Review of

Florida's Investor-Owned Electric Utilities

2011 Service Reliability reports

NOVEMBER 2012

State of Florida

Florida Public Service Commission
Division of ENGINEERING

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TERMS AND ACRONYMS

AMI	Advanced Metering Infrastructure
ANSI	American National Standards Institute
CAIDI	Customer Average Interruption Duration Index
CEMI5	Customers Experiencing More Than Five Interruptions
CI	Customer Interruption
CME	Customer Momentary Events
CMI	Customer Minutes of Interruption
DSM	Demand Side Management
EOC	Florida's Emergency Operation Center
F.A.C.	Florida Administrative Code
FEMA	Federal Emergency Management Agency
FPL	Florida Power & Light Company
FPUC	Florida Public Utilities Company
GIS	Geographic Information System
Gulf	Gulf Power Company
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IOU	The Five Investor-Owned Electric Utilities: FPL, PEF, TECO, Gulf, and FPUC
L-Bar	Average of Customer Service Outage Events Lasting A Minute or Longer
MAIFIe	Momentary Average Interruption Event Frequency Index
N	Number of Outages
NWS	National Weather Service
OMS	Outage Management System
PEF	Progress Energy Florida, Inc.
RDUP	Rural Development Utility Program
SCADA	Supervisory Control and Data Acquisition
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
TECO	Tampa Electric Company
VMP	Vegetation Management Program

RELIABILITY METRICS

Rule 25-6.0455, Florida Administrative Code (F.A.C.), requires Florida's IOUs to report data pertaining to distribution reliability in their Annual Distribution Reliability Reports. The following 10 indices are utilized in the reports or are derived from the filed data.

- *Average Duration of Outage Events* (L-Bar) is the sum of each outage event duration for all outage events during a given time period, divided by the number of outage events over the same time within a specific area of service.

- *Customer Average Interruption Duration Index* (CAIDI) is an indicator of average interruption duration, or the time to restore service to interrupted customers. CAIDI is calculated by dividing the total system customer minutes of interruption by the number of customer interruptions. (CAIDI = CMI ÷ CI, also CAIDI = SAIDI ÷ SAIFI).

- *Customers Experiencing More Than Five Interruptions* (CEMI5) is the number of retail customers that have experienced more than five service interruptions. (CEMI5 in this review is a customer count shown as a percentage of total customers.)

- *Customer Interruption* (CI) is the number of customer service interruptions, which lasted one minute or longer.

- *Customer Minutes of Interruption* (CMI) is the number of minutes that a customer's electric service was interrupted for one minute or longer.

- *Customer Momentary Events* (CME) is the number of customer momentary service interruptions, which lasted less than one minute measured at the primary circuit breaker in the substation.

- *Momentary Average Interruption Event Frequency Index* (MAIFIe) is an indicator of average frequency of momentary interruptions or the number of times there is a loss of service of less than one minute. MAIFIe is calculated by dividing the number of momentary interruption events recorded on primary circuits by the number of customers served. (MAIFIe = CME ÷ C)

- *Number of Outage Events* (N) measures the primary causes of outage events and identifies feeders with the most outage events.

- *System Average Interruption Duration Index* (SAIDI) is a composite indicator of outage frequency and duration and is calculated by dividing the customer minutes of interruptions by the number of customers served on a system. (SAIDI = CMI ÷ C, also SAIDI = SAIFI x CAIDI)

- *System Average Interruption Frequency Index* (SAIFI) is an indicator of average service interruption frequency experienced by customers on a system. It is calculated by dividing the number of customer interruptions by the number of customers served. (SAIFI = CI ÷ C, also SAIFI = SAIDI ÷ CAIDI)

Executive summary

This is a review and analysis of the 2011 electric distribution reliability data filed by Florida's investor-owned electric utilities (IOU) and examines each utility's report concerning its distribution system. The review also tracks the progress and results of each utility's storm hardening plans. Observations and trends are used to predict possible declines in service reliability and are reported to determine if the Commission may require additional scrutiny, emphasis, or remedial actions.

Assessing Service Reliability

The assessment of an IOU's Electric Service Reliability is made primarily through a detailed review of established Service Reliability Metrics pursuant to Rule 25-6.0455, F.A.C., Reliability metrics or indices are intended to reflect changes over time in system average performance, regional performance, and sub-regional performance. As the indices increase, it is an indication of declining reliability. Comparisons of the year-to-year levels of the metrics reveal changes in performance, which may indicate the need for additional work in one or more areas. The review also examines each utility's level of storm hardening activity in order to gain insight into factors contributing to the observed trends in the performance metrics.[1,2] Inter-utility comparisons of reliability data and related complaints received by the Commission provide additional insight. Finally, audits may be performed where additional scrutiny is required and to ensure the reported data is reliable based on the patterns observed.

Since 2007, IOUs have filed distribution reliability reports using metrics to track performance in two categories. The first is "actual" or unadjusted reliability data that reflects the total or actual reliability experience from the customer's perspective. Unadjusted service reliability data provides an indication of the distribution system performance during hurricanes and other unusual events. Second, each IOU is required to provide "adjusted" performance data for the prior year. The "adjusted" data provides an indication of the distribution system performance on a normal day-to-day basis by removing the impact of excluded events on reliability performance. Analyzing the "actual" and "adjusted" data provides insight concerning the overall reliability performance of each utility. In addition, the scope of the IOUs' Annual Distribution Service Reliability Report was expanded to include status reports on the various storm-hardening initiatives required by the Commission.[3]

The reports filed on March 1, 2012, include: **(1)** storm hardening activities; **(2)** actual 2011 distribution service reliability data; **(3)** adjusted 2011 distribution service reliability data; and **(4)** actual and adjusted 2011 performance assessments in four areas: (1) system-wide, (2) operating region, (3) feeder, (4) cause of outage events, and **(4)** customer complaints.

[1]Rule 25-6.0342, F.A.C., effective February 5, 2007, requires investor-owned electric utilities to file comprehensive storm hardening plans at least every three years.
[2]Rule 25-6.0343, F.A.C., effective December 12, 2006, requires municipal electric utilities and rural electric cooperative utilities to report annually, by March 1, the extent to which their construction standards, policies, practices, and procedures are designed to storm-harden their transmission and distribution facilities.
[3]Wooden Pole Inspection Orders: Order No. PSC-06-0144-PAA-EI, issued February 27, 2006, in Docket No. 060078-EI; and Order Nos. PSC-06-0778-PAA-EU, issued September 18, 2006, PSC-07-0078-PAA-EU, issued January 29, 2007, in Docket No. 060531-EU.
Storm Hardening Initiative Orders: Order Nos. PSC-06-0351-PAA-EI, issued April 25, 2006, PSC-06-0781-PAA- EI, issued September 19, 2006, PSC-06-0947-PAA-EI, issued November 13, 2006, and PSC-07-0468-FOF-EI, issued May 30, 2007, all in Docket No. 060198-EI.

Conclusions

The March 2012 reports of Florida Power & Light Company (FPL), Progress Energy Florida, Inc., (PEF), Tampa Electric Company (TECO), Gulf Power Company (Gulf) and Florida Public Utilities Company (FPUC) were sufficient to perform the 2011 review.

The following company specific summaries provide highlights of the observed patterns.

Service Reliability of Florida Power & Light Company

In reviewing the unadjusted data for 2011 **(Table 2-1),** FPL's documented exclusions for outage events accounted for approximately six percent of all customer minutes of interruption (CMI) with less than 1.59 percent of the allowable exclusions being attributed to tornados recorded by the National Weather Service (NWS). Named storm outages accounted for only 0.96 percent of the CMI and planned outages accounted for the bulk of the CMI, representing 2.81 percent.

FPL's 2011 metrics on an adjusted basis include System Average Interruption Duration Index (SAIDI) which was reported as 80 minutes and represents a three minute increase (four percent) from last year's reported 77 minutes. SAIDI is viewed as the best overall reliability indicator because it encompasses two other standard performance metrics for reliability; System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI). The SAIFI in 2011 increased to 0.97 from 0.92 interruptions in 2010 and the CAIDI improved by two minutes from 84 minutes in 2010 to 82 minutes 2011. FPL attributed the decline in 2011 SAIDI to a two day weather event, October 9 through October 10, 2011, that could not be excluded because the event was not a named storm by the National Hurricane Center. FPL reported its service areas experienced 70 to 80 mph wind gusts and 18 inches of rainfall during this time period.

Equipment failure and vegetation outages continue to be the leading cause of the number of outage events per customer for the past five years. Analysis of **Figure 3-8** shows an increasing trend in the number of outage events attributed to equipment failure and vegetation. FPL has budgeted activities to minimize customer interuptions and FPL's reliability program targets all ten of the service outage causes totaling more than $160 million.

FPL's reliability related complaints percentage received by the Commission in 2011 was 0.7 percent, which was the same amount reported in 2010. FPL's reliability related complaints are trending downward and represents continuing improvement as shown in **Figure 4-8.**

FPL has fully implemented a Geographical Information System (GIS) to map all of its deployed facilities. This information is fully incorporated into the utility's Forensic Data Collection processes used for performance and damage assessments after impact of named and unnamed storms (e.g. transmission and distribution poles, mounted and pedestal transformers, substations, etc.).

Service Reliability of Progress Energy Florida

PEF's 2011 unadjusted data indicated that allowable exclusions for outage events accounted for approximately 50 percent of all CMI. The largest contributor to the exclusion percentage was the category of Distribution (Severe Weather) at 37.28 percent and the second largest contributor was attributed to transmission (non-severe weather) at approximately 6.29 percent.

On an adjusted basis, PEF's 2011 SAIDI was 87 minutes, improving its adjusted SAIDI by six minutes from the 2010 results. The SAIDI over the five year period of 2007 to 2011 has trended upwards even with the lower SAIDI for 2011.

In **Figure 3-16,** PEF's Top Five Outage Categories, the category "animals" climbed to the top spot, representing 18 percent of the ten outage categories. The next two top ten categories were "tree preventable (12 percent) and tree non-preventable (12 percent)." Tree non-preventable increased in 2011 over the 2010 results and tree preventable decreased in 2011. For the five year period, all of the top five outage categories appear to be mixed in that some are trending slightly upward while others are trending slightly downward.

The percentage of reliability complaints to the total number of complaints filed with the Commission for PEF increased to 4.0 percent in 2011 from to 3.1 percent in 2010. Over the five year period, PEF's reliability related complaints appear to be trending downward.

PEF has fully implemented a GIS to map all of its deployed facilities. This information is fully incorporated into the utility's Forensic Data Collection processes used for performance and damage assessments after impact of named and unnamed storms (e.g. transmission and distribution poles, mounted and pedestal transformers, substations, etc.).

Service Reliability of Tampa Electric Company

TECO's 2011 unadjusted data indicated that the allowable exclusions for outage events accounted for approximately 47 percent of all the CMI. The largest documented exclusion was for a tornado, which represented 45 percent of the total excludable CMI.

The adjusted SAIDI for 2011 decreased to 76 minutes from 84 minutes in 2010 and represents a 9.5 percent improvement. The SAIFI improved to 0.87 interruptions from 0.89 interruptions in the previous year. Overall, the five year period, appears to be trending downward. The CAIDI decreased to 87 minutes from 95 minutes reported in 2010. TECO's customers are continuing to experience fewer interruptions and when an outage occurs, the duration appears to be decreasing as well.

Animals and vegetation continue to be the largest contributors to TECO's causes of outage events. **Figure 3-24** illustrates the top five outage causes and vegetation related causes continue to decrease over the last three years. However, animals related outages appear to be trending upward.

TECO's 2011 percentage of total complaints that are service reliability related improved to 2.5 percent from 4.5 percent reported in 2010, and from 3.2 percent reported in 2009.

TECO has fully implemented a GIS to map all of its deployed facilities. This information is fully incorporated into the utility's Forensic Data Collection processes used for performance and damage assessments after impact of named and unnamed storms (e.g. transmission and distribution poles, mounted and pedestal transformers, substations, etc.).

Service Reliability of Gulf Power Company

Gulf's 2011 unadjusted data indicates that allowable exclusions accounted for approximately 39 percent of the customer minutes of interruption with 21.47 percent of the allowable exclusions being "Named Storm Outages" and 10.13 percent for a "Tornado".

The 2011 SAIDI for Gulf was reported as 111 minutes representing a 35 minute decrease from the 146 minutes reported in 2010. The SAIFI decreased to 1.24 interruptions from 1.74 interruptions the previous year. The CAIDI increased to 89 minutes up from 84 minutes in 2010. Overall, the CAIDI results appear to be still be trending downward over the last five years.

Gulf's top five causes of outages remain unchanged and were listed as animals, deterioration, lightning, trees, and unknown. Animals caused outages were still the number one cause of outages, the other four causes continued to decline in 2011 as shown in **Figure 3.32**.

The percentage of complaints reported to the Commission for Gulf that are reliability related increased slightly to 0.4 percent from 0.0 percent in 2010, and for the last five years has remained relatively flat. The highest percent of total complaints that are reliability related occurred in 2008 at 0.9 percent. Overall, Gulf has the lowest percentage of total complaints that are reliability related as shown in **Figure 4-8**.

Gulf has fully implemented a GIS to map all of its deployed facilities. This information is fully incorporated into the utility's Forensic Data Collection processes used for performance and damage assessments after impact of named and unnamed storms (e.g. transmission and distribution poles, mounted and pedestal transformers, substations, etc.)

Service Reliability of Florida Public Utilities Company

The unadjusted data for FPUC indicates that its 2011 allowable exclusions accounted for approximately 41 percent of the total customer minutes of interruption. The "Transmission Events" category accounted for approximately 26 percent of the customer minutes of interruption that were excluded.

The 2011 adjusted data for FPUC's SAIDI was 173 minutes, up from the 127 minutes reported in the previous year. The SAIFI also increased form 1.42 interruptions in 2010 to 1.93 interruptions in 2011. The CAIDI improved to 89 minutes from 90 minutes reported in 2010.

FPUC's top five causes of outages included animals, vegetation, unknown, corrosion, and weather related events. Vegetation and weather attributed outages increased in 2011, however, animals caused outages decreased.

Reliability related complaints against FPUC are infrequent, in part, because FPUC has less than 28,000 customers. In 2011, the utility had 18 total complaints filed with the Commission of which two were reliability related. The volatility in FPUC's results can be attributed to its small customer base that averages 28,000 or fewer customers. For the last five years, the percentage of reliability related complaints against FPUC have been trending downwards.

FPUC has fully implemented a GIS to map all of its deployed facilities. This information is fully incorporated into the utility's Forensic Data Collection processes used for performance and damage assessments after impact of named and unnamed storms (e.g. transmission and distribution poles, mounted and pedestal transformers, substations, etc.)

Introduction

The Florida Public Service Commission (Commission) has jurisdiction to monitor the quality and reliability of electric service provided by Florida's IOUs for maintenance, operational, and emergency purposes.[4]

Monitoring service reliability is achieved through a review of service reliability metrics provided by the IOUs pursuant to Rule 25-6.0455, F.A.C.[5] Service reliability metrics are intended to reflect changes over time in system average performance, regional performance, and sub-regional performance. For a given system, increases in the value of a given reliability metric denote declining reliability in the service provided. Comparison of the year-to-year levels of the reliability metrics may reveal changes in performance, which indicates the need for additional investigation, or work in one or more areas. As indicated in previous reports, Florida's utilities have deployed Supervisory Control and Data Acquisition systems (SCADA) and Outage Management Systems (OMS) in order to improve the accuracy of the measured reliability indices. This deployment often results in an apparent degradation of reliability due to improvements over manual methods that customarily underestimate the frequency, the size, and the duration of the outages.

Throughout this review, emphasis is placed on observations that suggest declines in service reliability and areas where the company may require additional scrutiny or remedial action.

Background

Rule 25-6.0455, F.A.C., requires the IOUs to file distribution reliability reports to track adjusted performance that excludes events such as planned outages for maintenance, generation disturbances, transmission disturbances, wildfires, and extreme acts of nature such as tornados and hurricanes. This "adjusted" data provides an indication of the distribution system performance on a normal day-to-day basis, but does not reveal the impact of excluded events on reliability performance.

With the active hurricane years of 2004 and 2005, the importance of collecting reliability data that would reflect the total or "actual" reliability experience from the customer perspective became apparent. Complete "unadjusted" service reliability data was needed to assess service performance during hurricanes. In June 2006, Rule 25-6.0455, F.A.C., was revised to require each IOU to provide both "actual" and "adjusted" performance data for the prior year. Additionally, the scope of the IOUs' Annual Distribution Service Reliability Report was expanded to include status reports on the various storm-hardening initiatives required by the Commission.[6]

The reports filed on March 1, 2012, include: **(1)** actual 2011 distribution service reliability data; **(2)** adjusted 2011 distribution service reliability data; **(3)** actual and adjusted 2011 performance assessments in four areas: (1) system-wide, (2) operating region, (3) feeder, (4) cause of outage events; and **(4)** complaints. The reports also summarized the storm hardening activities for the IOUs.

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[4] Sections 366.04(2)c and 366.05, Florida Statutes

[5] The Commission does not have rules or statutory authority requiring municipal electric utilities and rural electric cooperative utilities to file service reliability metrics.

[6] Wooden Pole Inspection Orders: Order No. PSC-06-0144-PAA-EI, issued February 27, 2006, in Docket No. 060078-EI; and Order Nos. PSC-06-0778-PAA-EU, issued September 18, 2006, PSC-07-0078-PAA-EU, issued January 29, 2007, in Docket No. 060531-EU.
Storm Hardening Initiative Orders: Order Nos. PSC-06-0351-PAA-EI, issued April 25, 2006; PSC-06-0781-PAA- EI, issued September 19, 2006; PSC-06-0947-PAA-EI, issued November 13, 2006; and PSC-07-0468-FOF-EI, issued May 30, 2007, in Docket No. 060198-EI.

Review Outline

This review primarily relies on the March 2012 Reliability Report filed by the IOUs for the 2011 reliability performance data and storm hardening activities. A section addressing trends in reliability related complaints is also included. Staff's review consists of five sections.

- **Section 1:** Storm hardening activities, which include each IOU's Eight-Year Wooden Pole Inspection Program and the Ten Initiatives.
- **Section 2:** Each utility's actual 2011 distribution service reliability data and support for each of its adjustments to the actual service reliability data.
- **Section 3:** Each utility's 2011 distribution service reliability based on adjusted service reliability data and staff's observations of overall service reliability performance.
- **Section 4:** Inter-utility comparisons and the volume of reliability related customer complaints for 2007 through 2011.
- **Section 5:** Appendices containing detailed utility specific data.

Section I. Storm Hardening Activities

On April 25, 2006, the Commission issued Order No. PSC-06-0351-PAA-EI issued April 25, 2006 in Docket No. 060198-EI. This order requires the IOUs to file plans for ten storm preparedness initiatives (Ten Initiatives).[7] Storm hardening activities and associated programs are on-going parts of the annual reliability reports required from each IOU since rule changes in 2006. The status of these initiatives is discussed in each IOU's report for 2011.

The Ten Initiatives:

(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 are the starting point of an ongoing process to track storm preparedness activities among the IOU's.[8, 9]

Separate from the Ten Initiatives, the Commission established rules addressing storm hardening of transmission and distribution facilities for all of Florida's electric utilities.[10, 11, 12]

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[7]Docket No. 060198-EI, In re: Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates.

[8]See page 2 of Order No. PSC-06-0947-PAA-EI, 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.

[9]The Commission addressed the adequacy of the IOUs' plans for implementing the Ten Initiatives by Order Nos. PSC-06-0781-PAA-EI issued September 19, 2006, PSC-06-0947-PAA-EI issued November 13, 2006, and PSC-07-0468-FOF-EI issued May 30, 2007, all in Docket No. 060198-EI. In 2006, the municipal and rural electric cooperative utilities voluntarily provided summary statements regarding their implementation of the Ten Initiatives. Prospectively, reporting from these utilities is required pursuant to Rule 25-6.0343, F.A.C.

[10]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.

[11]Order Nos. PSC-07-0043-FOF-EU issued January 16, 2007, and PSC-07-0043A-FOF-EU, issued January 17, 2007, both in Docket Nos. 060173-EU and 060172-EU.

[12]Order No. PSC-06-0969-FOF-EU, issued November 21, 2006, in Docket No. 060512-EU, In re: Proposed adoption of new Rule 25-6.0343, F.A.C., Standards of Construction - Municipal Electric Utilities and Rural Electric Cooperatives.

Each IOU, pursuant to Rule 25-6.0342(2), F.A.C., must file a plan and the plan is required to be updated every three years. The IOU's updated storm hardening plans were filed on May 3, 2010.[13]

The following subsections provide a summary of each IOU's programs addressing an on-going eight-year wooden pole inspection program and the Ten Initiatives as directed by the Commission.

Eight-Year Wooden Pole Inspection Program

Order Nos. PSC-06-0144-PAA-EI issued Febrauary 27, 2006 in Docket No. 060078-EI and PSC-07-0078-PAA-EU issued January 29, 2007 in Docket No. 060531-EU require each IOU to inspect 100 percent of their installed wooden poles within an 8-year inspection cycle. The National Electric Safety Code (NESC) serves as a basis for the design of replacement poles for wood poles failing inspection. Additionally, Rule 25-6.0342(3)(b), F.A.C., requires that each utility's storm hardening plan address the extent to which the plan adopts extreme wind loading standards as specified in figure 250-2(d) of the 2007 edition of the NESC. Staff notes that PEF determined the extreme wind loading requirements, as specified in figure 250-2(d) of the NESC do not apply to poles less than 60 feet in height that are typically found within the electrical distribution system. PEF stated in its 2009 Storm Hardening Report that extreme wind loading has not been adopted for all new distribution construction since poles less than 60 feet in height are more likely to be damaged by falling trees, flying limbs and other wind borne debris.[14]

Table 1-1 shows a summary of the quantities of wooden poles inspected by all IOUs in 2011.

Table 1-1. 2011 Wooden Pole Inspection Summary

Utility	Total Poles	Poles Planned 2011	Poles Inspected 2011	Poles Failed Inspection	% Failed Inspection	Years Complete in 8-Year Inspection Cycle
FPL	1,051,469	125,725	127,205	16,519	12.99%	6
FPUC	26,141	3,565	3,687	168	4.56%	4
Gulf[15]	263,133	32,000	53,963	1,364	2.54%	5
PEF[16]	814,795	103,500	110,979	8,918	8.04%	5
TECO	420,139	52,675	52,953	8,588	16.06%	5

[13] See docket numbers 100262-EI through 100266-EI Review of the 2010 Electric Infrastructure Storm Hardening Plan filed pursuant to Rule 25-6.0342 F.A.C. for each of the IOUs.
[14] See PEF Storm Hardening Plan 2007-2009, Appendix J, pages 4-5.
[15] Gulf Power does not inspect a set number of poles each year; however, Gulf is on target to achieve the 8-year cycle presented in their 2010-2012 Storm Hardening Plan.
[16] PEF totals include poles that were inspected ahead of schedule that were planned for 2012.

Table 1-2 Indicates the projected wooden pole inspection requirements for the IOUs.

Table 1-2. Projected 2012 Wooden Pole Inspection Summary

Utility	Total Poles	Total Number of Wood Poles Inspected 2006-11	Number of Wood Pole Inspections Planned for 2012	Percent of Wood Poles Planned 2012	Percent of Wood Pole Inspections Completed in 8-Year Cycle	Years Remaining in 8-Year Cycle After 2012
FPL	1,051,469	731,804	125,725	11.96%	70%	2
FPUC	26,141	16,281	3,267	12.50%	62%	3
Gulf	263,133	182,064	32,000	12.16%	69%	2
PEF	814,795	606,194	103,500	12.70%	74%	2
TECO	420,139	261,794	52,953	12.60%	62%	2

The annual variances shown in Tables 1-1 and 1-2 are allowable so long as each utility achieves 100 percent inspection within an eight-year period. Staff continues to monitor each utility's performance.

Ten Initiatives

(1) Three-Year Vegetation Management Cycle for Distribution Circuits

Each IOU continues to maintain the commitment to completion of three-year trim cycles for overhead feeder circuits since feeder circuits are the main arteries from the substations to the local communities. The approved plans of all the IOUs also require a maximum of a six-year trim cycle for lateral circuits. In addition to the planned trimming cycles, each IOU performs "hot-spot" tree trimming[17] and mid-cycle trimming to address rapid growth problems.

[17] "Hot-spot" tree trimming occurs when an unscheduled tree trimming crew is dispatched or other prompt tree trimming action is taken at one specific location along the circuit. For example, a fast growing tree requires "hot-spot" tree trimming in addition to the cyclical tree trimming activities. TECO defines "hot-spot" trimming as any internal or external customer driven request for tree trimming. Therefore, all tree trim requests outside of full circuit trimming activities are categorized as "hot-spot" trims.

Table 1-3 is a summary of feeder vegetation management activities by each company's cycle.

Table 1-3. Vegetation Clearing from Feeder Circuits

IOU	1st Year of 3 Year Cycle	Total Feeder Miles	Miles Trimmed 1st Year	Miles Trimmed 2nd Year	Miles Trimmed 3rd Year	Total Miles Trimmed	% of Miles Trimmed
FPL	*2009*	13,469	4,151	5,222	4,337	13,710	**102%**
FPUC	*2011*	170	68	*TBD*	*TBD*	68	**40%**
Gulf	*2011*	769	259	*TBD*	*TBD*	259	**34%**
PEF	*2009*	3,600	467	787	2,370	3,624	**101%**
TECO	*2010*	1,797	617	605.6	*TBD*	1,223	**68%**

Note: The initial 3 year cycle for FPL was corrected this year.

Table 1-4 is a summary of the lateral vegetation management activities by company.

Table 1-4. Vegetation Clearing from Lateral Circuits

IOU	# of Years in Cycle	1st Year of Cycle	Total Lateral miles	Miles Trimmed 1st Year	Miles Trimmed 2nd Year	Miles Trimmed 3rd Year	Miles Trimmed 4th Year	Miles Trimmed 5th Year	Miles Trimmed 6th Year	Total Lateral Miles Trimmed	% of Lateral Miles Trimmed
FPL	*6*	*2007*	22,444	2,215	2,078	2,768	2,741	3,367	*TBD*	13,169	**58.7%**
FPUC	*6*	*2011*	501	205	*TBD*	*TBD*	*TBD*	*TBD*	*TBD*	205	**40.9%**
Gulf	*4*	*2010*	5,184	1,060	1,530	*TBD*	*TBD*			2,590	**50.0%**
PEF	*5*	*2011*	14,200	1,132	*TBD*	*TBD*	*TBD*	*TBD*		1,132	**8.0%**
TECO	*3*	*2010*	4,591	1,634	1,514	*TBD*				3,148	**68.6%**

* TBD – To Be Determined

Tables 1-3 and 1-4 do not reflect "hot-spot" trimming and mid-cycle trimming activities. An additional factor to consider is that not all miles of overhead distribution circuits require vegetation clearing. Factors such as "hot-spot" trimming and open areas contribute to the

apparent variances from the approved plans. Annual variances as seen in **Tables 1-3** and **1-4** are allowable as long as each utility achieves 100 percent completion within the cycle-period stated in its approved plan for feeder and lateral circuits.

(2) Audit of Joint Use Agreements

For hardening purposes, the benefits of fewer attachments are reflected in the extreme wind loading rating of the overall design of pole loading considerations. Each IOU monitors the impact of attachments by other parties to ensure the attachments conform to the utility's strength and loading requirements without compromising storm performance. Each IOU's plan for performing pole strength assessments includes the stress impacts of all pole attachments as an integral part of its eight-year pole inspection program. The following are some 2011 highlights:

- FPL audited 20% of its service territory in order to determine the number and ownership of jointly used poles and associated attachments. Pole strength and loading tests were also performed on all joint use poles. AT&T and FPL coordinate their joint use pole inspection programs because AT&T owns 95% of the poles on which FPL attaches its power lines and equipment.

- FPUC conducted 1,185 pole-loading calculations in 2011 utilizing PoleForeman. PoleForeman is a software program used to classify utility poles, calculating guy wire tensions, and performing joint use analysis. The poles selected for inspection had third party attachments and any poles registering load assessments greater than 100% were added to a follow up inspection list. A list of replacement poles is provided to all third parties so their attachments can be transferred.

- Gulf conducts joint use inventory audits for its overhead distribution every five years with the latest being completed in December 2011. The company has 160,726 attachments on its poles. During the recent audit, 26,317 "unauthorized attachments" were identified. Gulf has 200,866 distribution poles and another 115,058 leased distribution poles.

- PEF audited approximately 116,000 of its 920,830 distribution poles in 2011 of which 18,546 were found to have unauthorized attachments. The company also performed strength tests on 65,302 distribution poles recording 303 failures. The addition of guy wires corrected 141 poles while the remaining 162 have been marked for replacement. PEF has 8,368 of its 48,251 transmission poles that have joint-use attachments. Thirty-one transmission poles were strength tested with all passing.

- TECO continued to streamline its processes to better manage attachment requests from attaching entities. A comprehensive loading analysis is being performed on 2,272 poles and all poles determined to be overloaded will be corrected.

(3) Six-Year Transmission Inspections

The IOU's were required by the Commission to inspect all transmission structures and substations, and all hardware associated with these facilities on a six-year cycle. Approval of any alternative to a six-year cycle must be shown to be equivalent or better than a six-year cycle in terms of cost and reliability in preparing for future storms. The approved plans for FPL, TECO, FPUC and Gulf require full inspection of all transmission facilities within a six-year cycle.

PEF, which already had a program indexed to a five-year cycle, continues with its five-year program. Such variances are allowed so long as each utility achieves 100 percent completion within a six-year period, as outlined in Order No. PSC-06-0781-PAA-EI issued September 19, 2006, in Docket No. 060198-EI. All five IOU's reported that they are on target to meet the six-year inspection cycle for transmission structures and substations.

- In 2011, FPL completed the first six-year inspection cycle of its transmission structures. In 2012, FPL will begin a new six-year cycle of inspections and complete any and all remaining follow-up work identified during the 2011 inspections.

- FPUC will complete all inspections of its transmission structures during 2012. In addition, all four of its substations were evaluated on a monthly basis for integrity to ensure that all structures, buss work, insulators, grounding, and bracing were structurally sound and firmly attached. Equipment inspections were competed on all 19 circuits, 2 towers and 35 Transmission poles.

- Gulf inspected all of the company's 33 transmission substations in 2011 and conducted 611 inspections of its metal poles and towers as well as 2,734 wood poles. Gulf replaced 578 of the wood poles, which failed inspection.

- PEF inspected 184 of its 558 transmission circuits and all of its 481 transmission substations. The company plans to inspect 23% of its transmission circuits in 2012. The company performs a ground patrol of each transmission line every five years and averages three aerial patrols per year to identify potential problems.

- In 2011, TECO conducted above ground inspections, ground line inspections, aerial infrared patrol and substation inspections.

(4) Hardening of Existing Transmission Structures

Hardening transmission infrastructure for severe storms is an important motivation for utilities in order to continue providing transmission of electricity to high priority customers and key economic centers. IOUs are required by the Commission to show the extent of the utility's efforts in hardening of existing transmission structures. No specific activity was ordered other than developing a plan and reporting on storm hardening of existing transmission structures. In general, all of the IOU's plans continued pre-existing programs that focus on upgrading older wooden transmission poles. 2011 highlights and projected 2012 activities for each IOU are explained below.

- In 2011, FPL continued executing its plan to replace all wood transmission structures in its system by replacing more than 1,550 wood transmission structures, including 198 single pole un-guyed wood structures, with spun concrete or steel poles. Additionally, FPL replaced ceramic post insulators with polymer insulators on over 570 concrete structures. The replacement of ceramic post insulators on concrete structures is ahead of FPL's originally approved schedule. In 2012, FPL plans to apply Extreme Wind Loading Criteria (EWL) on 27 feeder projects, three highway crossings and 12 "01" switches. Additionally, 14 community project feeders will be incrementally hardened. FPL's Design Guidelines will be used for all new construction activities.

- FPUC did not conduct any storm hardening of existing structures during 2011. All of the Northeast Division's 138 KV poles are constructed of concrete and steel and met National Electric Safety Code (NESC) standards at the time of installation. The Northeast Division's 69 KV transmission system consists of 212 poles of which 39 are concrete poles. The Northwest Division does not have transmission structures.

- Gulf has two priority goals for hardening its transmission structures. The priorities are the installation of storm guys on all wood H-frame structures and the replacement of wooden cross arms with steel cross arms. In 2011, 900 transmission structures were hardened.

- PEF replaced 635 wood transmission poles with either steel or concrete poles in 2011. The replacement of the poles was determined by a change-out schedule based upon previous individual pole inspections. In addition, another 915 wood poles were upgraded to concrete and steel poles based upon Department of Transportation, developer and customer requested relocations. A total of 1,550 wood poles were replaced with steel or concrete poles in 2011. PEF plans to upgrade approximately 700 transmission wood poles in 2012. PEF estimates that on average it will add 300 to 400 concrete and steel structures per year over the next 10 years due to system expansion and growth.

- In 2011, TECO hardened 955 structures, which included 812 structure replacements utilizing steel or concrete poles and 143 sets of insulators were replaced with polymer insulators. For 2012, TECO's goal is to harden 920 transmission structures.

(5) 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

These three initiatives are addressed together because effective implementation of any one initiative is dependent upon effective implementation of the other two initiatives. The five IOUs have GIS and other programs to collect post-storm data on competing technologies, perform forensic analysis, and assess the reliability of overhead and underground systems on an ongoing basis. Differentiating between overhead and underground reliability performance and costs is still difficult because underground facilities are typically connected to overhead facilities and the interconnected systems of the IOUs address reliability on an overall basis. Many electric utility companies have implemented an Outage Management System (OMS) or are in the process of doing so. The collection of information for the OMS is being utilized in the form of a database for emergency preparedness. This will help utilities identify and restore outages sooner and more efficiently. The OMS fills a need for systems and methods to facilitate the dispatching of maintenance crews in outages, sometimes during severe weather situations, and for providing an estimated time to restore power to customers. Effective restoration will also

yield improved customer service and increased electric utility reliability. 2011 highlights and projected 2012 activities for each IOU are listed below.

- FPL states it would be difficult to differentiate between the performance of its overhead and underground feeders because they are mostly hybrids consisting of both overhead and underground cables. FPL feels that it can use the performance statistics of its laterals, which are typically comprised of only a single type, overhead or underground construction, as a proxy to determine the performance of its feeders. The company believes this alternative method will demonstrate the performance differences between the overhead and underground facilities during storms. The company started using GIS to map it facilities in the mid 1980's and has made continuous upgrades since that time.

- FPUC also uses GIS mapping for all of its deployed equipment and uses it to identify distribution and transmission facilities. The system is interfaced with the company's Customer Information System (CIS) and used within its overall OMS. The company has implemented a Forensic Data Collection process that is triggered and followed 72 hours prior to a storm.

- Gulf transitioned to a new GIS in 2009 for its distribution facilities and it is continuously updated to represent equipment replacements and additions. This effort has now given the company the capability to perform forensic data assessments of the performance of its overhead plant during major storms.

- PEF collects and determines the percentage of storm caused related failures of its overhead and underground facilities. The locations of all transmission and distribution poles have been entered into a GIS to ensure accuracy of information gathered. PEF uses the data to determine the number and positioning of its forensic teams. The forensics teams participated in PEF's 2012 storm drill.

- TECO's GIS continues to serve as the foundational database for all its transmission, substation and distribution facilities. Development and improvement of the GIS continues on an ongoing basis. In 2011, major improvements were made to the software to implement updates/improvements/change requests.

(8) Increased Utility Coordination with Local Governments

The Commission's goal with this program is to promote an ongoing dialogue between IOUs and local governments on matters such as vegetation management and underground construction, in addition to the general need to increase pre- and post-storm coordination. The increased coordination and communication is intended to promote IOU collection and analysis of more detailed information on the operational characteristics of underground and overhead systems. This additional data is also necessary to inform customers and communities which are considering converting existing overhead facilities to underground facilities (undergrounding), as well as to assess the most cost-effective storm hardening options.

Each IOU's external affairs representatives or designated liaisons are responsible for engaging in dialog with local governments on issues pertaining to undergrounding, vegetation management, public rights-of-way use, critical infrastructure projects, other storm-related topics,

and day-to-day matters. Additionally, each IOU assigns staff to each county emergency operations center (EOC) to participate in joint training exercises and actual storm restoration efforts. The IOUs now have outreach and educational programs addressing underground construction, tree placement, tree selection, and tree trimming practices. Below are some 2011 highlights for each utility:

- In 2011, FPL continued efforts to improve its coordination with local governments. The company met with county emergency operations managers to discuss critical infrastructure locations in each jurisdiction. FPL also enhanced its e-mail distribution process and network to ensure rapid distribution of important information to governmental entities. The company invited federal, state, county and municipal emergency management personnel to participate in FPL's annual company-wide storm preparedness drill. Additionally, FPL's Community Outreach Teams and Customer Service Field Organization conducted more than 50 community presentations in 2011, providing information on storm readiness and other topics of community interest.

