Review of Florida's Investor-Owned Electric Utilities' Service Reliability In 2009

Florida Public Service Commission
Division of Service Quality, Safety, and Consumer Assistance
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Terms and Acronyms

AMI	Advanced Metering Infrastructure
CAIDI	Customer Average Interruption Duration Index
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
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.
SCADA	Supervisory Control and Data Acquisition
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
TECO	Tampa Electric Company

Reliability Metrics Used in this Review

Rule 25-6.0455, Florida Administrative Code, 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.

1. *Average Duration of Outage Events* (L-Bar) is the simple average of customer service outage events lasting a minute or longer. (L-Bar = CMI)

2. *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)

3. *Customers Experiencing More Than Five Interruptions* (CEMI5) measures the percent of customers that have experienced more than five service interruptions. (CEMI5 is a customer count shown as a percentage of total customers.)

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

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

6. *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.

7. *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)

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

9. *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)

10. *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

The 2009 review of the reliability of electric service provided by Florida's investor-owned electric utilities examines each utility's report concerning effects to its distribution systems and the progress and results of the utility's storm hardening plans. Observations and trends are used to predict possible declines in service reliability and are tracked to determine if additional scrutiny, emphasis, or remedial actions may be required by the Commission.

Assessing Service Reliability

The assessment of an investor-owned utility's (IOU) electric service reliability is made primarily through a detailed review of established service metrics pursuant to Rule 25-6.0455, Florida Administrative Code, (F.A.C.).[1] 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 unreliability. Comparison of the year-to-year levels of the metrics may reveal changes in performance which 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.[2, 3] 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 based on the observed patterns and to ensure the reported data are reliable.

Since 2007, IOUs file 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 was needed to provide an indication of the distribution system performance during hurricanes and other allowable exclusions. 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, but does not reveal the impact of excluded events on reliability performance. Analyzing the "actual" and "adjusted" data provides insight concerning the impact severe weather and hurricanes had on the 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.[4]

The reports filed on March 1, 2010, include: (1) storm hardening activities; (2) actual 2009 service reliability data; (3) adjusted 2009 distribution service reliability data; and (4) actual

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

[2]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.

[3]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.

[4]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: PSC-06-0351-PAA-EI, issues 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.

and adjusted 2009 performance assessments in five areas: system-wide, operating region, feeder, cause of outage events, and customer complaints.

Conclusions

The March 2010 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 2010 review.

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

<u>Service Reliability of Florida Power & Light Company</u>

In reviewing the unadjusted data for 2009 (Table 2-1), FPL's allowable exclusions for outage events accounted for approximately 5.8 percent of all customer minutes of interruption with less than 1.3 percent of the allowable exclusions being attributed to tornados recorded by the National Weather Service (NWS).

On an adjusted basis, FPL's 2009 SAIDI (System Average Interruption Duration Index) was 78 minutes compared to 67 minutes in 2008. SAIDI is the most relevant and best overall reliability indicator because it encompasses two other standard performance metrics for reliability, SAIFI (System Average Interruption Frequency Index) and CAIDI (Customer Average Interruption Duration Index). The SAIFI index increased slightly more than 3 percent from 2008 to 2009 and the CAIDI index increased by 11 percent for the same period, thus impacting the 2009 SAIDI results for FPL.

Equipment failure continues 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 between 2005 and 2009, there was a 16 percent increase. FPL states that it continues to focus on preventing outages before they occur, thus reducing the overall number of outages, and certain types of feeder outages that are typically shorter in duration. While the reduction of these outages benefits customers, it increases CAIDI. This is a direct result of the mathematical calculation of the CAIDI metric. In this case, the customer minutes of interruptions remains the same while the number of outages has decreased which in turn increases the length of time a customer is out of service.

FPL's reliability related complaints for its customers decreased by 0.3 percent from 2008 to 2009 as shown in Figure 4-8..

<u>Service Reliability of Progress Energy Florida</u>

PEF's 2009 unadjusted data indicated that allowable exclusions for outage events were approximately 24 percent of all customer minutes of interruptions (CMI) with severe weather accounting for 6 percent of the allowable exclusions. In 2009, PEF experienced seven tornados and two named storms. Tropical Storms Claudette and Ida accounted for 12 percent of the severe weather total.

On an adjusted basis, PEF's 2009 SAIDI was 82.8 minutes, which was a 9 percent increase from 2008. PEF attributes the increase in SAIDI minutes to the events of June 23, 2009, when a tornado caused wind gusts over 50 mph at the Belleair Substation, but was not a recorded event by the NWS, and added 4.8 minutes to the 2009 SAIDI results. This event also had a direct impact on the SAIFI and CAIDI results, which both increased 3 percent and 6.8 percent respectively in 2009. Much of PEF's adjusted data supports a conclusion that average service reliability from 2005 through 2008 remained stable, while a decrease in reliability performance appears to have occurred during 2009, a large portion could be attributed to the non-recorded tornado event at the Belleair Substation.

In Figure 3-16, PEF's Top Five Outage Categories, the category "all other" climbed 266 percent from 2008 to 2009. PEF stated this category is used when no reasonable evidence is available as to what caused the outage and the "all other" category includes cause codes that are not itemized on the PSC/ECR form 103. PEF also stated "in 2008, underground service outages were listed separately as opposed to 2009, where they were a subset of the 'all other' category. This would explain the 266 percent increase from 2008 to 2009." The "all other" outage cause has not fluctuated substantially from 2005 to 2008 and 2009 appears to be an abnormal year.

PEF's reliability related complaints decreased from 6.2 percent in 2008 to 4.5 percent in 2009.

Service Reliability of Tampa Electric Company

TECO's 2009 unadjusted data indicated that the allowable exclusions for outage events accounted for approximately 32 percent of all the customer minutes of interruption and 61 percent of the customer interruptions.

The adjusted SAIDI increased by 11.14 minutes to 77 minutes or 17 percent when compared to the year 2008, while the SAIFI and CAIDI indices increased 12 percent and 4 percent respectively. Overall, TECO customers appear to have experienced a slight decline in service reliability in 2009.

The number of service interruptions in TECO's Dade City and Plant City regions remains an area of concern. While these two regions were identified in previous reliability reports, any improvement in reliability continues to remain unchanged, and as Figure 3-22, CEMI5 Across TECO's Seven Regions (Adjusted) illustrates, the percentage of customers experiencing more than five service interruptions doubled in 2009 from 1.0 percent to 2.4 percent. TECO maintains that the long circuits in Dade City and Plant City regions contribute to the increased number of service interruptions in their respective regions.

TECO's reliability related complaints for its customers decreased by 1.1 percent from 2008 to 2009 as illustrated in Figure 4-8.

Service Reliability of Gulf Power Company

In Gulf Power's 2009 unadjusted data, allowable exclusions accounted for 22 percent of customer interruptions with 5.5 percent of the allowable exclusions being planned outages. The customer minutes of interruption that were allowed to be excluded accounted for approximately 11.5 percent of the total customer minutes of interruption.

Gulf's 2009 service reliability data shows a 6 percent decline in the reliability metric for the system average interruption duration index (SAIDI) over the 2008 results. Gulf's adjusted customer average interruption duration index (CAIDI) was unchanged from 2008 and was reported as 103 minutes. The three percent of feeders with the most feeder outage events decreased in 2009, showing signs of improvement in Gulf's feeder network commitment plans. Figure 3-30 illustrates that in 2009, 2.3 percent of Gulf's customers experienced more than five interruptions versus 2.2 percent in 2008. .

Gulf's top five causes of outages continued to be due to animal, lightning, deterioration, unknown, and trees. Although animal causes were still the number one cause of outages, the percentage declined from 2008 to 2009 by 10 percent.

The number of reliability related complaints filed against Gulf decreased in 2009 to zero complaints versus 0.9 percent in 2008.

Service Reliability of Florida Public Utilities Company

FPUC's reported unadjusted data indicate that its allowable exclusions for 2009 accounted for approximately 51 percent of the total customer minutes of interruption. The "Transmission Events" category accounted for approximately 46 percent of the customer minutes of interruption and 95 percent of the allowable exclusions during 2009.

FPUC's system average interruption duration index (SAIDI) was 38 percent higher than the 2008 results, while the system average interruption frequency index (SAIFI) had a 4.5 percent increase from 2008 to 2009. The customer average interruption duration index (CAIDI) was approximately 16 percent higher in 2009, when compared to 2008. All of these factors combined, suggest a significant decrease in service reliability for FPUC's distribution system from 2008 to 2009; however, due to the activation of the Outage Management System (OMS) in the Northwest Division in 2008, and the activation of the OMS in the Northeast Division in 2009, the reliability data has a tendency to be more accurate than prior years using the manual reporting processes. FPUC stated that the OMS provided significant improvement in data collection and retrieval capability for analyzing and reporting reliability indices, thus the improved data collection resulted in worsening reliability indices and not necessarily a decrease in reliability performance. The results should begin to show signs of improved reliability metrics by 2010 and 2011, as both divisions are fully integrated with the new outage management systems.

FPUC's top five cause of outages included vegetation, animal, corrosion, lightning, and weather related events. Vegetation had a 44 percent improvement over the 2008 results, but still remains the highest cause of outage events in the top five causes, while weather events had a 36 percent increase in outage events in 2009. The decrease in vegetation related outages indicates FPUC's vegetation management program is making improvements.

In FPUC's Feeder Report, there are so few feeders listed that the data in the report does not provide any statistical significance. There were only two feeders, one in each division. Neither of these feeders was listed in the report in 2008.

Reliability related complaints against FPUC are infrequent, in part, because FPUC has less than 50,000 customers. The number of reliability related complaints decreased from 12 in 2008 to five in 2009.

Introduction

The Florida Public Service Commission (Commission) has the jurisdiction to monitor the quality and reliability of electric service provided by Florida's investor-owned electric utilities (IOUs) for maintenance, operational, and emergency purposes.[5]

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.[6] 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 being provided. Comparison of the year-to-year levels of the reliability metrics may reveal changes in performance which indicate 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 additional scrutiny or remedial action may be required by the company.

