in 2008, five hundred and sixteen poles were analyzed with only one pole failure. In 2009, zero poles failed out of the five hundred poles tested. Discontinuation of the pole strength pilot program will save approximately $100,000 over the next three years.

Initiative Three – Six-Year Transmission Structure Inspection Program

Gulf proposes to continue its approved plan for Initiative Three. Under the previously approved plan, Gulf inspects all of its substations annually, and schedules inspections of its transmission structures based on achieving a six-year inspection cycle of these facilities.

Initiative Four – Hardening of Existing Transmission Structures

Gulf proposes to continue its existing plan for hardening transmission facilities. It is Gulf's position that adherence to the current design and construction standards, along with the recommended six-year structure inspection program, will provide for sufficient hardening of the system throughout its service territory.

Initiative Five – Transmission and Distribution Geographic Information System

Gulf has established GIS databases for distribution, transmission, and land records. Gulf proposes to maintain and update data for its asset management programs and forensic data analysis in its GIS.

Initiative Six – Post-Storm Data Collection and Forensic Analysis

In 2008, contractors were retained to collect information on a sample of poles and to transfer data to a data analysis agent. However, since recent storm seasons have been uneventful, Gulf states that there is no need for a forensic collection team at this time.

Should a storm event occur, Gulf intends to retain contractors to gather and evaluate storm forensic data to determine the benefits of particular approaches to hardening as they might be applied to new construction and major planned work, including expansion, rebuilding, and relocation of existing facilities. Gulf proposes to have a contractor conduct refresher training courses for proper forensic collection procedures. These courses will continue as needed over the next three years.

Initiative Seven – Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems

Gulf proposes to continue recording the number of overhead and underground customers in order to calculate reliability indices. In addition, data obtained on outages will be collected and stored for future analysis. Since recent storm seasons have been uneventful, no outage data differentiating between the reliability performance of overhead and underground systems have been reported.

Initiative Eight – Increased Utility Coordination with Local Governments

Gulf proposes to continue working with the county EOCs in its service area through numerous programs in order to keep the community and local governments informed of storm occurrences and restoration activities. In addition, Gulf proposes to maintain year-round contact with city and county officials to ensure cooperation in planning, communicating, and coordinating for storm-related activities.

Initiative Nine – Collaborative Research on Effects of Hurricane Winds and Storm Surge

The electric utilities previously established a non-profit, member-financed organization to coordinate all research efforts through the PURC, located in the Warrington College of Business at the University of Florida. PURC's work is focused on three main areas of concern: hurricane wind effects, vegetation management, and undergrounding of electric infrastructure. Gulf entered into a Memorandum of Understanding with PURC that extends PURC's research efforts for the IOUs through December 31, 2011.

Initiative Ten – Natural Disaster Preparedness and Recovery Program

Gulf proposes to continue refining its Storm Recovery Plan, which identifies planning procedures and preparations for natural disasters within Gulf's service area. This plan builds on lessons learned and encompasses recovery effort experiences within its service area as well as knowledge gained from assisting other utilities that have suffered weather-related natural disasters. This plan is reviewed and revised annually. No major revisions were submitted in the company's March 1, 2010 annual filing.

Additional Projects

In addition to the Ten Initiatives required by Commission order, Gulf proposes four additional projects to its updated plan that concentrate on reliability. First, Gulf proposes to convert its remaining three 4 kV distribution feeders to its standard 12.47 kV distribution voltage. Gulf believes this conversion will reduce potential outages and improve restoration time. Second, Gulf proposes to install reclosers or automated switches at approximately the mid-way point on distribution feeders. This process would be deployed on long and critical feeders and would protect feeders from temporary faults. Third, Gulf proposes installation of 20 automatic overhead faulted circuit indicators (FCIs). Doing this would reduce customer outage time because these devices indicate the passage of fault current that is greater than a predetermined current magnitude. Last, Gulf proposes to develop and begin implementation of the systems and applications that would permit the remote control of distribution line devices such as reclosers and switches and the acquisition of operational data.

III. National Electric Safety Code Compliance

Gulf's updated plan addresses the extent to which, at a minimum, Gulf complies with the NESC pursuant to Rule 25-6.0345(2), F.A.C. Gulf's distribution facilities comply with, and in most cases exceed, the minimum requirements of NESC. Gulf's transmission structures also comply with NESC.

IV. Extreme Wind Loading Standards

New Construction – Gulf's updated plan proposes to adopt Grade B construction standards on all new distribution, construction, maintenance work, and major distribution rebuilds. All of Gulf's new transmission construction is designed using EWL criteria. Gulf

proposes to change its approach to the EWL pilot projects by expanding its Grade B initiative to include a storm hardening initiative that has the potential to minimize possible outages due to both a major storm event and routine outage events through the year. Although Gulf has completed the implementation of Grade B construction into its construction practices and completed the extreme wind loading pilot projects outlined in its 2007-2009 Storm Hardening Plan, Gulf still lacks the data to support the benefits associated with the upgrades due to a lack of major storms during this time period to test the construction practices. Gulf believes it is prudent to move cautiously into further application of the extreme wind loading standards until it is able to determine the cost and outage benefits.

Major Planned Work – In order to obtain the most potential cost/benefit, Gulf proposes to target critical pole lines with multiple feeders on them and convert them to Grade B construction. In addition, its existing wooden poles will be replaced with concrete poles from the substations to strategic operational points on the feeders. Gulf has installed meteorological wind stations in close proximity to several of these pilot projects to collect granular wind data to help determine the effectiveness of these facility upgrades in future storm events.

Critical Infrastructure – In the current plan, Gulf performed EWL pilot projects for distribution facilities serving critical infrastructures such as hospitals, fuel depots, sewage treatment plants, and major roadway crossings across the its service area. Gulf proposes to continue applying EWL standards to critical infrastructure facilities and major thoroughfares as pilot projects, and will use Grade B for all new distribution facility construction.

V. Mitigation of Flooding and Storm Surge Damage

Gulf proposes to continue adherence to its current overhead and underground storm hardening specifications in order to minimize damage in areas subject to flooding and storm surges. These specifications will evolve as Gulf continues to seek out best practices and learns from the review of gathered forensic data. Gulf's updated plan shows projects completed during the 2007-2009 plan and projects schedule for 2010 through 2012. For example, Gulf proposes to harden the Pensacola downtown underground network, which is subject to flooding during major storms due to its proximity to Pensacola Bay. Gulf also proposes to replace network protectors over three years. Future underground transmission projects will be engineered to consider the impact of flooding or storm surges from weather events; however, Gulf does not currently have any such new projects planned.

