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State of Florida

Public Service Commission

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

DATE: November 16, 2010

TO: Office of Commission Clerk (Cole)

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

RE: 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: 11/30/10 – 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\100266.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).

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

[1] Docket No. 060078-EI, In re: Proposal to require investor-owned electric utilities to implement ten-year wood pole inspection program.
[2] Docket No. 060198-EI, In re: Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates.

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 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

[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.

[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.

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 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

[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.

parties and annual status reports would 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. The plan updates of PEF, TECO, FPUC, and Gulf were approved at the October 26, 2010 Commission Conference. This recommendation was originally scheduled for Commission consideration at the October 26, 2010 Commission Conference with Docket Nos. 100262-100265. Because the first District Court of Appeals stayed Commission actions on all FPL dockets, this docket was deferred.

This recommendation addresses the FPL's plan update as required by Rule 25-6.0342, F.A.C. 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

VIII. Attachment Standards and Procedures

IX. Conclusion

Attachment A describes the storm hardening requirements. Attachment B contains a comparison of the provisions of approved and updated storm hardening plans, and the costs of implementing the approved and updated plans. At the request of FPL, on two occasions revisions have been made to Attachment B to incorporate changes in storm hardening cost estimates and to clarify what costs are considered to be related to storm hardening. None of these changes altered staff's recommendation.

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

[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.

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 Florida Power & Light Company's (FPL) updated 2010-2012 storm hardening plan?

Recommendation: Yes, the Commission should approve FPL's updated storm hardening plan. (L'Amoreaux)

Staff Analysis: On Attachment B, 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 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 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 2: Should this docket 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, this docket 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 this docket 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.

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 $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 $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 cycle.	4. No change
5. Costs not provided.	5. Costs not provided.

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 transmission inspections were $4.8 M plus $43.6 M in follow-up work arising from 2006-2008 inspections.	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 transmission hardening were $16.4 M.	3. Costs not provided.

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. Costs not provided.	3. Costs not provided.

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. Costs not provided.	5. Costs not provided.

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