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. 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.[7]

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

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

[7] 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.

The reports filed on March 1, 2010, include: (1) actual 2009 service reliability data; (2) adjusted 2009 distribution service reliability data; (3) actual and adjusted 2009 performance assessments in five areas: system-wide, operating region, feeder, cause of outage events; and (4) complaints. The reports also summarized the storm hardening activities for the IOUs.

Review Outline

This review relies primarily on the March 2009, Reliability Report filed by the IOUs for recent 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 2009 distribution service reliability and support for each of its adjustments to the actual service reliability data.

Section 3: Each utility's 2009 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 2005 through 2009.

Section 5: Appendices containing detailed utility specific data.

Storm Hardening Initiative Orders: 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.

Section I. Storm Hardening Activities

On Aril 25, 2006, the Commission issued Order No. PSC-06-0351-PAA-EI, requiring the IOUs to file plans for ten storm preparedness initiatives (Ten Initiatives).[8] 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 current status of these initiatives is discussed in each IOU's reports for 2009.

The Ten Initiatives are:

(1) A three-year vegetation management cycle for distribution circuits
(2) An audit of joint-use attachment agreements
(3) A six-year transmission structure inspection program
(4) Hardening of existing transmission structures
(5) A transmission and distribution geographic information system
(6) Post-storm data collection and forensic analysis
(7) Collection of detailed outage data differentiating between the reliability performance of overhead and underground systems
(8) Increased utility coordination with local governments
(9) Collaborative research on effects of hurricane winds and storm surge
(10) A natural disaster preparedness and recovery program

These Ten Initiatives are the starting point of an ongoing process to track storm preparedness activities among the IOU's.[9, 10]

Separate from the Ten Initiatives, the Commission established rules addressing storm hardening of transmission and distribution facilities for all of Florida's electric utilities.[11, 12, 13] 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 1, 2010.[14]

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

[9]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.

[10]The Commission addressed the adequacy of the IOUs' plans for implementing the Ten Initiatives by Order Nos. PSC-06-0781-PAA-EI, PSC-06-0947-PAA-EI, and PSC-07-0468-FOF-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.

[11]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.

[12]Order Nos. PSC-07-0043-FOF-EU and PSC-07-0043A-FOF-EU.

[13]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.

[14] 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.

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 and PSC-07-0078-PAA-EU require each IOU to inspect 100 percent of their installed wooden poles on 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 states 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.[15]

Table 1-1 shows a summary of the quantities of wooden poles inspected by all IOUs in 2009.

Table 1-1. 2009 Wooden Pole Inspection Summary

Utility	Total Poles	Poles Planned 2009	Poles Inspected 2009	Poles Failed Inspection	% Failed Inspection	Years Complete in 8-Year Inspection Cycle
FPL	1,051,469	126,388	126,906	15,187	12.0%	3
FPUC	26,532	3,550	3,924	397	10.1%	2
GULF *	260,791	27,500	27,577	418	1.5%	3
PEF	767,011	96,000	95,867	5,658	5.9%	3
TECO	334,135	42,631	42,627	4,900	14.7%	3

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

Table 1-2. Projected 2010 Wooden Pole Inspection Summary

Utility	Total Poles	Total Number of Wood Poles Inspected 2006-09	Number of Wood Pole Inspections Planned for 2010	% Planned 2010	Percent of Wood Poles Planned and Completed in 8-Year Cycle	Years Remaining in 8-Year Cycle After 2010
FPL	1,051,469	483,435	154,994	14.74%	61%	4
FPUC	26,532	8,650	3,499	13.19%	46%	5
GULF *	260,791	75,561	27,500	10.54%	40%	4
PEF	767,011	390,650	103,500	13.01%	64%	4
TECO	334,135	155,859	42,631	12.76%	59%	4

[15] See PEF Storm Hardening Plan 2007-2009, Appendix J, pages 4-5.

* 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.

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 IOUs require a maximum of a six-year trim cycle for lateral circuits. In addition to the planned trimming cycle, each IOU performs "hot-spot" tree trimming[16] and mid-cycle trimming to address rapid growth problems.

Table 1-3 is a summary of 2009 and projected 2010 feeder vegetation management activities.

Table 1-3. 2009-2010 Vegetation Clearing from Feeder Circuits

				Miles Trimmed			Projected 2010 Miles	
IOU	Plan Trim Cycle (Years)	Total Miles	Average Annual Miles	2008	2009	% of 3-Year Cycle	Estimated Trim Miles	% of 3-Year Cycle
FPL	3	13,469	4,490	4,262	4,151	62%	5,200	101%
PEF	3	3,800	1,267	708	467	31%	331	40%
TECO	3	1,724	575	374	374	43%	489	72%
Gulf	3	1,878	626	821	821	88%	816	131%
FPUC	3	170	55	59	63	72%	48	100%

[16] "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 1-4 is a summary of 2009 and projected 2010 lateral vegetation management activities.

Table 1-4. Vegetation Clearing from Lateral Circuits

IOU	Plan Trim Cycle (Years)	Total Miles	Plan Average Annual Miles	2009 Miles		Projected 2010 Miles	
				Miles Trimmed	% of Annual Cycle	Estimated Trim Miles	% of Annual Cycle
FPL	6	22,444	3,741	2,078	56%	2,746	73%
PEF	5	14,200	2,840	2,544	90%	2,542	90%
TECO	3	4,397	1,466	806	55%	1,265	86%
Gulf	6	3,981	664	980	148%	816	123%
FPUC	6	501	84	96	114%	84	100%

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 IOU'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 2009 highlights:

- FPL audited approximately 20 percent of its joint use poles in 2009, which revealed 32 unauthorized attachments and 207 apparent NESC violations involving third party attachments. FPL strength tested 90,309 poles, of which 4,608 were found to be overloaded.

- PEF audited approximately 12.5 percent of its joint use poles in 2009 and found no apparent NESC violations involving third party attachments. PEF performs a full joint-use pole loading analysis on an eight-year basis. PEF strength tested 71,899 distribution poles, of which 299 were found to be overloaded.

- TECO did not conduct a physical pole attachment audit in 2009. Pole attachment audits are conducted annually on a three-year cycle. The next audit is scheduled to begin in 2011. Through TECO's Pole Attachment Application process, the company performed the following audits; attachment verification, NESC violation analysis, and pole loading assessment. Of the 186 pole attachment applications, TECO identified 114 distribution poles that were overloaded. Out of the 3,118 poles assessed through the pole attachment application process, 319 poles had NESC violations due to joint use attachments and 16 poles had NESC violations due to TECO attachments.

- Gulf Power initiated a program to perform pole strength and loading analysis of 500 poles annually beginning in 2007. In 2009, Gulf reported strength testing 500 poles, of which none were found to be overloaded.

- FPUC reported 773 detailed pole loading calculations were performed in 2009, with 39 poles identified as having loading levels above 100 percent of the design load. FPUC will perform additional load assessment on these poles in accordance with the 2007 edition of NESC and its wind loading requirements. Poles that fail the assessment will be scheduled for replacement.

(3) Six-Year Transmission Inspections

The Commission required each IOU to fully inspect, on a six-year cycle, all transmission structures and substations, and all hardware associated with these facilities. 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-06-0198-EI dated April 4, 2006. All five IOU's reported that they are on target to meet the six year inspection cycle for transmission structures and substations.

- FPL reported inspecting 25.6 percent of all of its transmission structures and 100 percent of its 97 transmission substations in 2009.

- PEF reported inspecting approximately seven percent of its 463 transmission circuits and 100 percent of its 481 transmission substations in 2009.

- TECO reported inspecting 4,852 structures, or 21 percent of the system; comprising 18 circuits and 100 percent of its transmission substations in 2009.

- Gulf reported inspecting 30 percent of its transmission metal poles and towers and 24 percent of its wooden transmission poles. Gulf also reported inspecting 100 percent of its goal for transmission substations in 2009

- FPUC reported inspecting 100 percent of its transmission circuits and transmission substations in 2009.

(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. Below are some 2009 highlights and projected 2010 activities for each IOU.

- FPL targeted the replacement of 188 single pole un-guyed wood (SPUW) structures and replaced 317 SPUW structures under its hardening program and other programs. FPL replaced a total of 3,206 wood transmission structures during 2009. In 2009, FPL targeted the replacement of ceramic post insulators on 392 transmission structures and FPL replaced ceramic post on concrete (CPOC) insulators on 1,055 transmission structures within the system. These insulators were replaced with FPL's current design standards of polymer posts. In 2010, FPL plans on replacing 694 wood transmission structures and the continued replacement of ceramic post line insulators with polymer post line insulators.

- PEF reported hardening a total of 1,498 transmission structures in 2009. PEF's 2010 goal is to harden 1,550 transmission structures as part of routine business expenditures for a budgeted $103.2 million. Costs include maintenance pole change-outs, insulator replacements, and other capital costs. The figures also include DOT/Customer Relocations, line rebuilds and System Planning additions. Structures are designed to withstand current NESC Wind Requirements and PEF is installing either steel or concrete poles when replacing existing wood poles.

- TECO is hardening the existing transmission system utilizing its inspection and maintenance program to systematically replace wood structures with non-wood structures. In 2009, TECO hardened 661 structures at a cost of $10.1 million. This included 567 structure replacements with steel or concrete poles and 94 sets of insulators replaced with polymer insulators. For 2010, TECO's goal is to harden 800 transmission structures with a budget of $9.2 million.

- Gulf reported hardening 338 transmission structures in 2009, and identified two priority hardening activities for transmission structures; installation of guys on H-frame structures and the replacement of wooden cross arms with steel cross arms. These activities will add additional strength capacity to the existing structures. Gulf believes that the two activities chosen are the best alternatives for existing transmission assets most at risk. All replacements and installations are proceeding on schedule to meet the target completion dates.