VI. Facility Placement

Gulf proposes to continue promoting proper placement of facilities adjacent to public roads. Pursuant to Rule 25-6.0341, F.A.C., Gulf's updated plan proposes safe and efficient access for installation and maintenance placement of new and replacement distribution facilities.

VII. Deployment Strategies

Facilities Affected, Including Specifications and Standards – Gulf's updated plan provides a detailed description of its deployment strategy, including a description of the facilities affected, technical design specifications, construction standards, and construction methodologies

to be employed. Gulf states that its entire transmission system is affected by the installation of storm guying on wooden H-frame structures and with the replacement of wooden cross arms on H-frame structures. In addition, Gulf's proposal to upgrade construction standards to Grade B has the potential to minimize possible outages and improve restoration efforts to its ratepayers.

Areas of Infrastructure Improvements – Gulf's updated plan provides a detailed description of the communities and areas where electric infrastructure improvements will be made, including facilities identified by the utility as critical infrastructure and along major thoroughfares.

Joint-Use Facilities – Gulf has worked with all third-party attachers to provide sufficient details of proposed electric infrastructure improvements and to determine potential impacts to joint-use facilities. Detailed location maps of potentially-impacted joint-use facilities have been provided to all interested third-party attachers. Gulf stated that it continues to provide additional information as it becomes available.

Utility Cost/Benefit Estimates – In Gulf's updated plan, a spreadsheet was provided of all costs relating to implementation of the proposed updated plan. Please refer to Attachment E, which shows costs associated with implementing Gulf's updated plan. In addition, Gulf asserts that until it is able to develop data to determine the costs and benefits associated with applying EWL standards to distribution poles, it is prudent to move cautiously in the application of EWL standards.

Attachers Cost/Benefit Estimates – Gulf's attachers have not provided their cost and benefit data at this time. Gulf sought input regarding its 2010-2012 updated plan by supplying drafts and conducting face-to-face meetings with attaching entities. However, Gulf was not contacted by any attaching entities.

VIII. Attachment Standards and Procedures

Gulf's updated plan includes Attachment Standards and Procedures. These standards and procedures encompass information governing safety, reliability, pole loading capacity, and engineering standards and procedures for third party attachments.

IX. Conclusion

Gulf's updated plan is largely a continuation of much of its current Commission approved plan. Gulf's updated plan also includes improvements to many ongoing storm hardening activities, additions to the Ten Initiatives, as well as continued practices that have enhanced reliability. Since Florida has not been affected by any named storms in the past few years, no data are available to evaluate the effects of hardening efforts on Gulf's infrastructure. However, staff believes Gulf is taking proactive steps to improve its system to withstand severe weather events and presents a reasonable approach to storm hardening that has the potential to enhance reliability and reduce restoration costs and outage times. Therefore, staff recommends the Commission approve Gulf's updated storm hardening plan.

Issue 5: Should the Commission approve Florida Power & Light Company's (FPL) updated 2010-2012 storm hardening plan?

Recommendation: Yes, the Commission should approve the updated storm hardening plan filed by Florida Power & Light Company. (L'Amoreaux)

Staff Analysis: On Attachment F, staff has provided a summary of FPL's currently approved storm hardening plan and the proposed changes contained in its updated plan. In addition, where available, staff has shown the costs associated with the 2007-2009 and 2010-2012 plans. Components of FPL's updated plan are summarized below.

I. Wooden Pole Inspection Program

FPL proposes to continue its eight-year wooden pole inspection as required by Commission Order No. PSC-07-0078-PAA-EU. FPL will continue to file the results of these inspections in FPL's Annual Electric Utility Distribution Reliability Report.

II. Ten Initiatives

Initiative One – Three-Year Vegetation Management Cycle for Distribution Circuits

FPL proposes to continue its previously approved plan for Initiative One. Currently FPL has a three-year average trim cycle for feeders and a six-year average cycle for distribution laterals. FPL also proposes to continue targeted trimming, and maintenance of tree species that often grow faster than others; trees that are leaning, damaged, or dead; tree removal; and trees reported by customers as needing attention. FPL maintains that it is on schedule with this initiative. During the June 10, 2010 staff workshop, FPL stated that this was its most costly initiative of the ten, with an estimated cost for 2010 of about $61 million.

Initiative Two – Audit of Joint-Use Attachment Agreements

FPL proposes to continue collaborating with cable television (CATV) companies and telecommunication companies to complete system-wide pole attachment surveys on a five-year cycle. The pole attachment survey focuses on compliance with existing pole attachment agreements for all FPL-owned and joint-use poles. FPL proposes to continue conducting pole strength assessments in conjunction with its eight-year wooden pole inspection program. Data regarding the number of authorized and unauthorized pole attachments, strength tests, poles repaired, and NESC violations will continue to be collected and stored in FPL's Geographic Information System (GIS). FPL will continue to verify that all attachments have been made pursuant to a current joint-use agreement.

Initiative Three – Six-Year Transmission Structure Inspection Program

FPL proposes to continue inspection of all transmission lines, substations, and structures on a six-year cycle. FPL proposes to continue conducting inspections of substations each year.

Initiative Four – Hardening of Existing Transmission Structures

FPL ~~proposes~~ proposed a slight change to its hardening of transmission facilities. Instead of replacing just single pole unguyed wooden transmission structures, FPL is now in the process of replacing all wooden transmission structures with round spun concrete poles, and replacing ceramic post insulators on concrete poles with polymer post insulators.

Initiative Five – Transmission and Distribution Geographic Information System

FPL has established GIS databases for data on its distribution and transmission systems, such as pole inspection records (e.g., pole locations and attributes), joint-use audit data, levels of hardening, and information on streetlights. In 2008, FPL implemented a process "framework" to standardize and automate the loading of inspection data into its GIS. In 2008, all joint-use data were added to the GIS and continue to be updated as audits are completed and data are received from FPL's joint-use vendor. As of year-end 2009, information on streetlights, such as asset data and audit records, had been loaded into the FPL Distribution GIS.