- FPUC has continued its involvement with local governments regarding reliability issues with emphasis on vegetation management. The City of Marianna has worked with FPUC to complete the undergrounding of equipment in the downtown area. The company's current practice is to have FPUC personnel located at the county EOCs on a 24 hour basis during emergency situations to ensure good communication.

- Gulf met with local government officials to discuss the scope of major projects and worked very closely with the EOCs within its service territory. In 2011, the company participated in hurricane drills with Escambia, Santa Rosa and Okaloosa counties. In addition, the company's district managers act as liaisons with city and county personnel weekly.

- PEF's 2012 Governmental Coordination consists of a team of 70 employees. The team members attend and participate in local storm workshops in the counties within the company's service territory. Annually, PEF conducts a system-wide internal storm drill. PEF will also participate in Florida's state wide annual storm drill.

- TECO focused its government communications efforts on re-connecting governmental officials with the company's Emergency Response contacts and reviewing its Emergency Response Plan. Workshops with municipal emergency response officials were held at the company's Energy Control Center and included all company personnel involved in communicating with governmental agencies. TECO continued communicating storm preparedness information to customers through the annual media pre-hurricane season press release.

(9) Collaborative Research on Effects of Hurricane Winds and Storm Surge

The University of Florida's Public Utility Research Center (PURC) assisted Florida's electric utilities by coordinating a three-year, 2006 to 2009, research effort, which began in 2006, in the area of hardening the electric infrastructure to better withstand and recover from hurricanes. Hurricane winds, undergrounding, and vegetation management research are key areas explored in these efforts by all of the research sponsors involved with PURC.

Current projects in this effort include: (1) research on undergrounding existing electric distribution facilities by surveying the current literature. Case analyses of Florida underground projects, and developing a model for projecting the benefits and costs of converting overhead facilities to underground; (2) data gathering and analysis of hurricane winds in Florida and the possible expansion of a hurricane simulator that can be used to test hardening approaches; and (3) an investigation of effective approaches for vegetation management.

The effort is the result of the Commission's Order No. PSC-06-0351-PAA-EI issued April 2006, in Docket No. 060198-EI directing each investor-owned electric utility to establish a plan that increases collaborative research to further the development of storm resilient electric utility infrastructure and technologies that reduce storm restoration costs and outages to customers. The order directed them to solicit participation from municipal electric utilities and rural electric cooperatives in addition to available educational and research organizations.

The IOUs joined with the municipal electric utilities and rural electric cooperatives in the state (collectively referred to as the Project Sponsors) to form a steering committee of representatives from each utility and entered into a Memorandum of Understanding (MOU) with PURC. In serving as the research coordinator for the project outlined by the MOU, PURC manages the workflow and communications, develops work plans, serves as a subject matter expert and conducts research, facilitates the hiring of experts, coordinates with research vendors, advises the project sponsors and provides reports for project activities. The Project Sponsors continued the MOU through December 31, 2011.

Hurricane Wind Effects: The collaborative group is trying to determine the appropriate level of hardening required for the electric utility infrastructure against wind damage from hurricanes. The project's focus was divided into two categories: (1) accurate characterization of severe dynamic wind loading; and (2) understanding the likely failure modes for different wind conditions. An agreement with WeatherFlow, Inc., to study the effects of dynamic wind conditions upon hurricane landfall includes 50 permanent wind-monitoring stations around the coast of Florida. In addition, PURC has developed a uniform forensics data gathering system for use by the utilities and a database that will allow for data sharing that will match the forensics data with the wind monitoring and other weather data.

Vegetation Management: The goal of the project is to improve vegetation management practices so that vegetation related outages are reduced, vegetation clearing for post-storm restoration is reduced, and vegetation management is more cost-effective.

Undergrounding of Electric Utility Infrastructure: The five IOU's all participate with PURC, along with the other cooperative and municipal electric utilities, in order to perform beneficial research regarding hurricane winds and storm surge within the state. The group's research shows that while underground systems on average have fewer outages than overhead systems, they can sometimes take longer to repair. Analyses of hurricane damage in Florida found that underground systems might be particularly susceptible to storm surge. The research on undergrounding has been focused on understanding the economics and effects of hardening strategies, including undergrounding. As a result, Quanta Technologies was contracted to conduct a three-phase project to understand the economics and effect of hardening policies in order to make informed decisions regarding hardening of underground facilities.

Phase I of the project was a meta-analysis of existing research, reports, methodologies, and case studies. Phase II examined specific undergrounding project case studies in Florida and

included an evaluation of relevant case studies from other hurricane prone states and other parts of the world. Phase III developed a methodology to identify and evaluate the costs and benefits of undergrounding specific facilities in Florida. The primary focus is the impact of undergrounding on hurricane performance. This study also considered benefits and drawbacks of undergrounding during non-hurricane conditions. For 2011, the collaborative focused on refining the computer model developed by Quanta Technologies in response to Phase III of the overall project. The reports for Phase I, Phase II and Phase III are available at **http://warrington.ufl.edu/purc/research/energy.asp**.

(10) A Natural Disaster Preparedness and Recovery Program

Each IOU is required to maintain a copy of its current formal disaster preparedness and recovery plan with the Commission. A formal disaster plan provides an effective means to document lessons learned, improve disaster recovery training, pre-storm staging activities and post-storm recovery, collect facility performance data and improve forensic analysis. In addition, participation in the Commission's annual pre-storm preparedness briefing is required which focuses on the extent to which all Florida electric utilities are prepared for potential hurricane events. The following are some 2011 highlights for each IOU.

- FPL's Storm Emergency Plan identifies emergency conditions and the responsibilities and duties of the FPL emergency response organization for severe weather and fires. The plan covers the emergency organization, responsibilities and FPL's overall severe storm emergency processes. These processes describe the planning activities, restoration work, public communications, and coordination with government, training, practice exercises and lessons-learned evaluation systems. The plan is reviewed annually and revised as necessary.

- FPUC prepared and distributed procedures to its employees detailing the responsibilities of each employee during an emergency. The highest priority of the objectives are to provide for the safety of employees, contractors and the general public. The procedures detail when to request additional manpower as well as the necessary activities required for rapid and orderly restoral of service.

- Gulf has thirteen employees assigned to the county EOCs in Northwest Florida and has received National Incident Management System certification through FEMA. The company's Emergency Operations Plan includes continuous communications before, during and post storm. Gulf has completed storm hardening pilot projects for feeder lines that serve critical infrastructures including hospitals, water treatment facilities and fuel depots to minimize outages to these facilities during major storms. A hurricane drill was conducted on May 23, 2011, at the company's corporate office.

- PEF's storm recovery plan is reviewed and updated annually based upon lessons learned from previous storm seasons on managing organization needs. PEF uses the EWL standards in accordance with the NESC Rule 250C in all planning for transmission upgrades, rebuilds and expansions of existing facilities.

- TECO's Emergency Management plans support all hazards, including extreme weather events. In 2011, TECO continued to participate in internal and external preparedness exercises and collaboration with government emergency management agencies at local, state and federal levels and will continue with this same level of preparedness for

2012. Specifically, 2012 preparedness includes coordination with local, state and federal emergency management in preparation for the Republican National Convention (RNC), which was held in Tampa the week of August 17, 2012.

In addition, TECO continues its participation in county and national preparedness groups including: Hillsborough County Post Disaster Redevelopment Plan, Hillsborough County Local Mitigation Strategy Group, Tampa Bay Regional Planning Council-Small Business Preparedness, Edison Electric Institute and the National Fire Protection 1600 Committee on Emergency Management, Business Continuity and Disaster Recovery.

SECTION II ACTUAL DISTRIBUTION SERVICE RELIABILITY

Electric utility customers are affected by all outage events and momentary events regardless of where problems originate. For example, generation events and transmission events, while electrically remote from the distribution system serving a customer, affect the distribution service experience. This total service reliability experience is intended to be captured by the actual reliability data.

The actual reliability data includes two subsets of outage data: data on excludable events and data pertaining to normal day-to-day activities. Rule 25-6.0455(4), F.A.C., explicitly lists outage events that may be excluded:

(1) Planned service interruptions
(2) A storm named by the National Hurricane Center
(3) A tornado recorded by the National Weather Service
(4) Ice on lines
(5) A planned load management event
(6) Any electric generation or transmission event not governed by subsections 25-6.018(2) and (3), F.A.C.
(7) An extreme weather or fire event causing activation of the county emergency operation center

This section provides an overview of each IOU's actual 2011 performance data and focuses on the exclusions allowed by the rule. The year 2007 was the first year for which actual reliability data has been provided.

Floridapower & light Company: Actual Data

Table 2-1 provides an overview of key FPL metrics: Customer Minutes of Interruption (CMI) and Customer Interruptions (CI) for 2011. Excludable outage events accounted for approximately six percent of the minutes of interruption experienced by FPL's customers. Severe weather outages accounted for approximately three percent of the excludable outage events. FPL reported five tornados, one hurricane, and one wildfire in 2011. Hurricane Irene accounted for one percent of the severe weather total, the five tornados accounted for two percent of the total, and the wildfire accounted for less than one percent of the severe weather total. FPL reported that Hurricane Irene occurred August 25 through 26, 2011. The tornados were recorded January 25, 2011, March 10, 2011, August 2, 2011, October 18 and 19, 2011, and October 29, 2011. The wildfire was recorded on February 28, 2011.

Table 2-1. FPL's 2011 Customer Minutes of Interruption and Customer Interruptions

2011	Customer Minutes of Interruption (CMI)		Customer Interruptions (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	385,164,532		4,650,693	
Documented Exclusions				
Named Storm Outages	3,706,146	0.96%	42,970	0.92%
Fires	52,176	0.01%	287	0.01%
Planned Outages	10,824,417	2.81%	86,132	1.85%
Customer Request	3,889,849	1.01%	73,886	1.59%
Tornados	6,139,632	1.59%	54,738	1.18%
Other	0	0.00%	0	0.00%
Reported Adjusted Data	360,552,312	93.61%	4,392,680	94.45%

FPL provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2011.

Progress Energy Florida, Inc.: Actual Data

Table 2-2 provides an overview of PEF's CMI and CI figures for 2011. Excludable outage events accounted for approximately 50 percent of the minutes of interruption experienced by PEF's customers. In 2011, PEF experienced one named storm and two tornados. Tropical Storm Lee, which occurred on September 5, 2011, and the two tornados, which occurred January 25, 2011 and March 30 through April 1, 2011, accounted for 37 percent of the total minutes of interruption on its distribution system.

Table 2-2. PEF's 2011 Customer Minutes of Interruption and Customer Interruptions

2011	Customer Minutes of Interruption (CMI)		Customer Interruptions (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	282,139,662		2,709,386	
Documented Exclusions				
Distribution (Severe Weather)	105,168,073	37.28%	326,792	12.06%
Transmission (Severe Weather)	108,940	0.04%	2,096	0.08%
Transmission (Non Severe Weather)	17,747,262	6.29%	274,283	10.12%
Emergency Shutdowns (Severe Weather)	1,557,382	0.55%	9,530	0.35%
Emergency Shutdowns (Non Severe Weather)	6,857,103	2.43%	280,256	10.34%
Prearranged (Severe Weather)	99,928	0.04%	1,901	0.07%
Prearranged (Non Severe Weather)	8,321,076	2.95%	65,852	2.43%
Reported Adjusted Data	142,279,898	50.43%	1,748,676	64.54%

PEF provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2011.

Tampa Electric Company: Actual Data

Table 2-3 provides an overview of TECO's CMI and CI figures for 2011. Excludable outage events accounted for approximately 47 percent of the minutes of interruption experienced by TECO's customers. TECO reported one extreme weather event that included several recorded tornados. This event occurred March 30 through April 3, 2011. The extreme weather event accounted for approximately 45 percent of the minutes of interruption.

Table 2-3. TECO's 2011 Customer Minutes of Interruption and Customer Interruptions

2011	Customer Minutes of Interruption (CMI)		Customer Interruptions (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	96,793,157		798,830	
Documented Exclusions				
Other Distribution	1,514,278	1.56%	105,823	13.25%
Named Storm Outages	0	0.00%	0	0.00%
Tornados	43,677,629	45.12%	594,278	74.39%
Reported Adjusted Data	51,601,250	53.31%	98,729	12.36%

TECO provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2011.

GULF Power Company: Actual Data

Table 2-4 provides an overview of Gulf's CMI and CI figures for 2011. Excludable outage events accounted for approximately 39 percent of the minutes of interruption experienced by Gulf's customers. Gulf reported two tornados and one tropical storm in 2011. Tropical Storm Lee occurred September 5, 2011, and accounted for 21 percent of the excludable minutes of interruption. The two tornados, which occurred March 9, 2011, and April 4, 2011, accounted for ten percent of the excludable minutes of interruption.

Table 2-4. Gulf's 2011 Customer Minutes of Interruption and Customer Interruptions

2011	Customer Minutes of Interruption (CMI)		Customer Interruptions (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	78,997,028		803,936	
Documented Exclusions				
Transmission Events	1,961,068	2.48%	85,772	10.67%
Planned Outages	3,860,249	4.89%	79,244	9.86%
Named Storm Outages	16,962,485	21.47%	71,959	8.95%
Tornados	8,000,766	10.13%	27,395	3.41%
Reported Adjusted Data	48,212,460	61.03%	539,566	67.12%

Gulf provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2011.

Florida Public Utilities Company: Actual Data

Table 2-5 provides an overview of FPUC's CMI and CI figures for 2011. Excludable outage events accounted for approximately 41 percent of the minutes of interruption experienced by FPUC's customers. FPUC reported that Tropical Storm Lee, which occurred on September 5 through September 7, 2011, and a tornado, which occurred on April 28, 2011, affected the Northwest Division. The Northeast Division was affected "by a significant weather related event that caused the activation of the county emergency operation center on September 26, 2011."[18]

Table 2-5. FPUC's 2011 Customer Minutes of Interruption and Customer Interruptions

2011	Customer Minutes of Interruption (CMI)		Customer Interruptions (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	8,073,254		115,986	
Documented Exclusions				
Planned Outages	20,394	0.25%	2,672	2.30%
Transmission Events	2,133,929	26.43%	43,249	37.29%
Substation	161,022	1.99%	2,623	2.26%
Severe Storm Outages	550,044	6.81%	11,861	10.23%
Tornados	45,301	0.56%	129	0.11%
Named Storm Outages	384,352	4.76%	2,001	1.73%
Reported Adjusted Data	4,778,212	59.19%	53,451	46.08%

FPUC provided adequate support for its excludable event adjustment allowed by Rule 25-6.0455(4), F.A.C., for the calendar year 2011.

[18] Named Storms and Tornados, page 20, FPUC Reliability report filed March 1, 2012.

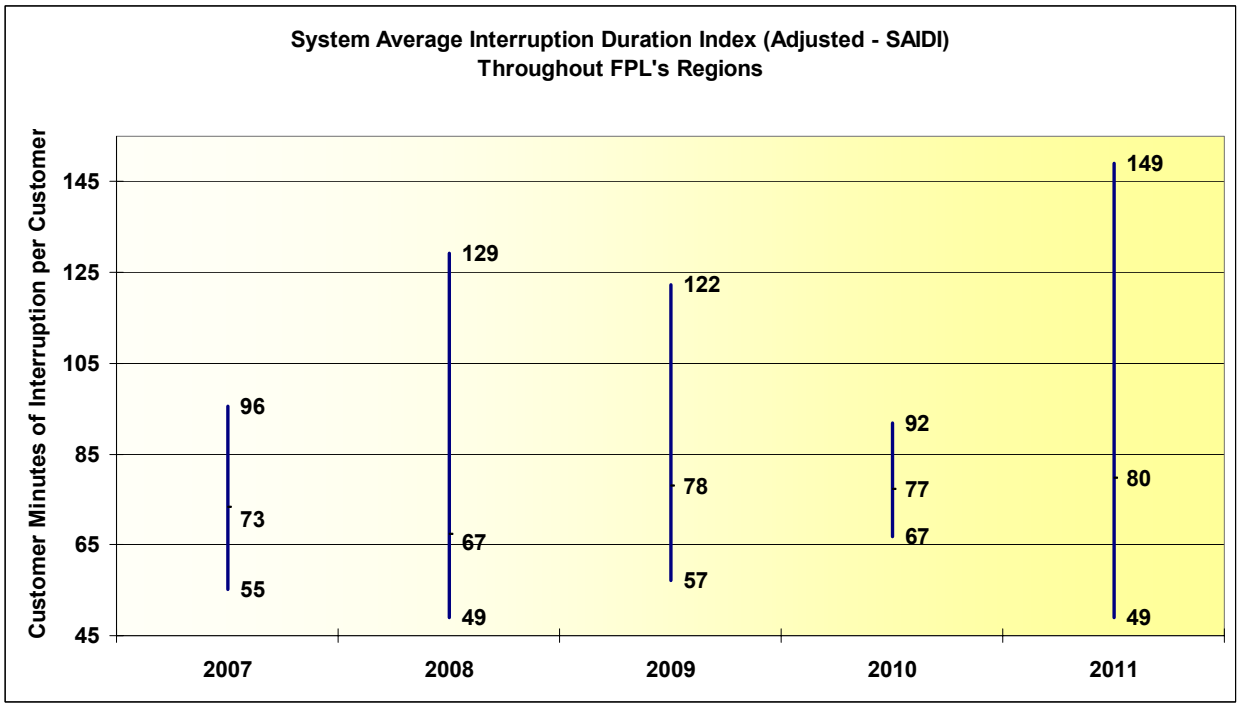
Section III. Adjusted Distribution Service Reliability Review of Individual Utilities

The adjusted distribution reliability metrics or indices provide insight into potential trends in a utility's daily practices and maintenance of its distribution facilities. This section of the review is based on each utility's reported adjusted data.

Florida Power & Light Company: Adjusted Data

Figure 3-1 shows the highest, average, and lowest adjusted SAIDI recorded across FPL's system that encompasses four management regions with sixteen service areas. The highest and lowest SAIDI values are the values reported for a particular service area. **Figure 3-1** shows a decrease in the lowest SAIDI to 49 minutes for the Central Dade service area in 2011 and an increase in the highest SAIDI to 149 minutes for the Central Florida service area. FPL had an overall increase of three minutes (four percent) to the average SAIDI results for 2011 compared to 2010. FPL attributes the decline in the SAIDI results to a single major weather event that lasted two days, October 9 and 10, 2011, and was not added as a named storm by the National Hurricane Center. FPL reported its service areas experienced 70 to 80 mph gusts of wind and 16 inches of rainfall. "Excluding this event, FPL's 2011 SAIDI would have been approximately 76 minutes." [19]

Figure 3-1. SAIDI across FPL's Regions (Adjusted)



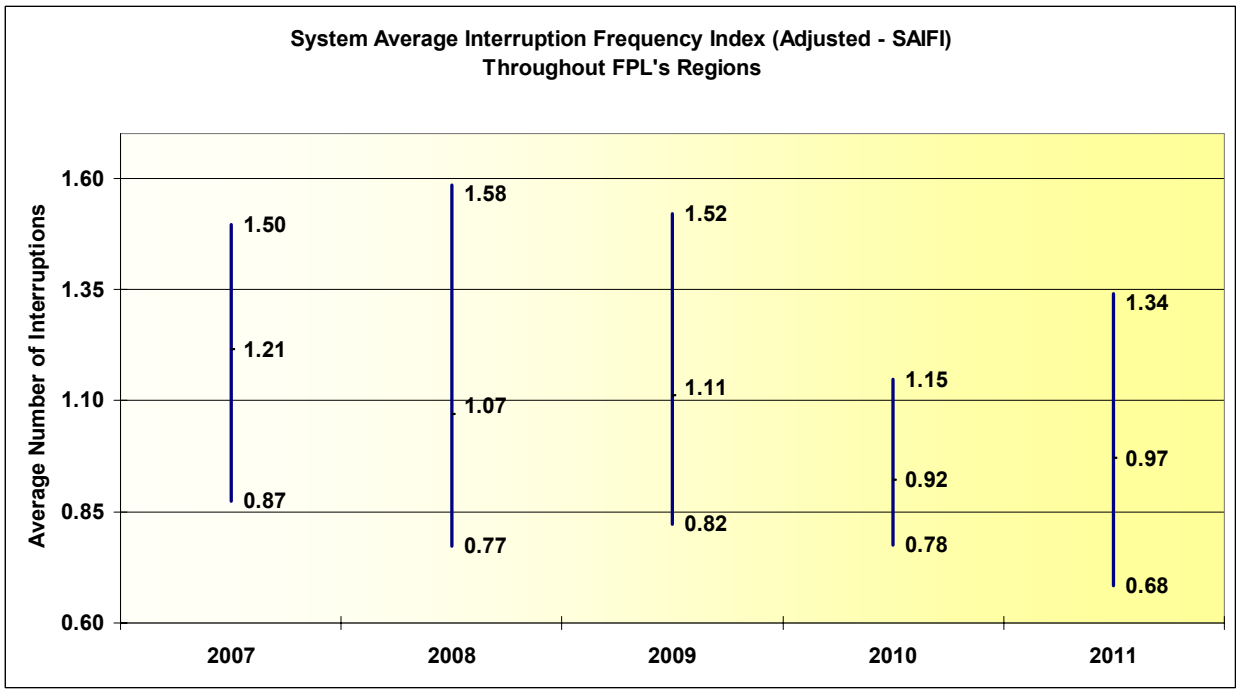
FPL's Regions with the Highest and Lowest Adjusted SAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIDI	South Dade	North Florida	South Dade	Naples	Central Florida
Lowest SAIDI	Gulf Stream	Pompano	Pompano	West Palm	Central Dade

[19] Summary – Reliability, page 88, FPL Reliability Report filed March 1, 2012.

Figure 3-2 is a chart of the highest, average, and lowest adjusted SAIFI across FPL's system. FPL had an increase in the system average results to 0.97 outages in 2011, compared to 0.92 outages in 2010. FPL reported an increase to the highest SAIFI for North Florida of 1.34 interruptions in 2011 compared to West Dade's 1.15 interruptions in 2010. The region reporting the lowest adjusted SAIFI for 2011 was Central Dade at 0.68 interruptions compared to its 0.78 interruptions in 2010. The highest, average and lowest SAIFI appear to be trending downward suggesting improvements. Even though the SAIFI results appear to be improving, FPL reported the results were negatively impacted by the major weather event in October.

Figure 3-2. SAIFI across FPL's Regions (Adjusted)

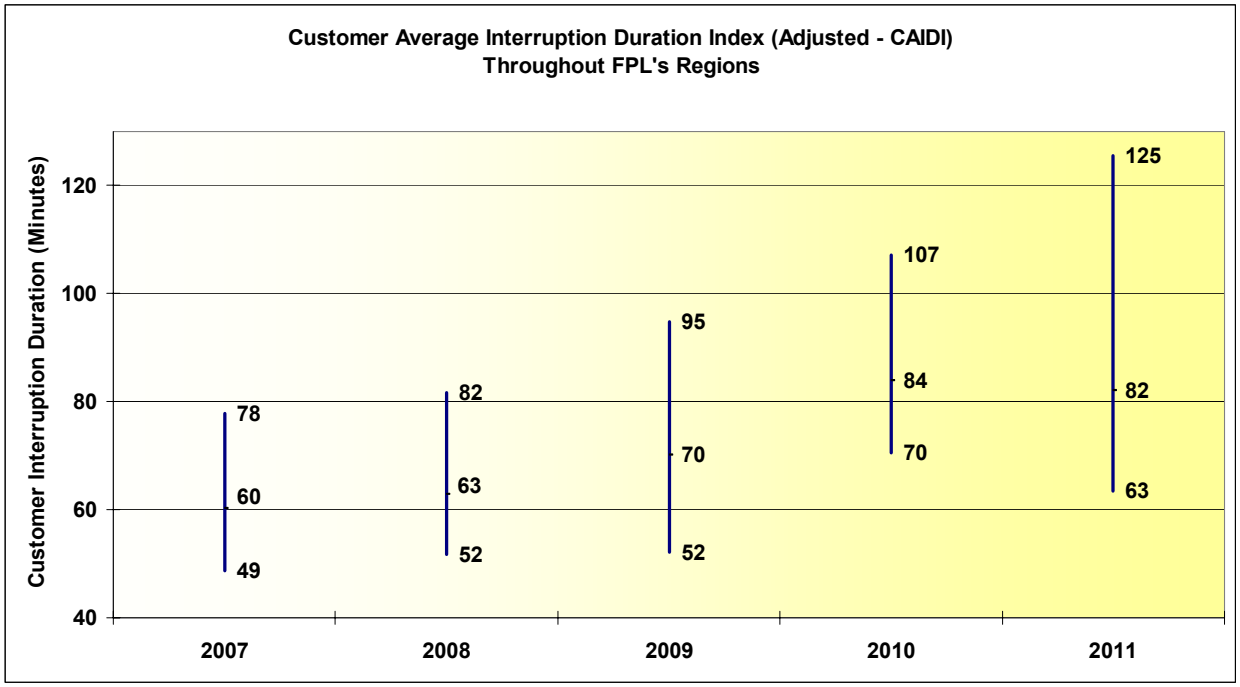


FPL's Regions with the Highest and Lowest Adjusted SAIFI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIFI	Wingate	North Florida	South Dade	West Dade	North Florida
Lowest SAIFI	Manasota	Toledo Blade	Pompano	Central Dade	Central Dade

Figure 3-3 is a chart of FPL's highest, average, and lowest CAIDI expressed in minutes. FPL's adjusted average CAIDI has dropped approximately 2 percent from 84 minutes in 2010, to 82 minutes in 2011. The average duration of CAIDI, or the average number of minutes a customer is without power when a service interruption occurs, is trending upwards even though there was a decrease in CAIDI minutes. For 2011, the Boca Raton service area reported the lowest duration of CAIDI, which was 63 minutes. The lowest CAIDI for 2011 is 11 percent lower than the Brevard service area, which was reported as 70 minutes in 2010. The highest duration of CAIDI was 125 minutes for the Central Florida service area for 2011, which is 14 percent higher than the highest CAIDI minutes in 2010. The CAIDI results were negatively affected by the major weather event in October.

Figure 3-3. CAIDI across FPL's Regions (Adjusted)



FPL's Regions with the Highest and Lowest Adjusted CAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CAIDI	Manasota	North Florida	North Dade	Naples	Central Florida
Lowest CAIDI	Gulf Stream	Boca Raton	Boca Raton	Brevard	Boca Raton

Figure 3-4 depicts the average length of time that FPL spends recovering from outage events, excluding hurricanes and other extreme outage events and is the index known as L-Bar (Average Service Restoration Time). FPL had a 12 percent decrease in L-Bar from 219 minutes in 2010, to 196 minutes in 2011, which represents the lowest average duration of outages since 2007. The L-Bar measures the average length of time of a single service interruption. The IEEE standard for calculation of L-Bar is the summation of the minutes of interruption divided by the total number of outages.

Figure 3-4. FPL's Average Duration of Outages (Adjusted)

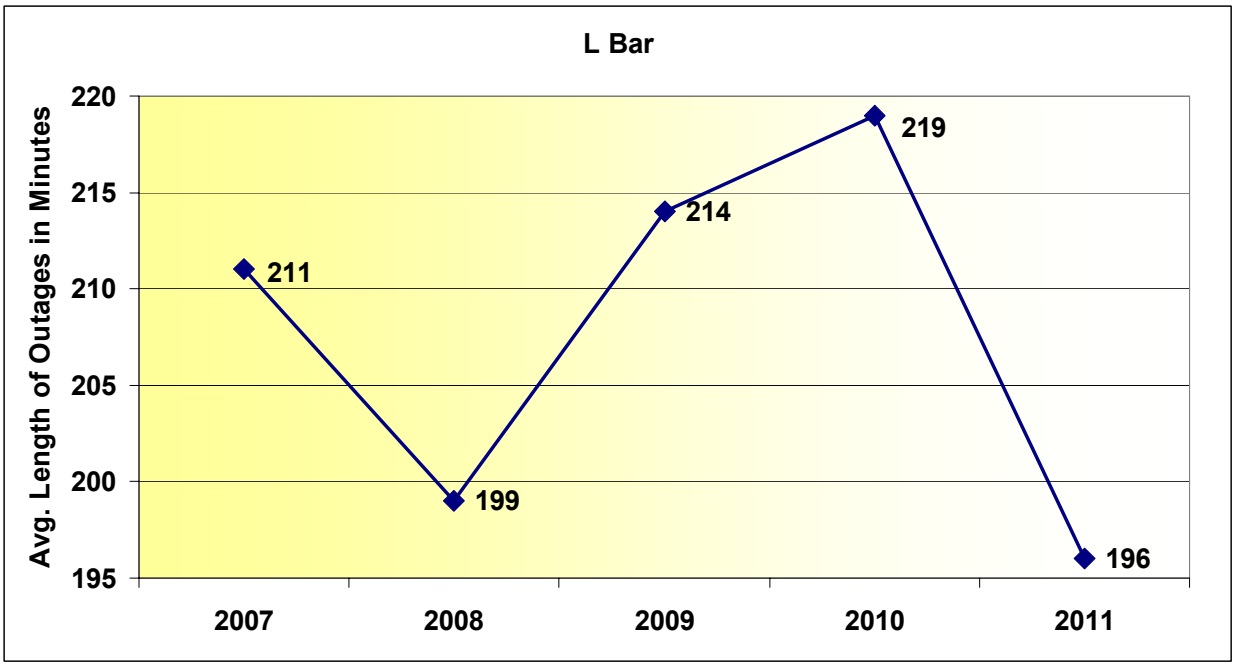
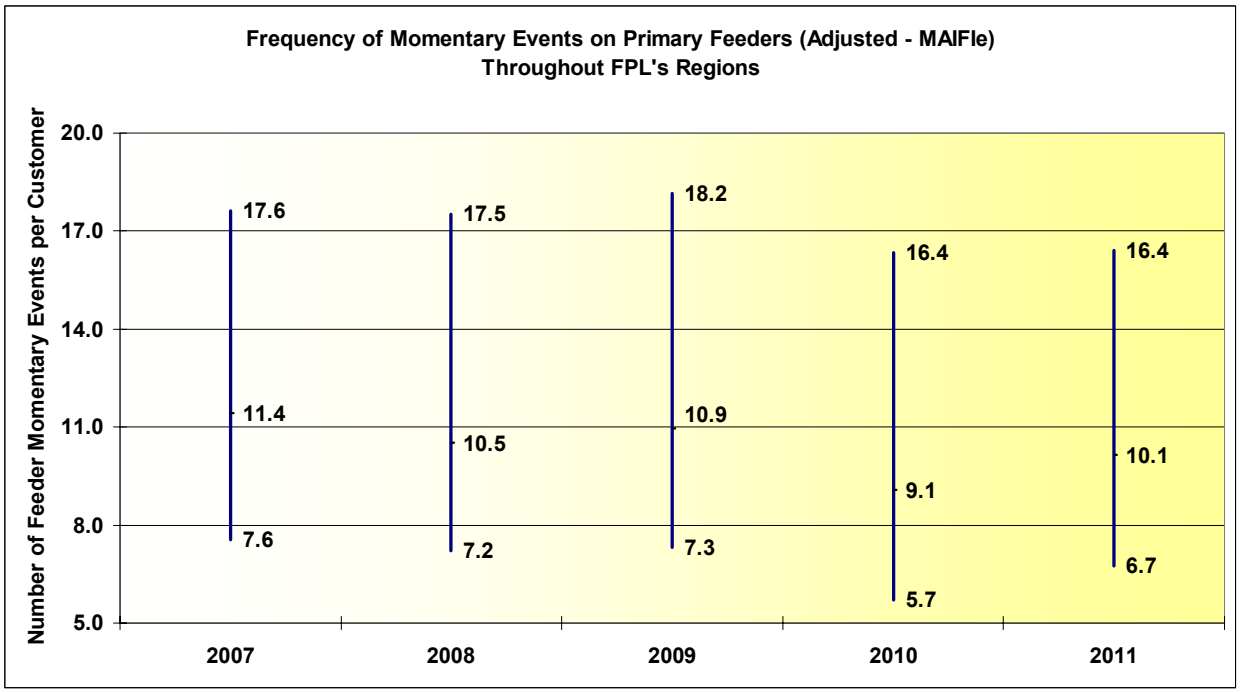


Figure 3-5 is the highest, average, and lowest adjusted MAIFIe recorded across FPL's system. These momentary events often affect a small group of customers. FPL's Toledo Blade, Treasure Coast, and North Florida service areas have experienced the least reliable MAIFIe results of the 16 service areas of FPL since 2007. The Pompano and Central Dade service areas had the fewest momentary events and the results have been trending downwards (improving) over the last five years.

Figure 3-5. MAIFIe across FPL's Regions (Adjusted)

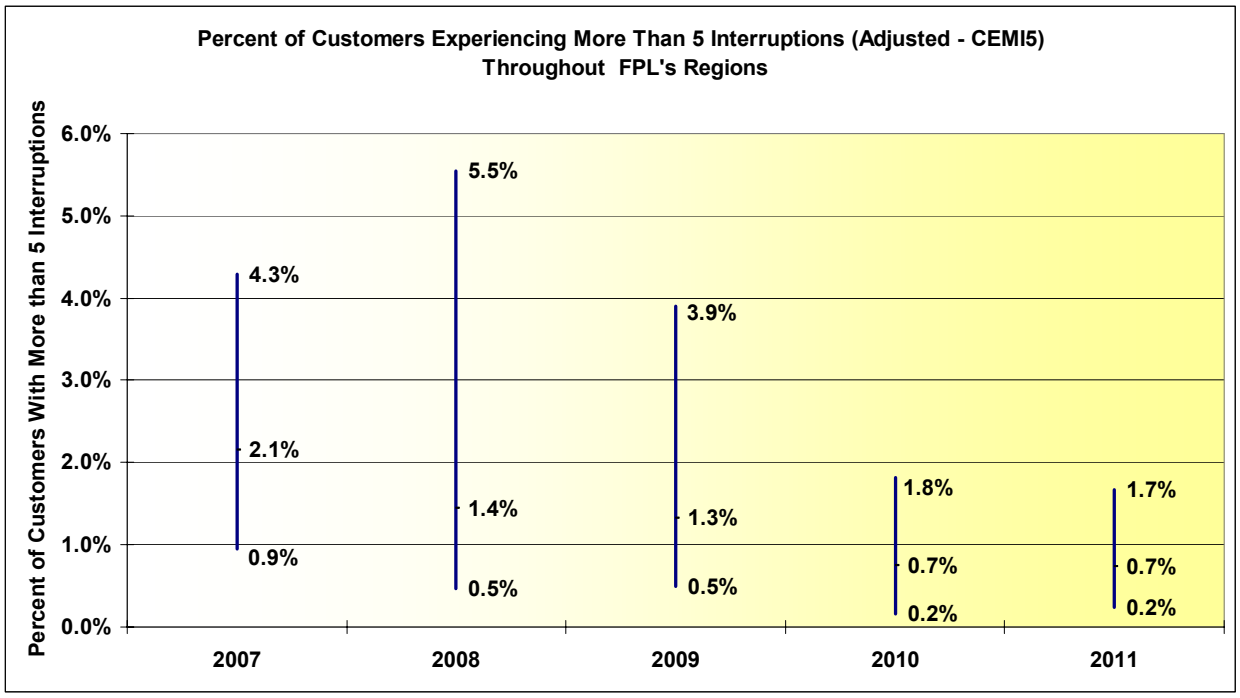


FPL's Regions with the Highest and Lowest Adjusted MAIFIe Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest MAIFIe	Treasure Coast	Treasure Coast	Toledo Blade	Toledo Blade	North Florida
Lowest MAIFIe	Pompano	Pompano	Pompano	Pompano	Central Dade

Figure 3-6 shows the highest, average, and lowest adjusted CEMI5. FPL's customers with more than five interruptions per year appear to be decreasing and represent an overall improvement that appears to be trending downward. The service areas experiencing the highest CEMI5 appear to fluctuate among Naples, North Florida, and South Dade. Brevard, Gulf Stream, Pompano, and Central Dade are reported as having the lowest percentages in the last five years.

Figure 3-6. CEMI5 across FPL's Regions (Adjusted)



FPL's Regions with the Highest and Lowest Adjusted CEMI5 Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CEMI5	Naples	North Florida	South Dade	North Florida	North Florida
Lowest CEMI5	Brevard	Gulf Stream	Pompano	Pompano	Central Dade

Figure 3-7 is a graphical representation of the percentage of multiple occurrences of FPL's feeders and is derived from The Three Percent Feeder Report, which is a listing of the top three percent of problem feeders reported by the utility. The percentage of multiple occurrences is calculated from the absolute number of multiple occurrences divided by the ending total number of feeders reported on a three-year and five-year feeder analysis. The three-year percentage improved from seven percent in 2010 to six percent in 2011. The five-year percentage also improved from 13 percent in 2010 to 12 percent in 2011. Even though both the three-year and five-year percentages did improve from 2010 to 2011, the five year percentage appears to be trending upwards as the three year percentage is slightly trending upwards for the five year period of 2007 to 2011.