- FPUC reported one existing transmission storm hardening project was completed during 2009. A transmission pole replacement project for a 69 kV transmission line on South Fletcher Avenue, parallel to the Atlantic Ocean. was initiated in 2008. The transmission line contained a mix of wooden and concrete structures. The remaining 14 wood poles were replaced with concrete poles. Design for this project was done in accordance with the storm hardening criteria outlined in the FPUC Storm Hardening Plan (130MPH Extreme wind and grade B construction). A second project under design, to replace 11 wooden 69 kV transmission poles in the Northeast Division with concrete poles along State Road 200, was temporarily placed on hold after two poles in this line were struck by vehicles during 2009. Alternate routes to minimize exposure to heavy traffic flow and increase reliability to the customers on the north end of Amelia Island are being considered in lieu of replacing existing structures. FPUC's Northwest Division currently has no 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 on effective implementation of the other two initiatives. The five IOUs have geographic information system (GIS) programs and 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 either implemented an Outage Management System (OMS) or are in the process of doing so. OMS is being utilized for the collection of information in the form of a database for emergency preparedness and will help utilities identify and restore outages sooner and more efficiently. The OMS fills a need for systems and methods to efficiently 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. Below are some 2009 highlights and projected 2010 activities for each IOU.

- FPL has added inspection records for approximately 496,000 poles in its GIS since the fourth quarter of 2006, including approximately 139,000 poles during 2009. All hardening facilities have been updated in the GIS System including the load calculation and hardening level. FPL's mobile mapping and field automation software visually identifies the facilities to be patrolled and provides the tools needed to perform forensic work such as audit trail of route traveled and data collection forms. Since no major storms impacted FPL's service territory in 2009, no analysis was conducted for overhead storm data.

- PEF has established forensics teams, measurements, and database formats. PEF has enhanced its GIS mapping system to an asset-based system from a location-based system. PEF is planning to upgrade its work management system, which will include a compliance tracking capability. This program is still in the design phase with implementation scheduled for 2011. PEF's programs are designed to identify areas where an underground distribution system would be effective both from an operational and cost benefit perspective, and to help customers considering underground projects to receive the information that supports a comprehensive decision. Beginning in 2007, PEF created a project management organization dedicated to streamlining the engineering and construction of all infrastructure projects including underground conversions. There were nine projects completed in 2009, totaling 4,959 feet or approximately one circuit mile under the work plan. Over 44 circuit miles of new construction is underground. Overall, 12,834 primary circuit miles are underground, which represents 41.4% of all circuit miles.

- TECO's process for post-storm forensic data collection and analysis has been in place for approximately three years. The company has continued its relationship with its outside contractor to perform the multiple components of the plan that include the establishment of a field asset database, forensic measurement protocol, integration of forensics activity with overall system restoration, forensics data sampling and reporting format. TECO is participating in a collaborative research effort with the state's other investor-owned electric utilities and several municipals and cooperatives to further the development of storm-resilient electric utility infrastructure and technologies that reduce storm restoration costs and outages to customers. In September 2009, Tampa Electric formally accepted its GIS system from the vendor. Development and improvement of the GIS system for users continues. A project to implement a Quality Control tool for GIS data is in progress and is expected to be implemented in the first quarter 2010. The GIS User's Group regularly reviews, evaluates and recommends enhancements for implementation. This research is being facilitated by the Public Utility Research Center (PURC) at the University of Florida. The areas of research for 2009 included the economics of undergrounding, granular analysis and modeling of hurricane winds, vegetation management, and a review of the forensic data gathering process. For 2010, work will continue on the economics of undergrounding and the analysis and modeling of hurricane winds.

- Gulf's transmission group has completed entering all transmission system data into the GIS format ahead of schedule. For its distribution facilities, Gulf has completed transition to its new Distribution Geographic Information System, called DistGIS. All overhead distribution equipment has been captured in Gulf's DistGIS. This includes conductors, regulators, capacitors and switches, protective devices such as reclosers, sectionalizers, fuses and transformers. The DistGIS is updated with any additions and changes as the associated work orders for maintenance, system improvements, and new business are completed. This provides Gulf sufficient facility information to use with collected forensic data to assess performance of its overhead system in the event of a major storm. The 2009 storm season was uneventful so there was no need to bring the forensic collection team on the system. Gulf was prepared to collect forensic data when Tropical Storm Ida threatened Northwest Florida; however, only minimal system damage occurred and forensic data collectors were not mobilized. As reported last year, Gulf expanded its record keeping and analysis of data associated with overhead and underground outages as they occur.

- FPUC has implemented a GIS mapping system to accurately maintain the location of its physical assets. The system enhances FPUC's ability to record and retrieve up-to-date information on all assets throughout the system. This system is also interfaced with the company's Customer Information System and Customer Outage Management System (OMS). The OMS was fully implemented in the Northeast Division in 2009. The improved data collection resulted in higher (poorer) reliability numbers. This was expected and can be attributed to better data collection, not a decline in system or personnel performance. While FPUC is anxious to use the OMS data to gauge the effectiveness of storm hardening programs by observing trends in reliability indices, it is apparent that using 2009 information will not produce credible trending data at this time.

Looking to the future, FPUC considers 2008 to be the baseline year for OMS data for the Northwest Division and 2009 will be the baseline year for the Northeast Division. The Northwest Division will present a better prediction of reliability in 2010 following three year's of data collection.

(8) Increased Utility Coordination with Local Governments

The Commission's goal with this program is to promote 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 fully inform customers and communities who 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 2009 highlights for each utility:

- FPL employs dedicated Account Managers to governmental accounts, conducts meetings with county emergency operations managers to discuss critical infrastructure locations in each jurisdiction, and maintains an External Response Team that consists of trained representatives who assist External Affairs in meeting the needs of local governments in times of emergency. The External Affairs organization also meets with local governments that express interest in converting overhead facilities to underground services. As part of FPL's Storm Secure Initiative, FPL filed its governmental adjustment factor (GAF) tariff in February 2006 and it was approved as a pilot by the FPSC. Through the end of December 2009, eight municipalities have signed the GAF tariff agreement and moved forward with their projects. Additionally, there were over twenty municipal requests for non-binding, order of magnitude estimates during 2009.

- PEF's storm planning and response program is operational year round and response activities for catastrophic events can be implemented at any time. There are more than 71 resources currently assigned to coordination with local governments as part of an emergency planning and response program. Also, 18 full-time employees are assigned year round to coordinating with local government on issues such as emergency planning, vegetation management, undergrounding and service related issues. PEF proactively works with local governments to inform them of its available programs to help them in their planning process. PEF's representatives continued to hold various meetings and expositions with local government, county EOCs, and first responders. In 2009, these events included discussions to coordinate emergency planning activities, training activities, and community education seminars. In 2010, there will be two to three events per region to educate the public about proper tree planting and vegetation management around transmission and distribution lines.

- TECO conducted workshops in 2009 with local government and county EOCs to discuss pre-storm preparedness and hazard mitigation and to set common priorities during emergency events. In 2009, Tampa Electric's Speakers Bureau made storm planning presentations at local Chamber of Commerce functions throughout its service area. Other presentations included a Line Clearance and Customer Communications plan for the City of Tampa, a workshop with the Hillsborough County Commission, a nine county summit and the Federal Intercept Meeting at New York University. Workshops in 2009, focused on post-disaster recovery planning as well as the joint Hillsborough County KECO Energy/Emergency Operations Center Table Top exercise. In addition, an informational workshop was held with the Hillsborough County Commission. No post-storm media communications were necessary this year due to an inactive hurricane season.

- Gulf continued coordination with local city and county emergency service agencies within its service areas. Each year, the Directors for the Escambia County, Santa Rosa County, Okaloosa County, and Bay County EOCs are asked to complete a survey regarding Gulf's participation level, responsiveness, presence in the EOCs, and overall information exchange. This survey was recently conducted for calendar year 2009. As in 2007 and 2008, all four EOCs rated Gulf Power's coordination efforts as outstanding. The surveys show that Gulf Power values and actively pursues a positive and cooperative relationship with the leadership in every community served. In addition to numerous planning meetings with the EOCs, Gulf personnel also participated in EOC Activations, Hurricane Drills, and Media Storm Training Sessions with local governments during 2009.

- FPUC actively participates with local governments in pre-planning for emergency situations and in coordinating activities during emergency situations. This year, the Northeast Division provided two hurricane preparedness training sessions to the City of Fernandina Beach Construction and Maintenance Departments. These types of sessions enable FPUC to better coordinate activities as well as highlight safety requirements when working around electrical equipment and power lines. FPUC continues to cooperate with local governments in actively discussing both undergrounding and tree trimming issues as they arise.

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

The University of Florida's Public Utility Research Center (PURC) is assisting Florida's electric utilities by coordinating a three-year research effort, which began in 2006, in the area of hardening the electric infrastructure to better withstand and recover from hurricanes. PURC hosts an annual conference to further commit to continued collaborative research in electricity infrastructure hardening efforts. Hurricane wind, 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, performing 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-06-00351-PAA-EI in April 2006, 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 enter into a memorandum of understanding (MOU) with PURC. In serving as the research coordinator for the project outlined by the MOU, PURC manages the work flow and communications, develops work plans, serves as a subject matter expert and conducts research, facilitates the hiring of experts, coordinates with research vendors, advise the project sponsors and provides reports for project activities. The Project Sponsors continued the MOU through December 31, 2011.

In 2009, the costs incurred have been directed towards the initiatives of granular winds research, undergrounding research, vegetation management, and the coordination work conducted by PURC. The Steering Committee is currently considering the next steps in these research areas. The benefits of the work realized from the time of the last report (March 2009) to the time of this report include increased and sustained collaboration and discussion between the members of the Steering Committee, greater knowledge of the determinants of damage during storm and non-storm times, greater knowledge and data from wind collection stations and post-hurricane forensics in the state of Florida, and continued state-to-state collaboration with others in the Atlantic Basin Hurricane Zone.