Initiative Six – Post-Storm Data Collection and Forensic Analysis

To conduct forensic data collection and analysis, FPL proposes to select a random sample of locations from the total GIS pole set (all distribution poles in the wind band area) without any consideration of pole attributes or specific pole location data. Forensic teams will then observe all damaged locations, including damage to poles, wires, and distribution equipment. FPL states that while storm damage data is collected in certain areas, restoration crews will begin their work in other locations. This will allow the collection of sample observations for forensic analysis without impeding early restoration work. FPL has not experienced a hurricane event during 2007-2009; therefore, no significant forensic data is available at this time.

Initiative Seven – Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems

FPL's updated plan proposes to continue managing its assets and performing forensic analyses to differentiate between overhead and underground performance, depending on the severity of a given storm. FPL states that distinguishing between overhead and underground performance has been very difficult since no hurricanes were experienced between 2007 through 2009.

Initiative Eight – Increased Utility Coordination with Local Governments

FPL proposes to continue meeting with county emergency operations managers and municipalities to discuss critical infrastructure, line clearing, storm readiness, and underground conversions. The Company has developed an enhanced e-mail distribution process and network to target key messages to all governmental audiences. In addition, meetings and workshops will be held with local governments to explain FPL's efforts to enhance service reliability and to provide information on hardening projects within the locale.

Initiative Nine – Collaborative Research on Effects of Hurricane Winds and Storm Surge

The electric utilities previously established a non-profit, member-financed organization to coordinate all research efforts through the PURC, located in the Warrington College of Business at the University of Florida. PURC's work is focused on three main areas of concern: hurricane wind effects, vegetation management, and undergrounding of electric infrastructure. FPL entered into a Memorandum of Understanding with PURC that extends PURC's research efforts for the IOUs through December 31, 2011.

Initiative Ten – Natural Disaster Preparedness and Recovery Program

FPL proposes to continue refining its Storm Emergency Management plan, which identifies emergency conditions and the responsibilities and duties of the FPL emergency response organization for severe storms. This plan covers the roles and responsibilities of key positions and includes FPL's overall severe storm emergency processes. These processes describe the planning activities, restoration work, public communications, coordination with government, training, practice exercises and lessons learned evaluation systems. This plan is reviewed and revised annually.

III. National Electric Safety Code Compliance

FPL's updated plan proposes the extent to which, at a minimum, FPL complies with the NESC pursuant to Rule 25-6.0345(2), F.A.C. FPL's distribution facilities comply with, and in most cases exceed, the minimum requirements of the NESC. FPL's transmission structures also comply with the NESC.

IV. Extreme Wind Loading Standards

New Construction – FPL's updated plan continues a three-prong approach to hardening distribution infrastructure: proactive implementation of EWL for critical facilities; incremental hardening for commercial facilities that serve important roles following a storm; and revision of design guidelines intended to gradually move FPL's total system to EWL hardening over time.

Historically, FPL has generally utilized Grade B construction for all distribution lines. Since Grade B is stronger than Grade C construction, FPL's distribution facilities comply with and, in most cases, exceed the minimum requirements of the NESC. FPL proposes to continue updating its Distribution Engineering Reference Manual and Distribution Construction Standards to include the requirements to meet the NESC EWL. In addition, FPL proposes to ~~revise its~~ continue applying its revised Design Guidelines and processes to apply EWL for new construction, major planned work, relocation projects and daily work activities.

Major Planned Work – In addition to the facilities serving CIF customers, FPL proposes to complete incremental hardening on feeders associated with five community projects. Community projects serve local needs such as grocery stores, gas stations and pharmacies. The objective of incremental hardening is to optimize the existing distribution infrastructure and increase the overall wind profile of a feeder to a higher wind rating, up to and including EWL.

Incremental hardening will apply appropriate combinations of cost-effective engineering options to eliminate weaker links and take advantage of the existing storm resilience of a feeder.

Critical Infrastructure – FPL defines CIF as facilities serving critical customers, such as hospitals, 911 centers, special needs shelters, water treatment plants, and police and fire stations. In 2010, FPL proposes to utilize EWL standards to harden thirty nine feeders and the associated laterals, primarily serving thirty-nine CIF customers. An additional 13 CIF customers served by these same feeders will also benefit from the EWL hardening improvements. FPL will also focus on hardening to EWL approximately 16 overhead highway crossings, mainly on Interstate 95, and 20 additional critical switches.

V. Mitigation of Flooding and Storm Surge Damage

FPL proposes to continue adherence to guidelines in place for the prompt post-storm inspection and mitigation of damage to equipment exposed to flooding or storm surge. These guidelines outline the necessary steps to purge any sand and water that has invaded equipment and to restore it to service.

VI. Facility Placement

Pursuant to Rule 25-6.0341, F.A.C., FPL's updated plan proposes safe and efficient access for installation and maintenance placement of new and replacement distribution facilities. FPL proposes to continue its Distribution Guidelines, which address the location of new and replacement poles in private easements, and location of overhead lines.

VII. Deployment Strategies

Facilities Affected, Including Specifications and Standards – FPL's updated plan contains technical design specifications, construction standards and methodologies. FPL proposes to continue to utilize its design toolkit that focuses on evaluating and using cost-effective hardening options for each location. For example, FPL's toolkit includes information on equipment relocation, upgrading pole classes, and undergrounding facilities.

Areas of Infrastructure Improvements – FPL's updated plan describes how the company expects a reduction in storm restoration costs as well as non-storm restoration costs as a result of its planned hardening activities. FPL does not feel that it has sufficient information at this time to distinguish between the benefits attributable to one type of hardening activity versus another due to lack of storm events.

Joint-Use Facilities – As discussed above, FPL partners with CATV and telecommunication companies to complete system-wide pole attachment surveys on a five-year cycle. In addition, FPL continues to include pole strength assessments addressing the impacts of existing pole attachments in conjunction with its eight-year wooden pole inspection program.

Utility Cost/Benefit Estimates – FPL states that analyses and forensic observations performed after Hurricanes Katrina and Wilma serve as the foundation for FPL's hardening efforts, but there is presently limited or no historical data available for purposes of conducting

overall cost and benefit analyses on many of its actions. As additional storm experience is encountered, better detailed cost and benefit analyses will be performed and more cost-effective hardening solutions implemented. In the meantime, FPL believes that continuing to implement its current hardening approach (targeting critical infrastructure for EWL, the application of incremental hardening for community projects, and the utilization of the design guidelines) remains in the best interest of its customers. FPL expects a reduction in storm restoration costs as well as non-storm restoration costs as a result of its planned hardening activities. Attachment F shows the costs associated with implementing FPL's updated plan.