Figure 3-7. FPL's Three Percent Feeder Report (Adjusted)

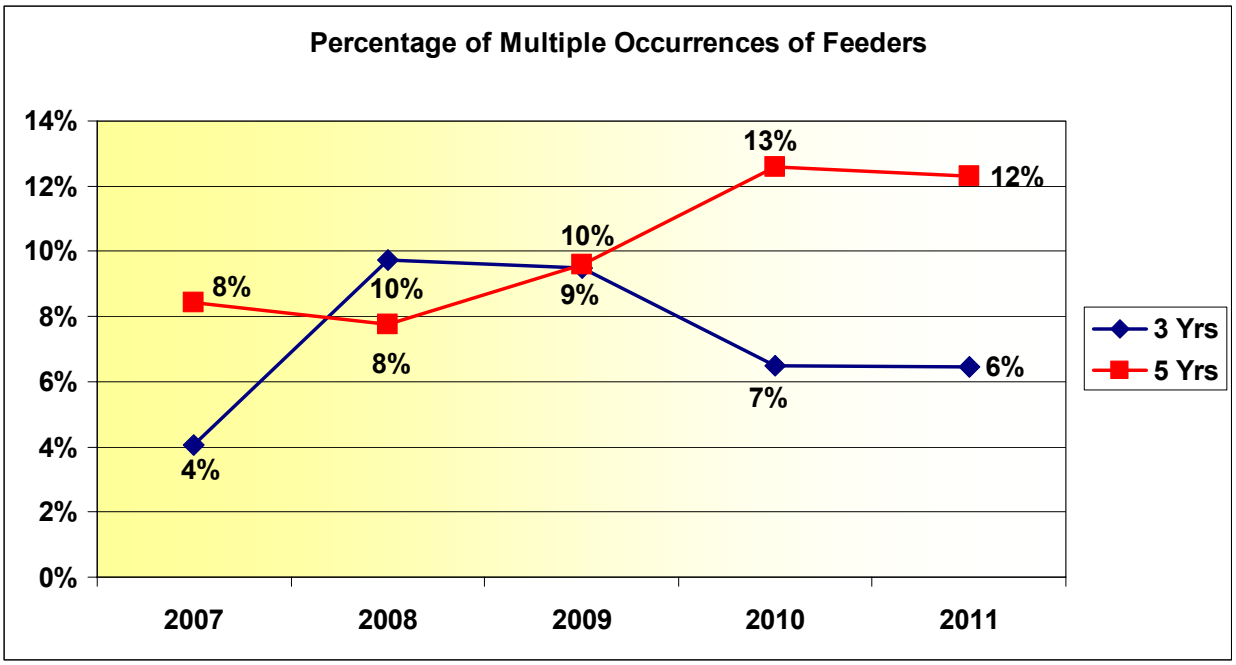
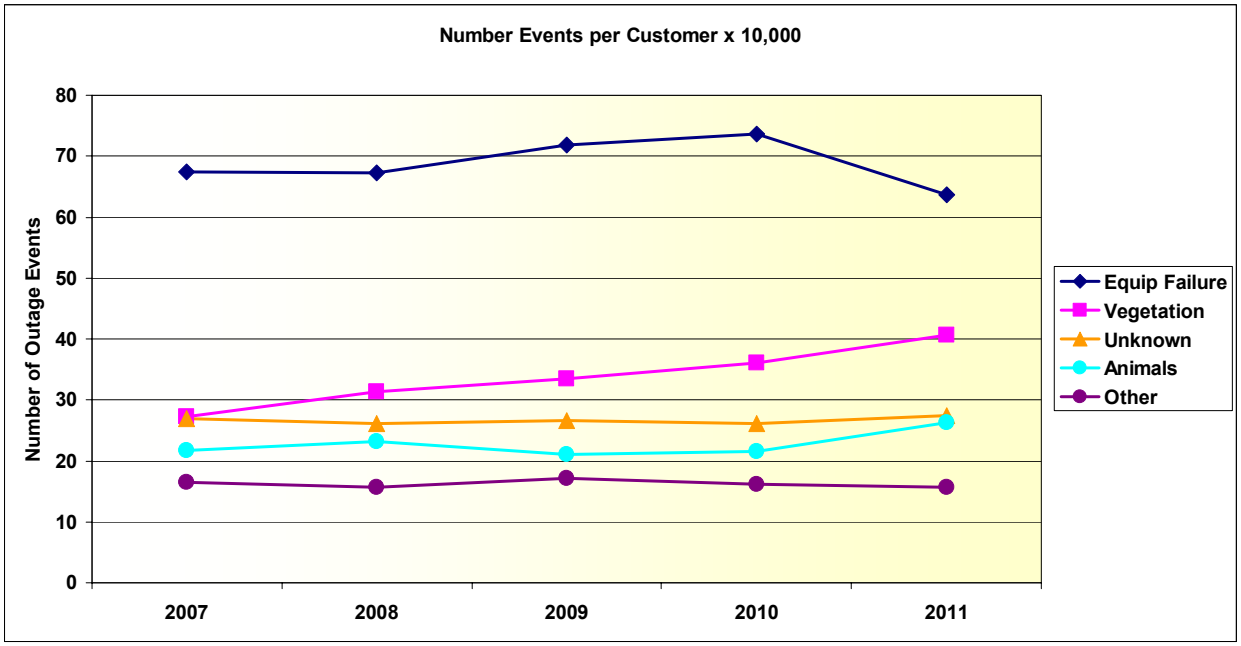


Figure 3-8 depicts the top five causes of outage events on FPL's distribution system normalized to a 10,000-customer base. The graph is based on FPL's adjusted data of the top ten causes of outage events. For the five-year period, the five top causes of outage events included equipment failures (29 percent), vegetation (19 percent), unknown (13 percent), animals (12 percent), and other causes (7 percent) on a cumulative basis. The data shows an increasing trend in outage events caused by equipment failure, which continues to dominate the highest percentage of outage causes throughout the FPL regions, even though the number of outages decreased from 2010 to 2011. In addition, outage events due to vegetation and animals are also trending upward. The outage events due to unknown and other causes are remaining relatively flat over the five-year period.

Figure 3-8. FPL's Top Five Outage Causes (Adjusted)



Observations: FPL's Adjusted Data

The Central and North Florida regions appear to have the least reliable overall service results compared to other FPL regions across the 16 service areas, whereas, Boca Raton and Central Dade achieved the best service reliability among the same service areas. The 2011 report shows the system indices for CAIDI, L-Bar, the Three-year Percentages of Multiple Feeder Outage Events, and the Five-year Percentages of Multiple Feeder Outage Events are all slightly lower than the 2010 results as the system indices for SAIDI, SAIFI, and MAIFIE results are slightly higher than the 2010 results. The system index for CEMI5 remains flat. FPL reports that the 2011 reliability results were impacted by a single weather event that affected its Brevard and Central Florida management areas in October 2011.[20] FPL reported gusts of wind between 70 and 80 miles per hour and 16 inches of rain and the National Hurricane Center initially considered naming the weather event, but concluded that the event did not fit the definitions of a tropical or subtropical cyclone.[21]

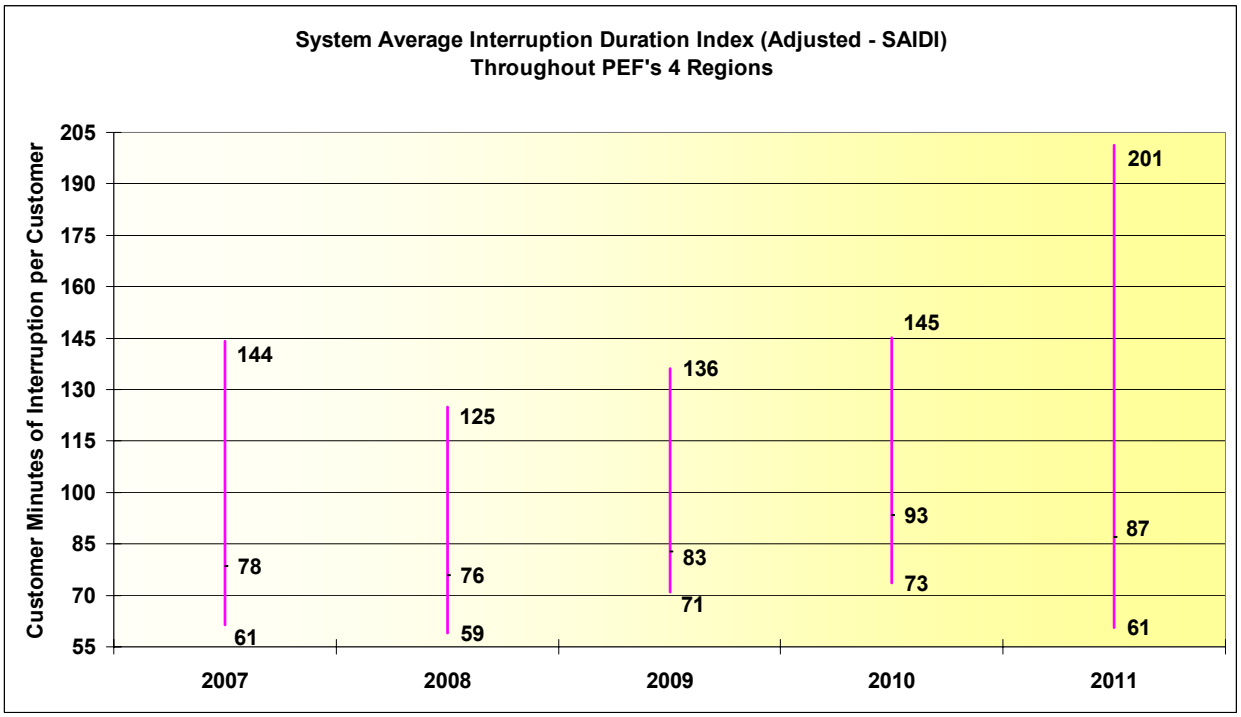
[20] Summary – Reliability, page 88, FPL Reliability Report filed March 1, 2012.
[21] Ibid.

Progress Energy Florida, Inc: Adjusted Data

Figure 3-9 charts the adjusted SAIDI recorded across PEF's system and depicts an increase in the highest values for 2011 and a decrease for the average and lowest values. PEF reported that in 2011, two tornados and one named storm affected its service territory. PEF notes that it continues to focus on "reliability projects including, but not limited to, small wire upgrades, storm hardening, and pole replacements."[22]

PEF's service territory is comprised of four regions: North Coastal, South Coastal, North Central, and South Central. **Figure 3-9** illustrates that the North Coastal region continues to report the poorest SAIDI over the last five years, fluctuating between 125 minutes and 201 minutes. While the South Coastal and South Central regions have the best or lowest SAIDI for the same period.

Figure 3-9. SAIDI across PEF's Four Regions (Adjusted)



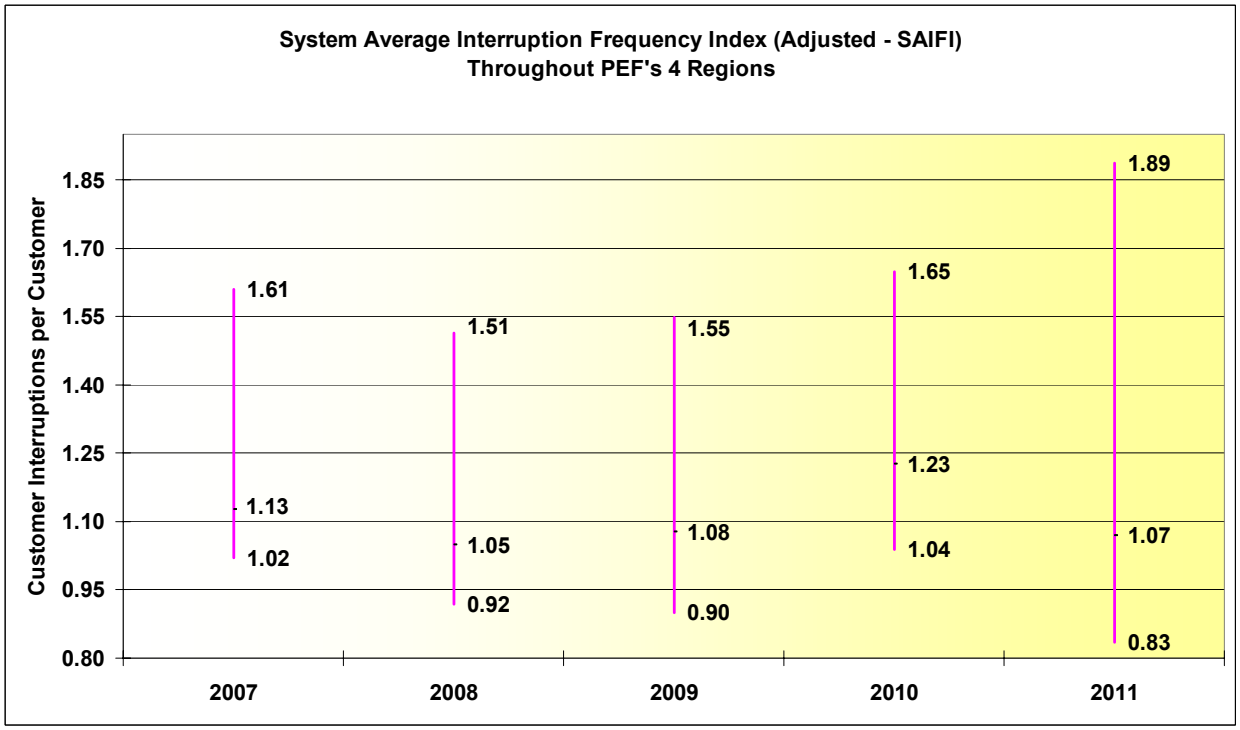
PEF's Regions with the Highest and Lowest Adjusted SAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIDI	North Coastal	North Coastal	North Coastal	North Coastal	North Coastal
Lowest SAIDI	South Coastal	South Coastal	South Central	South Central	South Central

[22] Overall Reliability Performance – 2011, page 3, PEF 2011 Reliability Report filed March 1, 2012.

Figure 3-10 shows the adjusted SAIFI across PEF's system. The maximum SAIFI index is trending upward as the minimum SAIFI index is trending downward. The average SAIFI index is trending slightly upward. The South Central region continues to have the lowest number of interruptions, while the North Coastal region continues to have the highest number of interruptions.

Figure 3-10. SAIFI across PEF's Four Regions (Adjusted)

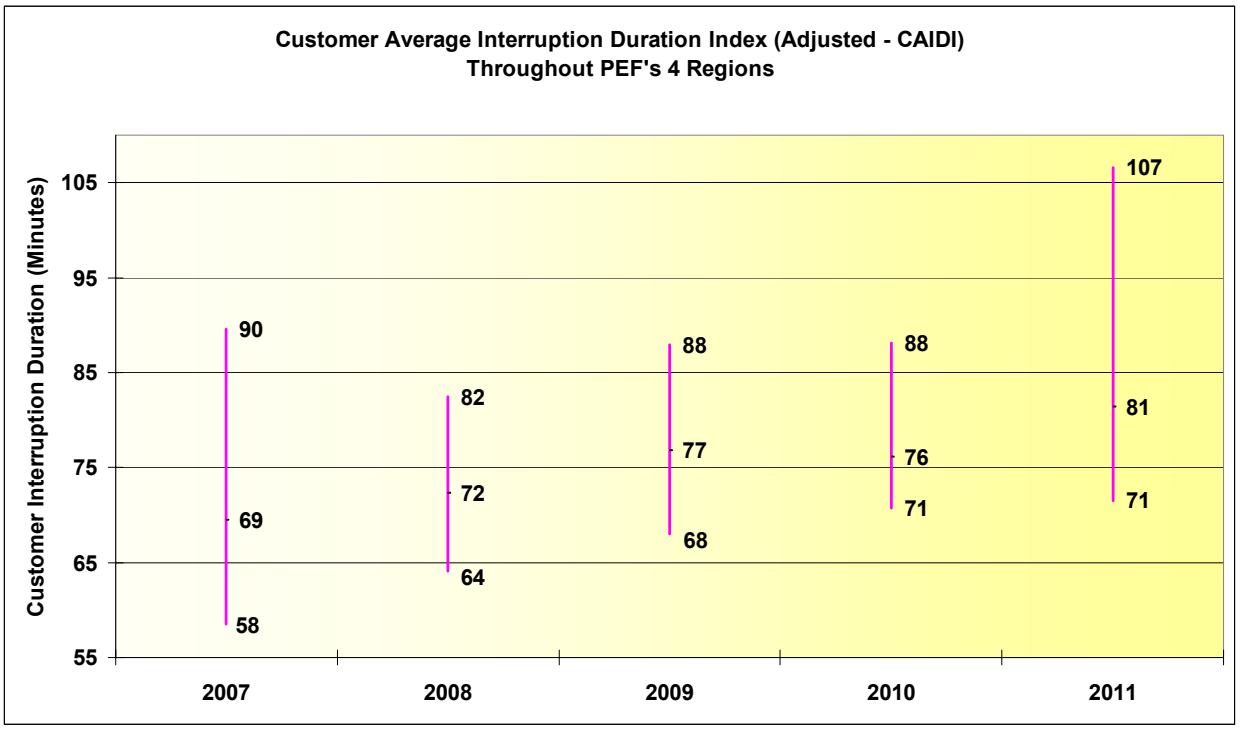


PEF's Regions with the Highest and Lowest Adjusted SAIFI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIFI	North Coastal	North Coastal	North Coastal	North Coastal	North Coastal
Lowest SAIFI	South Central	South Coastal	South Central	South Central	South Central

Figure 3-11 illustrates the CAIDI for PEF's four regions. PEF's adjusted CAIDI is trending upward from 69 minutes in 2007 to 81 minutes in 2011. The North Coastal region has continued to have the highest CAIDI level for the past five years, as compared to the other PEF regions, while the South Coastal and South Central regions have maintained the lowest CAIDI level during the same period.

Figure 3-11. CAIDI across PEF's Four Regions (Adjusted)



PEF's Regions with the Highest and Lowest Adjusted CAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CAIDI	North Coastal	North Coastal	North Coastal	North Coastal	North Coastal
Lowest CAIDI	South Coastal	South Coastal	South Coastal	South Central	South Coastal

Figure 3-12 is the average length of time PEF spends restoring customers affected by outage events, excluding hurricanes and certain other outage events. This is displayed by the index L-Bar in the graph below. The data demonstrates an overall 11 percent increase of outage durations since 2007, and a 9 percent increase from 2010 to 2011. PEF's overall L-Bar index is trending upward, indicating that PEF is still spending a longer time restoring service from outage events.

Figure 3-12. PEF's Average Duration of Outages (Adjusted)

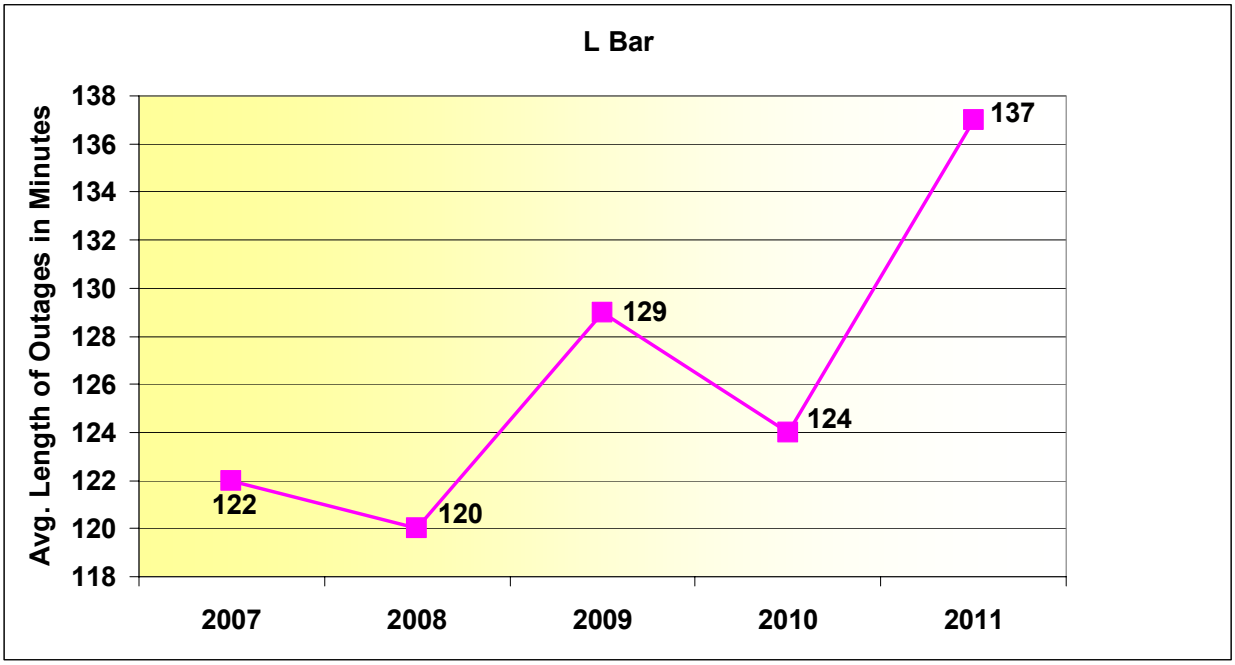
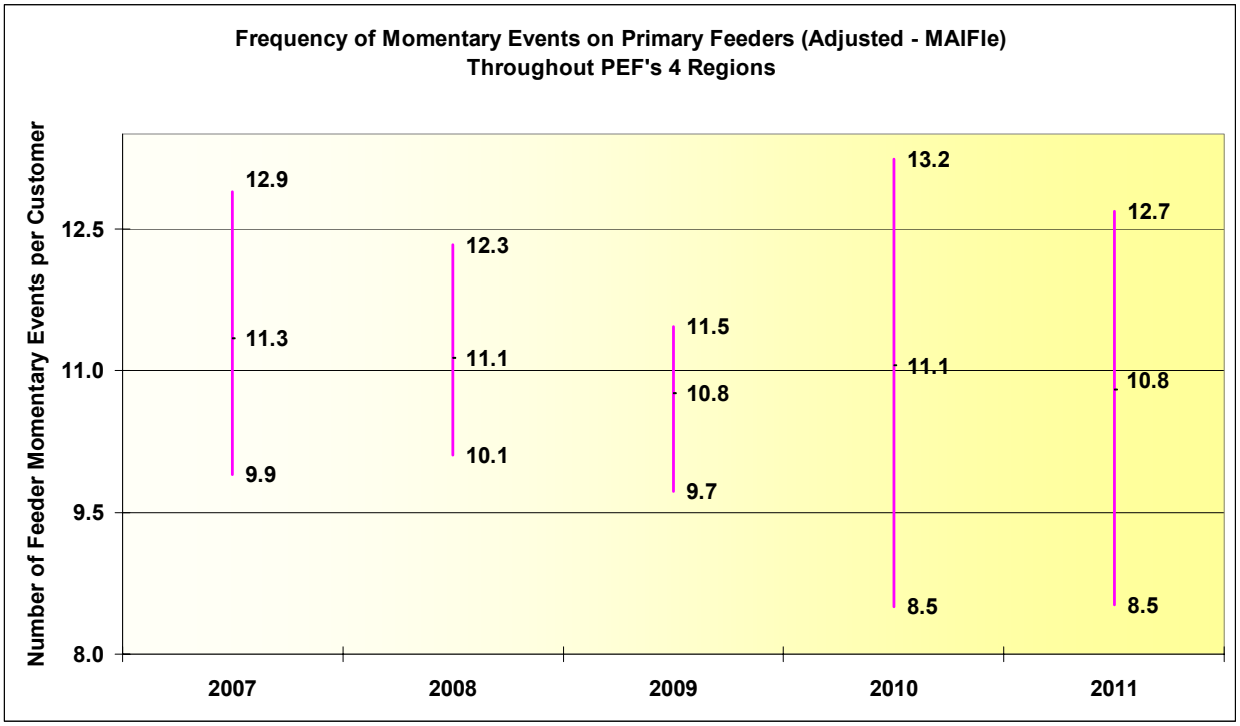


Figure 3-13 illustrates the frequency of momentary events on primary circuits for PEF's customers recorded across its system. A review of the supporting data suggests that the MAIFIe results between 2007 and 2011 appear to be trending downwards showing improvement. The best (lowest) results are distributed among the North Central and South Central regions. The South Coastal region appears to have the worst (highest) results for the last five years.

Figure 3-13. MAIFIe across PEF's Four Regions (Adjusted)

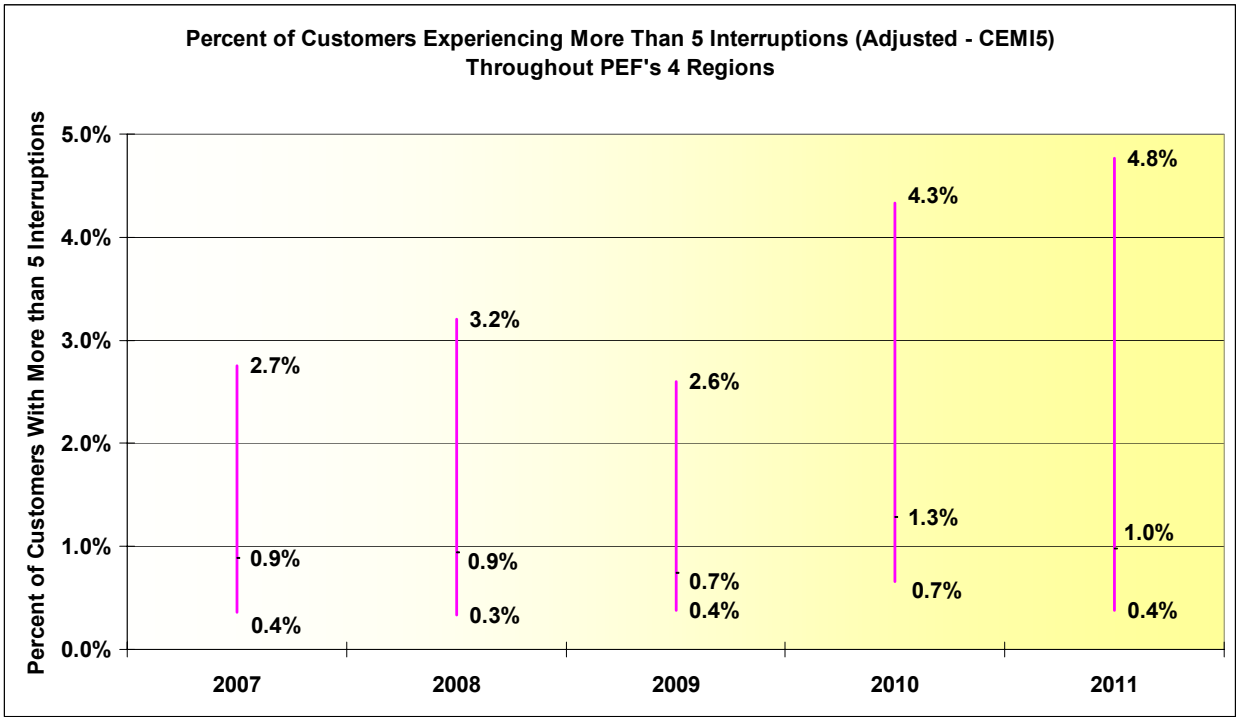


PEF's Regions with the Highest and Lowest Adjusted MAIFIe Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest MAIFIe	South Coastal	South Coastal	South Coastal	South Coastal	South Coastal
Lowest MAIFIe	North Central	North Central	South Central	South Central	South Central

Figure 3-14 charts the percent of PEF's customers experiencing more than five interruptions over the last five years. PEF reported a decrease (improvement) in the average CEMI5 performance from 1.3 percent in 2010 to 1.0 percent in 2011. Even though there was a decrease in the percentage from 2010 to 2011, the average CEMI5 performance is trending slightly upward over the past five years. The South Central and South Costal regions continue to have the lowest reported percentage for all of PEF's regions and the North Coastal region continues to have the highest reported percentage.

Figure 3-14. CEMI5 across PEF's Four Regions (Adjusted)



PEF's Regions with the Highest and Lowest Adjusted CEMI5 Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CEMI5	North Coastal	North Coastal	North Coastal	North Coastal	North Coastal
Lowest CEMI5	South Central	South Coastal	South Coastal	South Central	South Coastal

Figure 3-15 shows the fraction of multiple occurrences of feeders using a three-year and five-year basis. During the period of 2007 to 2011, both the five-year and the three-year fraction of multiple occurrences results are trending slightly upward. The Three Percent Feeder Report lists the top three percent of feeders with the most feeder outage events. The fraction of multiple occurrences is calculated from the number of recurrences divided by the number of feeders reported.

Figure 3-15. PEF's Three Percent Feeder Report (Adjusted)

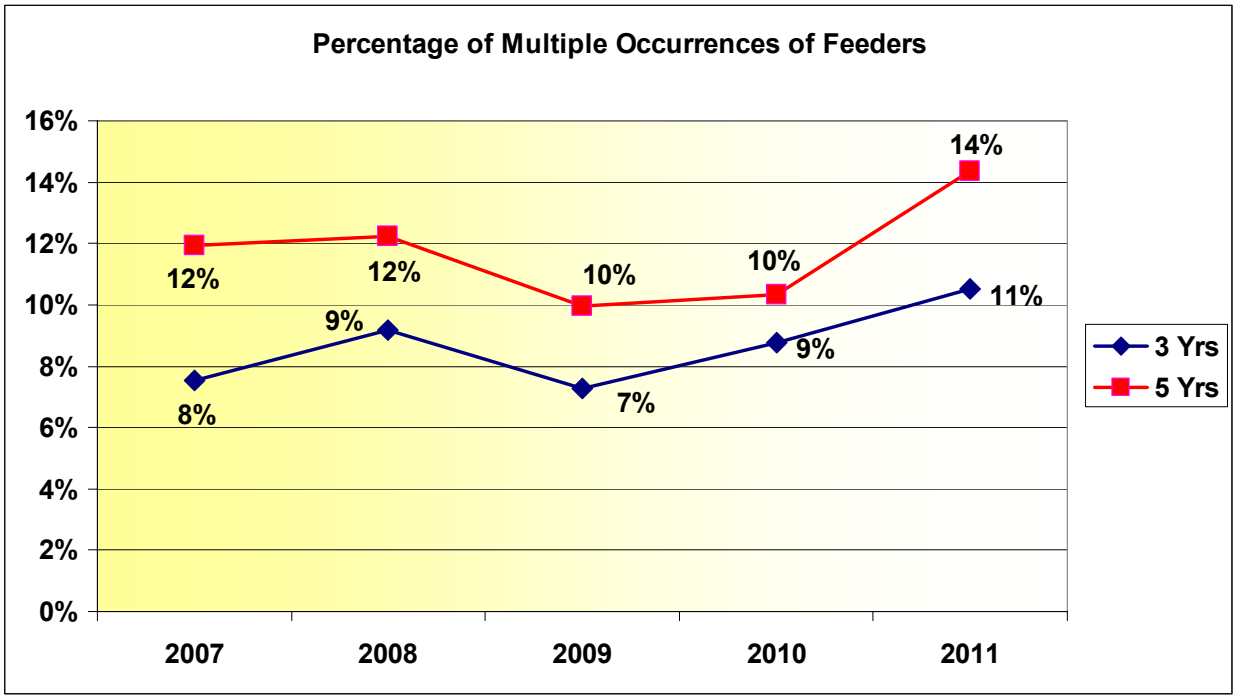
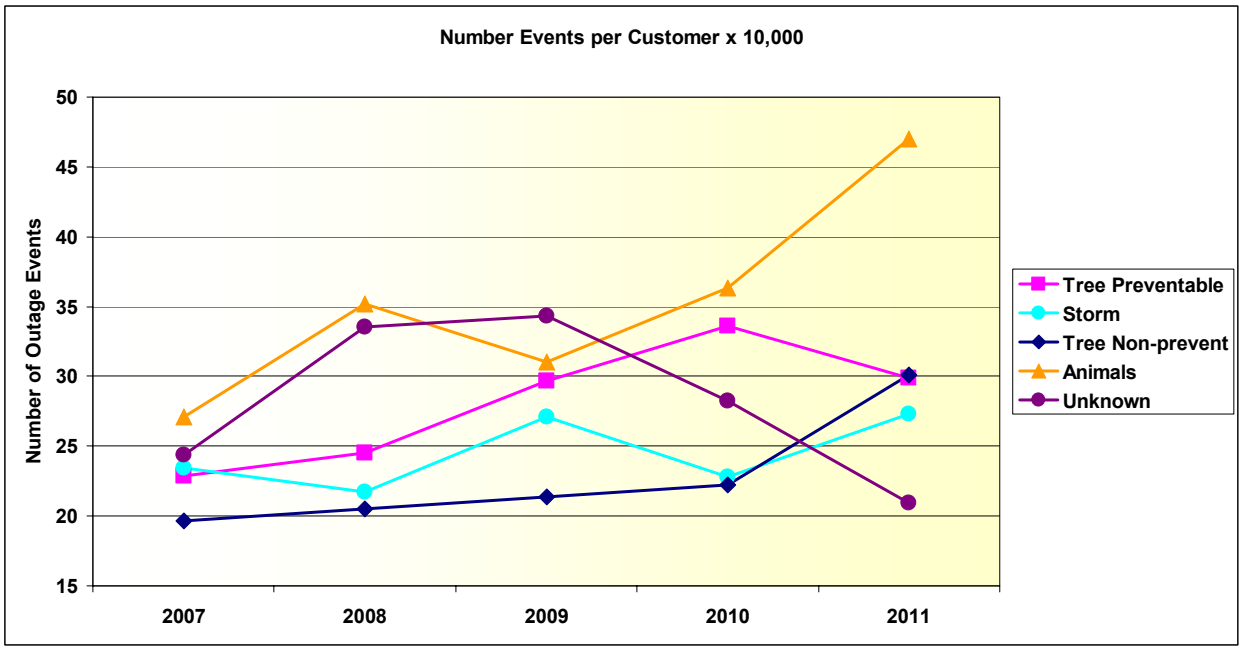


Figure 3-16 shows the top five causes of outage events on PEF's distribution system normalized to a 10,000-customer base. The figure is based on PEF's adjusted data of the top ten causes of outage events and represents approximately 61 percent of the top ten causes of outage events that occurred during 2011. For the five-year period, the top five causes of outage events were animals (18 percent), tree non-preventable (12 percent), tree preventable (12 percent), storm (11 percent) and unknown (8 percent) on a cumulative basis. Staff notes that the number of outages caused by animals were included in the "all other" category for 2010 while this year, the number of outages caused by animals appeared in the top five causes of outage events.