Hurricane Wind Effects: Appropriate hardening of the electric utility infrastructure against hurricane winds requires: 1) an accurate characterization of severe dynamic wind loading, 2) an understanding of the likely failure modes for different wind conditions, and 3) a means of evaluating the effectiveness of hardening solutions prior to implementation. The project sponsors addressed the first requirement by contracting with the University of Florida's Department of Civil & Coastal Engineering (Department) to establish a granular wind observation network designed to capture the behavior of the dynamic wind field upon hurricane landfall. Through a partnership with WeatherFlow, the network plans were expanded to include permanent stations around the coast of Florida that capture wind, temperature, and barometric pressure data. The opportunities for data collected on wind continued to expand with the addition of 50 wind stations. To address the second purpose of this project, namely to better understand the likely failure modes for different severe weather conditions, a group was convened through a series of conference calls to improve forensic data consistency. PURC developed a uniform forensics data gathering system for use by the utilities and a database that will allow for data sharing and that will match the forensics data with the wind monitoring and other weather data. The data gathering system consists of a uniform entry method that can be used on a tablet PC or entered onto the web once gathered by another means. Once a hurricane occurs and wind data is captured, forensic investigations of a utility's infrastructure failure, conducted by the utilities, will be overlaid with wind observations to correlate failure modes to wind speed and turbulence characteristics. Utility sponsors and PURC will analyze such data.

Vegetation Management: According to a 2010 study conducted by Hall Energy Consulting, Inc., vegetation is directly or indirectly the cause of nearly 48 percent of outages. Vegetation management research is directed at improving vegetation management practices so that outages, post-storm restoration efforts, and overall vegetation management costs are reduced. The first Vegetation Management Workshop was held on March 5-6, 2007, and the second was held January 26-27, 2009. Both conferences were informative and revealed nuanced information related to hurricane hardening and vegetation practices. Vegetation management programs must be on-going and involves not only the utilities, but communication with and education for the public on all aspects of vegetation management, as it relates to reliable utility operations.

Undergrounding of Electric Utility Infrastructure: The five IOU's all participate with the Public Utility Research Center (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. PURC has demonstrated the ability to lead and coordinate multiple groups in research activities, and Florida's electric utility providers continue to support these efforts.

(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 and telecommunications companies are prepared for potential hurricane events. The following are some 2009 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, coordination with government, training, practice exercises and lessons learned evaluation systems. The plan is reviewed and revised annually in an effort to continually streamline FPL's Storm Emergency Plan.

- PEF has an established storm recovery plan that is reviewed and updated annually, based on lessons learned from the previous storm season and organizational needs. Consistent with NESC Rule 250C, PEF will use the extreme wind standard for all major planned transmission work, including expansions, rebuilds, and relocations of existing facilities.

- TECO's Emergency Management Plans support all hazards, including extreme weather events. In 2009, TECO Energy companies continued to participate in internal and external preparedness exercises. TECO expanded its emergency management collaboration with government emergency management agencies, at local, state and federal levels to improve private/public sector emergency response coordination. In addition, TECO expanded the scope of the Tampa Electric Retiree Task Force to maximize coverage of company emergency support functions during an emergency. Retirees are trained alongside active employees and when activated, report under the Tampa Electric Operations or Logistics Section, as applicable. TECO continues in a leadership role in county preparedness groups. The 2010 Emergency Management budget of $228,000 will be used on internal and external training and exercises to test plans.

- Gulf Power Company's plan has been encapsulated within a detailed and proprietary Storm Recovery Plan procedure manual as an element of its Natural Disaster Preparedness and Recovery program. The manual will follow the guidelines and philosophy set forth in the Storm Recovery Plan. The restoration procedure establishes a plan of action to be utilized for the operation and restoration of generation, transmission, and distribution facilities during major disasters. Such disasters include hurricanes, tornadoes, and storms that could cause widespread outages to Gulf's customers. The overall objective is to restore electric service to the utility's customers as quickly as possible while protecting the safety of everyone involved.

- FPUC'S Emergency Procedures for both divisions were updated during 2009. FPUC utilizes the plan to prepare for storms annually and will ensure all employees are aware of their responsibilities. The primary objective of the Disaster Preparedness and Recovery Plan is to provide guidelines under which Florida Public Utilities Company will operate in emergency situations. Communication efforts with local governments, County EOCs and the media will be a key in ensuring a safe and efficient restoration effort. Key personnel will be designated as the media liaison and will ensure that communications regarding the status of the restoration activities are available on a scheduled basis. This information is contained with the Emergency Procedures that are updated on an annual basis, if required.

Section II. Actual Distribution Service Reliability and Exclusions of Individual Utilities

Retail 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 retail customer, impact the distribution service reliability experience of customers. 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 2009 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.

Florida Power & Light Company: Actual Data

Table 2-1 provides an overview of key FPL metrics: Customer Minutes of Interruption (CMI) and Customers Interrupted (CI) for 2009. Excludable outage events accounted for approximately 6 percent of the minutes of interruption experienced by FPL's customers.

Table 2-1. FPL's 2009 Customer Minutes of Interruption and Customer Interruptions

2009	Customer Minutes of Interruption (CMI)		Customers Interrupted (CI)	
	Value	% of Actual	Value	% of Actual
*Reported Actual Data	368,544,222		5,176,541	
Documented Exclusions				
Named Storm Outages	0	0.00%	0	0.00%
Fires	0	0.00%	0	0.00%
Planned Outages	8,355,722	2.27%	66,860	1.29%
Customer Request	3,816,414	1.04%	73,566	1.42%
Tornadoes	4,559,970	1.24%	45,687	0.88%
Other	4,740,083	1.29%	47,792	0.92%
Reported Adjusted Data	347,072,033	94.17%	4,942,636	95.48%

*Revised July, 2010

FPL provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2009. In a memorandum received July 2010, FPL sent a revision to pages 110 thru 115 of its 2009 reliability report, to reflect corrected data in the reliability information, outage causes and the 3% worst-performing feeders listing in the report as shown below:

	As Filed	Revised	% Change
Total Outages			
Unadjusted	104,390	104,476	increased 0.08%
Adjusted	95,314	95,400	increased 0.09%

Outage Causes	Increased by
Unknown	51
Equipment	20
Other	11
Other Weather	2
Animals	1
Vehicles	1
	86

Progress Energy Florida, Inc.: Actual Data

Table 2-2 provides an overview of PEF's CMI and CI figures for 2009. Excludable outage events accounted for approximately 24 percent of the minutes of interruption experienced by PEF's customers. In 2009, PEF experienced seven tornadoes and two named storms. Tropical Storms Claudette and Ida accounted for 12 percent of the severe weather total. The remaining excluded customer minutes of interruption (CMI) of the severe weather total were due to confirmed tornadoes across PEF's territory.

Table 2-2. PEF's 2009 Customer Minutes of Interruption and Customer Interruptions

2009	Customer Minutes of Interruption (CMI)		Customers Interrupted (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	177,284,776		2,665,344	
Documented Exclusions				
Severe Weather (Distribution)	10,025,775	5.66%	117,483	4.41%
Transmission (Severe Weather)	174,487	0.10%	6,486	0.24%
Transmission (Non Severe Weather)	18,099,101	10.21%	348,269	13.07%
Emergency Shutdowns (Severe Weather)	330,962	0.19%	16,521	0.62%
Emergency Shutdowns (Non Severe Weather)	6,688,940	3.77%	361,208	13.55%
Prearranged (Severe Weather)	117,182	0.07%	734	0.03%
Prearranged (Non Severe Weather)	7,285,053	4.11%	61,983	2.33%
Reported Adjusted Data	134,563,276	75.90%	1,752,660	65.76%

PEF provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C. for calendar year 2009.

Tampa Electric Company: Actual Data

Table 2-3 provides an overview of TECO's CMI and CI figures for 2009. Excludable outage events accounted for approximately 32 percent of the minutes of interruption experienced by TECO's customers. TECO reported that it did not experience extreme weather events in 2009 that would cause outages.

Table 2-3. TECO's 2009 Customer Minutes of Interruption and Customer Interruptions

2009	Customer Minutes of Interruption (CMI)		Customers Interrupted (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	52,329,118		738,945	
Documented Exclusions				
Transmission	5,218,366	9.97%	150,580	20.38%
Other Distribution	986,433	1.89%	68,035	9.21%
Distribution Substation	10,470,716	20.01%	229,570	31.07%
Reported Adjusted Data	35,653,603	68.13%	290,760	39.35%

TECO provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2009.

Gulf Power Company: Actual Data

Table 2-4 provides an overview of Gulf's CMI and CI figures for 2009. Excludable outage events accounted for approximately 11.5 percent of the minutes of interruption experienced by Gulf's customers. Gulf reported there was an extreme March weather event that was not excludable because it was not a named storm or NWS recordable tornado. Gulf also reported that Tropical Storm Claudette, which occurred in August 2009, and Tropical Storm Ida, which occurred in November 2009, caused outages which met the FPSC exclusion criteria.

Table 2-4. Gulf's 2009 Customer Minutes of Interruption and Customer Interruptions

	Customer Minutes of Interruption (CMI)		Customers Interrupted (CI)	
	Value	**% of Actual**	**Value**	**% of Actual**
Reported Actual Data	67,748,465		745,010	
Documented Exclusions				
Transmission Events	2,760,528	4.07%	85,865	11.53%
Planned Outages	1,664,523	2.46%	41,142	5.52%
Named Storm Outages	3,378,447	4.99%	36,075	4.84%
Tornado	0	0.00%	0	0.00%
Reported Adjusted Data	59,944,967	88.48%	581,928	78.11%

Gulf provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for calendar year 2009.

Florida Public Utilities Company: Actual Data

Table 2-5 provides an overview of FPUC's CMI and CI figures for 2009. Excludable outage events accounted for approximately 51 percent of the minutes of interruption experienced by FPUC's customers. FPUC reported two occasions in 2009 where vehicles struck wooden poles on the transmission lines causing loss of power and interrupting service to customers. FPUC also reported that the Northeast Division was not affected by a named storm during 2009; however, the Northwest Division was impacted by two tropical storms in 2009. Tropical Storm Claudette caused outages August 17, 2009, and Tropical Storm Ida caused outages during November 9-10, 2009.