Attachers Cost/Benefit Estimates – On March 12, 2010, FPL mailed an informational package regarding its 2010-2012 updated plan, as well as the current draft of its "Attachment Standards and Procedures," to all attaching entities. FPL was contacted by eight attaching entities; however, there were no suggested changes or issues. In addition, attachers did not provide any benefit information.

VIII. Attachment Standards and Procedures

FPL's updated plan includes Attachment Standards and Procedures. These standards and procedures reflect the attachments and standards previously in place, with the only substantive updates being made to incorporate FPL's proposed hardening construction standards and design guidelines.

IX. Conclusion

FPL's updated plan is largely a continuation of its current, Commission-approved plan. Since Florida has not been affected by any named storms in the past few years, no data are available to evaluate the effects of hardening efforts on FPL's infrastructure. However, staff believes FPL is taking proactive steps to improve its system to withstand severe weather events and thus presents a reasonable approach to storm hardening that has the potential to enhance reliability and reduce restoration costs and outage times. Therefore, staff recommends the Commission approve FPL's updated storm hardening plan.

Issue 6: Should these dockets be closed?

Recommendation: Yes. If no person whose substantial interests are affected by the proposed agency action files a protest within 21 days of the issuance of the order, these dockets should be closed upon the issuance of a consummating order. (Bennett)

Staff Analysis: At the conclusion of the protest period, if no protest is filed these dockets should be closed upon the issuance of a consummating order.

Storm Hardening Requirements: Wooden Pole Inspection Program & 10 Initiatives

Eight-Year Wooden Pole Inspection Program
1. Implement an eight-year wooden pole inspection cycle by Order Nos. PSC-06-0144-PAA-EI, PSC-07-0078-PAA-EU.
2. File an annual report with the Commission.
3. Provide cost estimates.

Initiative 1- A Three-Year Vegetation Management Cycle for Distribution Circuits
1. Three-year tree trim cycle for primary feeders (minimum).
2. Three-year cycle for laterals as well, if not cost-prohibitive.
3. Provide cost estimate.

Initiative 2- Audit of Joint-Use Attachment Agreements
1. (a) Each investor-owned electric utility shall develop a plan for auditing joint-use agreements that includes pole strength assessments.
(b) These audits shall include both poles owned by the electric utility and poles owned by other utilities to which the electric utility has attached its electrical equipment.
2. The location of each pole, the type and ownership of the facilities attached, and the age of the pole and the attachments to it should be identified.
3. Each investor-owned utility shall verify that such attachments have been made pursuant to a current joint-use agreement.
4. Stress calculations shall be made to ensure that each joint-use pole is not overloaded or approaching overloading for instances not already addressed by Order No. PSC-06-0144-PAA-EI.
5. Provide compliance cost estimate and cost estimate for alternative action, if any.

Initiative 3- Six-Year Transmission Inspection Program
1. Develop a plan to fully inspect all transmission towers and other transmission supporting equipment (such as insulators, guying, grounding, splices, cross-braces, bolts, etc.).
2. Develop a plan to fully inspect all substations (including relay, capacitor, and switching stations).
3. Provide compliance cost estimate and cost estimate for alternative actions, if any.

Initiative 4- Hardening of Existing Transmission Structures
1. Develop a plan to upgrade and replace existing transmission structures. Provide a scope of activity, limiting factors, and criteria for selecting structure to upgrade and replace.
2. Provide a timeline for implementation.
3. Provide compliance cost estimate and cost estimate for alternative actions, if any.

Initiative 5- Transmission and Distribution Geographic Information System
1. To conduct forensic review.
2. To assess the performance of underground systems relative to overhead systems.
3. To determine whether appropriate maintenance has been performed.
4. To evaluate storm hardening options.
5. Provide a timeline for implementation.
The utilities have the flexibility to propose a methodology that is efficient and cost-effective.

Initiative 6- Post-Storm Data Collection and Forensic Analysis
1. Develop a program that collects post-storm information for performing forensic analyses.
2. Provide a timeline for implementation.
The utilities have the flexibility to propose a methodology that is efficient and cost-effective.

Initiative 7- Collection of Detailed Outage Data Differentiating between the Reliability Performance of Overhead and Underground Systems
1. Collect specific storm performance data that differentiates between overhead and underground systems, to determine the percentage of storm-caused outages that occur on overhead and underground systems, and to assess the performance and failure mode of competing technologies, such as direct bury cable versus cable-in-conduit, concrete poles versus wooden poles, location factors such as front-lot versus back-lot, and pad-mounted versus vault.
2. Provide a timeline for implementation.
The utilities have the flexibility to propose a methodology that is efficient and cost-effective.

Initiative 8- Increased Coordination with Local Governments
1. Each utility should actively work with local communities year-round to identify and address issues of common concern, including the period following a severe storm like a hurricane and also ongoing, multihazard infrastructure issues such as flood zones, areas prone to wind damage, development trends in land use and coastal development, joint-use of public right-of-way, undergrounding facilities, tree trimming, and long-range planning and coordination.
2. Incremental plan costs.

Initiative 9-Collaborative Research
1. Must establish a plan that increases collaborative research.
2. Must identify collaborative research objective.
3. Must solicit municipals, cooperatives, educational and research institutions.
4. Must establish a timeline for implementation.
5. Must identify the incremental costs necessary to fund the organization and perform the research.

Initiative 10- A Natural Disaster Preparedness and Recovery Program
1. Develop a formal Natural Disaster Preparedness and Recovery Plan that outlines the utility's disaster recovery procedures if the utility does not already have one.

Progress Energy Florida, Inc.

Eight-Year Wooden Pole Inspection Program	
Current Plan	Updated Plan
1. Implement an eight-year wooden pole inspection cycle for distribution poles.	1. No change
2. File the progress of this inspection in the Annual Reliability Report.	2. No change
3. Costs for 2007-2009 were $21,000,000, which include wooden pole inspection/treatment and replacement.	3. Costs for 2010 are estimated to be $10,300,000, which include wooden pole inspection/treatment and replacement.

Initiative 1- A Three-Year Vegetation Management Cycle for Distribution Circuits	
Current Plan	Updated plan
1. Implement a three-year average trim cycle for feeders with targeted feeder trims based on prioritization.	1. No change
2. Implement an average five-year trim cycle for laterals.	2. No change
3. Costs for 2007-2009 were $70,995,132.	3. Costs for 2010 are estimated to be $12,800,000.