Figure 3-16. PEF's Top Five Outage Causes (Adjusted)



Observations: PEF's Adjusted Data

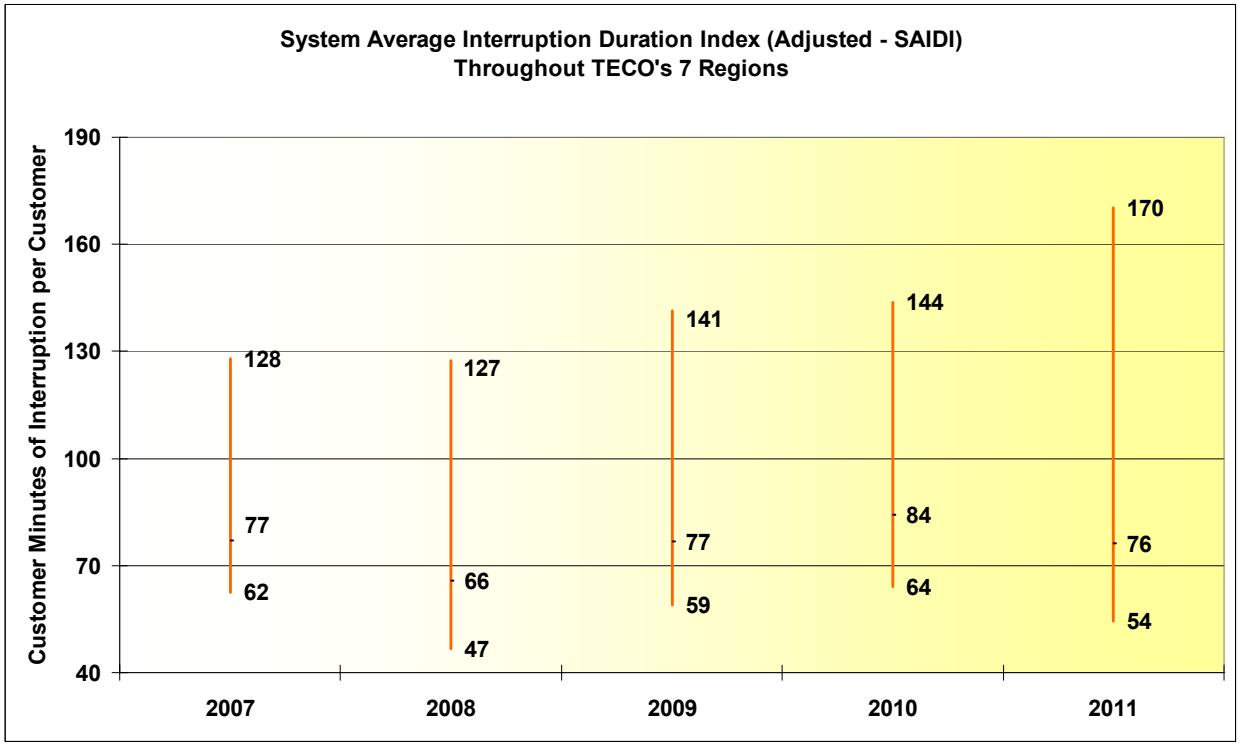
In general, the increase in trends for the SAIDI, SAIFI, CAIDI, and CEMI5 indices appear to be linked to the results of the North Coastal Region which has continually demonstrated the highest (poorest) service reliability indices of the four regions within PEF for the past five years. The L-Bar, the Three-year Percent of Multiple Feeder Outage Events, and the Five-year Percent of Multiple Feeder Outage Events are also trending upward. The South Coastal and South Central regions continue to have the best SAIDI, SAIFI, and CAIDI results of the four regions within PEF for the last five years. In March 2011, Progress Energy Florida reported a major weather event that was equal to the magnitude of a tropical event. "Having experienced multiple adverse non-excluded weather events in 2011, Progress Energy Florida distribution system performed better than previous years."[23] The SAIDI metric decreased from 93.3 minutes in 2010 to 86.9 minutes in 2011.

[23] Overall Reliability Performance – 2011, page 3, PEF Reliability Report filed March 1, 2012.

Tampa Electric Company: Adjusted Data

Figure 3-17 shows the adjusted SAIDI values recorded by TECO's system. Three of the seven TECO regions had an increase in SAIDI performance during 2011, with Plant City and Dade City having the highest SAIDI performance results for the five-year period of 2007 to 2011. The lowest SAIDI index for the seven regions appears to be relatively flat. Dade City, Plant City, and South Hillsborough regions have the fewest customers and represent the most rural, lowest customer density per line mile in comparison to the other four TECO divisions. The SAIDI indices for all the regions except the Central, Eastern, and South Hillsborough regions were above the 2011 average SAIDI index of 76 minutes. The Central and Winter Haven regions recorded the lowest SAIDI indices for the five-year period.

Figure 3-17. SAIDI across TECO's Seven Regions (Adjusted)

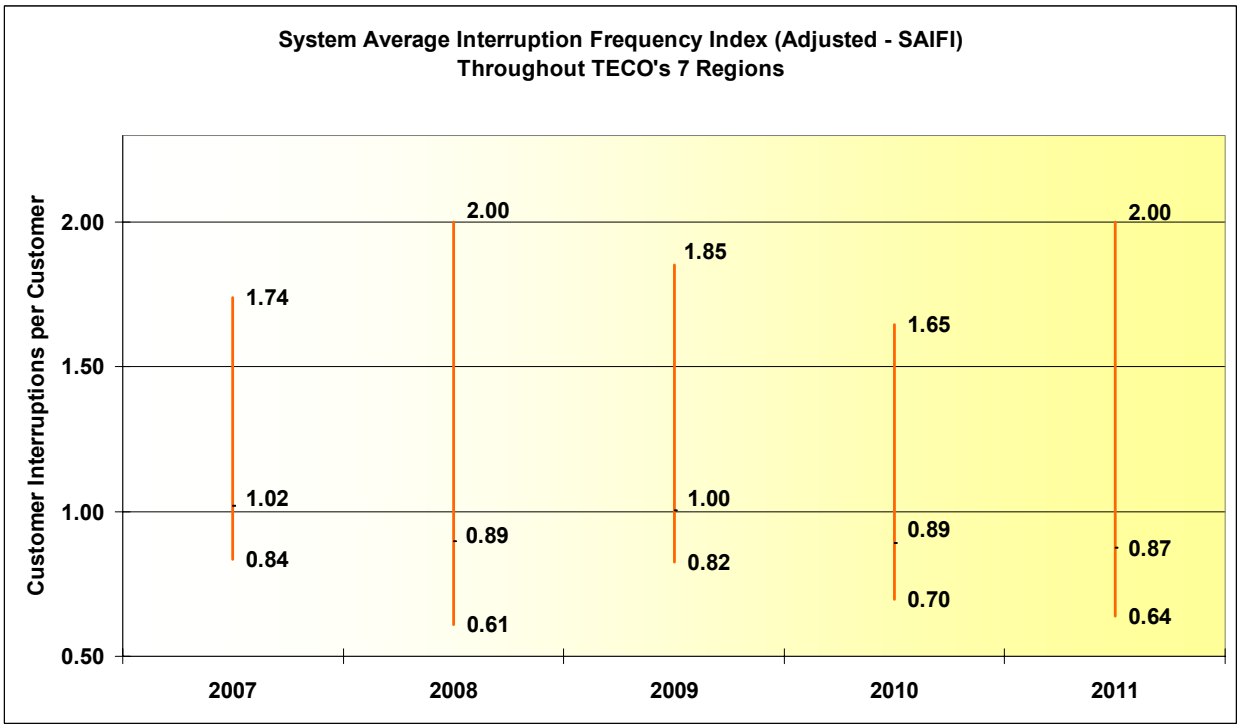


TECO's Regions with the Highest and Lowest Adjusted SAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIDI	Plant City	Dade City	Plant City	Plant City	Dade City
Lowest SAIDI	Central	Central	Winter Haven	Central	Central

Figures 3-18 illustrates TECO's adjusted frequency of interruptions per customer reported by the system. TECO's data represents a two percent decrease in the SAIFI average from 0.89 interruptions in 2010 to 0.87 interruptions in 2011. TECO's Dade City region continues to have the highest frequency of service interruptions when compared to TECO's other regions. The maximum SAIFI index is trending slightly upwards and the minimum and average indices are trending slightly downwards.

Figure 3-18. SAIFI across TECO's Seven Regions (Adjusted)

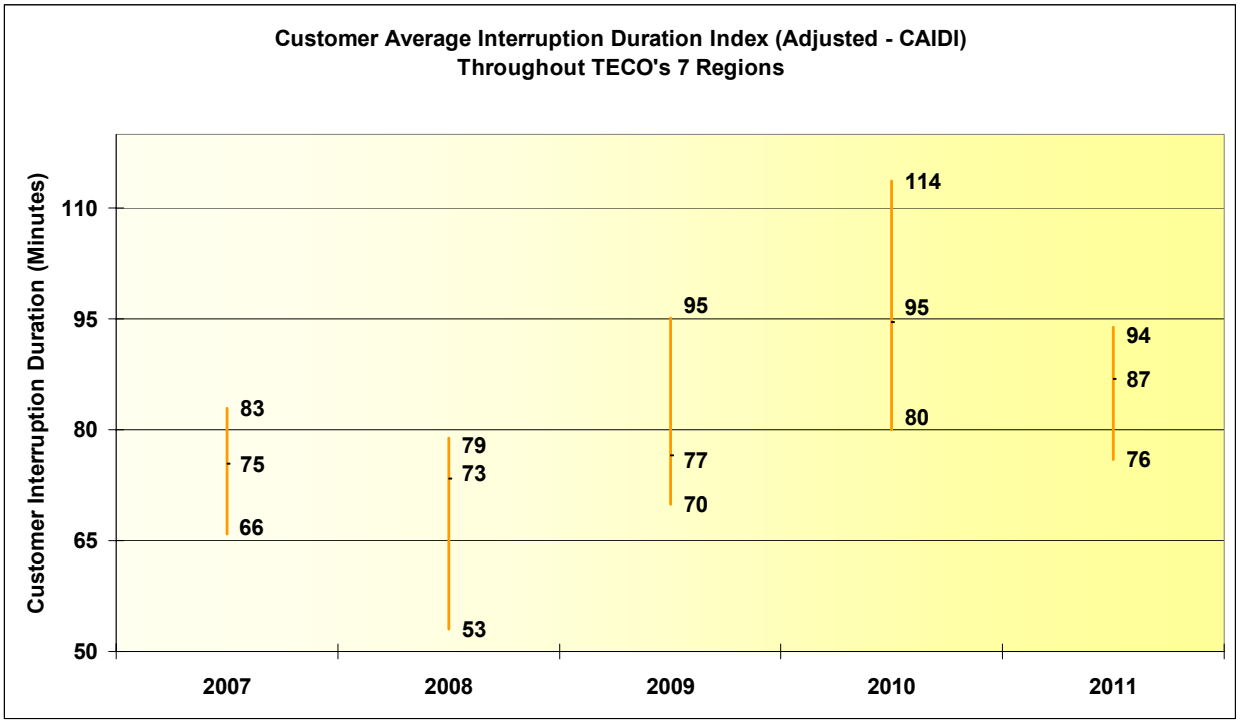


TECO's Regions with the Highest and Lowest Adjusted SAIFI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIFI	Dade City	Dade City	Dade City	Dade City	Dade City
Lowest SAIFI	Central	Central	Central	Eastern	Central

Figure 3-19 charts the length of time that a typical TECO customer experiences an outage, which is known as CAIDI. The highest CAIDI minutes do not appear to be confined to any particular service area; however, Plant City and South Hillsborough both make appearances. Winter Haven has had the lowest (best) results for three out of the last five years. The average CAIDI continues to be trending upwards at this time suggesting TECO's customers are experiencing outages that are lasting longer.

Figure 3-19. CAIDI across TECO's Seven Regions (Adjusted)



TECO's Regions with the Highest and Lowest Adjusted CAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CAIDI	Plant City	Plant City	South Hillsborough	South Hillsborough	Western
Lowest CAIDI	South Hillsborough	Winter Haven	Winter Haven	Winter Haven	Eastern

Figure 3-20 denotes a two percent decrease in outage durations for the period from 2010 to 2011. The L-Bar index appears to be trending upward suggesting an overall decline and longer restoral times. The average length of time TECO spends restoring service to its customers affected by outage events, excluding hurricanes and other allowable excluded outage events is shown in the index L-Bar.

Figure 3-20. TECO's Average Duration of Outages (Adjusted)

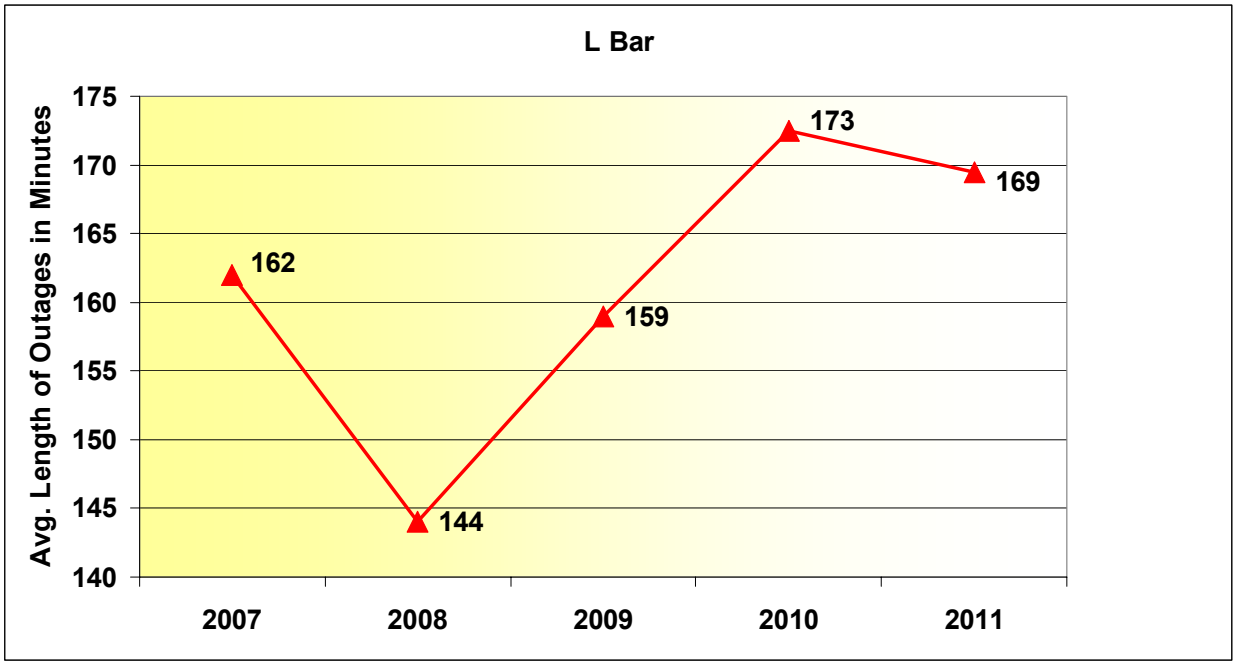
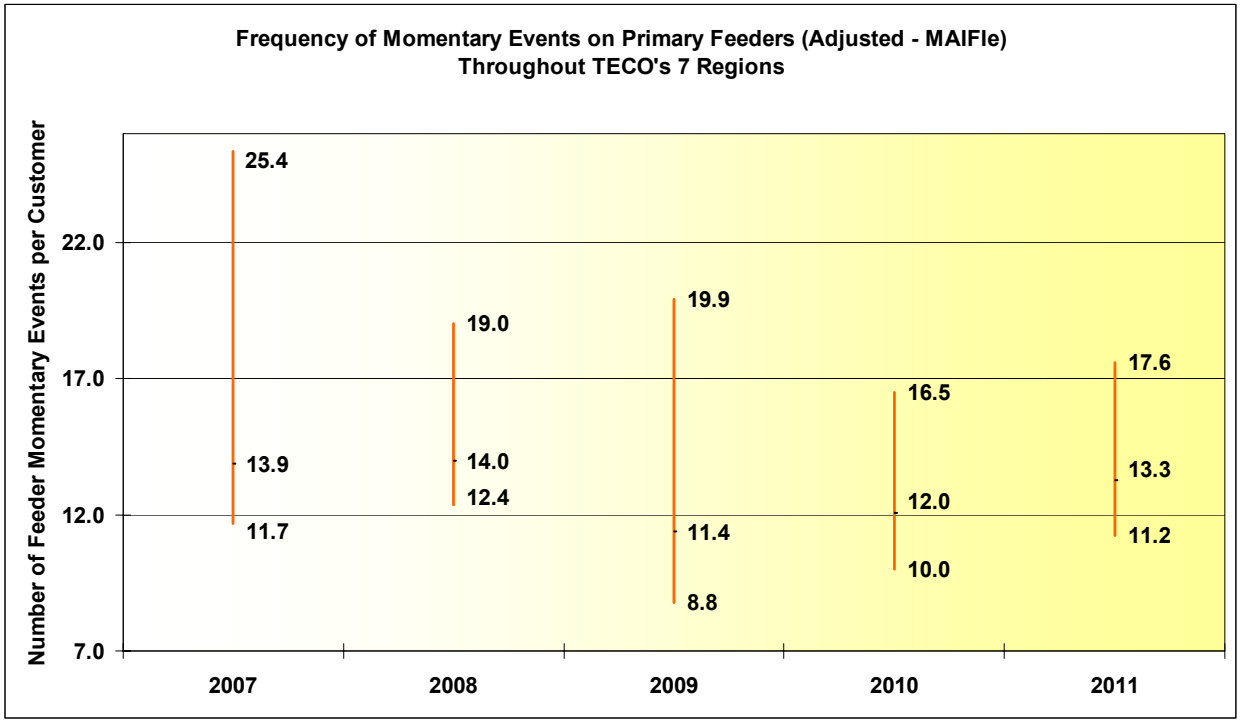


Figure 3-21 illustrates TECO's number of momentary events on primary circuits per customer recorded across its system. In 2011, the MAIFIe performance declined over the 2010 results in all divisions except Dade City and South Hillsborough. **Figure 3-21** shows a downward trend for the average MAIFIe, which suggests improvement over the five-year period of 2007 to 2011.

Figure 3-21. MAIFIe across TECO's Seven Regions (Adjusted)

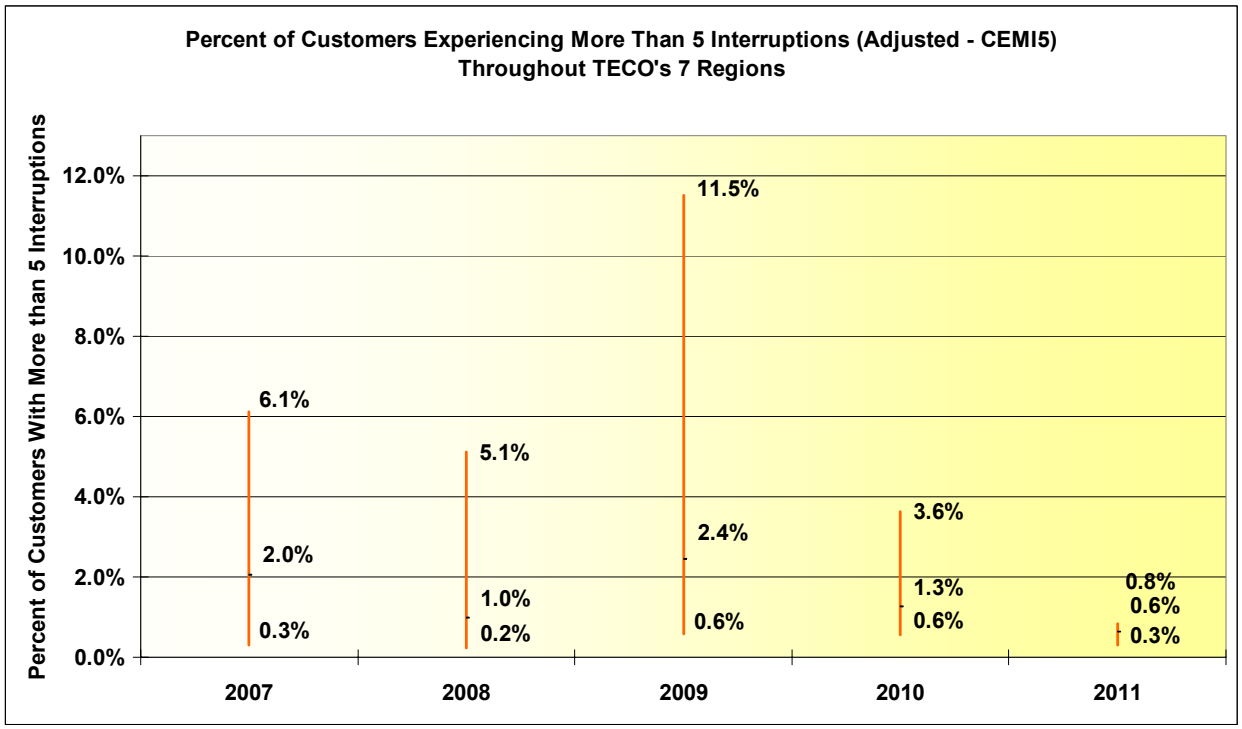


TECO's Regions with the Highest and Lowest Adjusted MAIFIe Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest MAIFIe	Dade City	Plant City	Plant City	Dade City	Plant City
Lowest MAIFIe	Central	Central	Central	Central	Central

Figure 3-22 shows the percent of customers experiencing more than five interruptions. Five regions in TECO's territory experienced a decrease in the CEMI5 results for 2011. The Central and Dade City regions experienced an increase in the CEMI5 index. Plant City reported the highest CEMI5 percentage for 2011 even though there was a 58 percent decrease in its percentage from 2010. With TECO's results for this index varying for the past five years, the average CEMI5 index appears to be trending downward suggesting improvement.

Figure 3-22. CEMI5 across TECO's Seven Regions (Adjusted)



TECO's Regions with the Highest and Lowest Adjusted CEMI5 Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CEMI5	Dade City	Dade City	Dade City	Winter Haven	Plant City
Lowest CEMI5	Winter Haven	Eastern	Eastern	Central	South Hillsborough

Figure 3-23 represents an analysis of TECO's top three percent of problem feeders that have reoccurred (appeared on the Three Percent Feeder Report) on a five-year and three-year basis. The graph is developed using the number of recurrences divided by the number of feeders reported. The five-year average of outages per feeder increased from 2010 to 2011, as well as the three-year average. Both the three-year and five-year averages of outages per feeder appear to be trending upward.

Figure 3-23. TECO's Three Percent Feeder Report (Adjusted)

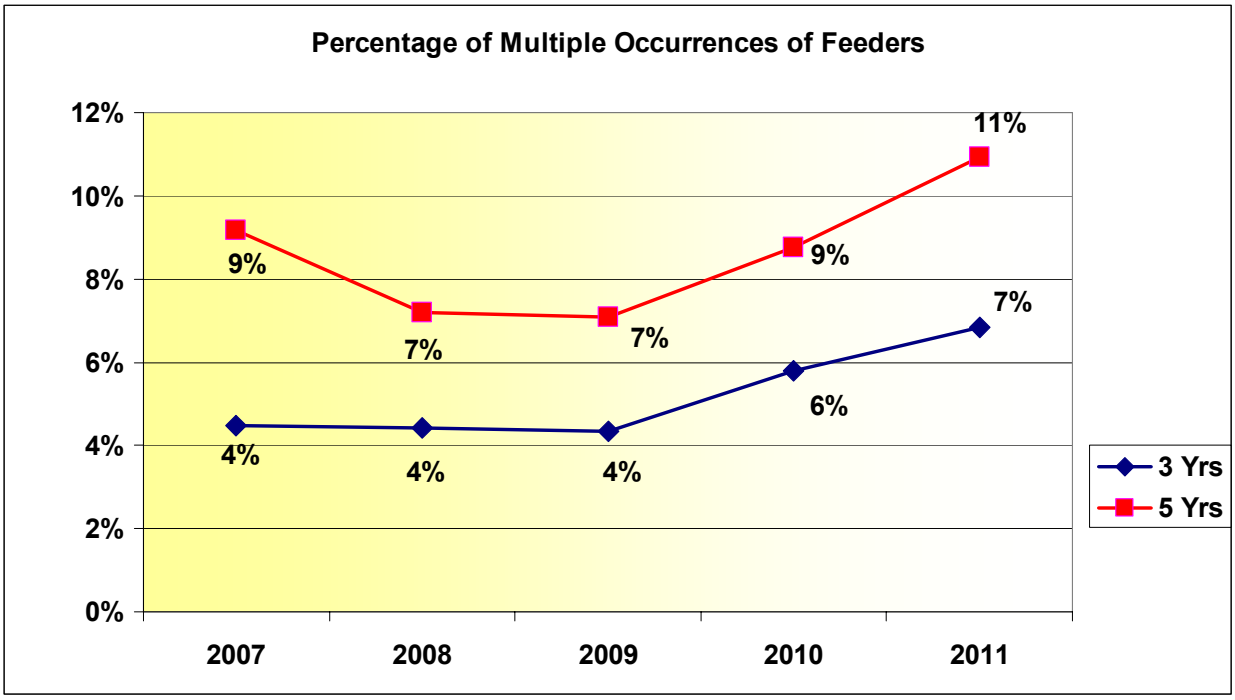
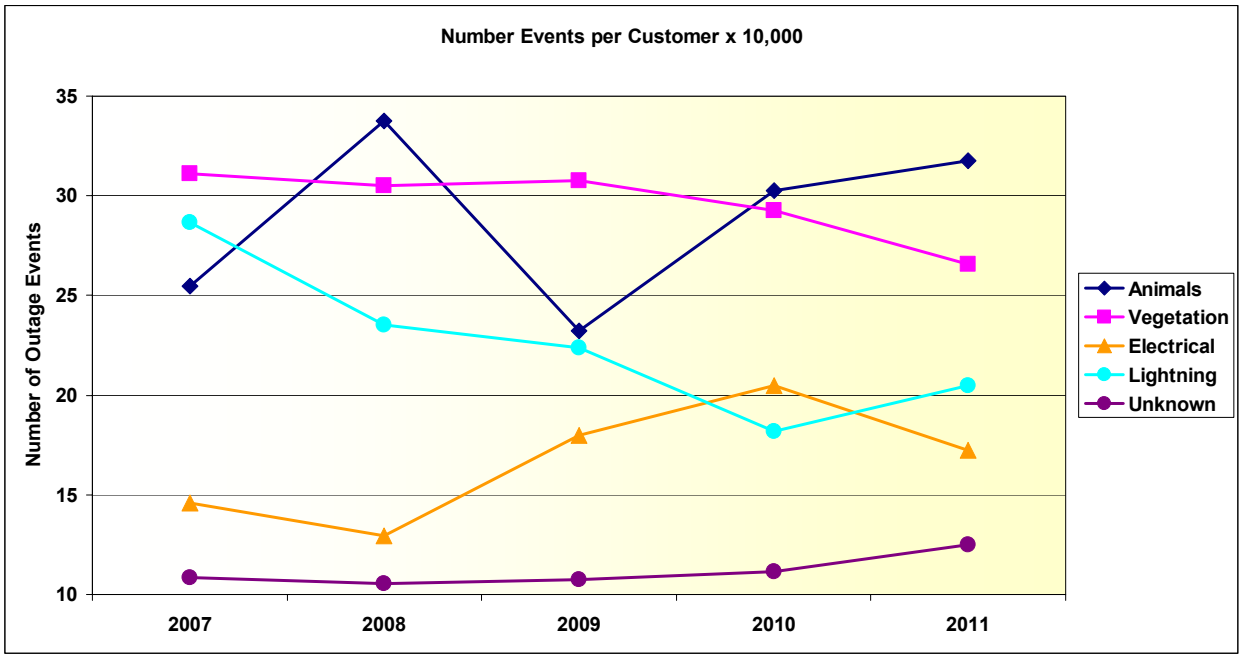


Figure 3-24 shows the top five causes of outage events on TECO's distribution system normalized to a 10,000-customer base. The figure is based on TECO's adjusted data of the top ten causes of outage events and represents 78 percent of the total outage events that occurred during 2010. Vegetation and animals causes continue to be the top two problem areas for TECO; however, the cause due to vegetation continues to decrease. TECO reports that "overall outages were down in 2011 in comparison to 2010"[24] and "the total number of outages in comparison to the last five-year average is also down by 4.51 percent."[25] The number of outages due to animals, electrical issues, and unknown causes are trending upward while the number of outages due to vegetation and lightning are trending downward.

Figure 3-24. TECO's Top Five Outage Causes (Adjusted)



Observations: TECO's Adjusted Data

The indices for MAIFIe, Three-year Percent of Multiple Feeder Outage Events and Five-year Percent of Multiple Feeder Outage Events increased compared to 2010 while the indices for SAIDI, SAIFI, CAIDI, CEMI5, and L-Bar showed an improvement in performance. TECO reported that in 2011, its "customers experienced a decrease in the average interruption duration compared to previous years"[26] and that "the company attributes some decrease to shorter interruption duration along with a decreased number of outages as reported."[27] TECO continues to focus on divisional reliability through the operational management structure. TECO's management continues to review system performance and related metrics, feeder outage activity, and distribution circuit performance on a daily basis.

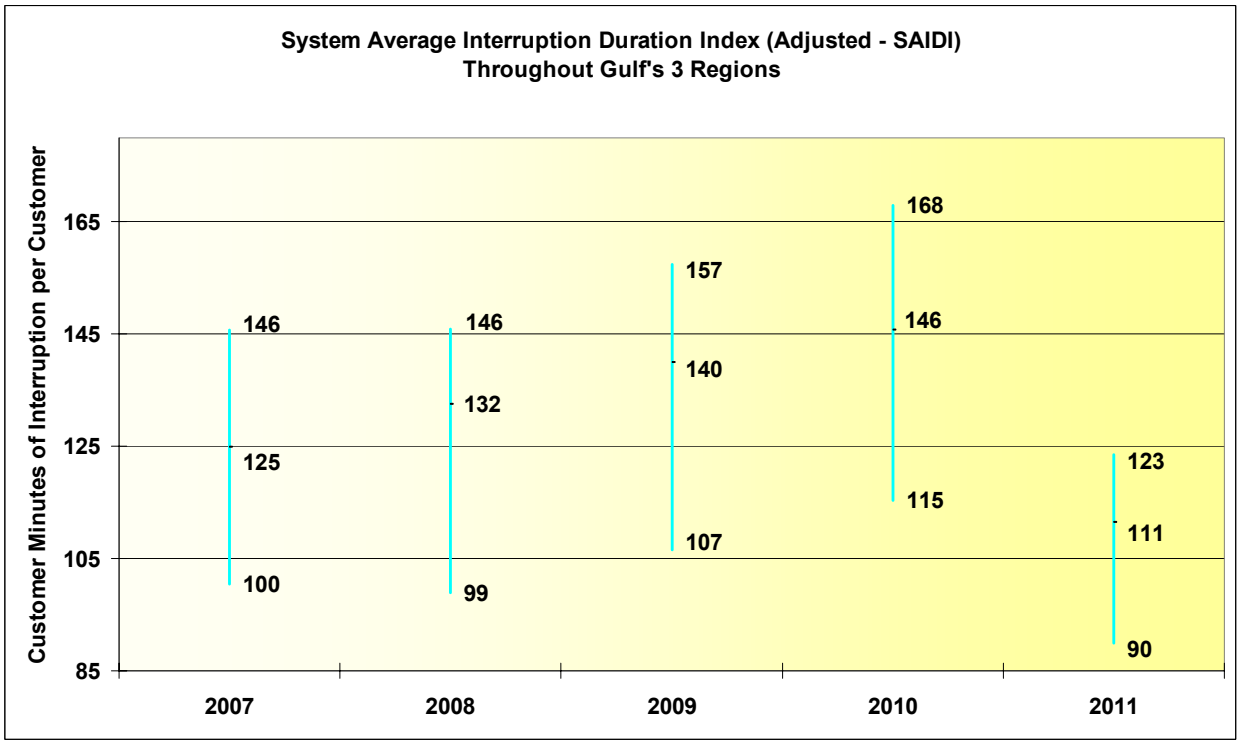
[24] Summary, page 59, TECO Reliability Report filed March 1, 2012.
[25] Ibid.
[26] Ibid, page 60.
[27] Ibid.

Gulf Power Company: Adjusted Data

Gulf's service area includes much of the Florida panhandle and covers approximately 7,550 square miles in eight Florida counties – Bay, Escambia, Holmes, Jackson, Okaloosa, Santa Rosa, Walton and Washington. This geographic area is divided into three districts known as the Western, Central, and Eastern. The district distribution metrics and overall distribution system metrics are presented in the following figures.

Figure 3-25 illustrates Gulf's SAIDI minutes, or the interruption duration minutes on a system basis. The chart depicts a decrease in the average SAIDI value by 35 minutes in Gulf's combined regions over the 2010 results. Gulf's 2011 average performance was 32 percent better than the 2010 SAIDI results. The Western district has the highest SAIDI value for the past five years as the Central and Eastern districts have the best or lowest SAIDI values. The maximum, minimum, and average SAIDI indices are continuing to trend downward, showing improvements.

Figure 3-25. SAIDI across Gulf's Three Regions (Adjusted)

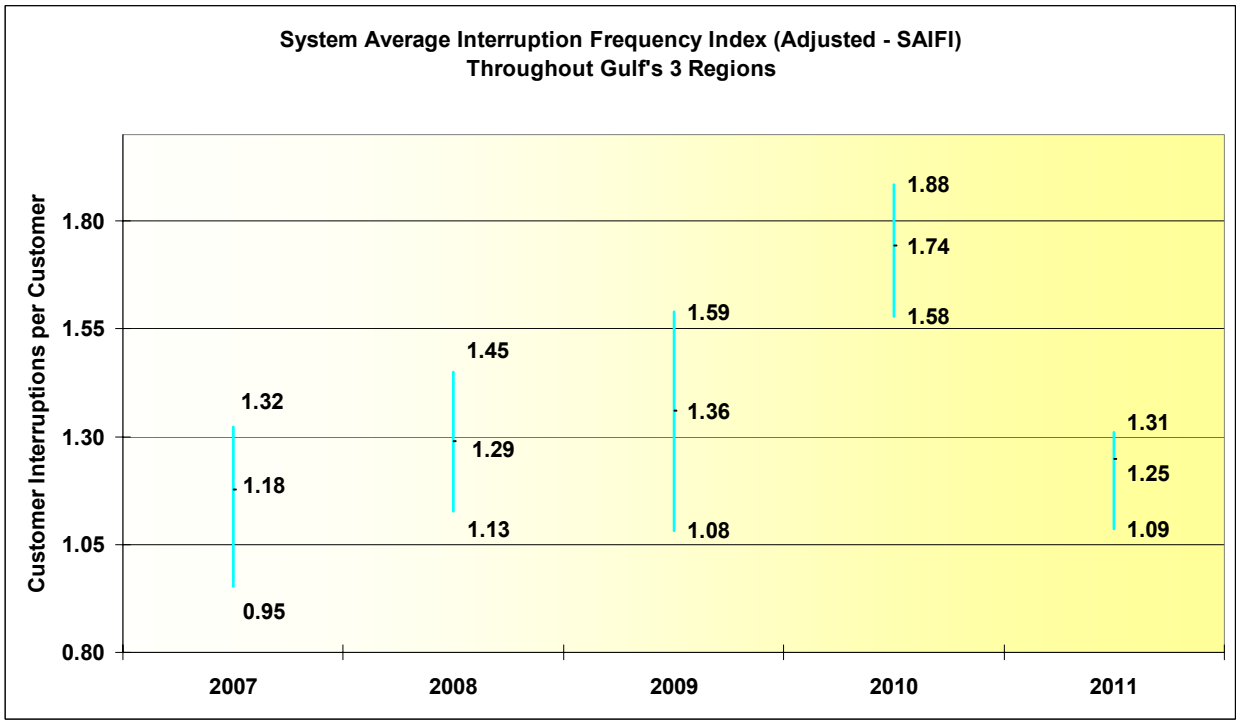


Gulf's Regions with the Highest and Lowest Adjusted SAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIDI	Western	Western	Western	Western	Western
Lowest SAIDI	Eastern	Central	Central	Central	Central

Figure 3-26 illustrates that Gulf's SAIFI had a 39 percent decrease in 2011 when compared to 2010. Gulf's Western region had the highest SAIFI values in four of the last five years. The lowest values appear to be confined to the Central region. Even though there was a decrease in the 2011 SAIFI values, the maximum, minimum, and average SAIFI values appear to be trending upward.

Figure 3-26. SAIFI across Gulf's Three Regions (Adjusted)

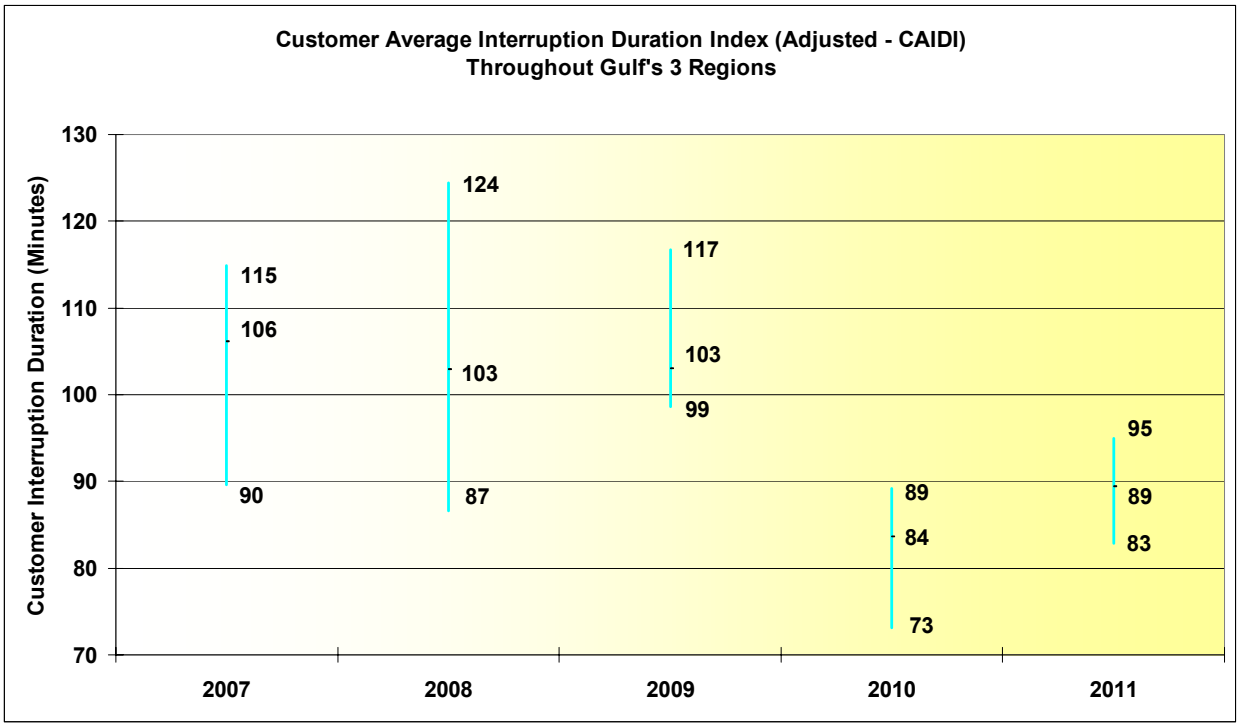


Gulf's Regions with the Highest and Lowest Adjusted SAIFI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIFI	Western	Western	Western	Western	Eastern
Lowest SAIFI	Central	Eastern	Central	Central	Central

Figure 3-27 is Gulf's adjusted CAIDI. For 2011, the average CAIDI is 89 minutes and represents a six percent increase from the 2010 value of 84 minutes. In 2011, the Western region had the highest CAIDI value, as the Central region had the lowest CAIDI. Staff notes that just like the SAIDI values in **Figure 3-25** the maximum, minimum, and average CAIDI values are also trending downward suggesting improvement.