Table 2-5. FPUC's 2009 Customer Minutes of Interruption and Customer Interruptions

	Customer Minutes of Interruption (CMI)		**Customer Interruptions (CI)**	
	Value	**% of Actual**	**Value**	**% of Actual**
Reported Actual Data	11,882,322		76,597	
Documented Exclusions				
Planned Outages	23,305	0.20%	1,847	2.41%
Transmission Events	5,453,933	45.90%	13,439	17.55%
Substation	203,966	1.72%	3,639	4.75%
Severe Storm Outages	65,926	0.55%	1,103	1.44%
Named Storm Outages	23,424	0.20%	400	0.52%
Reported Adjusted Data	5,770,554	48.56%	56,169	73.33%

FPUC provided adequate support for its excludable event adjustments allowed by Rule 25-6.0455(4), F.A.C., for the calendar year 2009.

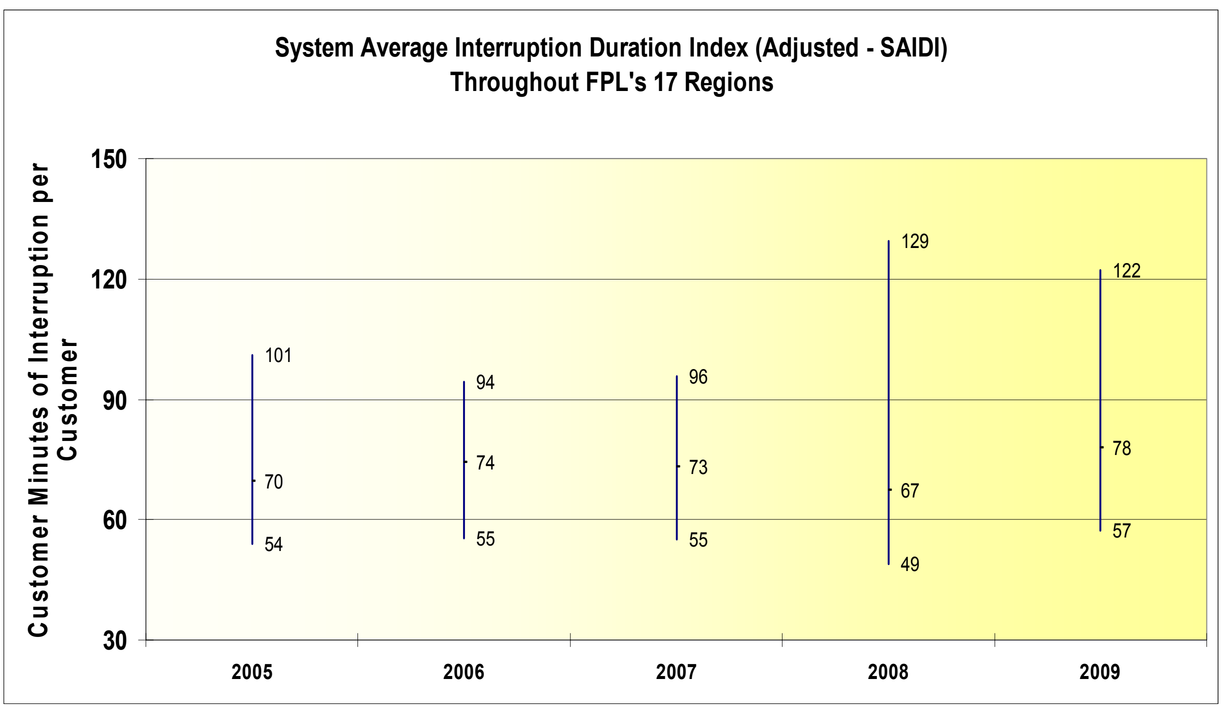
Section III. Adjusted Distribution Service Reliability Review of Individual Utilities

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 (system average interruption duration index) recorded across FPL's system that encompasses five management regions with seventeen service areas. The highest and lowest SAIDI values are the values reported for a particular service area. Figure 3-1 shows an increase in the lowest SAIDI to 57 minutes for the Pompano service area in 2009, and there is a significant increase in the highest SAIDI to 122 minutes for the South Dade service area. The South Dade service area has experienced the highest SAIDI values in two out of the last five years. FPL had an overall increase of 11 minutes (14 percent) to the average SAIDI results for 2009 compared to 2008, and the highest average SAIDI reported in the past 5 years. FPL attributes the SAIDI increase primarily to the increase in the 2009 CAIDI (average length of time a customer is without power) performance.

Figure 3-1. SAIDI across FPL's 17 Regions (Adjusted)

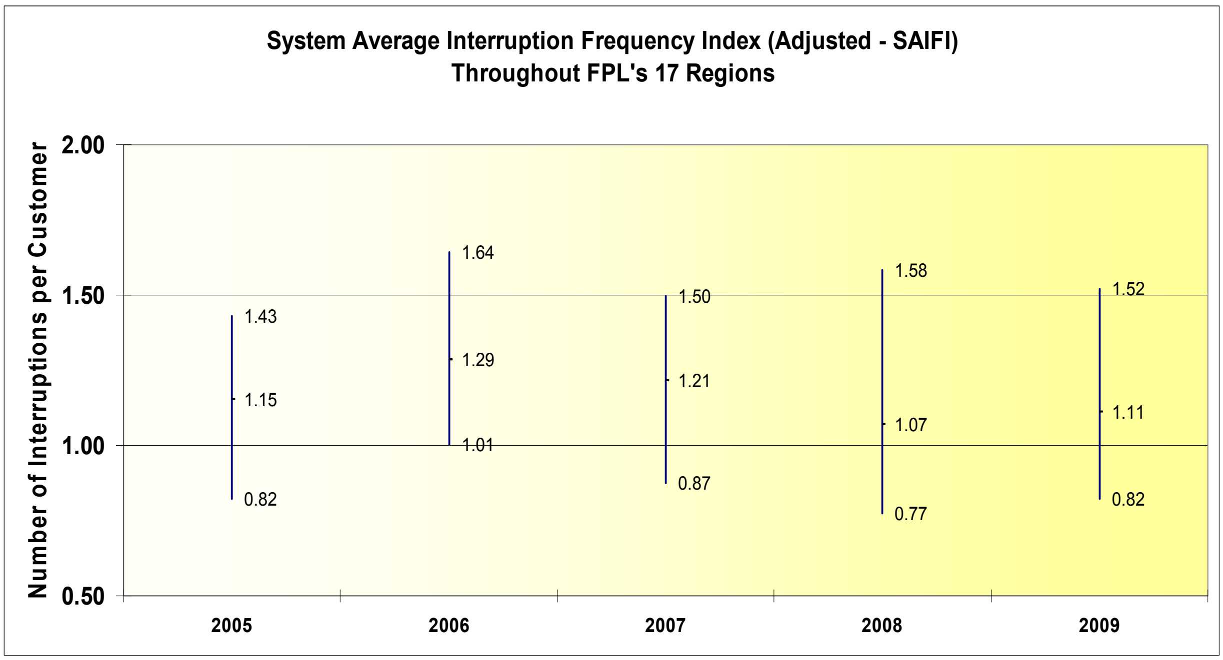


FPL's Regions with the Highest and Lowest Adjusted SAIDI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIDI	Treasure Coast	W. Dade	S. Dade	N. Florida	S. Dade
Lowest SAIDI	Manasota	Brevard	Gulf Stream	Pompano	Pompano

Figure 3-2 is a chart of the highest, average, and lowest adjusted SAIFI (frequency or number of interruptions per customer) across FPL's system. FPL had a marginal increase in the average results of 1.11 outages in 2009, compared to 1.07 outages in 2008. FPL reported a decrease to the highest SAIFI for South Dade of 1.52 interruptions compared to North Florida's 1.58 interruptions in 2008. The Toledo Blade area, within the last five years, has had the lowest SAIFI of 0.82 and 0.77 interruptions, respectively. Both the average and lowest SAIFI appear to be trending downward suggesting an improvement. The highest SAIFI trend appears to be relativity flat.

Figure 3-2. SAIFI across FPL's 17 Regions (Adjusted)

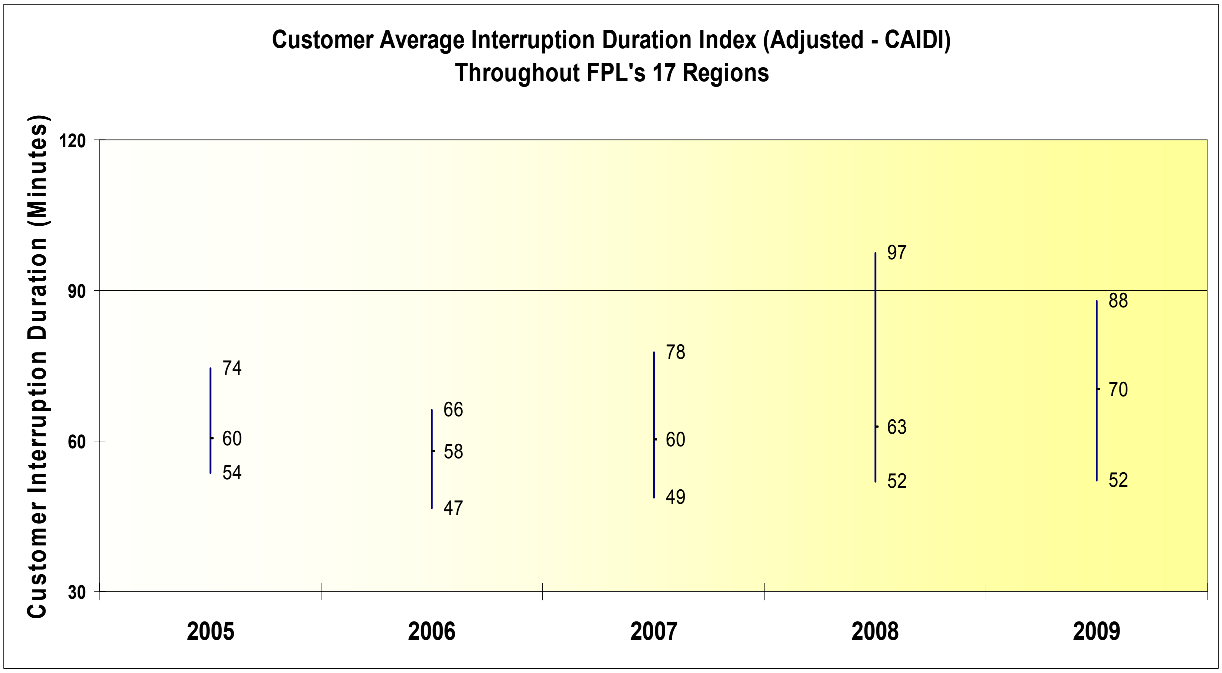


FPL's Regions with the Highest and Lowest Adjusted SAIFI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIFI	Treasure Coast	W. Dade	Wingate	N. Florida	S.Dade
Lowest SAIFI	Toledo Blade	Manasota	Manasota	Toledo Blade	Pompano

Figure 3-3 is a chart of the customer outage restoration times across FPL's system. FPL's adjusted average CAIDI has risen approximately 11 percent from 63 minutes in 2008, to 70 in 2009. For the five year period beginning in 2005, the average duration of CAIDI, or the average number of minutes a customer is without power when a service interruption occurs, has risen 17 percent. The Gulf Stream service area appears to have the lowest amount of time a customer is without power since it has experienced the lowest CAIDI for three of the last five years.