Initiative 2- Audit of Joint-Use Attachment Agreements	
Current plan	Updated plan
1. (a) Perform a Comprehensive Loading Analysis and annual partial system audits.	1. (a) No change
(b) Audit all PEF-owned and joint-use poles during eight-year wooden pole inspection cycle.	(b) No change
2. All required data collected on select poles and stored in electronic format.	2. No change
3. Verify attachments have been made pursuant to current joint-use agreement.	3. No change
4. Stress calculations performed on select poles during eight-year wooden pole inspection cycle.	4. No change
5. Costs for 2007-2009 were $1,481,744.	5. Costs for 2010-2012 are unknown at this time.

Initiative 3- Six-Year Transmission Inspection Program	
Current plan	Updated Plan
1. Inspection program is a multi-pronged approach with inspection cycles of one, six or eight years depending on the goals or requirements of the individual inspection activity.	1. No change
2. Annual substation inspections.	2. No change
3. Costs for 2007-2009 were $6,707,718 while an additional $42,017,258 was spent on other transmission inspections and maintenance.	3. Costs for 2010 are estimated to be $14,175,025. This estimate includes transmission circuits and substation inspections.

Initiative 4- Hardening of Existing Transmission Structures	
Current plan	Updated Plan
1. Incremental upgrades during relocations, replacement of existing wooden transmission poles, and other maintenance.	1. No change
2. Plan completed in 10 or more years starting in 2007.	2. No change
3. Costs for 2007-2009 transmission hardening projects were $286,844,416.	3. Cost for 2010 are estimated to be $103.2 M.

Initiative 5- Transmission and Distribution Geographic Information System	
Current plan	Updated Plan
1. Plan includes forensic review.	1. No change
2. Plan includes underground system relative to overhead.	2. No change
3. Plan includes determination of appropriate maintenance.	3. No change
4. Plan includes evaluation of storm hardening options.	4. No change
5. In 2008, PEF transitioned to a new G-electric system and retired the old FRAMME GIS system.	5. Continue use of the new system

Initiative 6- Post-Storm Data Collection and Forensic Analysis	
Current plan	Updated Plan
1. PEF has forensic teams in place and will collect and analyze samples.	1. No change
2. Plan continues to be implemented as severe weather events occur.	2. No change

Initiative 7- Collection of Detailed Outage Data Differentiating between the Reliability Performance of Overhead and Underground Systems	
Current plan	Updated Plan
1. PEF's Storm Preparedness Plan has been initiated.	1. No change
2. Implement in 2007. Storm performance results are obtained from PEF's GIS.	2. No change

Initiative 8- Increased Coordination with Local Governments	
Current plan	Updated Plan
1. PEF focuses on year-round communication with local governments. In addition, PEF implements meetings to discuss city and county projects.	1. No change
2. Costs for 2007-2009 are unknown at this time.	3. Costs for 2010-2012 were not provided.

Initiative 9-Collaborative Research	
Current Plan	Updated Plan
1. Collaborative research efforts, led by PURC, which began in 2007.	1. No change
2. Research vegetation management during storm and non-storm times, wind during storm and non-storm events, and hurricane and damage modeling towards further understanding the costs and benefits of undergrounding.	2. No change
3. PEF will solicit participation from other utilities and organizations.	3. No change
4. Implementation is ongoing	4. PEF has entered into a Memorandum of Understanding with the University of Florida's PURC, which extends research through December 31, 2011.
5. Costs for 2007-2009 were not provided.	5. Costs for 2010-2012 were not provided.

Initiative 10- A Natural Disaster Preparedness and Recovery Program	
Current Plan	Updated Plan
Disaster Preparedness/Recovery Plan has been developed and filed.	Continue to refine

Tampa Electric Company

Eight-Year Wooden Pole Inspection Program	
Current Plan	Updated plan
1. Implement an eight-year wooden pole inspection cycle for distribution poles.	1. No change
2. File the progress of this inspection in the Annual Reliability Report.	2. No change
3. Costs for 2007-2009 were $5,887,600, which include groundline inspections for distribution and transmission, distribution pole reinforcements, and inspections related to distribution maintenance.	3. Costs for 2010 are estimated to be $1.7 million, which include groundline inspections for distribution and transmission, distribution pole reinforcements, and inspections related to distribution maintenance.

Initiative 1- A Three-Year Vegetation Management Cycle for Distribution Circuits	
Current Plan	Updated Plan
1. Feeder trim based on prioritization (Average three-year trim cycle for all).	1. No change
2. Every circuit including open secondaries, cabled secondaries, and appropriate services is trimmed every 3 years.	2. No change
3. Costs for 2007-2009 were $34.7 M	3. Vegetation management costs for 2010 are estimated to be $14.7 M.

Initiative 2- Audit of Joint-Use Attachment Agreements	
Current Plan	Updated Plan
1. (a) Perform pole strength assessment during eight-year wooden pole inspection cycle.	1. (a) No change, with the addition of pole loading analysis and the annual pole attachment audit.
(b) Audit all TECO-owned poles and third-party poles per Joint-Use contract agreements on an eight-year cycle.	(b) No change, with the addition of pole loading analysis and the annual pole attachment audit.
2. All required data to be collected during the eight-year wooden pole inspection cycle and stored in GIS database.	2. No change
3. Verify attachments have been made pursuant to a current joint-use agreement during the eight-year wooden pole inspection cycle.	3. No change
4. Stress calculations to be performed during the eight-year wooden pole inspection cycle.	4. No change

5. Costs for 2007-2009 were approximately $829,900. This includes TECO's Comprehensive Loading Analysis and Pole Attachment audits.	5. Cost for TECO's 2010 Comprehensive Loading Analysis is estimated to be $100,000. The cost of corrective measures to bring all overloaded poles back into compliance is estimated at $2.5 M.

Initiative 3- Six-Year Transmission Inspection Program	
Current Plan	Updated Plan
1. Wooden pole inspection activities (PSC-06-0144-PAA-EI Docket No. 060078-EI). Structures on a six-year cycle, all other portions of the system inspected annually.	1. No change. The inspection program is a multi-pronged approach with inspection cycles of one, six, or eight years depending on the goals or requirements of the individual inspection activity.
2. Substations inspected annually.	2. No change
3. Costs for 2007-2009 were $1,548,500.	4. Estimated cost for 2010 is $635,800.