Figure 3-27. CAIDI across Gulf's Three Regions (Adjusted)



Gulf's Regions with the Highest and Lowest Adjusted CAIDI Performance by Year

	2007	2008	2009	2010	2011
Highest CAIDI	Central	Eastern	Eastern	Western	Western
Lowest CAIDI	Eastern	Central	Central	Central	Central

Figure 3-28 illustrates Gulf's L-Bar or the average length of time Gulf spends recovering from outage events, excluding hurricanes and other allowable excluded outage events. Gulf's L-Bar showed a five percent improvement from 2010 to 2011. For the past three years, Gulf's L-Bar values did improve and the data for the five-year period suggests that the L-Bar index is trending downward.

Figure 3-28. Gulf's Average Duration of Outages (Adjusted)

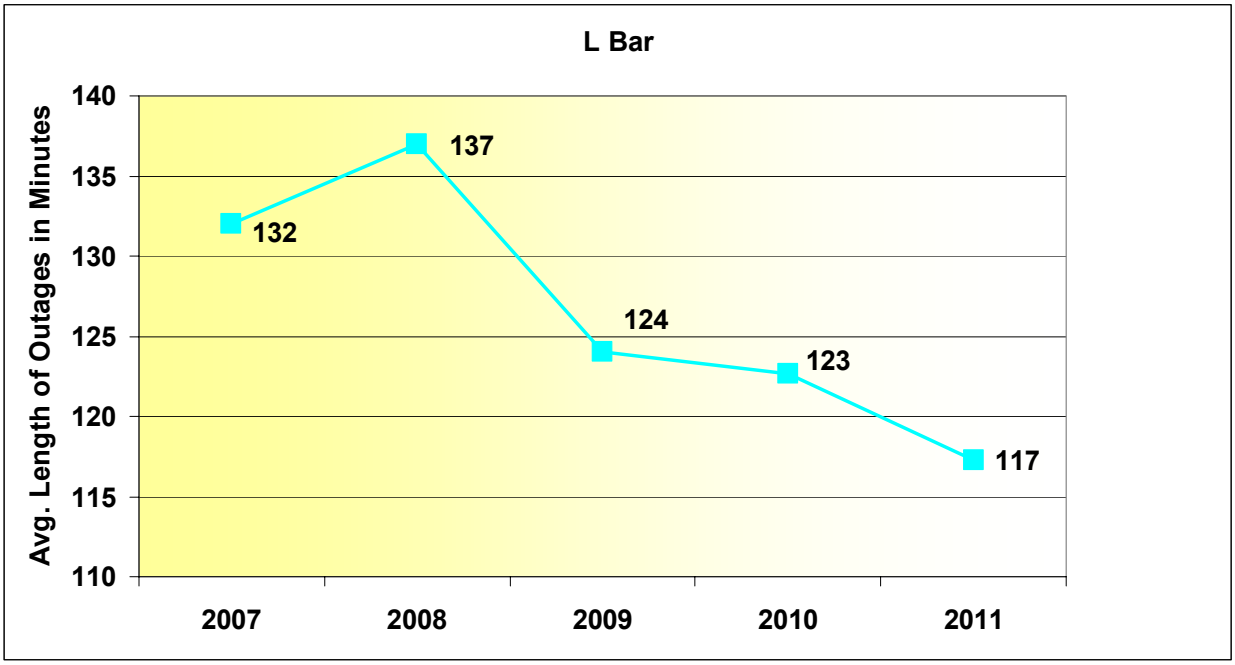
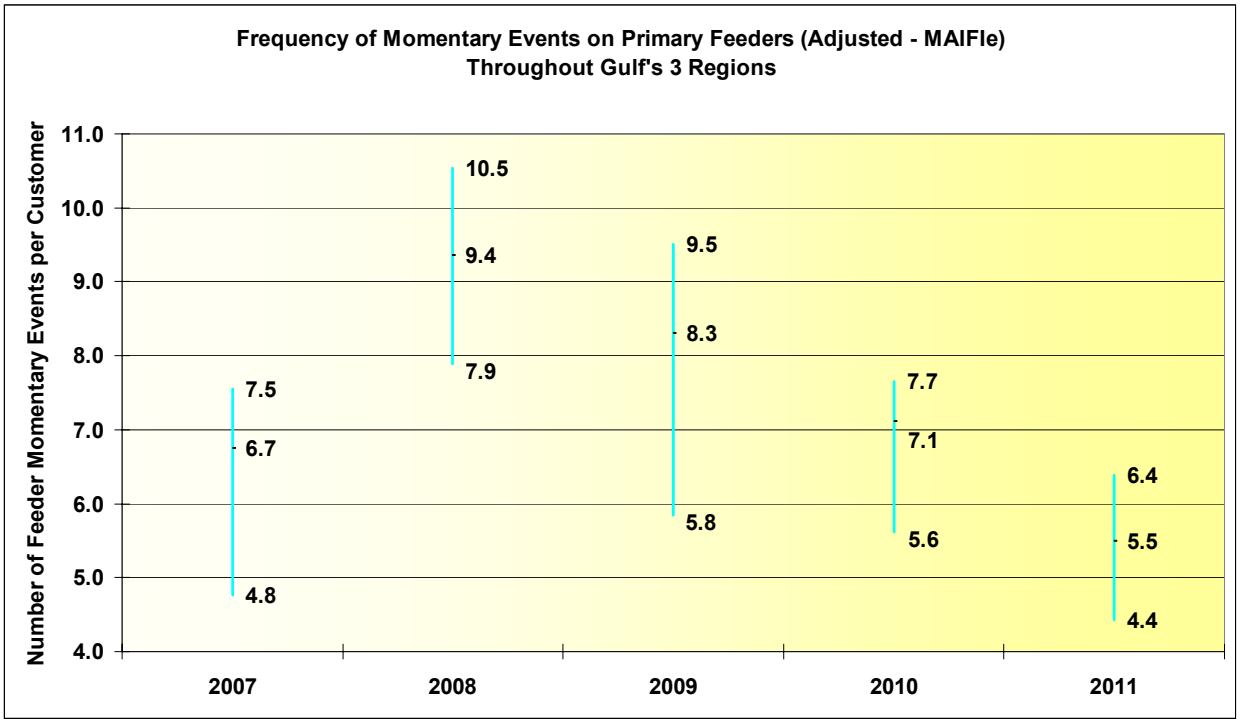


Figure 3-29 is the adjusted MAIFIe recorded across Gulf's system. The adjusted MAIFIe results by region show that the Eastern region once again had the lowest frequency of momentary events on primary feeders. The Central region has the highest MAIFIe index in 2011, with a 20 percent improvement from the Western region in 2010. The data suggests that the level of service reliability for the highest, average, and lowest MAIFIe are all continuing to trend downwards, suggesting improvement.

Figure 3-29. MAIFIe across Gulf's Three Regions (Adjusted)

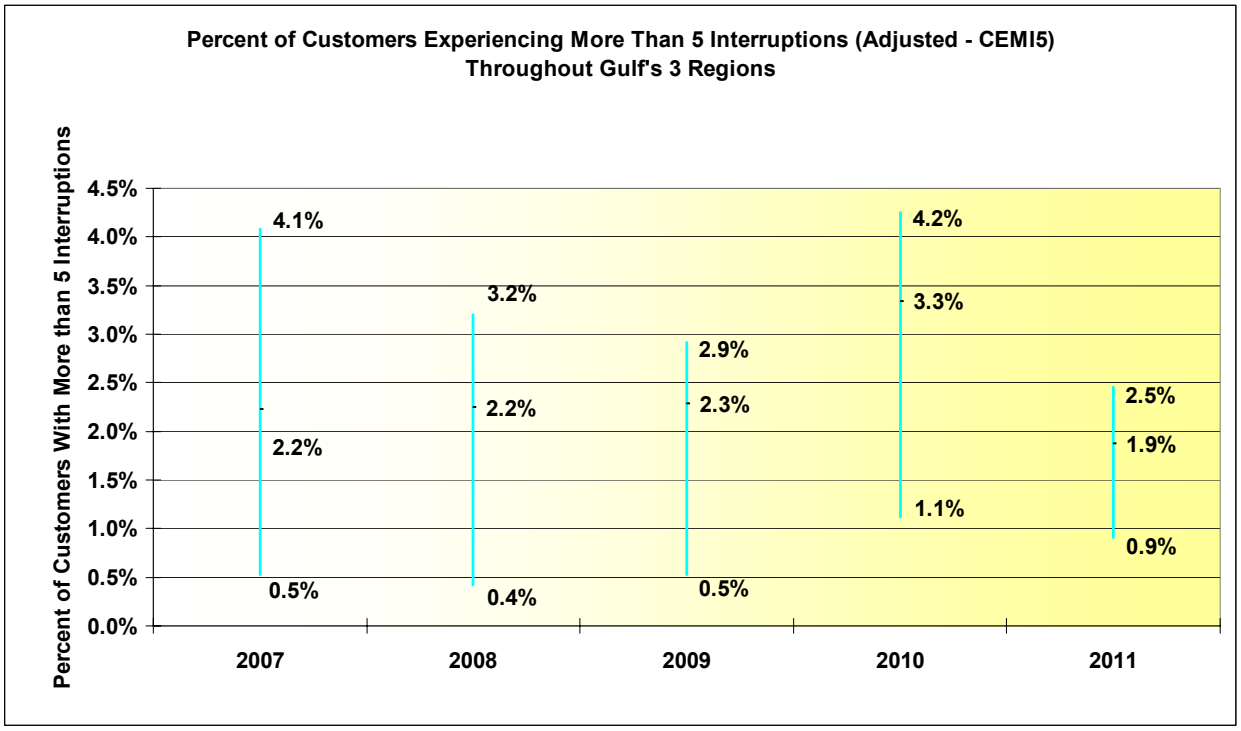


Gulf's Regions with the Highest and Lowest Adjusted MAIFIe Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest MAIFIe	Central	Western	Western	Western	Central
Lowest MAIFIe	Eastern	Eastern	Eastern	Eastern	Eastern

Figure 3-30 shows the highest, average, and lowest adjusted CEMI5 across Gulf's Western, Central and Eastern regions. Gulf's 2011 results illustrate a decrease when compared to 2010. The lowest CEMI5 values are trending upward as the highest CEMI5 values are trending downward over the five-year period of 2007 through 2011. The average CEMI5 appears to be trending upward suggesting that the percentage of Gulf's customers experiencing more than five interruptions is still increasing even though the 2011 results are the lowest results for the five-year period.

Figure 3-30. CEMI5 across Gulf's Three Regions (Adjusted)



Gulf's Regions with the Highest and Lowest Adjusted CEMI5 Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CEMI5	Eastern	Western	Western	Eastern	Eastern
Lowest CEMI5	Central	Central	Central	Central	Central

Figure 3-31 shows the multiple occurrences of feeders using the utility's Three Percent Feeder Report and is analyzed on a three-year and five-year basis. Both the three-year and five-year multiple occurrences analysis showed an increase from the prior trend, which implies declining performance. The Three Percent Feeder Report is a listing of the top three percent of feeders that have the most feeder outage events. The supporting data illustrates that the five-year multiple occurrences have increased from five percent to 11 percent from 2010 to 2011 as the three-year multiple occurrences increased from 11 percent to 15 percent. The five-year period of 2007 to 2011 indicates overall that the five-year index is trending upward. The three-year multiple occurrences index appears to be trending upwards as well.

Figure 3-31. Gulf's Three Percent Feeder Report (Adjusted)

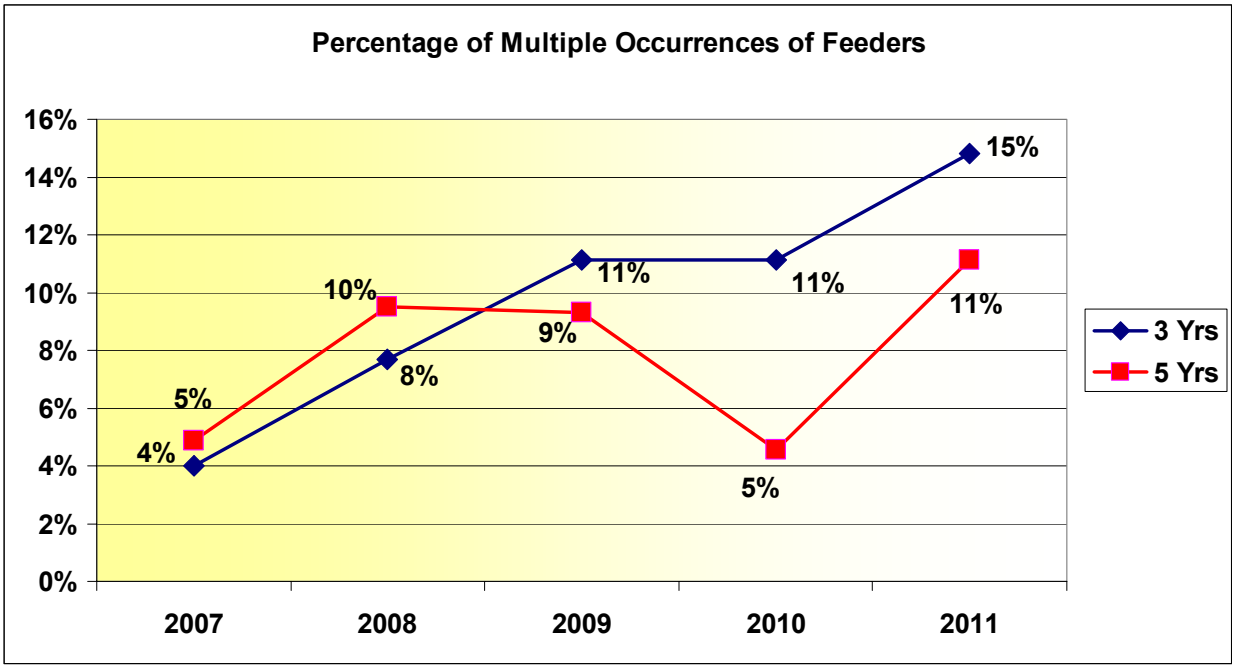
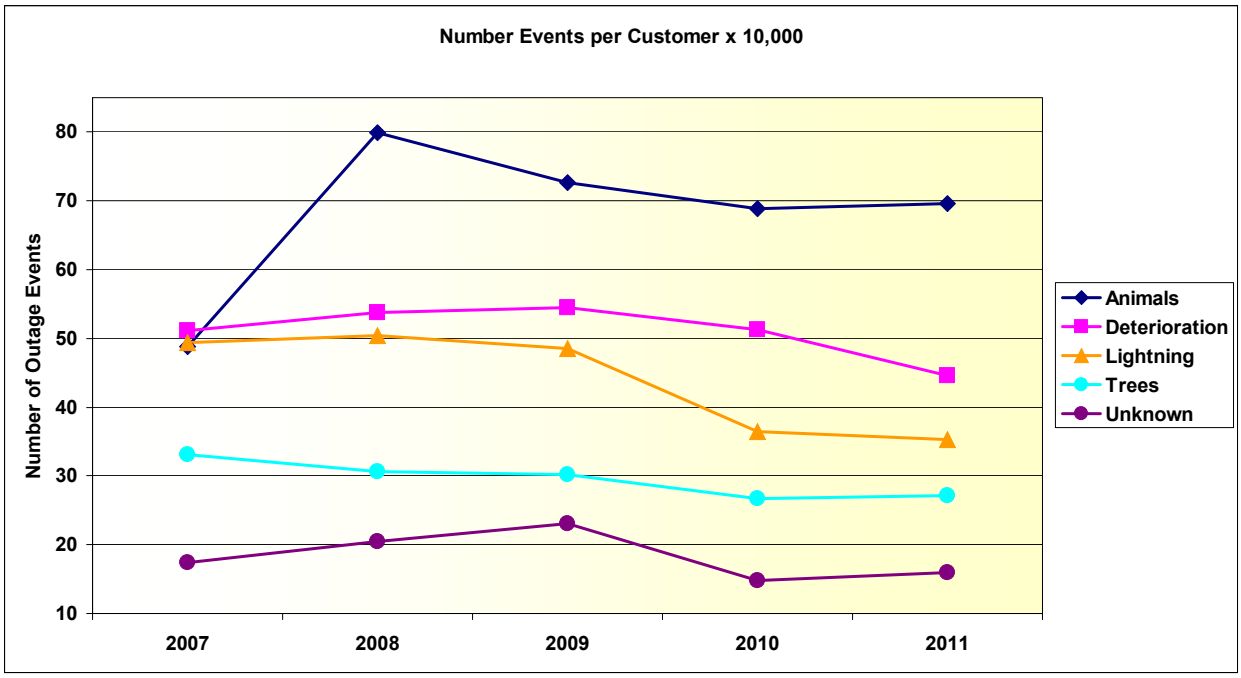


Figure 3-32 is a graph of the top five causes of outage events on Gulf's distribution system normalized to a 10,000-customer base. The figure is based on Gulf's adjusted data of the top ten causes of outage events and represents 86.9 percent of the total adjusted outage events that occurred during 2011. The top five causes of outage events were animals (31 percent), deterioration (20 percent), lightning (16 percent), trees (12 percent), and unknown causes (7 percent). The percentage of outages caused due to animals remains the highest cause of outages. As the number of outage events due to animals is trending upwards, the number of outage events due to deterioration, lightning, unknown, and trees are trending downward.

Figure 3-32. Gulf's Top Five Outage Causes (Adjusted)



Observations: Gulf's Adjusted Data

As Gulf's CAIDI results declined (increased) from 2010 to 2011, the SAIDI and SAIFI indices improved, indicating reduced outages in duration and frequency. There were also improvements seen in MAIFIe, CEMI5, and L-Bar service reliabilty indices in 2011. The Three-year percentage of Multiple Feeder Outages Events and the Five-year percentage of Multiple Feeder Outages Events results indicate increased re-occurences of feeder events for 2011.

Gulf reports that its distribution system was impacted by several storm events which did meet the exclusion criteria.[28] It also seeks improvements in the distribution reliability by implementing a program to track distribution feeder lock-outs, recognize root causes and identify systems or procedures that could prevent future feeder lock-outs.[29] Gulf continues its pro-active employee and Forestry Services department notifications implemented in 2009, concerning vegetation problems.[30]

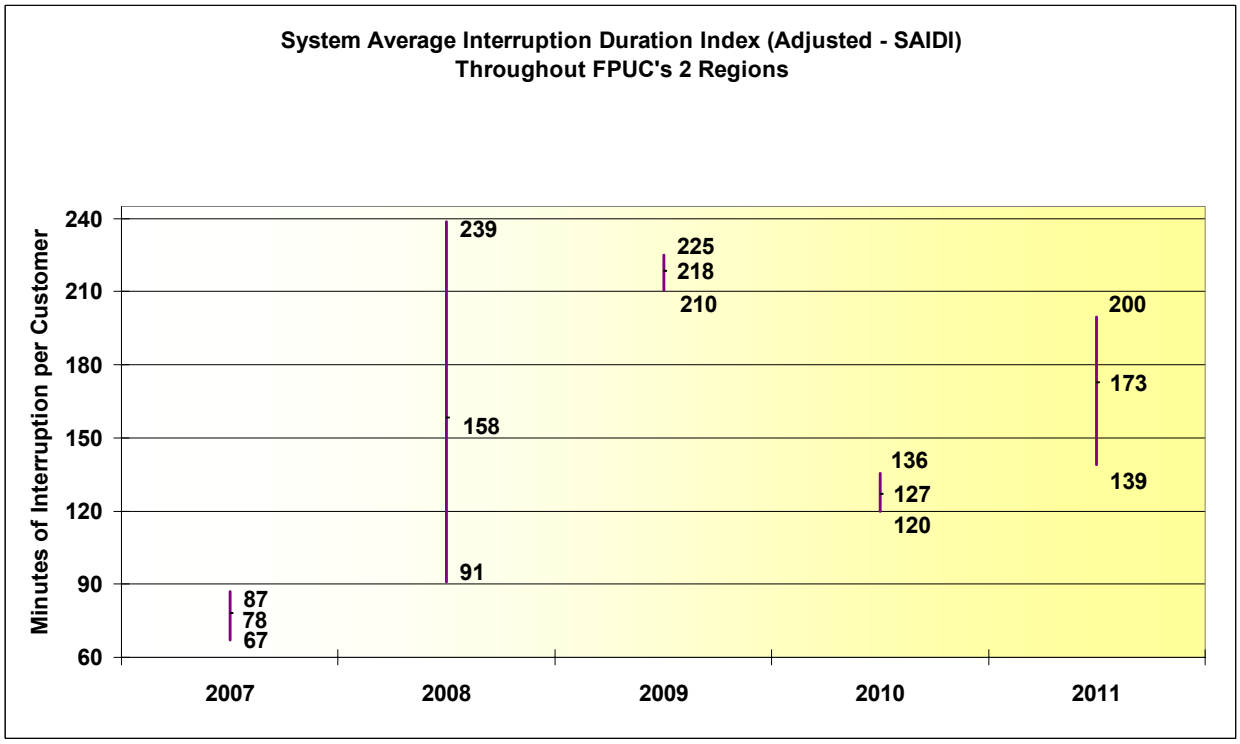
[28] Critical Review of Detailed Reliability Data, page 22, Gulf Reliability Report filed February 29, 2012.
[29] Overall Performance, page 38, Gulf Reliability Report filed February 29, 2008.
[30] Overall Performance, page 32, Gulf Reliability Report filed February 26, 2010.

Florida Public Utilities Company: Adjusted Data

FPUC has two electric divisions, the Northwest (NW) Division, also referred to as Marianna and the Northeast (NE) Division, also referred to as Fernandina Beach. Each division's result is reported separately because the two divisions are 250 miles apart and not directly interconnected. Although the divisions may supply resources to support one another during emergencies, each division has diverse situations to contend with making it difficult to compare the division's results and form a conclusion as to response and restoration time.

Figure 3-33 shows the highest, average, and lowest adjusted SAIDI values recorded by FPUC's system. The data shows the average SAIDI index is trending upward for the five-year period of 2007 to 2011. FPUC's 2011 Reliability Report notes that the NW Division experienced "several outages as a result of the remnants of Tropical Storm Lee"[31] and a tornado on April 28, 2011. The NE Division experienced a significant weather event on September 6, 2011. This weather event was not a named storm, so it was not excluded.

Figure 3-33. SAIDI across FPUC's Two Regions (Adjusted)



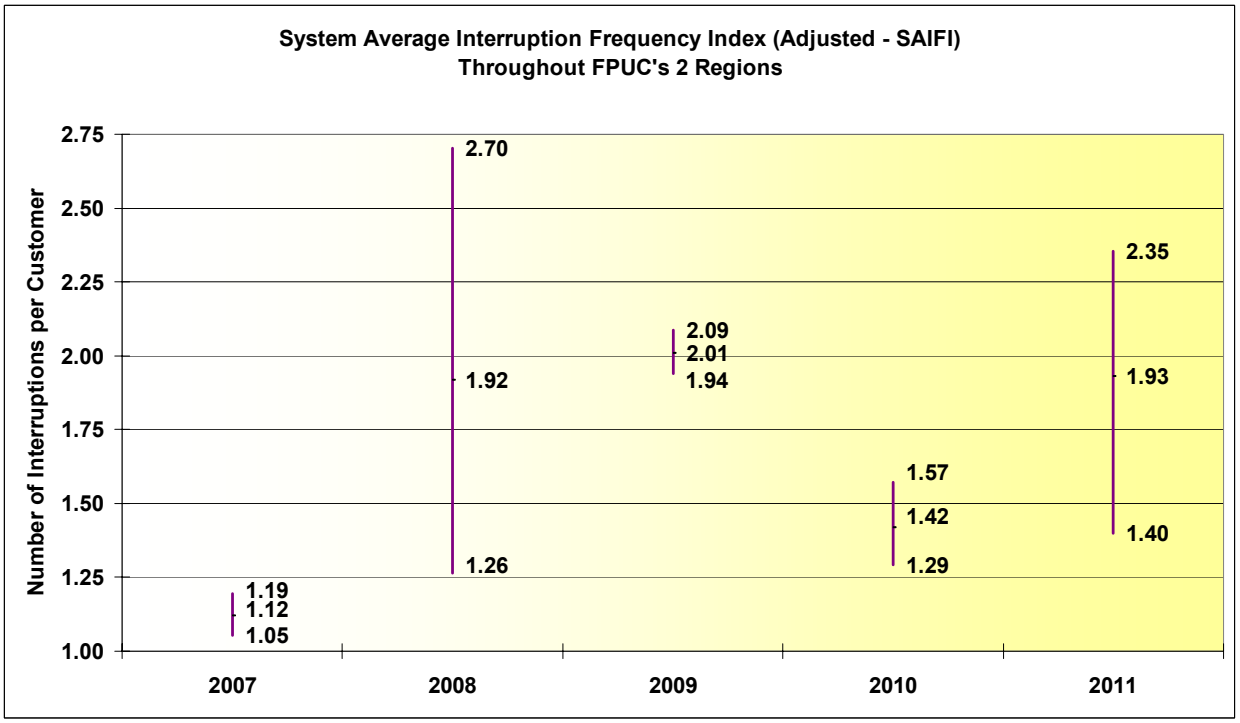
FPUC's Regions with the Highest and Lowest Adjusted SAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIDI	Fernandina (NE)	Marianna (NW)	Fernandina (NE)	Marianna (NW)	Fernandina (NE)
Lowest SAIDI	Marianna (NW)	Fernandina (NE)	Marianna (NW)	Fernandina (NE)	Marianna (NW)

[31] Named Storms and Tornados, page 20, FPUC Reliability Report filed March 1, 2012.

Figure 3-34 shows the adjusted SAIFI across FPUC's two divisions. The data depicts a 26 percent increase in the 2011 average SAIFI reliability index from 2010. The data for the maximum, minimum, and average SAIFI indices are all trending upward showing a decline in the index over the five-year period of 2007 to 2011.

Figure 3-34. SAIFI across FPUC's Two Regions (Adjusted)

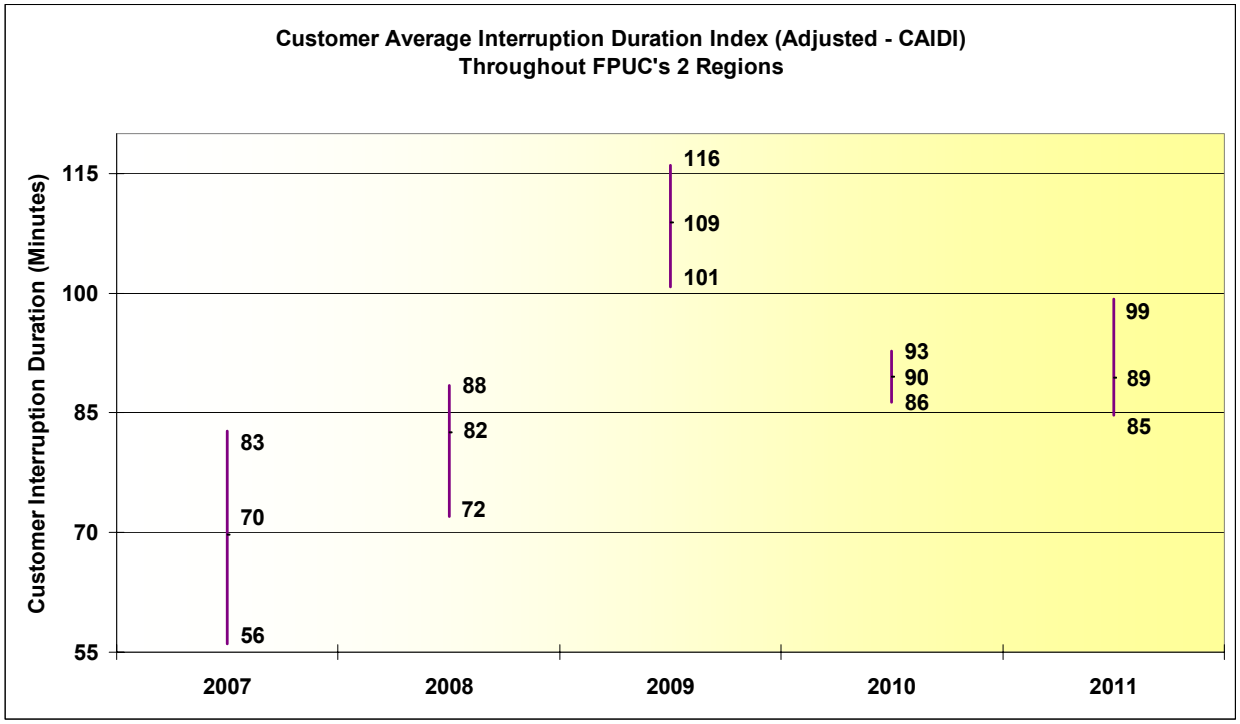


FPUC's Regions with the Highest and Lowest Adjusted SAIFI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest SAIFI	Marianna (NW)	Marianna (NW)	Marianna (NW)	Marianna (NW)	Fernandina (NE)
Lowest SAIFI	Fernandina (NE)	Fernandina (NE)	Fernandina (NE)	Fernandina (NE)	Marianna (NW)

Figure 3-35 shows the highest, average, and lowest adjusted CAIDI values across FPUC's system. FPUC's data shows a one percent decrease in the 2011 reliability indices relative to 2010 values. For the past five years, the maximum CAIDI index, the minimum CAIDI index, and the average CAIDI index are all trending upward.

Figure 3-35. CAIDI across FPUC's Two Regions (Adjusted)



FPUC's Regions with the Highest and Lowest Adjusted CAIDI Distribution Reliability Performance by Year

	2007	2008	2009	2010	2011
Highest CAIDI	Fernandina (NE)	Marianna (NW)	Fernandina (NE)	Fernandina (NE)	Marianna (NW)
Lowest CAIDI	Marianna (NW)	Fernandina (NE)	Marianna (NW)	Marianna (NW)	Fernandina (NE)

Figure 3-36 is the average length of time FPUC spends recovering from outage events (adjusted L-Bar). There was a 17 percent increase in the L-Bar value from 2010 to 2011. The data for the five-year period of 2007 to 2011 suggests that the L-Bar indices are trending upwards.

Figure 3-36. FPUC's Average Duration of Outages (Adjusted)

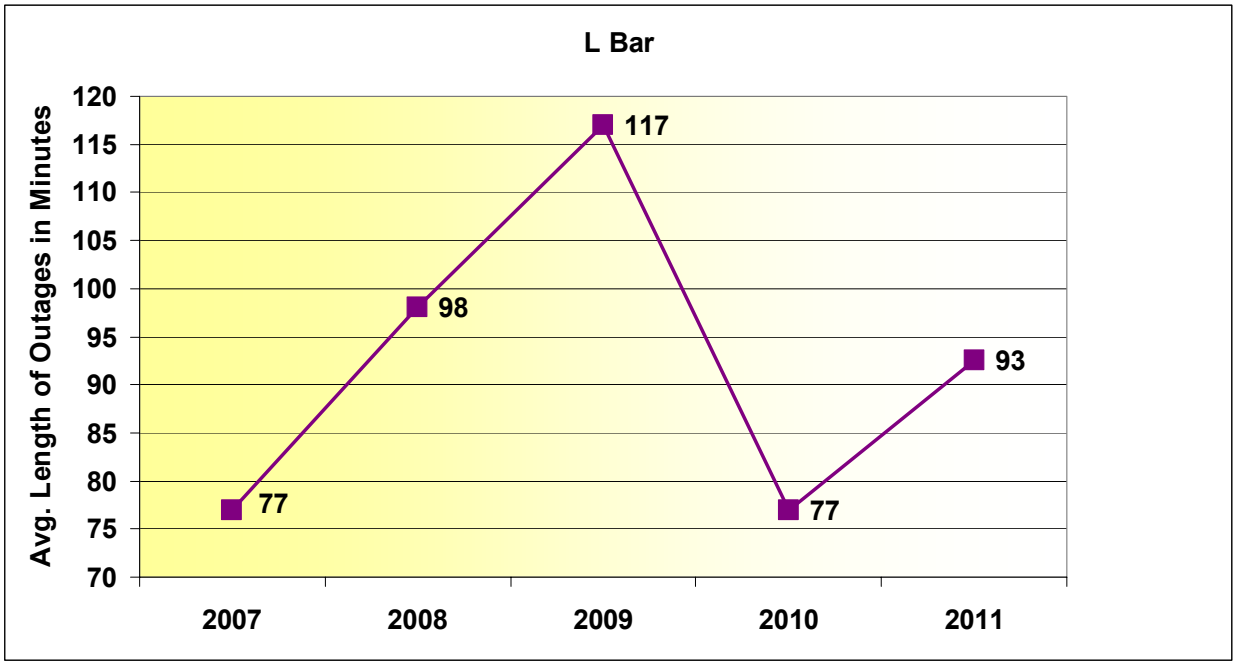
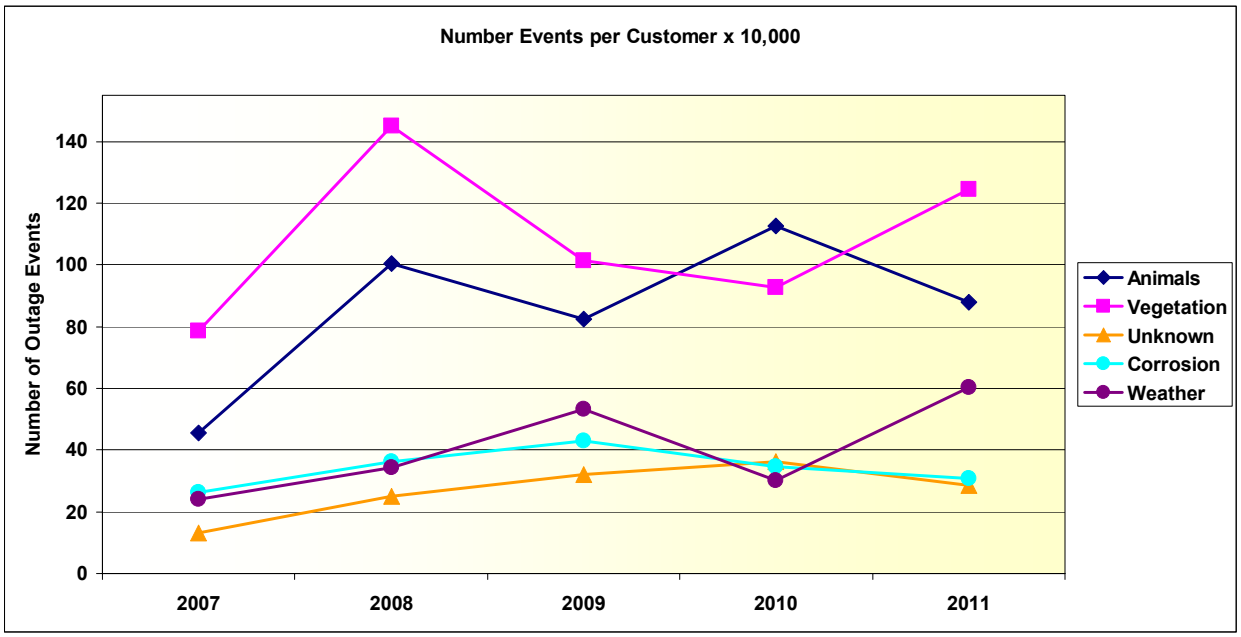


Figure 3-37 shows the top five causes of outage events on FPUC's distribution system normalized to a 10,000-customer base. The figure is based on FPUC's adjusted data of the top ten causes of outages. For 2011, the top five causes of outage events were vegetation (33 percent), animals (23 percent), weather (16 percent), unknown (8 percent), and corrosion (8 percent). These five factors represent 86.9 percent of the total adjusted outage causes in 2011. Four of the five outage causes are trending upward. The four causes are animals, vegetation, unknown, and weather. Animals and unknown outages did decrease from 2010 to 2011, even though they are trending upward. Vegetation and weather outages increased 25 percent and 50 percent, respectively, from 2010 to 2011. Even though the corrosion caused outages decreased from 2010 to 2011, corrosion outages remain relatively flat over the five-year period of 2007 to 2011.