Figure 3-3. CAIDI across FPL's 17 Regions (Adjusted)



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

	2005	2006	2007	2008	2009
Highest CAIDI	Toledo Blade	S.Dade	Manasota	N. Dade	Manasota
Lowest CAIDI	Gulf Stream	Gulf Stream	Gulf Stream	Boca Raton	Boca Raton

The average length of time that FPL spends recovering from outage events, excluding hurricanes and other extreme outage events is the index known as L-Bar and is shown in Figure 3-4. FPL had a 7 percent increase in L-Bar (the time required to restore service) from 199 minutes in 2008, to 214 minutes in 2009, which represents the highest average duration of outages since 2005. 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)

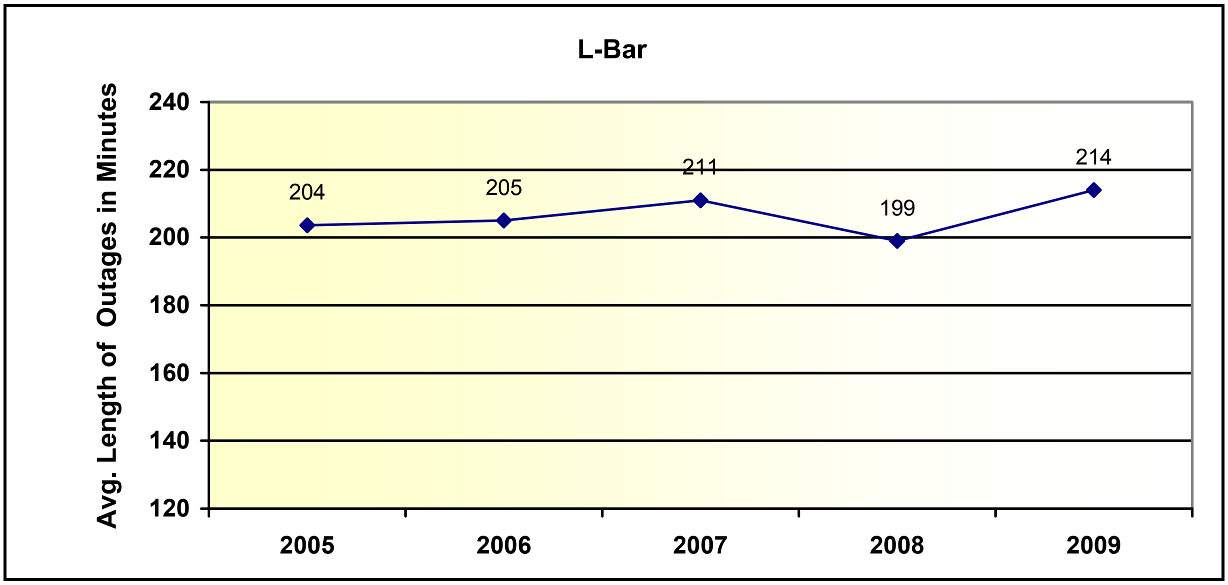
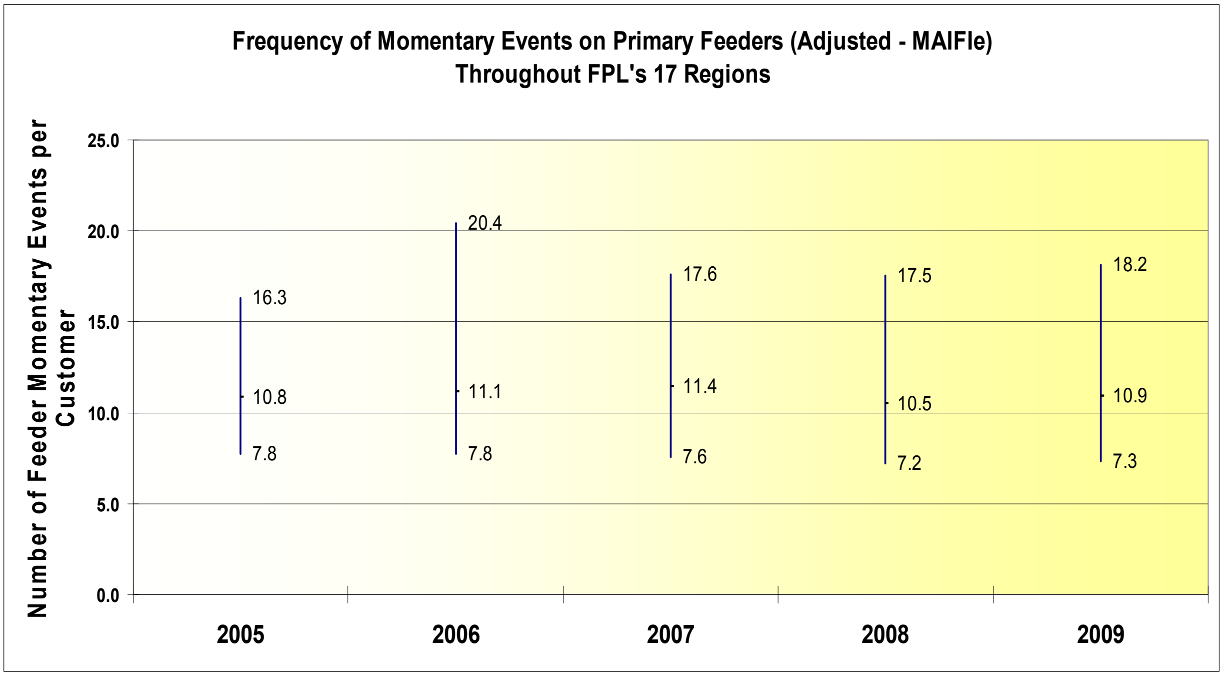


Figure 3-5 is the highest, average, and lowest adjusted MAIFIe (frequency of momentary events on primary circuits per customer) recorded across FPL's system. These momentary events often impact a small group of customers. FPL's Toledo Blade and Treasure Coast service areas have experienced, and continue to have, the least reliable MAIFIe results over the 17 regions of FPL since 2005. The Pompano service area had the fewest momentary events and the results have remained relatively stable over the last five years.

Figure 3-5. MAIFIe across FPL's 17 Regions (Adjusted)

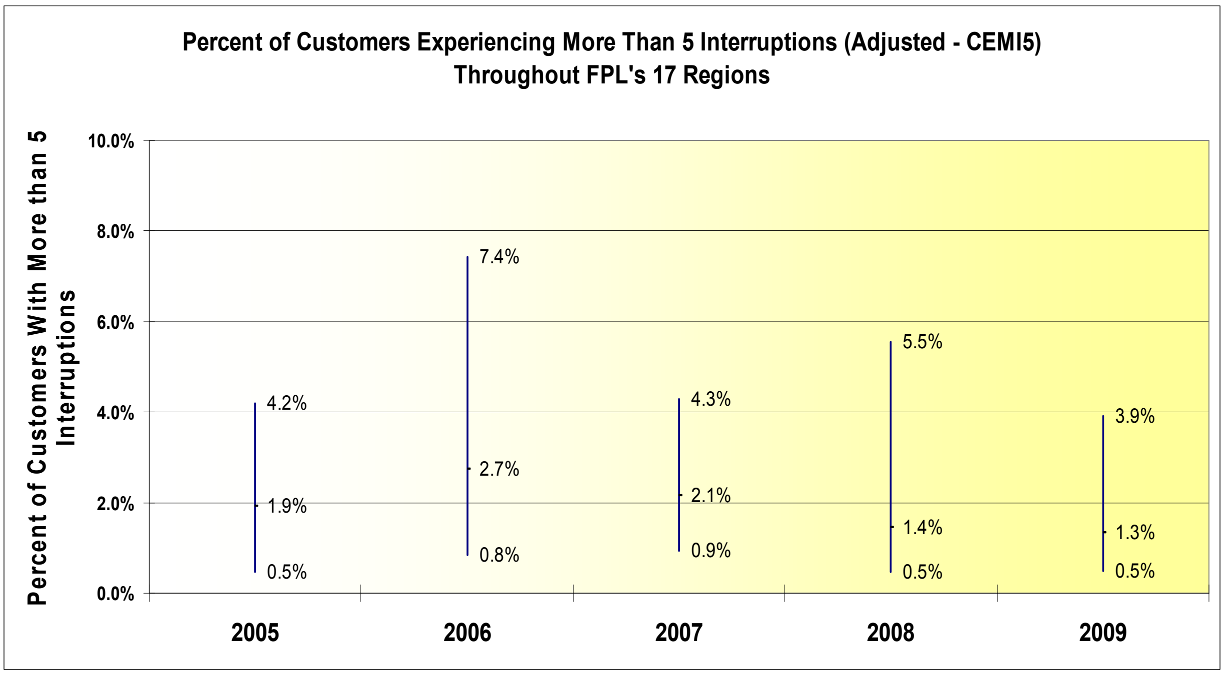


FPL's Regions with the Highest and Lowest Adjusted MAIFIe Performance by Year

	2005	2006	2007	2008	2009
Highest MAIFIe	Toledo Blade	Toledo Blade	Treasure Coast	Treasure Coast	Toledo Blade
Lowest MAIFIe	Pompano	Pompano	Pompano	Pompano	Pompano

Figure 3-6 shows the highest, average, and lowest adjusted CEMI5 (percent of customers experiencing more than five interruptions). FPL reported a decrease in CEMI5 for FPL's combined 17 service areas indicating an improvement in the percentages across the board. FPL's customers with more than five interruptions per year appear to be decreasing and represents an overall improvement that appears to be trending downward The service areas experiencing the highest CEMI5 appears to fluctuate among the areas; however, Brevard is reported as having the lowest percentages in three of the last five years.