Initiative 4- Hardening of Existing Transmission Structures	
Current plan	Updated Plan
1. Incremental phase out of wooden transmission structures during all new construction, relocations, and other maintenance.	1. No change
2. Plan is ongoing with no completion date.	2. No change
3. Costs for 2007-2009 were $29.8 M.	3. Cost for 2010 are estimated to be $9.2M

Initiative 5- Transmission and Distribution Geographic Information System	
Current plan	Updated Plan
TECO is in the process of implementing a new GIS system. The field assets to be incorporated in the GIS will include all distribution, transmission, substation and lighting facilities for TECO's entire system. GIS, in conjunction with current OMS, will provide information on location and system performance.	
1. Forensic reviews on statistical sampled basis.	1. No change
2. Forensic reviews with respect to types of materials and construction, and location.	2. No change
3. Determination of appropriate maintenance.	3. No change
4. Assess future preventive measures where possible.	4. No change
5. Formally implement its GIS in 2009.	5. TECO formally accepted its GIS in 2009 and implementation begins in 2010.

Initiative 6- Post-Storm Data Collection and Forensic Analysis	
Current plan	Updated Plan
1. Hire consultant to perform forensic analyses.	1. No change
2. Implementation is dependent on the severity of the weather event.	2. No change

Initiative 7- Collection of Detailed Outage Data Differentiating between the Reliability Performance of Overhead and Underground Systems	
Current plan	Updated Plan
1. Measures are in place should it experience a major storm.	1. No change
2. Implementation will begin when TECO experiences major storm activity.	2. No change

Initiative 8- Increased Coordination with Local Governments	
Current plan	Updated Plan
1. TECO's Plan calls for building on past community involvement by including local government, fire, police and water officials in storm preparation workshops, including local government in local Emergency Operations Centers, increased vegetation management including government and consumer education, undergrounding planning and education, and damage reporting prior, during, and after storms.	1. No change
2. Costs for 2007-2009 are unknown.	3. Costs for 2010-2012 are unknown.

Initiative 9-Collaborative Research	
Current plan	Updated Plan
1. Collaborative research efforts, led by the PURC, began in 2007.	1. No change
2. Researching vegetation management during storm and non-storm times, wind during storm and non-storm events, and hurricane and damage modeling towards further understanding the cost and benefits of undergrounding.	2. No change
3. TECO solicited participation from municipal and rural electric cooperative utilities in addition to available educational and research organizations.	3. No change
4. Implementation is ongoing.	4. TECO has entered into a Memorandum of Understanding with the University of Florida's PURC, which extends research through December 31, 2011.
5. Cost requirements for 2007-2009 were not provided.	5. Estimated cost for 2010 were not provided.

Initiative 10- A Natural Disaster Preparedness and Recovery Program	
Current Plan	Updated plan
Disaster Preparedness/Recovery plan has been developed and filed.	Continues to refine

Florida Public Utilities Company

Eight-Year Wooden Pole Inspection Program	
Current Plan	Updated plan
1. Implement an eight-year wooden pole inspection cycle for distribution poles.	1. No change
2. File the progress of this inspection in the Annual Reliability Report.	2. No change
3. Costs for 2007-2009 are unknown at this time.	Costs for 2010-2012 are estimated to be $470,000.

Initiative 1- A Three-Year Vegetation Management Cycle for Distribution Circuits	
Current Plan	Updated Plan
1. All feeders on a three-year trim cycle	1. No change
2. Laterals are on a six-year trim cycle.	2. No change
3. Costs for 2007-2009 were $1,781,109.	3. Costs for 2010-2012 are estimated to be $2,132,000.

Initiative 2- Audit of Joint-Use Attachment Agreements	
Current plan	Updated Plan
1. (a) Perform pole strength assessment during the eight-year wooden pole inspection cycle.	1. (a) No change
(b) Audit all FPUC-owned and third-party poles during the eight-year wooden pole inspection cycle.	(b) FPUC plans to conduct a thorough joint-use audit once every five year in addition to the eight-year pole inspection.
2. All required data collected during inspections and stored in a database.	2. No change
3. Verify attachments have been made pursuant to current joint-use agreement during the eight-year wooden pole inspection cycle.	3. No change
4. Perform stress calculations during the eight-year wooden pole inspection cycle.	4. No change
5. Costs for 2007-2009 were not available.	5. Costs for 2010-2012 are estimated to be $78,000.

Initiative 3- Six-Year Transmission Inspection Program	
Current plan	Updated Plan
1. Develop procedures for climbing inspections of Company-owned 69 and 138 KV structures. Coordination/process for customer-owned 69KV lines to be developed.	1. No change
2. No plan provided for substations.	2. Substations are fully inspected at least once a year.
3. FPUC's current accounting method could not provide the costs for 2007-2009.	5. Costs for 2010-2012 are estimated to be $123,600.

Initiative 4- Hardening of Existing Transmission Structures	
Current plan	Updated Plan
1. Replacement of 180 wooden poles on 69 KV lines with concrete as necessary and when economically practical.	1. Continues to replace wooden poles on 69 KV lines.
2. Plan is on-going with no completion date.	2. No change
3. Costs for 2007-2009 were approximately $516,400.	3. Costs for 2010-2012 are estimated to be $152,000.

Initiative 5- Transmission and Distribution Geographic Information System	
Current plan	Updated plan
1. FPUC's plan includes forensic reviews.	1. No change
2. FPUC's plan includes underground versus overhead.	2. No change
3. FPUC's plan includes determination of appropriate maintenance.	3. No change
4. FPUC's plan includes evaluation of storm hardening options.	4. No change
5. Currently being implemented	5. Continues to be implemented.

Initiative 6- Post-Storm Data Collection and Forensic Analysis	
Current plan	Updated Plan
1. FPUC has procedures developed to track all specific hurricane outages, post-storm data collection, and forensic analysis.	1. No change
2. Data is dependent upon storm events in FPUC's service area.	2. No change

Initiative 7- Collection of Detailed Outage Data Differentiating between the Reliability Performance of Overhead and Underground Systems	
Current plan	Updated Plan
1. Collect outage data of overhead and underground facilities to evaluate reliability indices.	1. No change
2. Implementation is ongoing.	2. No change

Initiative 8- Increased Coordination with Local Governments	
Current plan	Updated Plan
1. Coordinate with local and county emergency service agencies within its service area. In addition, to provide personnel at the county EOCs, during emergencies.	1. No change
2. Costs for 2007-2009 were not provided.	3. Costs for 2010-2012 were not provided.