Figure 3-37. FPUC's Top Five Outage Causes (Adjusted)



FPUC filed a Three Percent Feeder Report listing the top three percent of feeders with the outage events for 2011. FPUC has so few feeders that the data in the report has not been statistically significant. There were two feeders on the Three Percent Feeder Report, one in each division. The 2011 report listed one feeder from the 2008 report and the 2010 report that would qualify for the top three percent with the most outage events.

Observations: FPUC's Adjusted Data

The SAIDI, SAIFI, and L-Bar average indices have increased compared to 2010, as the CAIDI average index decreased. For the five-year period of 2007 to 2011, the average indices for SAIDI, SAIFI, CAIDI, and L-Bar are all trending upwards.

FPUC does not have to report MAIFIe or CEMI5 because Rule 25-6.0455, F.A.C., waives the requirement. The cost for the information systems necessary to measure MAIFIe and CEMI5 has a higher impact on small utilities compared to large utilities on a per customer basis.

Section IV. Inter-Utility Reliability Comparisons

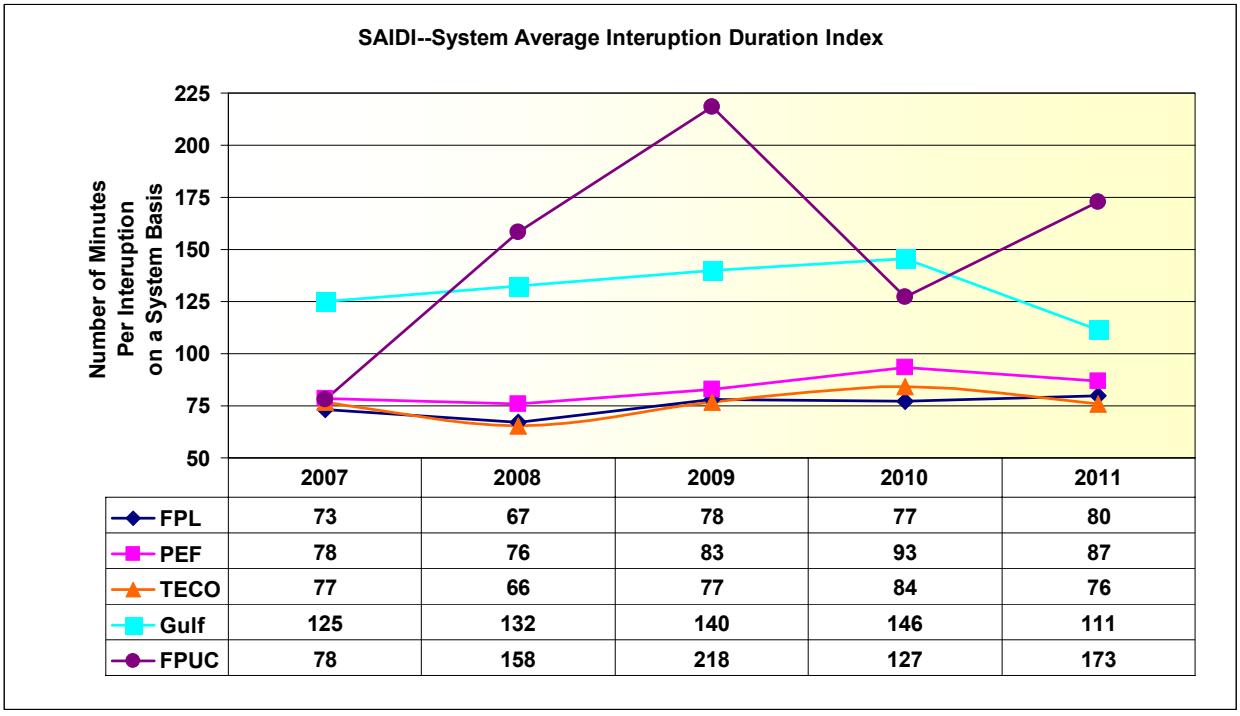
Section IV contains comparisons of the utilities' adjusted data for the various reliability indices that were reported. It also contains a comparison of the service reliability related complaints received by the Commission.

Inter-Utility Reliability Trend Comparisons: Adjusted Data

The inter-utility trend comparison focuses on a graphical presentation that combines all of the IOUs' distribution reliability indices for the years 2007 through 2011. **Figures 4-1** through **4-3** apply to all five utilities while **Figures 4-4 and 4-5** do not apply to FPUC because it is not required to report MAIFIe and CEMI5 due to the size of its customer base. The adjusted data is used in generating the indices in this report. It is based on the exclusion of certain events allowed by Rule 25-6.0455(4), F.A.C. Generalizations can be drawn from the side-by-side comparisons; however, any generalizations should be used with caution due to the differing sizes of the distribution systems, the degree of automation, and the number of customers. The indices are unique to each IOU.

Figure 4-1 represents the SAIDI and it represents the average minutes of service interruption on a distribution system. This is the duration of an interruption per retail customer served within a specified area of service over a given period. It is determined by dividing the total Customer Minutes of Interruption (CMI) by total Number of Customers Served (C) for the respective area of service.

Figure 4-1. System Average Interruption Duration (Adjusted SAIDI)



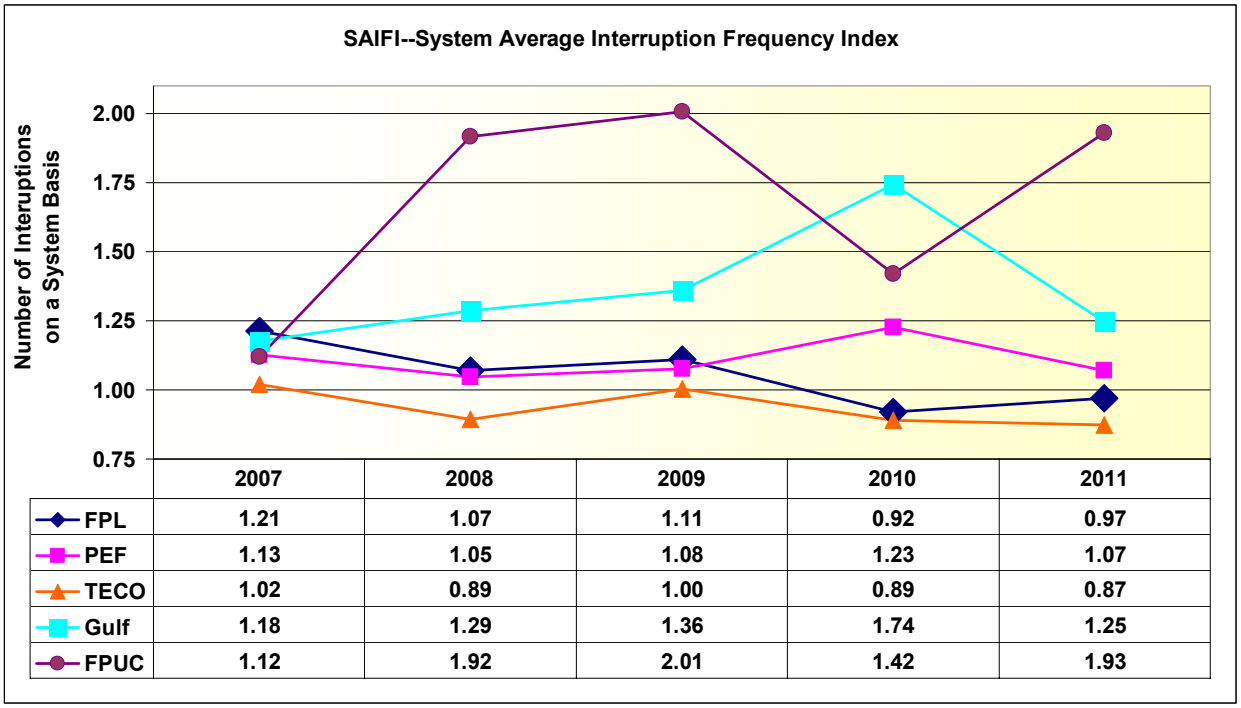
	2007	2008	2009	2010	2011
FPL	73	67	78	77	80
PEF	78	76	83	93	87
TECO	77	66	77	84	76
Gulf	125	132	140	146	111
FPUC	78	158	218	127	173

Figure 4-1 indicates that PEF and TECO's SAIDI trends have gradually risen since 2007. FPL and Gulf's trend has been primarily flat while FPUC appears to be trending upwards. Comparing 2010 SAIDI indices to 2011 SAIDI indices, PEF, TECO, and Gulf's indices have fallen 6 percent, 10 percent, and 24 percent respectively. FPL and FPUC's SAID indices have risen 4 percent and 27 percent, respectively, from 2010 to 2011.

Figure 4-2 is a five-year graph of the adjusted SAIFI for each IOU. The 2011 data shows PEF, TECO, and Gulf's SAIFI indices decreased (improved) from the 2010 results as FPL and FPUC's SAIFI indices increased. Even though FPL's SAIFI increased from 2010 to 2011, over the five-year period of 2007 to 2011, FPL's SAIFI is trending downwards, along with TECO's SAIFI. Gulf and FPUC's SAIFI indices are trending upwards for the period of 2007 to 2011. Staff notes that PEF's SAIFI is trending marginally upwards for the same period.

SAIFI is the average number of service interruptions per retail customer within a specified area of service over a given period. It is determined by dividing the Sum of Service (aka Customer) Interruptions (CI) by the total Number of Customers Served (C) for the respective area of service.

Figure 4-2. Number of Service Interruptions (Adjusted SAIFI)

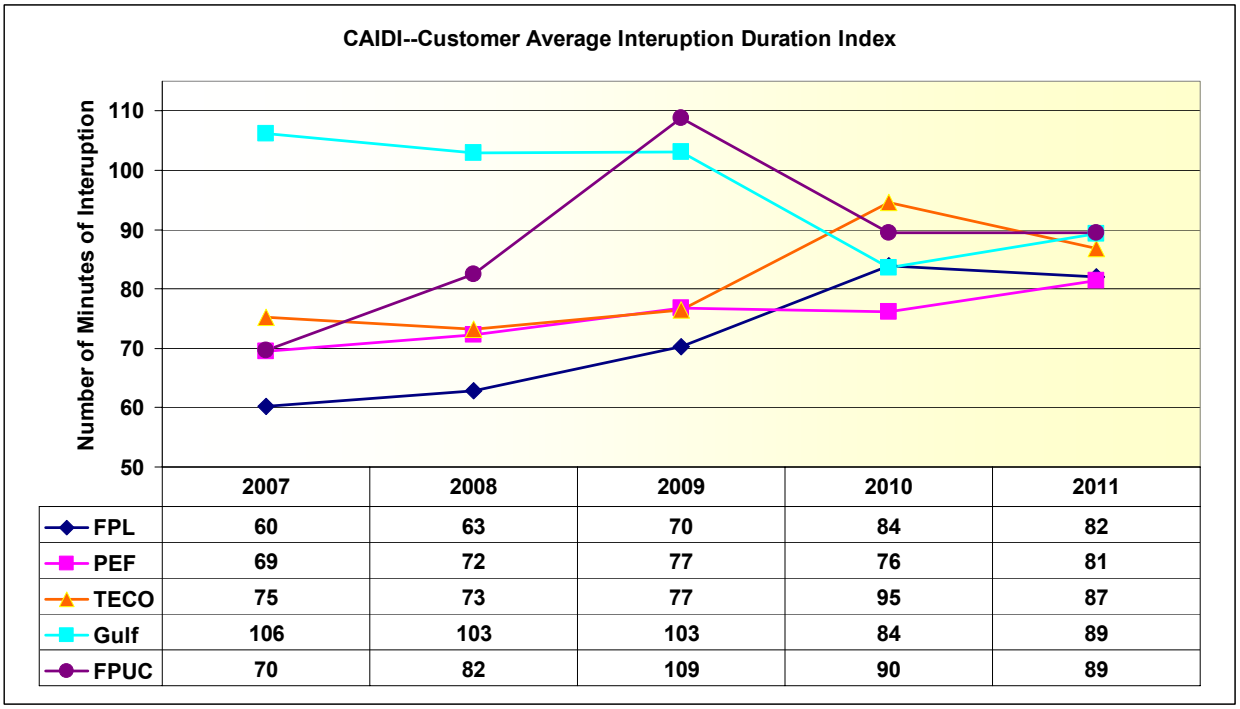


	2007	2008	2009	2010	2011
FPL	1.21	1.07	1.11	0.92	0.97
PEF	1.13	1.05	1.08	1.23	1.07
TECO	1.02	0.89	1.00	0.89	0.87
Gulf	1.18	1.29	1.36	1.74	1.25
FPUC	1.12	1.92	2.01	1.42	1.93

Figure 4-3 is a five-year graph of the adjusted CAIDI for each IOU. FPL, TECO, and FPUC had a decrease in the CAIDI from 2010 to 2011 while PEF and Gulf had an increase in the CAIDI. Even though FPL, TECO, and FPUC had a decrease in the CAIDI, these companies along with PEF have CAIDI indices that are trending upwards for the five-year period of 2007 to 2011. Gulf is trending downwards even though it had an increase in the CAIDI for 2011.

CAIDI is the average interruption duration or the time to restore service to interrupted customers. CAIDI is calculated by dividing the total system customer minutes of interruption (CMI) by the number of customer interruptions (CI) which is also SAIDI divided by SAIFI.

Figure 4-3. Average Service Restoration Time (Adjusted CAIDI)

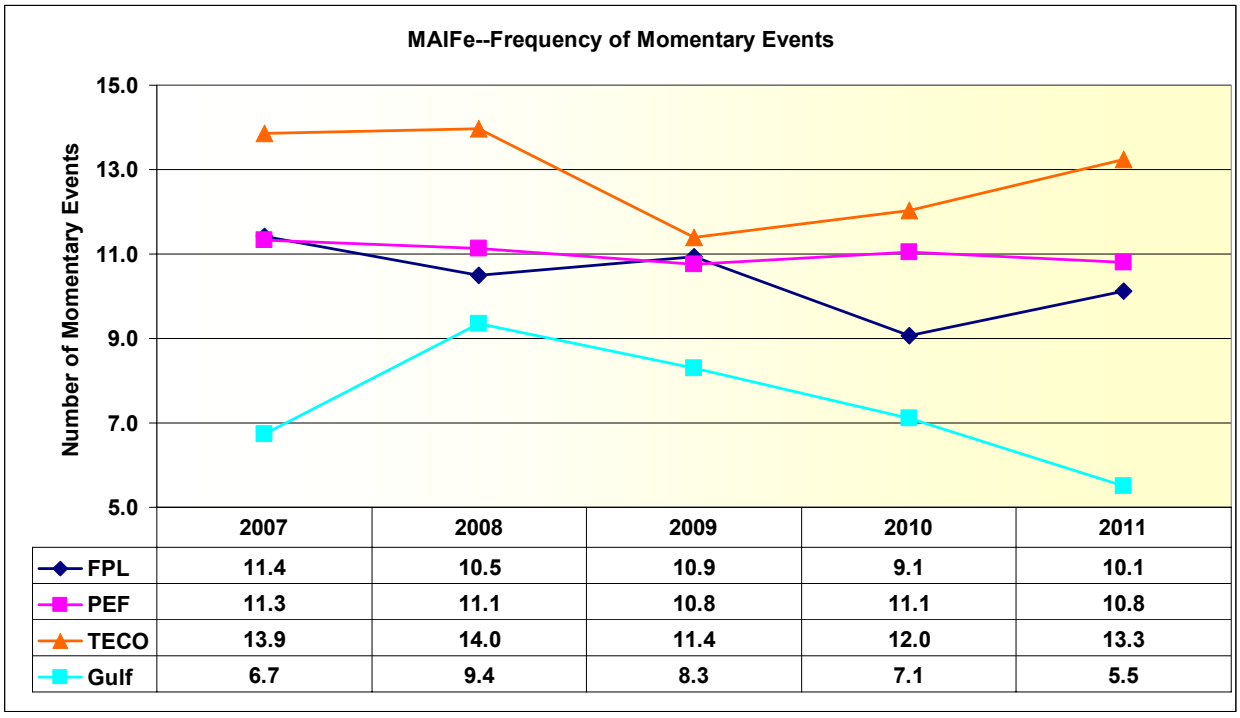


	2007	2008	2009	2010	2011
FPL	60	63	70	84	82
PEF	69	72	77	76	81
TECO	75	73	77	95	87
Gulf	106	103	103	84	89
FPUC	70	82	109	90	89

Figure 4-4 shows a five-year graph of the adjusted MAIFIe for FPL, PEF, TECO and Gulf. All four companies' MAIFIe indices are trending downwards for the five-year period of 2007 to 2011. Comparing the MAIFIe for 2010 and 2011, FPL and TECO increased 10 percent while PEF and Gulf decreased 3 percent and 23 percent, respectively. FPUC is exempt from reporting MAIFIe and CEMI5 because it has fewer than 50,000 customers.

MAIFIe is the average frequency of momentary interruptions or the number of times there is a loss of service of less than one minute. MAIFIe is calculated by dividing the number of momentary interruptions events recorded on primary circuits (CME) by the number of customers served (C).

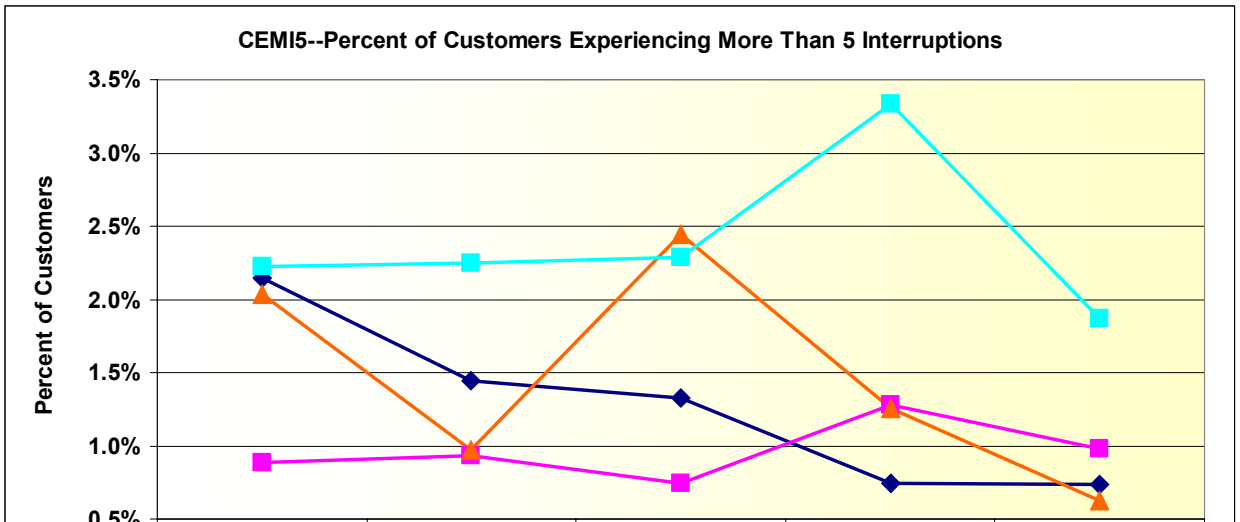
Figure 4-4. Average Number of Feeder Momentary Events (Adjusted MAIFIe)



	2007	2008	2009	2010	2011
FPL	11.4	10.5	10.9	9.1	10.1
PEF	11.3	11.1	10.8	11.1	10.8
TECO	13.9	14.0	11.4	12.0	13.3
Gulf	6.7	9.4	8.3	7.1	5.5

Figure 4-5 is a five-year graph of the adjusted CEMI5 for FPL, Gulf, PEF and TECO. CEMI5 is a percentage. It represents the number of customers that experienced more than five service interruptions in the year divided by the total number of customers. The adjusted CEMI5 decreased to 1.9 percent for Gulf in 2011 compared to 3.3 percent in 2010. FPL's CEMI5 stayed the same for 2011 and 2010. PEF's trend continues upward and even though the 2011 CEMI5 decreased, compared to 2010. TECO's CEMI5 had a significant decrease in the percent of customers experiencing more than five interruptions in 2011 from its 2010 results.

Figure 4-5. Percent of Customers with More Than Five Interruptions (Adjusted CEMI5)



	2007	2008	2009	2010	2011
FPL	2.1%	1.4%	1.3%	0.7%	0.7%
PEF	0.9%	0.9%	0.7%	1.3%	1.0%
TECO	2.0%	1.0%	2.4%	1.3%	0.6%
Gulf	2.2%	2.2%	2.3%	3.3%	1.9%

Figure 4-6 shows the number of outages per 10,000 customers on an adjusted basis for the five IOUs over the last five years. The graph explains each utility's adjusted data concerning the number of outage events and the total number of customers on an annual basis. The number of FPL outages increased to 98,780 from 95,654 in 2010 and the number of outages per 10,000 customers increased slightly for the five-year period. TECO's results remain flat for the five-year period. PEF's number of outages rose slightly for 2011 and is trending upwards for the five-year period. Gulf's number of outages have been decreasing since 2008 and continue to trend downwards. FPUC's results increased sharply in 2008, declined in 2009 and 2010, and then increased again for 2011. Due to the small customer base, the line graph for FPUC could be subject to greater volatility.

Figure 4-6. Number of Outages per 10,000 Customers (Adjusted)

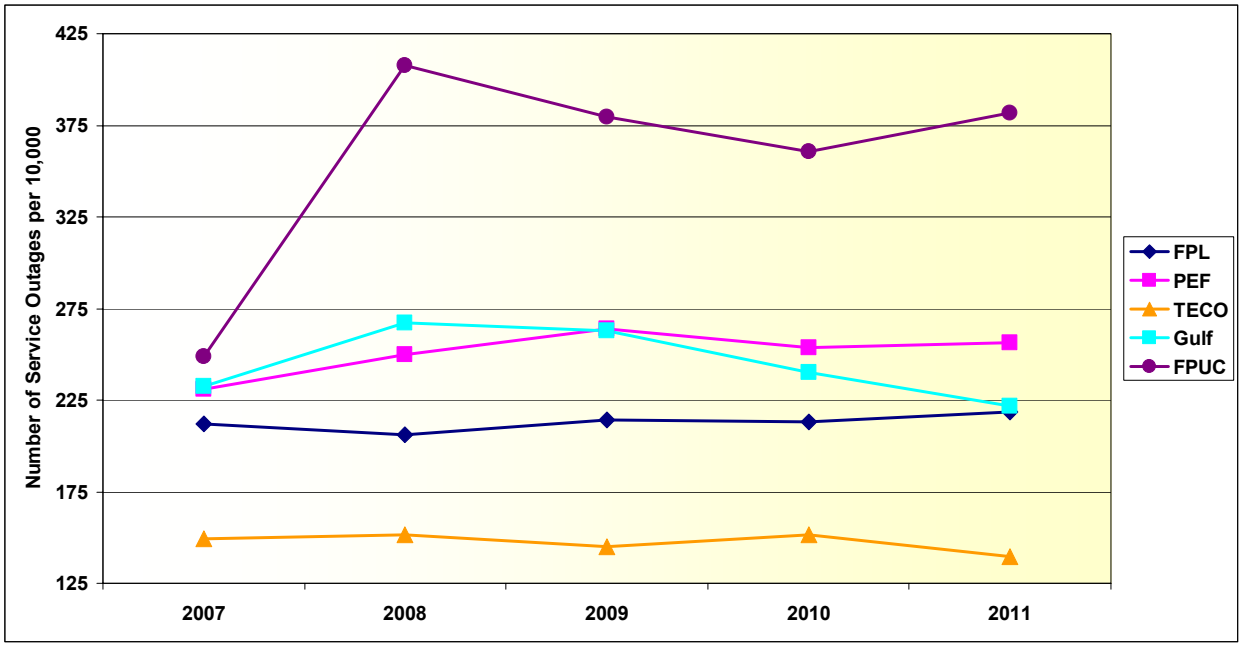
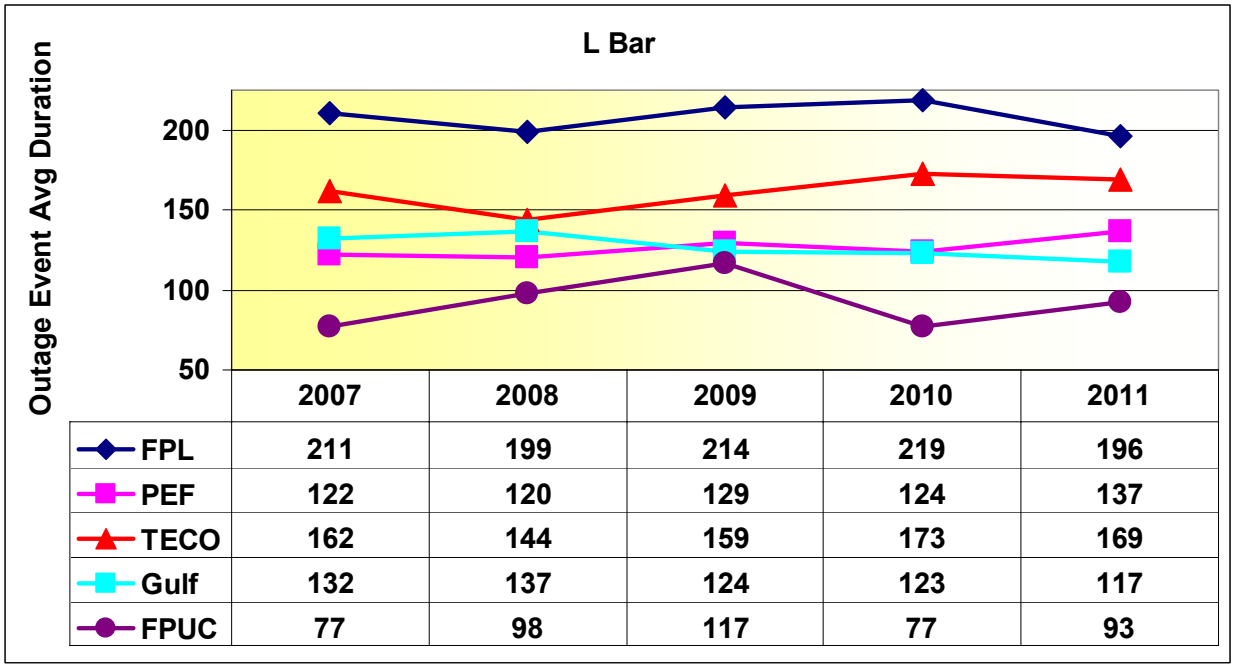


Figure 4-7 represents the average duration of outage events (Adjusted L-Bar) for each IOU. FPL's average outage duration remains higher than the other IOUs and appears to be increasing with the category "Equipment Failure" representing approximately 35 percent of FPL's outages. Correspondingly, PEF's outages appear to be increasing with 34.1 percent of the outages attributed to animals (18.3%) and all other (15.8%). Gulf and TECO L-Bar values decreased in 2011. FPUC's L Bar increased in 2011 with vegetation representing 32.6 percent of the outages.

Figure 4-7. Average Duration of Outage Events (Adjusted L-Bar)



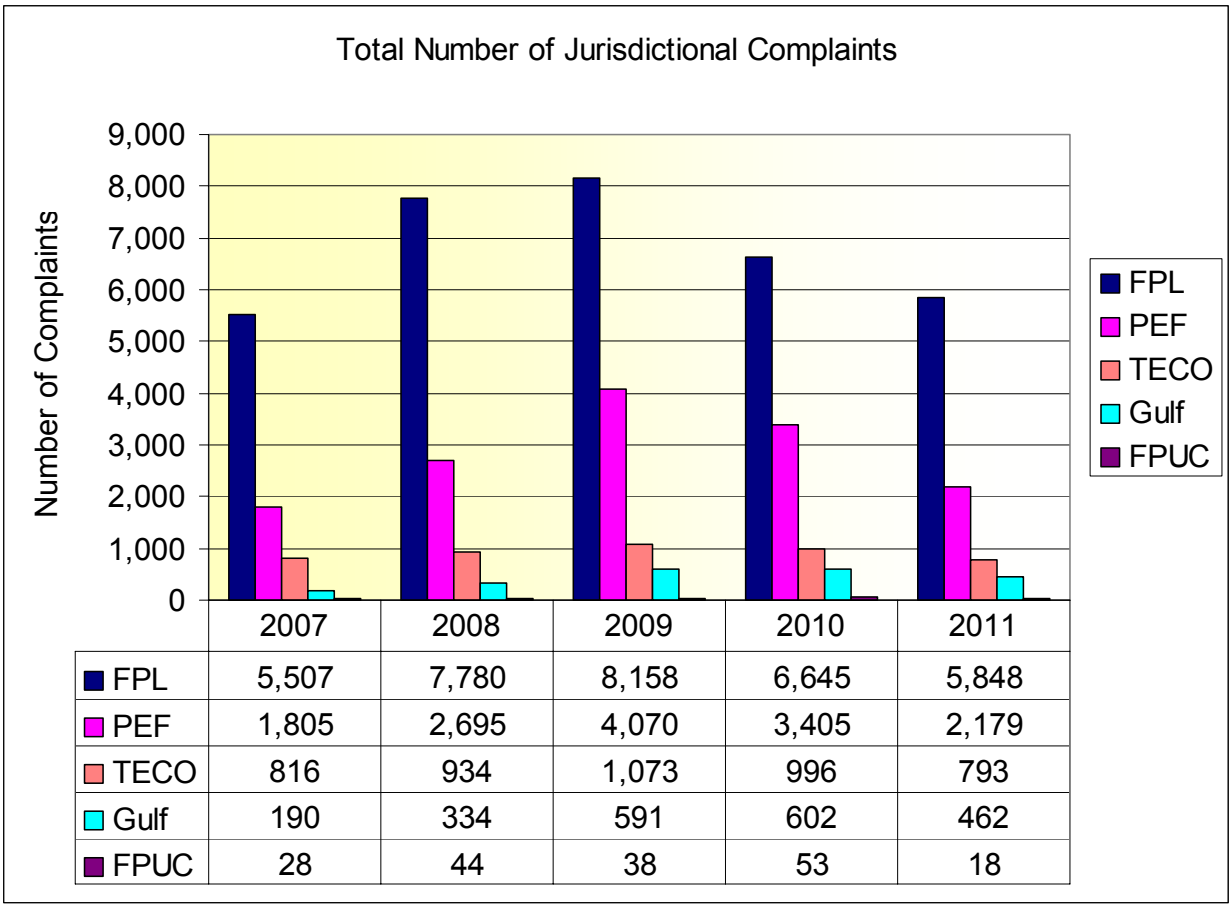
	2007	2008	2009	2010	2011
FPL	211	199	214	219	196
PEF	122	120	129	124	137
TECO	162	144	159	173	169
Gulf	132	137	124	123	117
FPUC	77	98	117	77	93

Inter-Utility Comparisons of Reliability Related Complaints

Figures 4-8, 4-9, and 4-10 represent consumer complaint data that was extracted from the Commission's Consumer Activity Tracking System (CATS). Each consumer complaint received by the Commission is assigned an alphanumeric category after the complaint is resolved. Reliability related complaints have 15 specific category types and typically pertain to trees, safety, repairs, frequent outages and momentary service interruptions. The "quality of service" category was established in July 2003, resulting in a shift of some complaints that previously would have been coded in another complaint category[32].

Figure 4-8 shows the total number of jurisdictional complaints for each IOU. In comparing the number of complaints by the different companies, the total number of customers should be considered. FPL is showing more complaints, but FPL also has more customers then the other companies.

Figure 4-8. TOTAL NUMBER OF JURISDICTIONAL COMPLAINTS

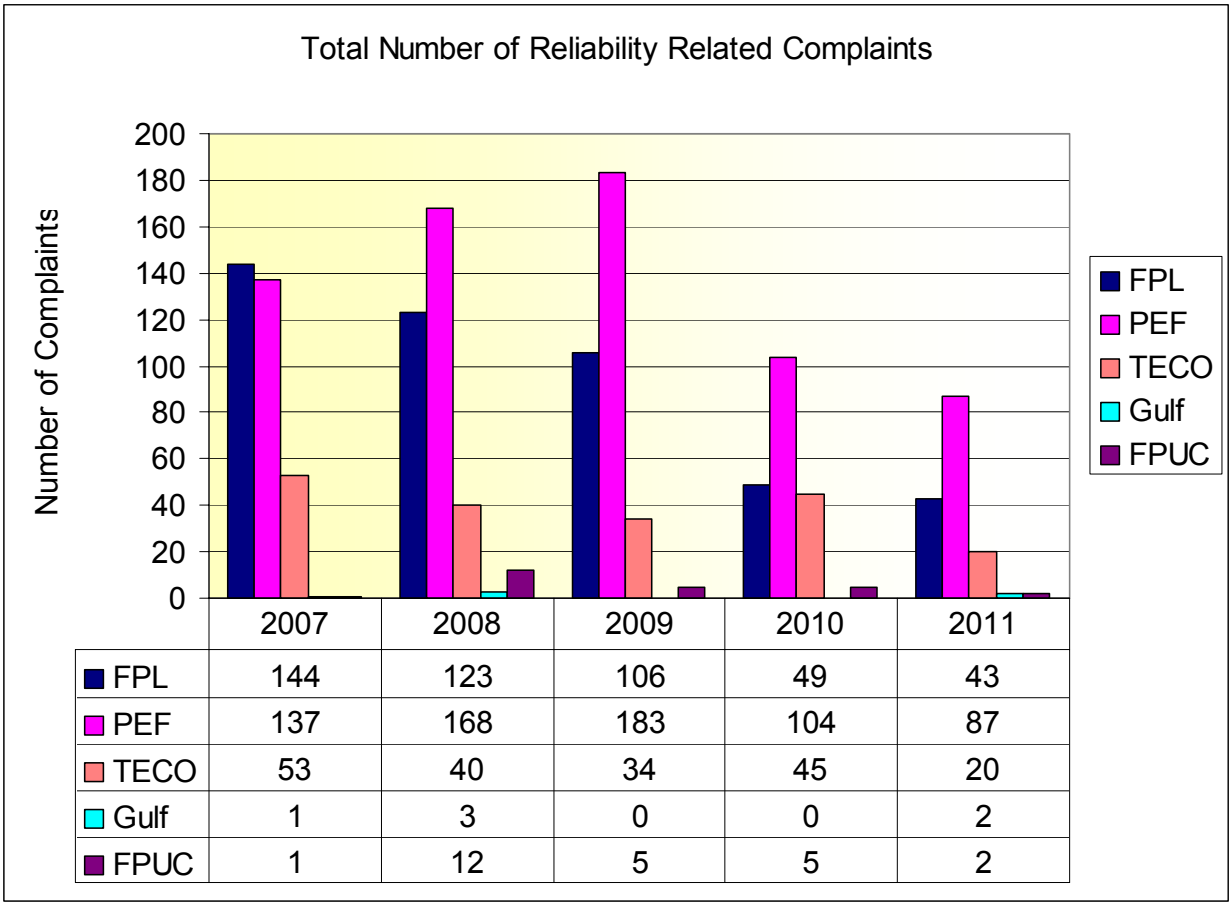


	2007	2008	2009	2010	2011
FPL	5,507	7,780	8,158	6,645	5,848
PEF	1,805	2,695	4,070	3,405	2,179
TECO	816	934	1,073	996	793
Gulf	190	334	591	602	462
FPUC	28	44	38	53	18

[32] The "Quality of Service" category is applied to the customer service experience of the utility customer and not quality of service that typically has a measureable standard such as a voltage level or frequency. Quality of Service, beginning in 2010, is no longer tabulated as a reliability type complaint.

Figure 4-9 charts the total number of reliability related complaints for the IOUs. PEF is showing the largest amount of reliability complaints for four years over the five year period of 2007 through 2011 with Gulf showing the least amount for three years over the same period. All the companies are trending downwards in the number of reliability complaints per year.