Figure 3-6. CEMI5 across FPL's 17 Regions (Adjusted)



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

	2005	2006	2007	2008	2009
Highest CEMI5	Treasure Coast	W. Dade	Naples	N. Florida	S.Dade
Lowest CEMI5	Brevard	Brevard	Brevard	Gulf Stream	Pompano

The Three Percent Feeder Report is a listing of the top three percent of feeders with the most feeder outage events. The fraction of multiple occurrences, Figure 3-7, 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 and five-year percentages of multiple occurrences have decreased since 2005 as shown in Figure 3-7.

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

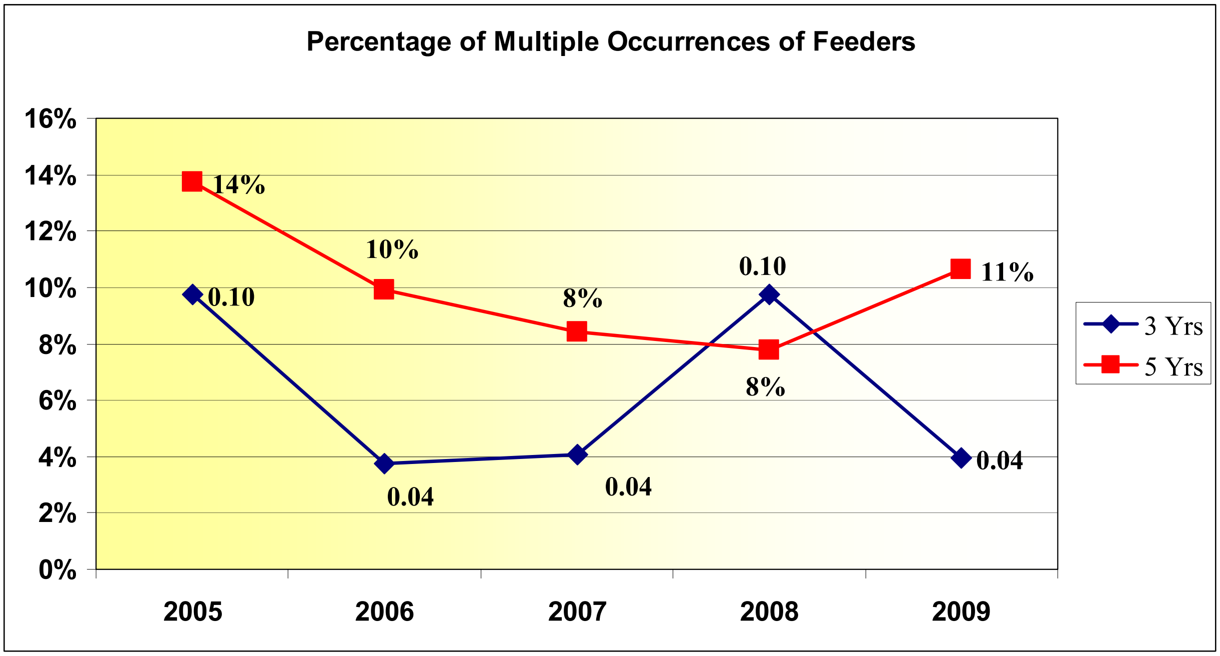
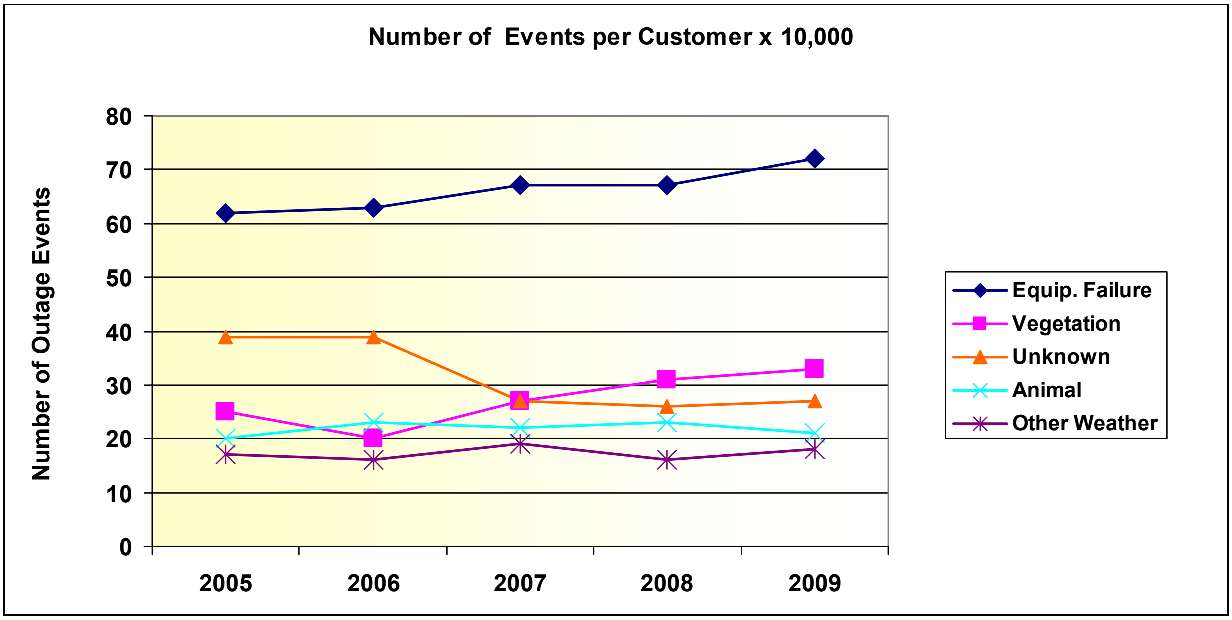


Figure 3-8 shows the top five causes of outage events on FPL's distribution system normalized to a 10,000 customer base. The graph is based on FPL's adjusted data of the top ten causes of outage events. For the five-year period, the five top causes of outage events included equipment failures (33 percent), vegetation (16 percent), unknown (12 percent), animals (10 percent), and other weather (9 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. In addition, FPL's supporting data, shows a 6 percent increase in outage events due to vegetation and little change in the total number of outage events due to unknown, animal, and other weather over the five-year period.

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



Observations: FPL's Adjusted Data

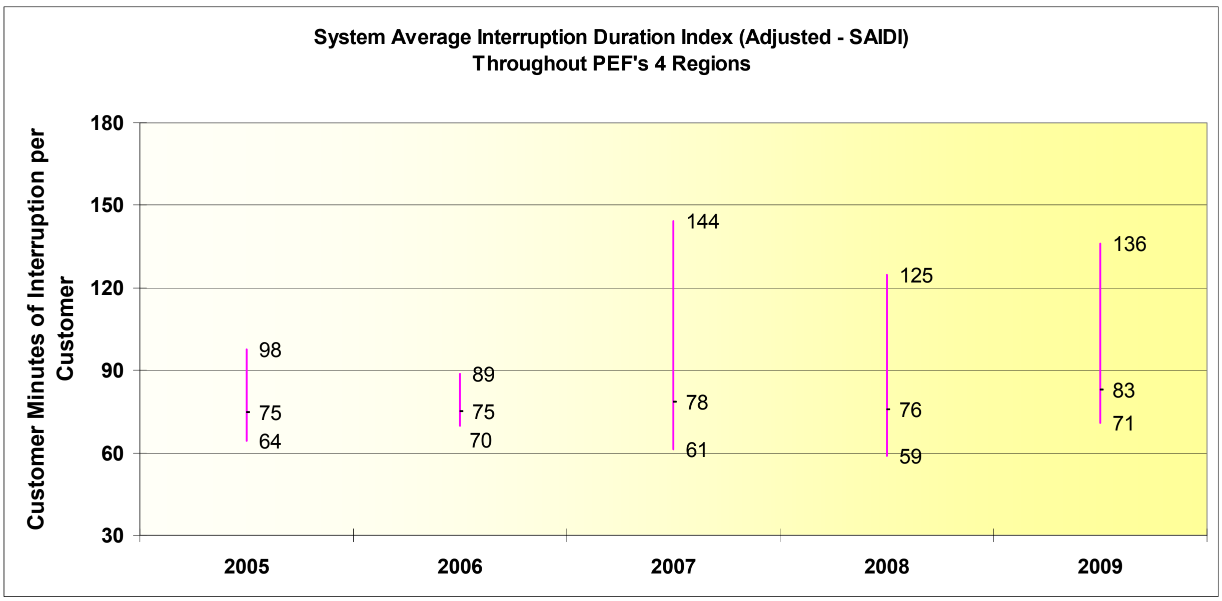
South Dade appears to have the least reliable overall service results compared to other FPL regions across the 17 service areas, whereas, Pompano has achieved the best service reliability among the same service areas. The 2009 reports show the system indices for SAIDI, CAIDI, SAIFI, MAIFIE, L-Bar, and the Three Percent Feeder Report results are all slightly higher than the 2008 results. Although there does not seem to be an explanation for the increases in the 2009 report, FPL reports that its indexes are among the best reliability results across the nation.