Initiative 9-Collaborative Research	
Current plan	Updated Plan
1. Collaborative research efforts, led by the PURC, began in 2007.	1. No change
2. Researching vegetation management during storm and non-storm times, wind during storm and non-storm events, and hurricane and damage modeling towards further understanding the cost and benefits of undergrounding.	2. No change
3. Solicit participation from municipal and rural electric cooperative utilities in addition to available educational and research organizations.	3. No change
4. Implementation is ongoing.	4. FPUC has entered into a Memorandum of Understanding with the University of Florida's PURC, which extends PURC's research efforts through December 31, 2011.
5. Costs for 2007-2009 were not provided.	5. Costs for 2010-2012 were not provided.

Initiative 10- A Natural Disaster Preparedness and recovery Program	
Currently Approved Plan	Updated Plan
Disaster Preparedness/Recovery Plan has been developed and filed.	Continues to refine

Gulf Power Company

Eight-Year Wooden Pole Inspection Program	
Current Plan	Updated plan
1. Implement an eight-year wooden pole inspection cycle for distribution poles.	1. No change
2. File the progress of this inspection in the Annual Reliability Report.	2. No change
3. Costs for 2007-2009 were $5,007,243.	3. Costs for 2010-2012 are estimated to be $7,500,000.

Initiative 1- A Three-Year Vegetation Management Cycle for Distribution Circuits	
Current Plan	Updated Plan
1. Implement a three-year trim cycle on all main line feeders	1. No change
2. Lateral distribution lines managed on a reliability-based program to achieve a six-year trim cycle.	2. Shorten the trim-cycle length on lateral lines to four years and reduce the emphasis on danger tree removal in residential areas.
3. Costs for 2007-2009 were $12,118,517	3. Costs for 2010-2012 are estimated to be $15,067,734.

Initiative 2- Audit of Joint-Use Attachment Agreements	
Current plan	Updated Plan
1. Pole strength assessment on 5% random sample of Gulf-owned poles that are 20 years old or more and with 3 or more attachments.	1. Gulf proposes to discontinue the pole strength assessment on 5 % random sample.
b. Auditing all Gulf-owned poles and third-party poles per Joint-Use contract agreements on a five-year cycle.	b. No change
2. All required data collected and stored during the five-year inspection cycle.	2. No change
3. Verify attachments have been made pursuant to current joint-use agreements through a five-year cycle.	3. No change
4. Stress assessment performed on 5% random sample of Gulf owned poles that are 20 years old or more and with three or more attachments.	4. Gulf proposes to discontinue the 5% random sample due to low failure rates over the three-year pilot project.
5. Costs for 2007-2009 were $334,325.	5. Costs for 2010-2012 are estimated to be $400,000.

Initiative 3- Six-Year Transmission Inspection Program	
Current plan	Updated Plan
1. Wooden pole inspection activities (PSC-06-0144-PAA-EI Docket No. 060078-EI). All other portions of the system: Gulf does not hold itself to a rigid number of annual inspections. Period of 12 years will show that on average a six-year cycle is achieved.	1. No change
2. Substations at least annually. Structures inside new substations built to withstand wind speed in excess of 150 MPH.	2. No change
3. Actual costs for 2007-2009 were $762,451.	4. Estimated costs for 2010-2012 are $1,050,000.

Initiative 4- Hardening of Existing Transmission Structures	
Current Plan	Updated Plan
1. Install storm guy H-Frames. Replace wooden cross-arms with steel cross-arms and other activities.	1. No change
2. Adhere to current design and construction standards using generally accepted engineering practices, in conjunction with the recommended six-year structure inspection program.	2. No change
3. The costs for 2007-2009 were $11,296,154.	3. The estimated costs for 2010-2012 are $9,000,000.

Initiative 5- Transmission and Distribution Geographic Information System	
Current plan	Updated Plan
1. Gulf's plan includes forensic reviews.	1. No change
2. Gulf's plan includes underground versus overhead.	2. No change
3. Gulf's plan includes determination of appropriate maintenance.	3. No change
4. Gulf's plan includes evaluation of storm hardening options.	4. No change
5. Data is currently being captured.	5. No change

Initiative 6- Post-Storm Data Collection and Forensic Analysis	
Current plan	Updated Plan
1. Distribution & Transmission: Concurrent with storm restoration, crews of contractors to survey a sample of lines affected by the storm. Inland and coastal areas to be surveyed.	1. No change
2. Costs for 2007-2009 were $115,948.	3. Estimated costs for 2010-2012 are undetermined.

Initiative 7- Collection of Detailed Outage Data Differentiating between the Reliability Performance of Overhead and Underground Systems	
Current Plan	Updated Plan
1. Record numbers of overhead and underground customers and calculate SAIDI and SAIFI for each outage. As outages occur, collect data by type of buried cable and type of pole.	1. No change
2. Implementation is ongoing.	2. No change

Initiative 8- Increased Coordination with Local Governments	
Current Plan	Updated Plan
1. Gulf plan builds on existing programs of year round activities like workshops with community leaders, pre-hurricane planning with participation in all local government hurricane preparedness drills, exercises, information fairs by line clearing specialists, and a standing Emergency Operations Center staffed 24 hours a day.	1. No change
2. No incremental costs are provided since the programs are considered already ongoing.	3. No change

Initiative 9-Collaborative Research	
Current Plan	Updated Plan
1. Collaborative research efforts, led by the PURC, began in 2007. Gulf continues to participate in R&D activities that PURC initiates.	1. No change
2. Researching vegetation management during storm and non-storm times, wind during storm and non-storm events, and hurricane and damage modeling towards further understanding the costs and benefits of undergrounding.	2. No change
3. Solicit participation from municipal and rural electric cooperative utilities in addition to available educational and research organizations.	3. No change
4. Implementation is ongoing.	4. Gulf has entered into a Memorandum of Understanding with the University of Florida's PURC, which extends PURC's research efforts through December 31, 2011.
5. Cost requirements for 2007-2009 were $47,891.	5. Costs cannot be determined at this time.