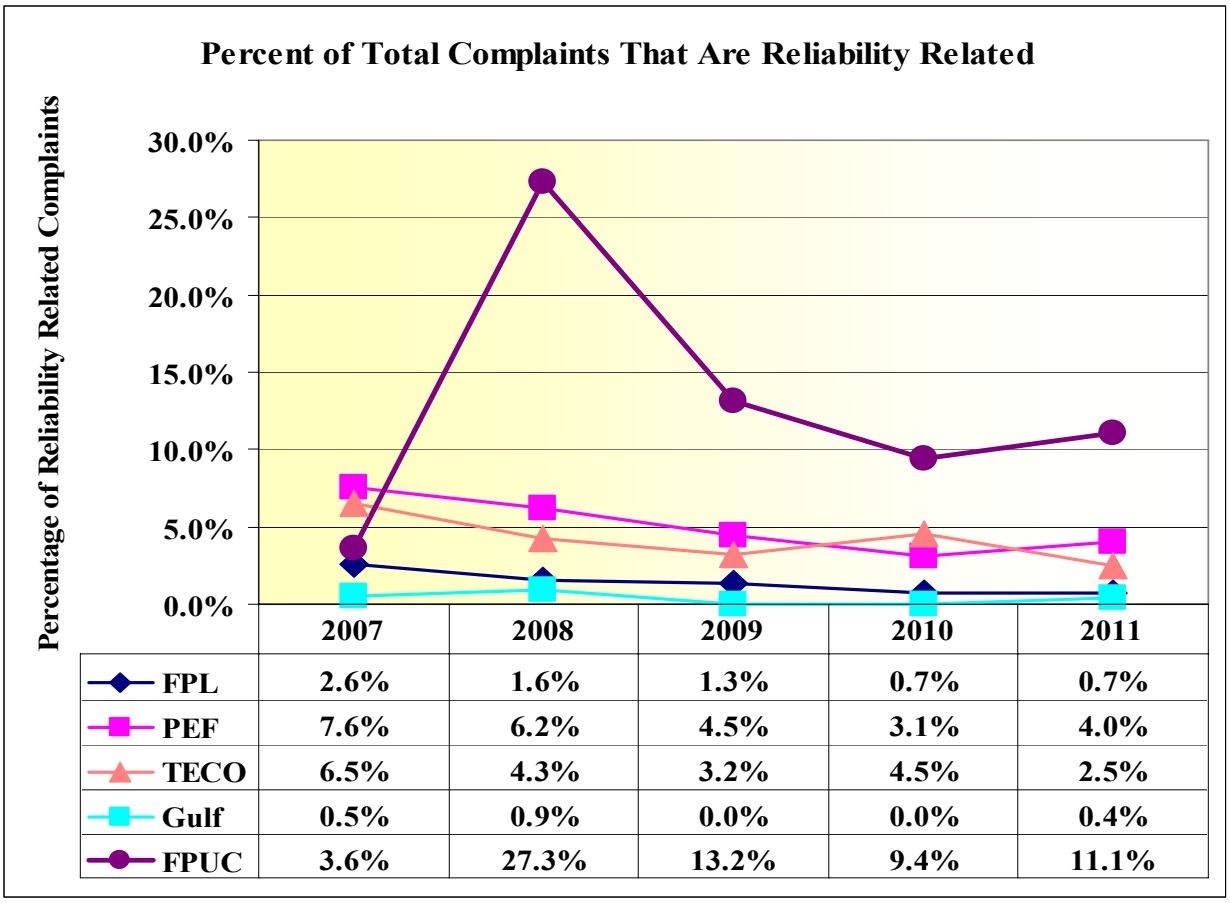
Figure 4-9. TOTAL NUMBER OF RELIABILITY RELATED complaints



	2007	2008	2009	2010	2011
FPL	144	123	106	49	43
PEF	137	168	183	104	87
TECO	53	40	34	45	20
Gulf	1	3	0	0	2
FPUC	1	12	5	5	2

Figure 4-10 shows the percentage of reliability related customer complaints in relation to the total number of complaints for each IOU. All the companies appear to be trending downwards. The percentages of FPUC compared to the other companies appears high, however FPUC has fewer customers and fewer complaints in total.

Figure 4-10. PERCENT OF COMPLAINTS THAT ARE RELIABILITY RELATED



	2007	2008	2009	2010	2011
FPL	2.6%	1.6%	1.3%	0.7%	0.7%
PEF	7.6%	6.2%	4.5%	3.1%	4.0%
TECO	6.5%	4.3%	3.2%	4.5%	2.5%
Gulf	0.5%	0.9%	0.0%	0.0%	0.4%
FPUC	3.6%	27.3%	13.2%	9.4%	11.1%

Section V-Appendices

Appendix A - Adjusted Service Reliability Data

Florida Power & Light Company

Table A-1. FPL's Number of customers (year end)

	2007	2008	2009	2010	2011
Boca Raton	350,336	349,157	349,273	351,056	352,382
Brevard	284,097	282,691	283,298	285,276	286,035
Central Dade	247,429	254,825	257,751	263,305	267,582
Central Florida	265,365	264,699	264,524	266,261	267,930
Ft. Myers	184,719	183,172	184,230	186,626	-
Gulf Stream	318,594	315,782	315,117	317,296	319,478
Manasota	360,152	358,368	357,938	360,971	363,324
North Dade	224,805	223,159	221,592	223,875	225,457
North Florida	138,398	139,271	139,400	140,248	141,303
Naples	236,111	235,816	236,430	239,150	360,786
Pompano	298,881	294,881	294,184	298,007	300,115
South Dade	297,229	295,591	280,926	283,708	286,068
Toledo Blade	168,429	167,401	167,850	169,698	241,111
Treasure Coast	270,525	268,713	269,792	271,429	272,383
West Dade	223,049	221,682	237,215	240,579	242,334
West Palm	340,513	339,105	337,471	339,417	340,898
Wingate	254,455	252,931	251,991	254,976	256,934
FPL System	**4,463,087**	**4,447,244**	**4,448,982**	**4,491,878**	**4,524,120**

Notes: Ft. Myers was split into Naples and Toledo Blade for the 2011 report.

Table A-2. FPL's Adjusted Regional Indices SAIDI, SAIFI, and CAIDI

	Average Interruption Duration Index (SAIDI)					Average Interruption Frequency Index (SAIFI)					Average Customer Restoration Time Index (CAIDI)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Boca Raton	68	54	67	73	58	1.23	1.04	1.29	0.93	0.92	56	52	52	79	63
Brevard	70	76	75	71	115	1.16	1.07	1.18	1.01	1.15	60	71	64	71	100
Central Dade	64	50	75	69	49	1.20	0.94	1.16	0.78	0.68	53	54	65	89	72
Central Florida	84	80	71	69	149	1.49	1.24	1.05	0.91	1.19	56	64	68	76	126
Ft. Myers	75	79	73	79	-	1.26	1.24	1.11	1.09	-	60	63	66	73	-
Gulf Stream	55	54	76	77	55	1.13	1.03	1.03	0.82	0.81	49	52	75	94	68
Manasota	68	73	83	78	67	0.87	1.01	0.94	0.91	0.84	78	72	88	86	80
North Dade	72	62	84	84	67	1.13	0.83	0.89	0.82	0.78	64	75	95	103	86
North Florida	94	129	103	82	131	1.38	1.58	1.30	1.02	1.34	69	82	79	80	98
Naples	59	64	73	92	86	1.12	0.93	0.98	0.86	0.90	53	69	74	107	96
Pompano	61	49	57	71	61	1.03	0.91	0.82	0.79	0.92	59	54	70	90	66
South Dade	96	89	122	88	92	1.42	1.35	1.52	1.04	1.14	67	66	80	84	81
Toledo Blade	74	60	79	78	98	0.96	0.77	1.02	0.96	1.28	77	78	78	81	76
Treasure Coast	94	67	70	79	78	1.31	1.05	1.10	1.01	0.98	72	64	63	79	80
West Dade	78	66	86	88	70	1.40	1.17	1.19	1.15	0.96	56	57	72	77	73
West Palm	70	55	62	67	63	1.21	0.88	0.98	0.78	0.87	58	63	67	85	73
Wingate	76	71	88	81	78	1.50	1.35	1.42	0.97	1.10	51	53	62	83	71
FPL System	**73**	**67**	**78**	**77**	**80**	**1.21**	**1.07**	**1.11**	**0.92**	**0.97**	**60**	**63**	**70**	**84**	**82**

Table A-3. FPL's Adjusted Regional Indices MAIFIe and CEMI5

	Average Frequency of Momentary Events on Feeders (MAIFIe)					Percentage of Customers Experiencing More than 5 Service Interruptions (CEMI5%)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Boca Raton	9.6	8.9	10.6	7.1	8.3	2.28%	0.71%	1.64%	0.37%	0.44%
Brevard	16.6	14.1	13.6	11.1	15.1	0.94%	0.82%	1.09%	0.92%	0.69%
Central Dade	10.2	8.5	9.5	7.1	6.7	1.11%	1.16%	1.32%	0.42%	0.25%
Central Florida	14.1	13.3	12.3	10.7	14.0	1.80%	2.64%	1.16%	0.96%	0.91%
Ft. Myers	11.2	9.4	8.5	8.1	-	1.08%	2.26%	0.82%	0.77%	-
Gulf Stream	9.0	8.5	9.3	7.7	7.8	1.00%	0.46%	1.68%	1.04%	0.37%
Manasota	9.5	9.2	8.5	8.1	8.8	1.08%	1.06%	0.65%	0.74%	0.53%
North Dade	10.0	7.8	8.8	7.2	7.0	2.75%	1.19%	1.08%	0.71%	0.94%
North Florida	12.9	15.9	15.3	13.0	16.4	2.42%	5.54%	2.84%	1.81%	1.67%
Naples	8.3	7.5	7.7	7.2	7.3	4.29%	1.21%	1.04%	0.51%	0.49%
Pompano	7.6	7.2	7.3	5.7	6.9	1.59%	0.92%	0.49%	0.16%	0.49%
South Dade	10.2	8.9	11.0	8.2	8.9	3.32%	2.30%	3.91%	0.67%	1.64%
Toledo Blade	17.1	16.5	18.2	16.3	15.4	3.00%	0.67%	1.15%	0.58%	1.33%
Treasure Coast	17.6	17.5	15.2	13.4	15.1	3.23%	2.17%	1.09%	1.46%	1.25%
West Dade	10.0	9.0	9.7	9.1	8.7	2.89%	1.45%	1.26%	1.07%	0.49%
West Palm	10.8	10.0	10.7	9.0	10.2	1.87%	0.67%	0.82%	0.57%	0.51%
Wingate	13.1	11.0	13.9	10.2	10.9	3.01%	2.02%	1.14%	0.52%	0.67%
FPL System	**11.4**	**10.5**	**10.9**	**9.1**	**10.1**	**2.15%**	**1.45%**	**1.33%**	**0.75%**	**0.74%**

Florida Power & Light Company

Table A-4. FPL's Primary Causes of Outage Events

	Adjusted Number of Outage Events						Adjusted L-Bar Length of Outages				
	2007	2008	2009	2010	2011	Cumulative percentages	2007	2008	2009	2010	2011
Equipment Failure	30,102	29,904	31,933	33,047	28,825	29.2%	256	238	261	273	231
Unknown	12,016	11,639	11,806	11,737	12,404	12.6%	170	164	172	144	137
Vegetation	12,201	13,916	14,866	16,201	18,379	18.6%	206	205	219	215	229
Animals	9,655	10,297	9,343	9,688	11,916	12.1%	115	113	116	109	105
Remaining Causes	4,536	3,841	3,745	5,849	6,072	6.1%	208	207	214	323	259
Other Weather	8,318	6,903	8,185	5,142	7,033	7.1%	164	148	152	148	177
Other	7,343	6,940	7,654	7,297	7,104	7.2%	191	191	191	182	178
Lightning	6,059	4,431	4,292	2,492	1,855	1.9%	306	277	297	285	270
Equipment Connect	2,631	2,442	2,488	3,052	4,176	4.2%	228	208	253	253	174
Vehicle	1,678	1,334	1,088	1,149	1,016	1.0%	228	236	257	250	236
FPL System	**94,539**	**91,647**	**95,400**	**95,654**	**98,780**	**100%**	**211**	**199**	**214**	**219**	**196**

Notes:

(1) "Other" category is a sum of outage events that require a detailed explanation.

(2) "Remaining Causes" category is the sum of many diverse causes of outage events, which individually are not among the top ten causes of outage events, and excludes those identified as "other".

Progress Energy Florida, Inc.

Table A-5. PEF's Number of Customers (Year End)

	2007	2008	2009	2010	2011
North Central	373,325	373,050	370,929	372,724	374,978
North Coastal	192,295	192,498	191,826	192,482	192,477
South Central	411,225	412,576	411,992	417,540	422,041
South Coastal	651,029	652,167	650,613	644,765	647,103
PEF System	**1,627,874**	**1,630,291**	**1,625,360**	**1,627,511**	**1,636,599**

Table A-6. PEF's Adjusted Regional Indices SAIDI, SAIFI, and CAIDI

	Average Interruption Duration Index (SAIDI)					Average Interruption Frequency Index (SAIFI)					Average Customer Restoration Time Index (CAIDI)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
North Central	81	82	81	101	86	1.13	1.13	0.97	1.25	1.06	72	72	83	81	82
North Coastal	144	125	136	145	201	1.61	1.51	1.55	1.65	1.89	90	82	88	88	107
South Central	72	74	71	74	61	1.02	0.96	0.90	1.04	0.83	70	77	79	71	73
South Coastal	61	59	76	86	70	1.05	0.92	1.11	1.21	0.98	58	64	68	71	72
PEF System	78	76	83	93	87	1.13	1.05	1.08	1.23	1.07	69	72	77	76	81

Table A-7. PEF's Adjusted Regional Indices MAIFIe and CEMI5

	Average Frequency of Momentary Events on Feeders (MAIFIe)					Percentage of Customers Experiencing More than 5 Service Interruptions (CEMI5)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
North Central	9.9	10.1	11.1	11.4	11.0	1.08%	1.38%	0.53%	1.21%	0.69%
North Coastal	11.5	10.5	9.8	8.6	9.1	2.75%	3.20%	2.60%	4.33%	4.77%
South Central	10.1	10.5	9.7	8.5	8.5	0.36%	0.42%	0.64%	0.66%	0.43%
South Coastal	12.9	12.3	11.5	13.2	12.7	0.55%	0.34%	0.38%	0.81%	0.38%
PEF System	**11.3**	**11.1**	**10.8**	**11.1**	**10.8**	**0.88%**	**0.94%**	**0.74%**	**1.28%**	**0.98%**

Table A-8. PEF's Primary Causes of Outage Events

	Adjusted Number of Outage Events						Adjusted L-Bar Length of Outages				
	2007	2008	2009	2010	2011	Cumulative percentages	2007	2008	2009	2010	2011
Animals	4,414	5,732	4,589	-	7,686	18.3%	65	66	68	-	70
Storm	3,817	3,538	4,405	3,711	4,470	10.7%	105	101	122	107	131
Tree-Preventable	3,728	3,992	4,827	5,469	4,896	11.7%	113	115	126	128	148
Unknown	3,973	5,472	5,582	4,595	3,429	8.2%	74	77	79	79	81
All Other	3,101	3,168	8,248	12,634	6,614	15.8%	119	113	139	101	144
Defective Equipment	3,144	2,991	3,718	3,681	3,296	7.9%	186	181	183	173	174
Vehicle-Const. Equipment	4,122	4,761	353	326	316	0.8%	166	171	210	208	227
Connector Failure	3,010	2,982	3,244	3,078	2,905	6.9%	102	103	113	113	120
Tree Non-preventable	3,197	3,347	3,474	3,612	4,930	11.8%	133	131	149	140	176
UG Primary	2,566	2,506	2,521	2,175	2,288	5.5%	188	209	228	227	249
Lightning	2,551	2,217	1,525	1,073	1,093	2.6%	131	128	158	187	216
Overload	-	-	-	968	-	-	-	-	-	154	-
PEF System	37,623	40,706	42,486	41,322	41,923	100%	122	120	129	124	137

Note: "All other" category is the sum of diverse causes of outage events which individually are not among the top ten causes of outage events.

Tampa Electric Company

Table A-9. TECO's Number of Customers (Year End)

	2007	2008	2009	2010	2011
Central	180,380	179,224	179,160	179,810	181,797
Dade City	13,778	13,806	13,686	13,692	13,700
Eastern	107,861	107,495	108,206	109,383	109,876
Plant City	53,612	53,925	54,103	54,470	54,725
South Hillsborough	59,315	59,540	60,356	61,530	62,761
Western	187,390	186,062	186,960	187,932	189,200
Winter Haven	67,775	67,243	66,979	67,560	67,222
TECO System	**670,111**	**667,295**	**669,450**	**674,377**	**679,281**

Table A-10. TECO's Adjusted Regional Indices SAIDI, SAIFI, and CAIDI

	Average Interruption Duration Index (SAIDI)					Average Interruption Frequency Index (SAIFI)					Average Customer Restoration Time Index (CAIDI)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Central	62	47	62	64	54	0.84	0.61	0.82	0.73	0.64	75	76	75	88	85
Dade City	127	127	138	135	170	1.74	2.00	1.85	1.65	2.00	73	64	75	82	85
Eastern	77	69	64	67	61	1.11	0.94	0.90	0.70	0.80	70	74	70	96	76
Plant City	128	108	141	144	99	1.54	1.37	1.85	1.48	1.13	83	79	76	97	88
South Hillsbor	74	65	85	101	67	1.12	0.90	0.89	0.89	0.75	66	73	95	114	89
Western	77	70	79	89	91	0.95	0.89	1.01	0.90	0.97	81	78	78	99	94
Winter Haven	66	52	59	79	86	0.91	0.97	0.84	0.99	1.04	72	53	70	80	83
TECO System	**77**	**66**	**77**	**84**	**76**	**1.02**	**0.89**	**1.00**	**0.89**	**0.87**	**75**	**73**	**77**	**95**	**87**

Table A-11. TECO's Adjusted Regional Indices MAIFIe and CEMI5

	Average Frequency of Momentary Events on Feeders (MAIFIe)					Percentage of Customers Experiencing More than 5 Service Interruptions (CEMI5)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Central	11.7	12.4	8.8	10.0	11.2	1.22%	0.29%	1.22%	0.56%	0.60%
Dade City	25.4	16.9	13.4	16.5	15.6	6.13%	5.12%	11.50%	0.60%	0.67%
Eastern	15.8	15.3	12.0	13.0	14.4	2.98%	0.23%	0.59%	1.64%	0.69%
Plant City	19.9	19.0	19.9	14.8	17.6	3.82%	3.84%	11.27%	2.02%	0.85%
South Hillsborough	14.7	15.3	13.3	14.2	13.6	2.45%	1.20%	2.47%	1.05%	0.30%
Western	12.1	12.6	10.4	11.8	12.6	1.97%	0.82%	1.74%	0.73%	0.58%
Winter Haven	13.6	14.2	11.2	11.6	14.5	0.31%	1.00%	1.69%	3.62%	0.80%
TECO System	**13.9**	**14.0**	**11.4**	**12.0**	**13.3**	**2.04%**	**0.97%**	**2.45%**	**1.25%**	**0.62%**

Table A-12. TECO's Primary Causes of Outage Events

	Adjusted Number of Outage Events						Adjusted L-Bar Length Of Outages				
	2007	2008	2009	2010	2011	Cumulative percentages	2007	2008	2009	2010	2011
Lightning	1,921	1,570	1,498	1,226	1,392	14.7%	222	189	82	233	206
Animals	1,708	2,252	1,555	2,040	2,157	22.8%	81	79	198	84	90
Vegetation	2,086	2,035	2,059	1,975	1,806	19.1%	157	147	163	187	207
Unknown	727	703	721	753	849	9.0%	113	113	209	128	128
Other Weather	578	645	636	727	222	2.3%	151	143	149	186	183
Electrical	979	864	1,204	1,380	1,172	12.4%	179	165	181	193	197
Bad Connection	726	785	880	1,090	848	8.9%	188	181	128	227	226
Vehicle	261	220	234	245	285	3.0%	184	181	145	219	218
Defective Equipment	508	511	396	245	196	2.1%	219	202	203	147	161
All Other	254	249	235	206	223	2.4%	152	151	155	146	138
Down Wire	249	264	301	336	325	3.4%	170	158	-	218	174
TECO System	**9,997**	**10,098**	**9,719**	**10,223**	**9,475**	**100%**	**162**	**144**	**159**	**173**	**169**

Notes:

(1) "All other" category is the sum of many diverse causes of outage events which individually are not among the top ten causes of outage events.

(2) Blanks are shown for years where the numbers of outages were too small to be among the top ten causes of outage events.

Gulf Power Company

Table A-13. Gulf's Number of Customers (Year End)

	2007	2008	2009	2010	2011
Central	109,817	109,168	109,250	110,040	111,168
Eastern	109,410	110,191	110,532	110,791	111,180
Western	208,436	208,570	208,372	209,827	210,188
Gulf System	**427,663**	**427,929**	**428,154**	**430,658**	**432,536**

Table A-14. Gulf's Adjusted Regional Indices SAIDI, SAIFI, and CAIDI

	Average Interruption Duration Index (SAIDI)					Average Interruption Frequency Index (SAIFI)					Average Customer Restoration Time Index (CAIDI)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Central	109	99	107	115	90	0.95	1.14	1.08	1.58	1.09	115	87	99	73	83
Eastern	100	140	140	133	110	1.12	1.13	1.20	1.64	1.31	90	124	117	82	84
Western	146	146	157	168	123	1.32	1.45	1.59	1.88	1.30	110	101	99	89	95
Gulf System	**125**	**132**	**140**	**146**	**111**	**1.18**	**1.29**	**1.36**	**1.74**	**1.25**	**106**	**103**	**103**	**84**	**89**

Gulf Power Company

Table A-15. Gulf's Adjusted Regional Indices MAIFIe and CEMI5

	Average Frequency of Momentary Events on Feeders (MAIFIe)					Percentage of Customers Experiencing More than 5 Service Interruptions (CEMI5)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Central	7.6	8.6	8.5	7.6	6.4	0.52%	0.42%	0.53%	1.12%	0.91%
Eastern	4.8	7.9	5.9	5.6	4.4	4.08%	2.26%	2.83%	4.25%	2.45%
Western	7.4	10.5	9.5	7.7	5.6	2.15%	3.20%	2.91%	4.01%	2.08%
Gulf System	**6.7**	**9.4**	**8.3**	**7.1**	**5.5**	**2.22%**	**2.25%**	**2.28%**	**3.33%**	**1.87%**

Gulf Power Company

Table A-16. Gulf's Primary Causes of Outage Events

	Adjusted Number of Outage Events						Adjusted L-Bar Length of Outages				
	2007	2008	2009	2010	2011	Cumulative Percentages	2007	2008	2009	2010	2011
Animals	2,089	3,417	3,112	2,963	3,013	31.4%	83	94	81	79	72
Lightning	2,112	2,154	2,080	1,569	1,527	15.9%	151	165	155	167	148
Deterioration	2,188	2,300	2,333	2,211	1,928	20.1%	165	172	150	152	154
Unknown	742	874	988	639	691	7.2%	91	99	90	96	96
Trees	1,419	1,314	1,293	1,151	1,174	12.2%	144	158	155	137	138
Vehicle	336	288	275	264	249	2.6%	165	167	173	179	180
All Other	345	354	388	383	285	3.0%	96	152	135	132	119
Wind/Rain	175	169	-	-	-	-	160	170	-	-	-
Overload	271	198	245	414	162	1.7%	99	109	104	113	97
Vines/Dig-in	130	162	150	189	187	2.0%	210	134	108	90	110
Other	-	-	166	288	222	2.3%	-	-	85	85	103
Contamination Corrosion	143	203	212	266	151	1.6%	127	134	116	118	118
Gulf System	**9,950**	**11,433**	**11,242**	**10,337**	**9,589**	**100%**	**132**	**137**	**124**	**123**	**117**

Notes:

(1) "All other" category is the sum of many diverse causes of outage events which individually are not among the top ten causes of outage events.

(2) Blanks are shown for years where the number of outages was too small to be among the top ten causes of outage events.

Florida Public Utilities Company

Table A-17. FPUC's Number of Customers (Year End)

	2007	2008	2009	2010	2011
Fernandina(NE)	15,120	15,376	15,254	15,276	15,416
Marianna (NW)	12,846	12,822	12,730	12,654	12,260
FPUC System	**27,966**	**28,198**	**27,984**	**27,930**	**27,676**

Table A-18. FPUC's Adjusted Regional Indices SAIDI, SAIFI, and CAIDI

	Average Interruption Duration Index (SAIDI)					Average Interruption Frequency Index (SAIFI)					Average Customer Restoration Time Index (CAIDI)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
NE	87	91	225	120	200	1.05	1.26	1.29	1.29	2.35	83	72	116	93	85
NW	67	239	210	136	139	1.19	2.70	2.09	1.57	1.40	56	88	101	86	99
FPUC System	**78**	**158**	**218**	**127**	**173**	**1.12**	**1.92**	**2.01**	**1.42**	**1.93**	**70**	**83**	**109**	**90**	**89**

Florida Public Utilities Company

Table A-19. FPUC's Primary Causes of Outage Events

	Adjusted Number of Outage Events						Adjusted L-Bar Length of Outages				
	2007	2008	2009	2010	2011	Cumulative Percentages	2007	2008	2009	2010	2011
Vegetation	220	409	284	259	345	32.6%	73	93	89	77	83
Animals	127	283	231	315	243	23.0%	57	62	63	59	55
Lightning	52	71	95	47	39	3.7%	60	82	115	88	80
Unknown	37	71	90	101	79	7.5%	74	67	119	65	64
Corrosion	74	102	120	97	85	8.0%	100	127	101	92	103
All Other	47	46	43	50	55	5.2%	56	113	98	104	93
Other Weather	67	97	149	84	167	15.8%	75	207	275	89	177
Trans. Failure	35	22	24	20	18	1.7%	83	114	150	137	100
Vehicle	27	31	27	35	26	2.5%	107	105	63	135	97
Cut-Out Failure	4	10	-	-	-	-	61	68	-	-	-
Fuse Failure	6	8	-	-	-	-	53	39	-	-	-
FPUC System	**696**	**1,150**	**1,063**	**1,008**	**1,057**	**100%**	**77**	**98**	**117**	**77**	**93**

Notes:

(1) "All other" category is the sum of many diverse causes of outage events which individually are not one of the top ten causes of outage events.

(2) Blanks are shown for years where the quantity of outages was less than one of the top ten causes of outage events.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Alachua, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The City's inspection cycle is on an 8-year cycle (12.5% per year) The City of Alachua owns only distribution poles, no transmission poles.	The City planned 12.5% of distribution system to be inspected and completed 351 poles (14%). The City of Alachua has 2,515 distribution poles.	61 (17.4%) poles were rejected. 7 poles were deemed non-restorable due to shell rot; 54 poles were deemed restorable.	All failed poles were 45-50 foot, class 3 and were replaced or C-trussed. All other poles were treated and wrapped.	The City continues to use the information from the PURC conference held in 2007 and 2009, to improve vegetation management.	The City trims approximately 62 miles of overhead distribution on a 3-year cycle. 23% of the facilities were trimmed in 2011.
Bartow, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The facilities are inspected on an 8-year cycle. Inspections are visual, and tests are made to identify shell rot, insect infestation, and excavated to determine strength.	1,500 poles were planned, and the City completed 1,628 pole inspections in 2011.	467 (27%) distribution poles failed inspection due to pole top rot or rotten ground decay.	49 poles were replaced ranging in size from 30 to 50 foot; class 3, 4, and 5.	The City is on a 4-year trim cycle with trim out at 6-10 foot clearance depending on the situation and type of vegetation, along with foliage and herbicidal treatments.	The City feels that its 4-year cycle and other vegetation management practices are effective in offering great reliability to its customers.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Beaches Energy Services	Yes	Yes	All exposed, "live-front" connected transformers have been replaced with sealed, "dead front" elbows. Almost all exposed, "live-front" air-insulated switchgear has been replaced with sealed padmounted switchgear using SF6 gas or insulating oil. The company has eliminated using fiberglass foundations for padmounted equipment and now uses thick, heavy concert foundations.	Yes	Yes	The transmission structure is inspected annual, which includes insulators, downguys, grounding, and pole integrity. The distribution poles are inspected on an 8-year cycle using sound and bore method for every wood pole. Poles 10 years old and older were treated at ground level for rot and decay.	355 transmission structure inspections were planned and completed which represents 100% of the structures. There were no routine distribution wood or concrete pole inspections planned for 2011 because the next inspection is scheduled for 2015.	No transmission structures failed the inspection. There were no inspections for the distribution structures.	No transmission structures failed the inspection. There were no inspections for the distribution structures.	The transmission line Rights-of-way are mowed and maintained annually. Tree trimming crews work year round to maintain a 2 to 3 year VMP cycle for transmission and distribution lines.	All vegetation management activities for 2011 have been fully completed and the vegetation management activities for 2012 are on schedule.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Blountstown, City of	Yes	No; the City of Blountstown adopted a larger minimum pole standard in 2007 in an effort to harden facilities	The City does not have any underground facilities. The City is looking at measures to flood proof substation.	Yes	No. Guidelines do not include written safety, pole reliability, pole loading, capacity and engineering standards and procedures for attachments by others to the transmission and distribution poles.	City owns 1,704 utility poles. The City of Blountstown is currently finalizing a practical inspection system to be implemented as part of major construction project.	100% of all poles are visually inspected annually.	20 poles required replacement because of ground rot and clearance issues.	20 poles that were damaged were class 5 poles and were replaced with class 3 poles.	The City has a 4-year tree trimming cycle with 10-foot clearance of lines and facilities. The City has policies to remove dead, dying, or problematic trees before damage occurs.	The City will trim 25% of the system with a 10-foot clearance in 2012.
Bushnell, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	No written policy. All existing attachments inspected as part of the City's pole program initiated in 2007.	The City has no transmission facilities. All distribution poles are on a 7-year cycle. The inspection includes visual, sound/bore, pole condition, and wind loading.	237 poles inspected in 2011 that makes 100% of entire system inspected since 2007. The next pole inspection interval commences in 2014.	11 (4.6%) poles failed inspection due to shell rot, woodpecker holes, and decay.	All poles that were rejected during the 2011 inspection have been removed or replaced.	Tree removal, power line trim, and right of way clearing are on a 3-year cycle. Annual trimming are performed before hurricane season.	Current vegetation management practices are believed to be effective based upon outage history dating back to 2004.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Chattahoochee, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The distribution facilities are on a 3-year cycle inspection using visual, excavation around base, sounding, and probing with steel rod.	1,957 distribution poles were inspected in January 2012. No poles were inspected in 2011.	In 2012, 58 poles failed the inspection due to ground line and pole top decay and none reported for 2011.	Replacement of all 58 poles began in February 2012 and will continue through 2012. The poles ranged in size from 30'-6 to -50 '-3.	The City trims the distribution system on an annual basis. This cuts down on animals outages by limiting their pathways to poles and conductors.	The 2007 and 2009 PURC workshops reports are used to improve vegetation management.
Clewiston, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	The City does not have standard guidelines for pole attachments as all attachments are reviewed by engineers, and place all new construction underground.	The facilities are on an 8-year inspection cycle using sound and bore with strength test inspection. The City performs infrared inspections on the facilities on a 3-4 year cycle.	No poles were inspected in 2011 because the City completed the entire system inspection in 4 years. Inspections will begin again in 2014.	No poles were rejected in 2011, because no poles were inspected.	The City has replaced 14 to 40 foot wooden poles from the last inspection.	The City has a City ordinance that prohibits planting in easements. The City trims the feeders annually and the laterals as needed or as requested by customers.	All transmission and feeders checked and trimmed in 2011 as every year, and The City completed 47 customer requests for tree trimming.
Fort Meade, City of	Yes	Yes	The current procedures address flooding & storm surges. Participant in PURC study on conversion of overhead to underground.	Yes	Yes	The City's facilities are on a 8-year cycle using visual and the sound and probe technique.	The City has distribution lines only. The City replaced 6 poles in 2011.	The City has 2,725 dist. poles. The City inspected 190 poles in 2011. 16 poles (0.4%) failed inspection due to age deterioration & animals infestation.	The City replaced 26 (0.4%) poles with 20 size 40 foot, class 4 and 6 size 35 foot, class 5 poles.	The facilities are on a 3-year inspection cycle, and has a low outage rate due to problem vegetation.	The City has completed apptly 66% of trimming system in 2011. The city reported 121 outages in 2011, with 20 (17%) due to tree limbs.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Fort Pierce Utilities Authority	Yes	The facilities are not designed for extreme loading standards on a system wide basis, but is guided by the extreme wind loading standard for new construction, major work, and rebuilds after Feb. 1, 2007.	Yes, and is abiding by the FEMA 100 Year Flood zone for new construction of underground facilities	Yes	Yes	All 250 transmission wood poles were inspected annually by using visual, the excavation, and sound and bore method. 106 concrete and 90 steel transmission poles are inspected on a 3-year. Beginning this year all transmission will be inspected on a 3-year cycle. The distribution poles will be inspected on a 5 year cycle beginning in fiscal year 2013.	250 (100%) transmission poles inspection were completed in 2011. This included hardware, bolt and bonding inspection, excavation, and sound bore tests. There were no planned distribution poles inspection for 2011.	No transmission poles failed inspection in 2011. There were no distribution pole inspections in 2011.	There were no transmission or distribution pole failures in 2011.	The company maintains year round contract for tree removal, power lining trimming, and right-of-way clearing. All transmission lines are trimmed on a 3-yr. cycle. The transmission lines are monitored and patrolled annually for vegetation management.	The company will continue to provide resources for the same quantity, level, and scope for vegetation management as in the past. The company has copies of PURC's reports from 2007 and 2009 VMP workshops and will use the information to improve its VMP.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Gainesville Regional Utilities	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The facilities are on an 8-year cycle for all lines and includes visual, sound and bore, and includes below ground line inspection to 18 in. around the base of each pole.	No transmission poles were scheduled for inspection in 2011. GRU planned 2,999 distribution pole inspections and completed 3,204 (107% completed) inspections.	No transmission poles were planned or identified for replacement. 11 (0.03%) distribution poles failed due to shell rot, heart rot, rotten butt, carpenter ants, and decay.	There were no transmission poles inspected. 11 distribution poles were replaced in 2011, ranging in size from 30' Class 5 to 50' Class 3.	The VMP includes 560 miles of overhead distribution lines on a 3-year cycle. The VMP includes a herbicide program and standards from NESC, ANSI A300, and Shigo-Pruning.	The VMP is an on going and year round program. 100% of the transmission facilities were inspected. 196 distribution circuit miles were trimmed in 2011.
Green Cove Springs, City of	Yes	Yes	Yes, all facilities are installed a minimum 8 inches above the roadway.	Yes	Yes	The distribution facilities are on an 8-year cycle, which includes sound and bore techniques. The City does not have transmission lines as defined by 69kV and above.	The City visually inspects any distribution pole it interfaces with under normal maintenance workflow patterns. The City plans to upgrade 2 major sections of 4KV in the next 4 years.	In 2011, 36 distribution poles were replaced.	35 poles were replaced in 2010 ranging from 30 to 45 foot, class 3 and 5, due to rot and one pole 30 foot, Class 5 was replaced due to damages by construction activity.	The City contracts annually to trim 100% of the system including all sub-transmission and distribution feeder facilities.	100% of system was trimmed in 2011, with scheduled trim cycle of entire system for 2012 to begin in the fall.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Havana, Town of	Yes	No. Participating in PURC granular wind research study through the Florida Municipal Electric Assoc.	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	Total system is 1,173 poles; inspected several times annually.	100% planned and completed in 2011.	16 (1.3%) poles failed inspection.	Of the 16 failed poles, 7 were 40' class 4 poles, 1 was 30' class 4 pole, 6 were 35' class 4 poles, and 2 were 45' class 4 poles. All the poles were replaced.	Written policy requires one-third of entire system trimmed annually.	33% of the system was trimmed in 2011.
Homestead Energy Services	Yes	Yes	Yes; participating in PURC's study on the conversion of overhead to underground facilities through FMEA.	Yes	Yes	All transmission poles concrete. The distribution facilities are on a 8-year cycle and the annual thermographic inspection was completed September, 2011.	During 2011, 2,300 (32%) distribution poles were inspected. The entire transmission system was inspected in 2005. The transmission was not inspected in 2011.	302 (13.1%) distribution poles failed the inspection due interior decay, exterior decay and other causes.	HES replaced 37 distribution Class 4 45' poles with Class 2 poles, 10 Class 4, 40' poles with Class 2 poles, cut tops and lowered facilities on 3 Class 4 45' poles, removed 8 Class 4 45' poles & 3 Class 4 40' poles, transferred facilities onto 10 storm hardened Class 2 45' poles and replaced 3 Class 4 45' poles with Class 3 55' concrete poles.	Trimming services are contracted out and entire system is trimmed on a 2-year cycle. There are no issues for transmission facilities.	HES enacted code changes which require property owners to keep vegetation trimmed to maintain 6-feet of clearance from city utilities.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Jacksonville Electric Authority (JEA)	Yes	Yes	Yes, currently has written Storm Policy and associated procedures addressed for Category 3 storms or greater.	Yes	Yes	Transmission circuits are on a 4-year cycle, except critical N-1 240kV on a 2-year cycle. Distribution poles are on an 8-yr inspection cycle, using sound and bore with excavation.	All transmission circuits that were scheduled to be inspected in 2011 were completed. In 2011, JEA completed the assigned circuits (approximately 40 circuits) in accordance with its schedule.	2 transmission wooden poles (0.1%) failed inspection at ground level and 1 steel transmission pole was found with an exposed concrete foundation. 10.5% distribution poles failed inspection; approximately 70% for ground decay and 30% for top decay.	5 transmission poles were replaced in 2011. 2 wood poles were replaced with new wood poles. The 1 steel pole had the foundation replaced. 2 additional concrete poles that were identified in 2010 were replaced in 2011. In 2011, 3020 distribution poles were replaced. The poles listed as danger poles (around 1%) are replaced in a 15-day cycle.	The transmission facilities are in accordance with NERC FAC-003-1. The distribution facilities are on a 3-year trim cycle; 2.5 year completed 2011.	JEA is fully compliant with NERC standard for vegetation management in 2011. VMP activities are on schedule for 2012.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Keys Energy Services, City of Key West	Yes	Yes	Yes	Yes	Yes	The Keys does not have any wooden trans poles. The facilities are on a 2 year inspection cycle that includes visual, sound & bore, excavation, helicopter, & infrared inspections.	7,453 wooden distribution poles were inspected to date with 2,232 (30%) rejected due to ground/shell rot, structural overload, pole top rot, and other.	The Keys replaced 276 rejected / failed distribution poles in 2011.	KEYS have a contract to replace approximately 2,200 poles over 5 years; with 2,256 poles replaced 2007 thru 2011.	The Keys' 230 miles 3 phase distribution lines and 66 miles of transmission lines are on a 2-year trim cycle.	The Keys has 1 recloser outage, 0 feeder outage, & 1 lateral outage due to trees. Keys will strive to continue to improve its VMP to further reduce outages.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Kissimmee Utility Authority	Yes	Yes; replaced 4 distribution poles and 41 wooden transmission poles with spun concrete to meet or exceed extreme wind loading requirements.	Non-coastal utility; therefore storm surge is not an issue. Low areas susceptible to flooding have been identified and are monitored.	Yes	Yes	All transmission and distribution inspections are outsourced to experienced pole inspector who utilizes sound and bore method for all wood poles.	196 (100%) of transmission poles were inspected 2011. 771 distribution poles were inspected in 2011 which has completed the inspection in 5 years instead of 8 years.	8 (4%) transmission poles failed inspection due to internal decay, exposed pocket and heart rot. An additional 30 transmission were repair due to woodpecker h\damage, cracking, and split top. 31 (4%) distribution poles failed inspection due to split top, decayed top, woodpecker holes, rotten butt, shell rot, compression wood, mechanical damage above, heart rot, and decay pocket.	8 transmission poles were identified for replacement over the next two years and 30 transmission poles were repaired. 80 distribution poles failed inspection in 2010 and 8 poles were replaced in 2010. The remaining 72 poles were replaced or eliminated in 2011. Of the 31 distribution poles failing inspection in 2011, 9 poles have been replaced. The remaining 22 are scheduled for replacement next year.	KUA has a written Transmission Vegetation Management Plan (TVMT) were it conducts visual inspection of all transmission lines semi-annually. The guide lines for KUA's distribution facilities is on a 3-year trim cycle.	100% required remediation during the transmission facilities inspection was completed in 2011. Approximately 107 miles of distribution facilities were inspected and remediated in 2011.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Lake Worth Utilities Department	Yes	The facilities are not designed to be guided by the extreme loading standards on a system wide basis. However, CLW is guided by the extreme wind-loading standard for new construction, major planned work, etc. after 12/10/2006.	Underground distribution construction practices require installation of dead front pad mounted equipment in areas susceptible to flooding.	Yes	Yes	Visual inspections are performed on all CLW transmission facilities on an annual basis. CLW performs an inspection of the distribution facilities on an 8-yr. cycle. Pole tests include hammer sounding and pole prod penetration 6 inches below ground.	CLW inspected 765 poles in 2011, and rotation will complete in 2014.	177 poles failed inspection. Poles are replaced when pole prod penetration exceeds two inches or there is evidence of pole top shell rot.	CLW replaced 90 poles in 2011, with 87 poles still pending replacement.	CLW has an on-going VMP on a system wide, two-year cycle. Minimum clearance of 10 feet in any direction from CLW conductors is obtained. No transmission structures failed the inspection. There were no inspections for the distribution structures.	Contractor attempts to get property owners permission to remove trees which are dead or defective and are a hazard; fast growing soft-wooded or weed trees, small trees which do not have value but will require trimming in the future, tress that are unsightly as a result of trimming and have no chance for future development, and trees that are non native and invasive.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Lakeland Electric	Yes	Yes, for all pole heights 60 feet and above; and meet or exceed Grade B Construction below this height.	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The facilities are on an 8-year inspection cycle using visual, sound and bore, with ground line excavation and in addition; visual inspection during normal course of daily activities.	There were 147 (12.5%) transmission poles planned for inspection and 194 (16.5%) were completed. There were 7,500 (12.5%) distribution poles planned for inspection and 7,476 (12.5%) completed.	21 (10.8%) transmission poles failed inspection due to decay. 1,013 (13.6%) distribution poles failed inspection due to decay.	All poles recommended in 2010 assessed for appropriate action. 136 distribution poles reinforced and 783 replaced, repaired, or removed in 2011. 14 transmission poles were replaced in 2011.	The facilities are on a 3-year inspection cycle for transmission and 3-1/2 year cycle for distribution. VMP also provides in between cycle trim to enhance reliability.	40 miles of 69kV transmission lines were planned and 34 miles were completed. 350 miles of distribution line maintenance were planned and 337 miles were complete.
Leesburg, City of	Yes	Yes, and Participation in PURC granular wind research study through the Florida Municipal Electric Assoc.	Leesburg is approximately 60 miles inland from the Atlantic and Gulf coasts and is not subject to major flooding or storm surge.	Yes	Yes	No transmission facilities. D: 8-year cycle. Visual, sound/bore, excavation method, and ground level strength test	Leesburg plans an 8 year inspection cycle. Leesburg electric facilities are attached to approximately 16,500 poles of which approximately 10,200 are wood poles and approximately 6,300 are concrete poles.	With the inspection of 16,483 poles during the period from 2007 through 2010 as shown in "c" below, Leesburg has now completed the inspection of all poles supporting electric facilities for this 8 year cycle. Pole inspections are planned to resume in 2015.	None	4-year trim cycle for feeder and lateral circuits. Use foliage and herbicidal treatments, and problem trees are trimmed or removed	VMP activities were completed as scheduled during 2010