Initiative 10- A Natural Disaster Preparedness and Recovery Program	
Current Plan	Updated Plan
Disaster Preparedness/Recovery Plan has been developed and filed.	Continue to refine

Florida Power & Light Company

Eight-Year Wooden Pole Inspection Program	
Current Plan	Updated plan
1. Implemented an eight-year wooden pole inspection cycle for distribution poles.	1. No change
2. Files the progress of this inspection in the Annual Reliability Report.	2. No change
3. Costs for 2007-2009 were $111.4 M, which include wooden and concrete pole inspections/remediation.	3. Costs for 2010 are estimated to be ~~$61 M~~ $45-$55 M, which include wooden and concrete pole inspections/remediation.

Initiative 1- A Three-Year Vegetation Management Cycle for Distribution Circuits	
Current Plan	Updated plan
1. Average three-year trim cycle for feeders.	1. No change
2. Average six-year trim cycle for laterals. Targeted trimming is also achieved through its "mid-cycle" program that addresses critical circuits.	2. No change
3. Total costs for 2007-2009 were $175.7 M.	3. Total costs for 2010 are estimated to be ~~$65.2 M~~ $61 M.

Initiative 2- Audit of Joint-Use Attachment Agreements	
Current Plan	Updated plan
1. (a) Includes auditing 20% of its joint-use facilities annually.	1. (a) No change
(b) Includes auditing all FPL-owned and third-party poles during eight-year wooden pole inspection cycle.	(b) No change
2. All required data will be collected during inspections and stored in the attachment information database.	2. No change
3. Will verify attachments have been made pursuant to current joint-use agreement through a five-year system wide pole attachment survey.	3. No change
4. Stress calculations will be performed during eight-year wooden pole inspection	4. No change

5. Total costs for 2007-2009 EWL/Incremental Hardening were $162,000,000.[10]	5. Total costs for 2010-2012 EWL/Incremental Hardening are estimated to be $135,000,000 to $165,000,000.

Initiative 3- Six-Year Transmission Inspection Program	
Current Plan	Updated Plan
1. Wooden pole inspection activities (PSC-06-0144-PAA-EI Docket No. 060078-EI). Circuits with structures containing wooden cross-arm structures inspected at least every four years.	1. No change
2. Substation fully inspected quarterly.	2. No change
3. Total costs for 2007-2009 EWL/Incremental Hardening were ~~$162,000,000~~ $182 M.	4. Total costs for 2010 transmission pole inspection are estimated to be $1.8 M and $21.0 M in follow-up work identified from 2009 inspections.

Initiative 4- Hardening of Existing Transmission Structures	
Current Plan	Updated Plan
1. Incremental upgrades during relocations and other maintenance. Upgrade un-guyed single wooden pole structures. Ceramic post line insulator replacements.	1. No change
2. In 2008, FPL enhanced its hardening initiative to include replacement of all wooden transmission structures over the next 25 to 30 years.	2. No change
3. Total costs for 2007-2009 EWL/Incremental Hardening were $162,000,000.	3. Total costs for 2010-2012 EWL/Incremental Hardening are estimated to be $135,000,000 to $165,000,000.

[10] FPL provided the total costs associated with EWL and incremental hardening. However, the Company did not identify the costs of its individual storm hardening programs, except for its wooden pole inspection program and Initiative 1. Total hardening costs can be found on page 3, entitled Hardening Facilities, second full paragragh, last sentence of FPL's 2008 Status/Update Report on Storm Hardening Preparedness and Distribution Reliability, page , first paragraph, last sentence of FPL's 2009 Status/Update Report on Storm Hardening Preparedness and Distribution Reliability, and page 24, section entitled Provide the cost incurred, and any quantified expected benefits, first sentence of FPL's 2010 Status/Update Report on Storm Hardening Preparedness and Distribution Reliability.

Initiative 5- Transmission and Distribution Geographic Information System	
Current Plan	Updated Plan
1. FPL does include forensic reviews.	1. No change
2. FPL does include underground verse overhead.	2. No change
3. FPL does include determination of appropriate maintenance.	3. No change
4. FPL does include evaluation of storm hardening options.	4. No change
5. Currently being implemented	5. No change

Initiative 6- Post-Storm Data Collection and Forensic Analysis	
Current Plan	Updated Plan
1. Divide a sample of damaged poles among forensics teams; observations will be made on all damaged samples. Capture information such as location, attachments, and area wind speed.	1. No change
2. Available for the 2006 storm season.	2. Continues to be available.

Initiative 7- Collection of Detailed Outage Data Differentiating between the Reliability Performance of Overhead and Underground Systems	
Current Plan	Updated Plan
1. FPL's distribution feeders are hybrids, i.e., they contain both overhead and underground facilities. FPL will utilize laterals as a proxy for assessing overhead versus underground system performance.	1. No change
2. Implementation is ongoing and storm performance results are obtained from forensics and available storm work tickets.	2. No change
Initiative 8- Increased Coordination with Local Governments	
Current Plan	Updated Plan

1. FPL focuses on storm preparation, coordination and communication with External Affairs representatives working with county planners and post-storm communications. In addition, FPL implements ongoing planning with External Affairs representative, special e-mail program, government website, and Community Outreach Teams.	1. No change
2. Total costs for 2007-2009 EWL/Incremental Hardening were $162,000,000.	3. Total costs for 2010-2012 EWL/Incremental Hardening are estimated to be $135,000,000 to $165,000,000.

Initiative 9-Collaborative Research	
Current Plan	Updated Plan
1. Collaborative research efforts, led by the Public Research Center (PURC), which began in 2007.	1. No change
2. Researching vegetation management during storm and non-storm times, wind during storm and non-storm events, and hurricane and damage modeling towards further understanding the cost and benefits of undergrounding.	2. No change
3. FPL will solicit participation from municipal and rural electric cooperative utilities in addition to available educational and research organizations.	3. No change
4. Implementation is ongoing.	4. FPL has entered into a Memorandum of Understanding with the University of Florida's PURC, which extends PURC's research efforts through December 31, 2011.
5. Total costs for 2007-2009 EWL/Incremental Hardening were $162,000,000.	5. Total costs for 2010-2012 EWL/Incremental Hardening are estimated to be $135,000,000 to $165,000,000.

Initiative 10- A Natural Disaster Preparedness and Recovery Program	
Current Plan	Updated Plan
Disaster Preparedness/Recovery Plan already developed and filed.	No change