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Moore Haven, City of	Yes	At this time, the facilities are not designed to be guided by the extreme loading standards on a system wide basis. The City is participating in PURC granular wind research study through FEMA.	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The City inspects all the distribution facilities annually by visual and sound inspections.	The City continuously inspects the distribution facilities in 2011. The City is one square mile and easily inspected during routine activities.	The City does not own any transmission facilities. The City is upgrading its 3 phase poles.	The City is working on the rear-of secondary, making them more accessible. The City has approximately 410 poles in the distribution system and streetlights.	The City is continuous tree trimming in easements and right of way. 100% of distribution system is trimmed each year.	The City expended approximately 20% of Electric Dept. Resources to vegetation management. All vegetation management is performed in house.
Mount Dora, City of	In 2010, the City of Mount Dora retained an engineering firm to make a review and help determine compliance with NESC. The City began using the study in 2011 to evaluate where new construction standards should be implemented.	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	A new construction standard was developed to use guy wires for all levels on poles, including communication and cable pole attachments.	The City does not own any transmission lines. Distribution lines and structures are visually inspected for cracks and a sounding technique used to determine rot.	The City completed 100% of planned distribution inspections in 2011.	The City had 37 distribution poles in 2011 that failed inspection. 25 wood poles were replaced with concrete poles.	The city had 1,916 wooden poles in 2011 and with the replacement of 25 wooden poles, as of 12/31/11, the count for wooden poles is 1,889.	An outside contractor working two crews 40 hours per week completes tree trimming on a 12-month cycle.	The City trimmed trees on a 12-month cycle, and removed limbs from trees in right of way and easements that could create clearance problems.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
New Smyrna Beach, City of	Yes	Yes	Yes. The City only installs stainless steel dead front pad mounted transformers in its system.	Yes	Yes	The transmission and distribution facilities are on an 8-year inspection cycle. Additionally, distribution facilities are inspected as part of the City's normal maintenance when patrolling distribution facilities.	69 (16.4%) of 420 transmission poles were inspected during 2011. 1,591 (13.3%) of 12,000 distribution poles were inspected in 2011.	1 (1.4%) transmission pole failed inspection due to decay. 365 (22.9%) failed inspection due to decay, split top, and woodpecker damage.	1 transmission pole is scheduled for replacement in 2013. The City replaced 132 distribution poles, and repaired 2 distribution poles. The poles are sizes 30-60 ft. and Class 2-6.	The City maintains two crews on continuous basis to do main feeder and "hot spot" trimming.	The City trimmed approximately 20% of distribution system in 2011, and performed clear cutting on 20% of the transmission lines.
Newberry, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	Distribution poles are inspected on a 3-year inspection cycle at ground line for deterioration, entire upper part of the pole for cracks, and soundness of upper part of pole.	1,007 (100%) distribution poles inspected in 2009, and will be inspected again in 2012 per cycle stated.	14 distribution poles (1.39%) were replaced in 2011. 8 of the poles were defective with top rot, all being Class 4, 45', 40', and 30' wooden poles. The remaining 6 poles were replaced for being split or rotten.	The pole inspection for 2009 resulted in 40 distribution poles (4%) to be defective with top rot, all being Class 5, 45' wood poles. 14 poles were replaced in 2011 as a result of poles failing 2009 inspections.	The City trims all distribution lines on a 3-year trim cycle, with attention given to problem trees during the same cycle. Problem trees not in the right of way are addressed with the property owner.	1/3 of distribution facilities are trimmed each year to obtain a three year cycle.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Ocala Utility Services, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The City inspects its system on an 8-year inspection cycle, which include above ground inspection, sounding, boring, excavation, chipping, internal treatment, and evaluation of each pole.	4,592 distribution poles inspected in 2011 (14.37% of total); 100% of transmission poles were completed in 2007; will not be inspected again until 2015.	502 distribution poles failed inspection due to shell rot or decayed top. Transmission poles to be inspected again in 2015.	502 of the rejected distribution poles were replaced and 47 distribution poles braced. The poles were 30 to 60 foot, class 1, 3 & 5.	The City is on a 3-year trim cycle, with additional pruning over areas allowed minimal trimming. Contractor performs annual VMP over 1/3 of the system.	In 2011, over 6 miles of the 13-mile 230kV transmission easement was cleared as well as over 200 miles of primary / 69kV transmission lines. The annual work schedule for 2012 includes trimming, mowing, and herbicide over approximately 5 miles of 230kV easement and 250 miles of primary circuit.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Orlando Utilities Commission, City Orlando	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	OUC facilities are on an 8-year inspection cycle, which includes above ground visual inspection, sounding, boring, excavation, chipping, ground line and internal treatments.	OUC planned 6,400 (12%) inspection for distribution and transmission facilities and completed 6,730 (13%) inspections.	600 poles (8.9%) failed inspection. Failure causes include: decay top, shell/heart rot, split top, woodpecker holes, and other. (Detailed Osmosis Report included).	2 poles were replaced, 66 poles were restored, and the remaining 532 poles have work orders being generated for replacement in 2012 and 2013.	200 miles of transmission facilities are on a 3-year trim cycle. 1,261 miles of distribution facilities are on a 4-year trim cycle. OUC follows safety methods in ANSI A300 & Z133.1.	Planned 107 of T facilities to have vege treatment & completed 91% of the facilities (VMP allows until 5/30/12 for completion). Planned 312 D facilities to have vege treatment & completed 100% of the facilties.
Quincy, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	City of Quincy conducted visual inspections of all distribution and transmission poles in 2011.	Visual inspections were carried out on all 2,842 distribution poles. Detailed inspections were carried out on all 31 transmission poles. All transmission poles are made of concrete and found to be in good condition.	14 poles, or .5% of the total system poles, that failed inspection. The poles showed signs of rotting around the base of the pole. The poles were replaced with wood poles. No transmission poles failed inspection.	14 distribution poles were replaced. 2 –30' class 6 due to rot and decay 3- 35' class 3 due to rot and decay 5- 40' class 3 due to rot and decay 2- 45' class 3 due to rot and decay 1- 55' class 3 due to rot and decay	Approximately 17 miles or 22% of vegetation trimming was planned and completed on the distribution system.	City of Quincy attended PURC workshops in 2007 and 2009, and uses the information to continually improve VMP

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Reedy Creek Improvement District	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	The District does not have any foreign attachments on the facilities.	The District performs visual inspection performed monthly, and inspects the distribution facilities every 5-year. Reedy Creek in not a transmission owner or operator.	All distribution poles were inspected and treated in 2008.	All distribution poles passed inspection. 3 wood transmission poles were identified to have excessive internal decay and classified as non-priority rejects.	Based on the 2008 inspection results, all remaining wood transmission poles were replaced in 2009. No distribution pole replacement or remediation were required based on the 2008 inspection results.	15 miles of transmission right-of-way is ridden monthly for visual inspection. The District contracts tree trimming each spring to clear any issues on right-of-ways.	Periodic inspections in 2011 identified several areas of encroachment in early stages and those areas were addressed to restore to acceptable conditions.
Starke, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	The City is in the process of studying this issue.	The City visually inspects the distribution poles on an annual basis.	All 3,480 poles were visually inspected in 2011.	1 pole (0.03%) was found to be bad from rotting and splitting.	The City has no transmission poles. 1 distribution pole (0.03%), Class 2, 45 feet was replaced in 2011.	The City has an annual tree trim and vegetation contract with Gainesville Regional Utilities. In addition, the City will trim trees yearly as needed. 33% of distribution facilities are completed annually.	The City trims distribution lines throughout the year as needed and when applicable removes dead or decayed trees. The City will trim 33% of distribution system in 2011.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Tallahassee, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	Every eight years a new pole inspection cycle is initiated to inspect all poles over a three-year period. The inspection includes visual inspection, sound and bore, and internal and fumigant treatment.	370 (11.6%) wood poles were inspected during 2011. Next treatment and inspection cycle for distribution poles is scheduled to begin 2012.	11 transmission poles were rejected due to decay or other deteriorating conditions such as woodpecker holes. 3 poles transmission poles were replaced with steel poles and 8 transmission poles were replaced with wood poles. 145 distribution poles were rejected and replaced due to wood decay and woodpecker damage.	No transmission poles were replaced due to construction projects. 90 distribution poles (ranging in size from 40'3 to 65'2) were replaced due to construction and 53 distribution poles (ranging in size from 40'3 to 60'2) were added to serve new customer load.	The transmission facilities are on a 3-yr. trim cycle with target of 20 ft horizontal clearance on lines. The distribution facilities are on a 18 month trim cycle on overhead lines to 4-6 ft clearances.	The transmission rights of way and easements are mowed annually and as needed. 650 (2/3) miles of distribution facilities were trimmed in 2010 and 2011. The City is currently working on the 10th trim cycle and entire system was treated 5 times since 1997.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Vero Beach, City of	Yes	Yes	Facilities installed a minimum of 8 inches above roadway and grading required preventing erosion. The City is also participating in the PURC study on conversion of overhead facilities to underground facilities.	Yes	Yes	The transmission lines are driven and inspected visually every 2-3 months. There is a total of 41.5 total miles of transmission lines. The distribution poles and lines are inspected on 5-year cycle by sound and bore method with some excavation.	The transmission system was inspected 4 times in 2009 with no poles failing. The city has 700 concrete, 65 steel, 125-spun concrete, 65 wooden and 5 hybrid concrete / steel poles. In 2011, approximately 25% (2,650 poles) of the distribution system was inspected.	There were no transmission poles failures in 2011. 2,650 distribution poles were inspected with 40 (1.5%) failures due to ground rot and hit by a vehicle.	There were no transmission poles failures in 2011. 38 distribution poles were replaced by the City and AT&T replaced 2 poles. The sizes were 45' Class 3 wooden poles, 50' Type IIIA concrete pole, 40' Class 4 wooden pole, 40' Type IIIA concrete poles, 45' lass 3 wooden poles, 45' Type IIIA concrete, 35' TYPE IIIA concrete, 30' Class % wooden poles.	The City's VMP is on a 3-year cycle that includes trimming trees, limbs within 3 feet of neutral or 5 feet of the primary and topping trees in the right of way.	The 3-year vegetation management cycle is to complete all 60 blocks (~40 square miles of service area) every three years. The transmission facilities are mowed twice a year.
Wauchula, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	The City does not have any standards in place at this time.	The City of Wauchula does a sound and bore inspection.	The facilities are on a 3-year cycle and completed 1/3 of system in 2011.	Less than 1% (out of 1800 poles) has failed due to poles rotting at the ground line.	One of the 5 transmission poles was replaced in 2011. The size, class, and reason was not given.	The policy on vegetation management is on a 3-year cycle that includes trimming trees and herbicides for vines.	The City completes 1/3 of the system every year.

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Williston, City of	Yes	Yes	Not applicable, the City of Williston is an inland community located 45 miles from a coastal area.	Yes	As a result of employee turnover within the management ranks the City has not established any data on pole reliability, pole loading capacity, or engineering standards and procedures for attachments by others to our distribution poles. The City anticipates outsource this function in the 2011 – 2012 budget year	D: Visual and sound inspection on a 3-year cycle. The city uses both the bore method and the visual and sound method to inspect poles	3-year cycle. Completed 33% of 1,100 poles in 2011	Two poles found defective due to wood decay at or below ground level	Two poles failing inspection were 40 foot, class 5, which both have been replaced	D: 3-year trim cycle with attention to problem trees during the same cycle. Any problem tree not in right of way is addressed to the property owner to correct	One third of distribution facilities are trimmed every year to obtain a 3-yr. cycle

APPENDIX B. SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Winter Park Electric Utility, City of	Yes	The facilities are not designed to meet extreme loading standards on a system wide basis. The city participates in PURC's granular wind research study through FMEA.	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	The city does not own transmission poles or lines. The distribution facilities are on an 8-yr. trim cycle, which the city is evaluating the cycle for length. The inspection includes visual, assessment prior to climbing and sounding with a hammer.	The city does not own transmission poles. 2000 (19%) distribution poles were inspected in 2011.	The majority of distribution poles were broken or damaged during seasonal storms. 90 (0.045%) distribution poles failed because of base rot, or split top, and these poles have been replaced.	Distribution poles requiring remediation were class 1, 2, and 3 wooden poles. The damage from decay or insects were treated with chemicals to inhibit decay and discourage insects.	Vegetation Management is performed by an outside contractor on a 3-year trim cycle, which is augmented as needed between cycles.	The trimming crews trimmed approximately 190,000 feet of distribution lines in 2011. The city is using the PURC 2007 and 2009 reports to improve VMP practices.

APPENDIX C. SUMMARY of Rural Electric Cooperative Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Central Florida Electric Cooperative, Inc	Yes	Central Florida's facilities are not designed to be guided by the extreme loading standards on a system wide basis.	Central Florida continues to participation in evaluation of PURC study to determine effectiveness of relocating to underground.	Yes	Yes	100% of the transmission facilities are inspected annually using above and ground level inspections. The distribution facilities are on a 9-year cycle for inspections using above and ground level inspections.	Central Florida planned and inspected 26 miles of the transmission facilities in 2011. 5,713 (7.1%) distribution poles were inspected in 2011.	Of the 5,713 distribution poles inspected in 2011, 72 were rejected due to deterioration.	72 rejected distribution poles are scheduled for replacement.	Trees are trimmed or removed within 15 feet of main lines, taps, and guys on a 5-year plan.	In 2011, 602 miles of 3,129 miles of line on the system were cleared.
Choctawhatchee Electric Cooperative, Inc	Yes	Yes	Yes	Yes	Yes; also inspect and physically count every attachment on a 3-year cycle	Inspect new construction of power lines on a monthly basis. Eight-year cycle to cover all poles	During 2011, 7,084 poles or 8.14% of 57,663 poles inspected	179 poles or 2.5% of the poles failed inspection ranging from spit top to wood rot	179 of 179 failed poles were replaced; in addition, the remaining 57 poles from 2010 were replaced	Current right of way program is to cut, mow, or otherwise manage 20% of it's right of way on an annual basis	Standard cutting is 10 feet on either side of primary from ground to sky. 543 miles were cut on primary lines. Worked to removed problem tress under the primary lines, which reduces hot-spotting requirements between cycles. The company also established herbicidal spraying program.

APPENDIX C. SUMMARY of Rural Electric Cooperative Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Clay Electric Cooperative, Inc	Yes	Clay's facilities are not designed to be guided by the extreme wind loading standards specified by Figure 250-2(d) except as required by rule 250-C.	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	Clay's facilities are on a 10-yr. cycle, which includes sound/bore techniques, excavation, climbing inspection, and ground and helicopter visual patrol.	Clay completed the ground patrol inspection in 2010 and the next inspection will be done in 2012. Clay replaced 97 transmission wooden poles with concrete poles leaving Clay with about 1718 wooden poles. Clay inspected 22,958 (11.14%) distribution poles in 2011.	Clay inspected a total 7,752 transmission poles by 3 helicopter inspections in 2011. Clay inspected 22,958 distribution poles in 2011. 37 (0.1422%) were rejected due to ground rot, top decay, split, holes high, and danger.	The helicopter inspection found 23 (0.297%) transmission poles required maintenance. 37 distribution poles were replaced and the pole ranged from 25 feet to 50 feet and Class 6 to Class 1.	Clay's VMP for the transmission facilities is on a 3-year cycle and includes mowing, herbicide spraying and systematic recutting. Clay's VMP for the distribution facilities is on a 3 year cycle for city, a 4-year cycle for urban and 5 year cycle for rural and includes mowing spraying and recutting.	In 2011, Clay mowed 79.56 miles of transmission right-of-way, sprayed 73.3 miles of transmission right-of-way, and recut 50.53 miles of transmission right-of-way. In 2011, Clay mowed 3,213.39 miles of its distribution circuits, sprayed 3,172.10 miles of distribution circuits, and recut 2,168.3 miles of distribution circuits.
Escambia River Electric Cooperative	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	Escambia River inspects its distribution facilities on a 8-year cycle using visual, sound and bore techniques in accordance with RUS standards.	3,917 (12.5%) distribution poles were planned and 8,335 (26.6%) inspections were completed 2011. Escambia River does not own any transmission poles.	28 (0.003%) distribution poles failed inspection due to ground level decay.	28 distribution poles were replaced in 2011, ranging in size from 25 foot, class 8 to 35 foot, class 5.	Escambia River's distribution facilities are on a 5-year trim cycle. Planned 20% of distribution lines and right-of-way is cleared 20 feet; 10 feet on each side.	In 201, approximately 372 miles (20.4%) of the power lines were trimmed.

APPENDIX C. SUMMARY of Rural Electric Cooperative Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management Plan (VMP)	
	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Florida Keys Electric Cooperative Association, Inc	Yes	The facilities were not designed to the extreme loading standards on a system wide basis. However, the company has adopted the extreme wind loading standard.	Yes	Yes	Yes	The company inspects 100% of the transmission structures annually by helicopter. The distribution poles are on a 4-year cycle. The four year cycle was completed in 2010 and is scheduled to resume 2014.	100% of the transmission: poles were inspected in 2011 by helicopter and visually. The inspection of all distribution poles were completed in 2010.	No transmission structures failed inspection in 2011. No distribution poles were inspected in 2011.	No transmission poles were replaced in 2011. As the final clean-up of the 2007 – 2010 distribution pole inspection, 141 poles were replaced.	100% of the transmission system is inspected and trimmed annually. The distribution system is on a 3-year trimming cycle. The trade-a-tree program was implemented in 2007 for problem trees within the right of way.	Annual transmission line right-of-way clearing form mile marker 106 to County Road 905 to the Dade/Monroe County line was completed in 2011. The remainder of the transmission system was spot trimmed. Approximately 200 circuit miles of distribution lines were trimmed in 2011.
Glades Electric Cooperative, Inc	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue.	Yes	Yes	The facilities are on a 10-year sound and bore inspection cycle with excavation inspection cycle for all wood poles in addition to System Restoration Plan inspections.	100% of total 87 miles of transmission lines were planned and completed by visual inspection. 2,183 distribution poles were planned and inspected in 2011.	8 transmission poles rejected due to pole top splits and ground rot. 426 distribution poles failed due to decay, rot and top splits.	100% transmission and distribution poles rejected in 2011 were replaced.	All trimming is on a 3-year cycle. The right of way is trimmed for 10 foot clearance on both sides, and herbicide treatment is used where needed.	Approximately 782 miles of distribution facilities was planned and completed right of way trimming during 2011. The transmission rights of ways are inspected annually and trimmed if necessary. Vegetation growth is not an issue for the transmission lines.

APPENDIX C. SUMMARY of Rural Electric Cooperative Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2011

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	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Gulf Coast Electric Cooperative, Inc	Not bound by the extreme loading standards due to system is 99.9% under the 60ft extreme wind load requirements	Not designed by Figure 250-2(d) except as required by rule 250-C. Insufficient data to substantiate costs in making major upgrades	Continuing evaluation of PURC study to determine effectiveness of relocating to underground	Yes	Yes	No transmission lines. Performs general pole inspections on an 8-yr. cycle	Inspected 868 poles, in house in 2011 with 228 rejects. This number inspected reflects 1.7% of poles owned by GCEC . It also reflects only 13% of poles planned for inspection for year 2011.	228 poles were rejected due to rotten tops, holes at the tops, broken pole, pole split in the tops. The poles in this selection for inspection are 40 to 50 years old.	Not reported. Report contained no information regarding remedial action planned or taken on rejected poles	1,632 miles overhead and underground, and at present on a definitive 4-yr. program. Cut 20 & 30 ft. width, ground to sky	Planned annual clearing, and has a 3-yr. contract to cut 440 miles per year. GCEC is working progressively into a 12-18 month herbicide spray plan
Lee County Electric Cooperative, Inc	Yes	Yes	Yes	Yes	Yes	Transmission facilities are inspected annually for 230 kV systems and ever 2 years for 138 kV systems. The inspections are done by climbing or the use of a bucket truck. The distribution facilities are on a 2 year visual inspection cycle and on a 10-year cycle for splitting, cracking, decay, twisting, and bird damage.	In 2011, 1,409 transmission poles were inspected. This includes 100% of the 230 kV facilities and 41% of the 138 kV facilities and was 100% of the poles that were scheduled. 69,369 distribution poles were inspected. This was 75.3% of the inspections scheduled and 43.7% of the total poles.	107 (0.07%) transmission poles failed inspection due to rot, woodpecker damage, bad arm, and grounds. 87 (0.13%) distribution poles failed inspection due to rot / split top, out of plumb, and woodpecker damage.	85 transmission poles were replaced due to rot by concrete and steel poles. 28 (32.1%) distribution poles were repaired through re-plumbing, 24 (27.6%) were repaired through patching. 25 of the remaining 35 (40.2%) were replaced in 2011. The sizes verified by 10', Class 5 to 30' Class 6. The remaining 10 poles will be replaced in 2012.	VMP strategies include cultural, mechanical, manual, & chemical treatments and the plan is on a 3-6 yr. cycle for distribution facilities.	Transmission and distribution VMP was completed 100% as planned for 2011.

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	Guided by Extreme Wind Loading per Figure 250-2(d)		Effects of flooding & storm surges on UG and OH distribution facilities	Placement of distribution facilities to facilitate safe and efficient access	Written safety, pole reliability, pole loading capacity and engineering standards for attachments	Description of policies, guidelines, practices, procedures, cycles, and pole selection	Number and percent of poles and structures planned and completed	Number and percent of poles and structures failing inspections with reasons	Number and percent of poles and structures by class replaced or remediated with description	Description of policies, guidelines, practices, procedures, tree removals, with sufficient explanation	Quantity, level, and scope of planned and completed for transmission and distribution
	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Okefenoke Rural Electric Membership Cooperative	Yes	The facilities are not designed to be guided by the extreme loading standards on a system wide basis. Okefenoke is participating in PURC's granular wind research study.	Okefenoke is continuing the evaluation of the PURC study to determine effectiveness of relocating to underground.	Yes	Yes	Okefenoke owns no transmission facilities. The distribution facilities are on an 8-year cycle. The inspection procedure includes visual, sound/bore with excavations, and chemical treatment.	In 2011, 3,111 distribution poles were inspected. This represents approximately 5.5% of the 56,605 wooden poles on the system.	87 (2.8%) distribution poles were rejected due to split top, decay, and mechanical damage.	Of the 87 rejected poles, 12 poles were replaced and an additional 12 rejected poles will be replaced in 2012. 30 rejected poles were repaired or remediated. 33 rejected poles were inactive poles and were retired.	Vegetation control practices consist of complete clearing to the ground line, trimming, and herbicides. The VMP is on a 5-year trim cycle.	Okefenoke planned 500 miles of right-of-ways for trimming and completed 830 miles. This equates to 33% of the 2,535 miles of facilities.
Peace River Electric Cooperative, Inc.	Yes	The facilities are not designed to be guided by the extreme loading standards on a system wide basis. Peace River is currently participating in PURC granular wind research study.	Peace River is continuing the evaluation of PURC study to determine effectiveness of relocating to underground to prevent storm damage and outages.	Yes	Yes	Peace River currently uses RDUP bulletin 1730B-121 for planned inspection and maintenance. The facilities are located in Decay Zone 5 and are inspected on an 8-year cycle.	294 transmission poles are inspected every 2 years. 54,910 distribution poles are inspected annually.	218 transmission poles were visual inspected in 2011 and there were no rejected poles. 6 distribution poles were rejected which were replaced in 2011.	Peace River has 89 concrete, 2 steel, and 218 wood transmission poles inspected on 2-year program. Peace River has 54,910 wooden distribution poles, 25 to 55 feet and Class 1 to 7.	Peace River adopted a maintenance plan in December 2009, to cut the system in a 3-year period from the substation to the consumer's meter.	Peace River, in 2011, completed right-of-way maintenance on 31.67% of its 2,796 miles of overhead distribution. Year 1 -36.66 % Year 2 – 31.67% Year 3 – 31.67%

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	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Sumter Electric Cooperative, Inc	Yes	Transmission and distribution facilities are designed to withstand winds of 100 MPH in accordance with 2007 NESC extreme wind load	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	The trans are on a 5-yr cycle using ground line visual inspections. The dist are on a 8-yr. cycle using sound, bore, & excavation tests.	275 trans poles were inspected in 2011, which represent 19.3% of the poles. 17,419 dist poles were inspected in 2011, which represent 12.6% of the poles.	92 (33.5%) trans poles failed inspection. 1882 (108%) distribution poles failed inspection. Cause due to ground rot and top deterioration.	68 wood trans poles replaced with concrete & 24 trans poles retired. 1758 dist poles replaced, 74 poles were retired, 46 poles were patched, 3 poles were cut at the top & 1 pole had a compression bolt installed.	Transmission is on a 3-year trim cycle for feeder and laterals. In 2011, trimmed 1,627 circuit miles & removed 17,542 trees.	Plan to meet current tree trim cycles and herbicide treatment. An estimated 1,507 miles of underbrush treatment is being scheduled for 2012.
Suwannee Valley Electric Cooperative, Inc.	Yes	SVEC facilities are not designed to be guided by the extreme loading standards on a system wide basis. SVEC continues to self audit, participate in PURC wind study, and research thru FECA	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	SVEC inspects all structures on an 8-yr. cycle using sound/bore and visual inspection procedures which are followed up as needed with treatment, repair, replacement, etc.	SVEC inspected 5 (100%) transmission structures in 2011. 11,582 (13.6%) distribution structures were inspected in 2011.	85 (0.73%) inspections of distribution structures failed due to ground line decay and excessive splitting. 0 inspections of transmission structures failed.	813 distribution poles were remediated by ground line treatment and 141 distribution poles were replaced. 0 transmission structures were remediated.	5-year inspection cycle includes cutting, spraying and visual on as-needed basis.	650 miles cut and 747 miles right-of-way sprayed in 2011. 832 miles of right-of-way planned for cutting and 650 miles for spraying in 2012.

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Talquin Electric Cooperative, Inc	Yes	Yes	Talquin has a very small percentage subject to storm surge. Stronger anchoring systems are in place to better secure pad-mount transformers and installation of grounding sleeves to secure underground cabinets.	Yes	Yes, inspecting on a 5-year cycle	Annual inspections in house of transmission lines are performed by checking the pole, hardware, and conductors. An outside pole-treating contractor inspects distribution and transmission poles annual. The poles are inspected on 8-yr. rotation since 2007	6218 poles were inspected in 2011, which included 104 transmission poles. Half the poles were scheduled to be inspected in 2011 and the other half will be completed in 2012.	113 (1.8%) poles were rejected which included 1 priority pole.	The priority poles rejected were replaced in 2011 and the other rejected poles are being repaired if possible.	Talquin maintains its right of ways by mechanical cutting, mowing, and herbicidal applications	555 miles of right of way treated in 2011. Talquin has a right-of-way budget exceeding $2,000,000.00 for 2012 trimming goals
Tri-County Electric Cooperative, Inc.	Yes	Yes	The current standard practice is to restrict electrification of flood prone areas. Due to natural landscape within area, storm surge issues are low.	Yes	Yes	The transmission facilities are inspected annually by visual inspections. The distribution facilities are on an 8-year cycle using both ground line and visual inspections.	During 2011, 3 transmission poles were rejected since the previous inspection. Coop employees will continue to visually inspect the distribution facilities. The 3rd party contractor will resume the distribution facilities inspection in 2012.	3 (1.31%) transmission poles rejected due to animals / insect damage. Of the 5,770 distribution poles inspected, 169 (2.93%) poles were rejected due to external decay and animals / insect damage.	169 (2.63%) distribution poles are being replaced. 2,896 (50.1%) affected distributed poles were treated with fumigant. 3 wood transmission poles were replaced with steel structures in 2011.	The Coop obtains 30 foot right of way easement for new construction and increase 20 foot to 30 foot on existing to inspect annually.	Approximately 689.52 (21.6%) distribution miles were trimmed in 2011. An additional 525 miles of right-of-way trimming is planned for 2012.

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West Florida Electric Cooperative Association, Inc	Yes	Yes	Non-coastal utility; therefore, storm surge is not an issue. Some areas in territory are subject to flooding. In these areas, line design is modified to compensate for known flooding conditions.	Yes	Yes. General inspections are completed on an 8-year cycle	West Florida continues to use RUS Bulletin 1730B-121 as its guideline for pole maintenance and inspection	During 2011, inspected 10% of entire system	Out of the 10% inspected, 6% required maintenance or replacement.	During the 2011 year, 1057 poles were replaced. 7 ½ miles of single phase line was converted to 3 phase to correct loading issues. The company re-insulated and upgraded approximately 40 miles of distribution lines from 12.5 KV to 25 KV.	Ground to sky side trimming along with mechanical mowing and tree removal	Intends to mow and side trim 739 miles of its distribution system each year. During 375 miles of right of way was chemically sprayed with approximately 700 miles scheduled for 2012.
Withlacoochee River Electric Cooperative, Inc	Yes	The facilities are not designed to be guided by the extreme wind loading standards on a system wide basis. However, most new construction, major planned work and targeted critical infrastructure meets the design criterion that comply with the standards.	Yes	Yes; in 2011, WREC relocated 25,000 feet of overhead primary lines from rear lots to street side; this will continue until older areas are all upgraded.	Yes	WREC inspects the transmission and distribution facilities annually by line patrol, physical and visual inspections.	62 miles or 100% of transmission facilities were inspected by walking, riding or aerial patrol. 2,341 miles of distribution facilities were inspected annually by line patrol, voltage conversion, right-of-way, and Strategic Targeted Action and Repair (S.T.A.R.).	OSMOSE (a contractor for pole inspection and treatment) found 6.2% poles with pole rot and 1.0% poles were rejected in 2003 through 2004. WREC discontinued this type of inspection / treatment plan and now data is unavailable on the exact failure rates.	3,297 wood poles ranging in size from 30 to 95 ft. were added; 2,923 wood poles were retired in 2010. Detailed data not available. Other poles added to the facilities were 179 concrete, 7 composite, 3 steel, 49 fiberglass/composite, 55 cement, 70 aluminum, and 43 fiberglass (total of 3,703 poles added). Other poles retired were 22 concrete, 15 cement, 100 aluminum, and 63 fiberglass (total of 3,123 poles retired).	WREC has an aggressive VMP that includes problem tree removal, horizontal/vertical clearances and under-brush to ground.	All transmission lines are inspected annually. 1,338 miles of right of way issues were addressed in 2011.