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, average, and lowest values for 2009. PEF notes that the annual adjusted reliability performance always includes a degree of variability due to the number of confirmed tornadoes by the National Weather Service (NWS) as opposed to those not confirmed by the NWS. PEF reported wind gusts reached over 50 mph at the Belleair substation on June 23, 2009 and added 4.8 minutes to the system SAIDI for that day. PEF stated this is 20 times higher than the average day and represented more than 6 percent of the SAIDI allotment for the year. The adjusted SAIDI for 2009 was reported as 82.8 minutes, and PEF noted that the results would have been 78.0 minutes for 2009, had the June 23rd event been excludable.

PEF's service territory is comprised of four regions; North Coastal, South Coastal, North Central and South Central. The North Coastal region has had the poorest SAIDI over the last five years, oscillating between 98 minutes and 136 minutes. While the South Coastal region has the best or lowest SAIDI for the same period.

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

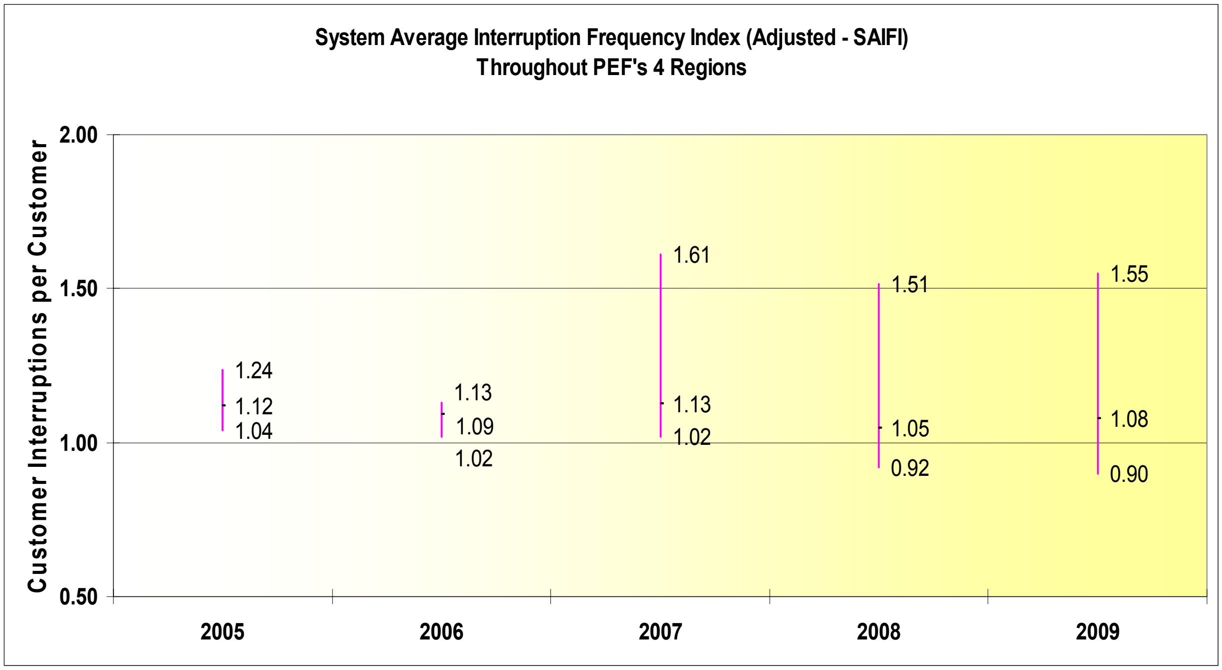


PEF's Regions with the Highest and Lowest Adjusted SAIDI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIDI	N. Coastal	N. Coastal	N. Coastal	N. Coastal	N. Coastal
Lowest SAIDI	S. Coastal	S. Coastal	S. Coastal	S. Coastal	S. Central

Figure 3-10 shows the adjusted SAIFI (number of times a customer experiences a power interruption) across PEF's system. Overall, there was little change in the average SAIFI index from 2008 to 2009, and a slight decline in the frequency of interruptions since 2005. The South Coastal region had the lowest number of interruptions while the highest numbers can be attributed to the South Central and North Coastal regions over the last five years.

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

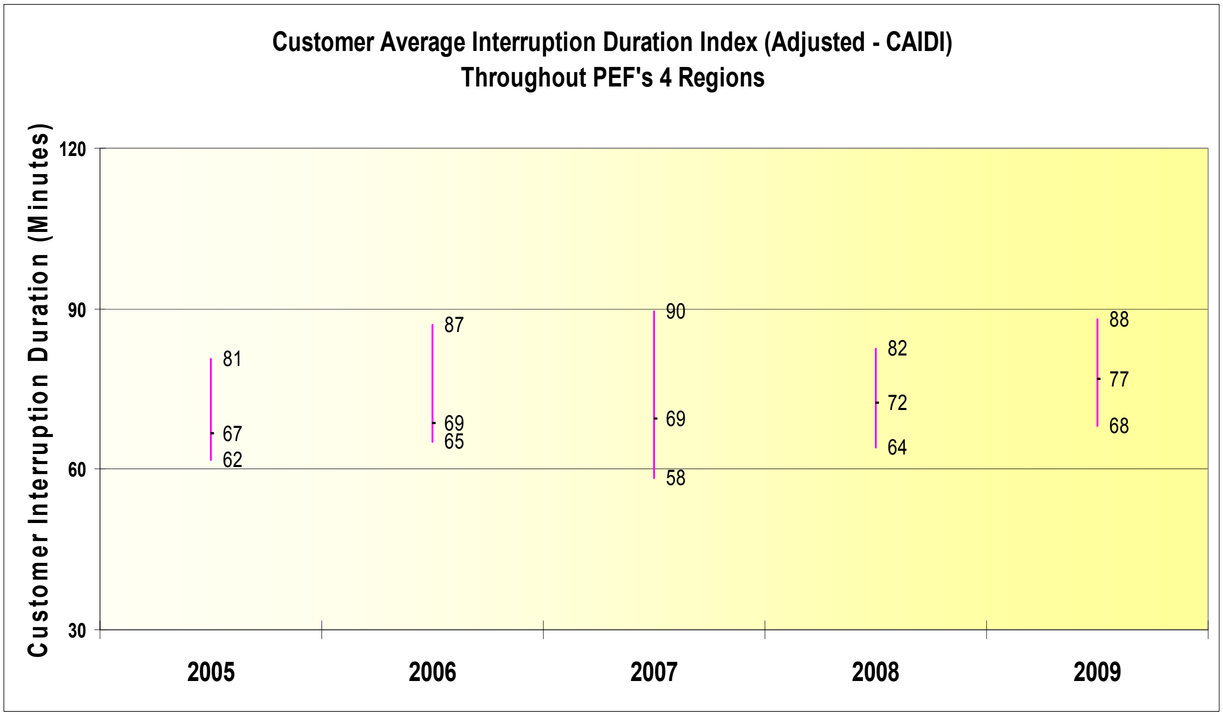


PEF's Regions with the Highest and Lowest Adjusted SAIFI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIFI	S. Central	N. Central	N. Coastal	N. Coastal	N. Coastal
Lowest SAIFI	S. Coastal	N. Coastal	S. Central	S. Coastal	S. Central

Figure 3-11 is the interruption duration times across PEF's four regions. PEF's adjusted average duration of service interruption has risen approximately 15 percent from 67 minutes in 2005 to 77 minutes in 2009. 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 region has maintained the lowest CAIDI level during the same time frame.

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



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

	2005	2006	2007	2008	2009
Highest CAIDI	N. Coastal	N. Coastal	N. Coastal	N. Coastal	N. Coastal
Lowest CAIDI	S. Coastal	S. Coastal	S. Coastal	S. Coastal	S. Coastal

The average length of time PEF spends restoring customers affected by outage events, excluding hurricanes and other extreme outage events is the index known as L-Bar shown in Figure 3-12. The data demonstrates an overall 8 percent increase of outage durations since 2005, and a 7 percent increase from 2008 to 2009, indicating that PEF is spending a longer time restoring service from outage events.

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

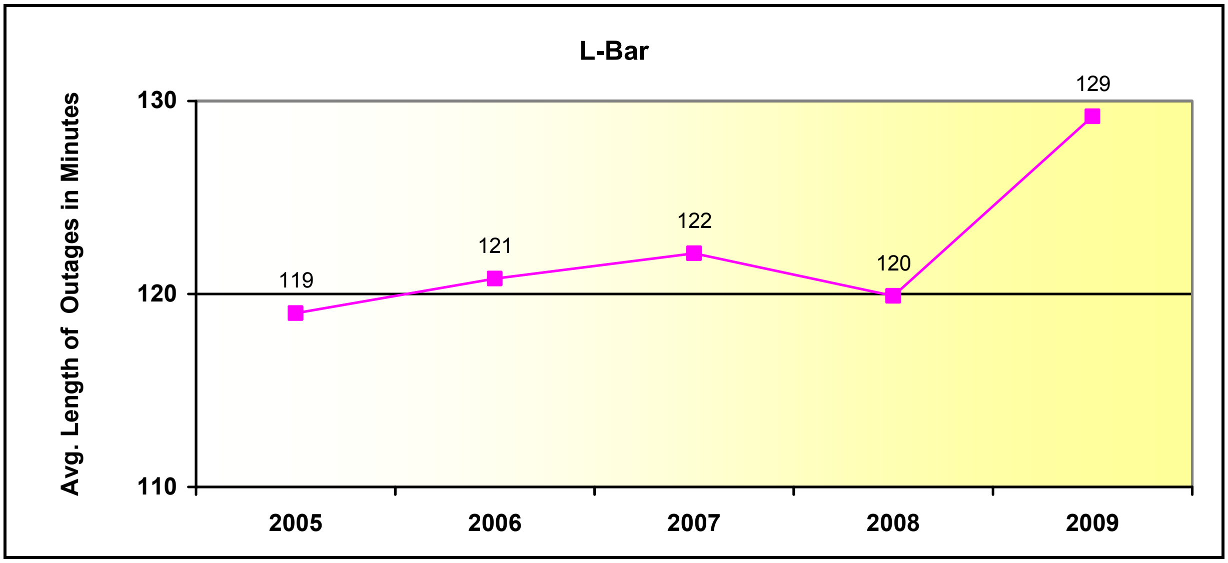
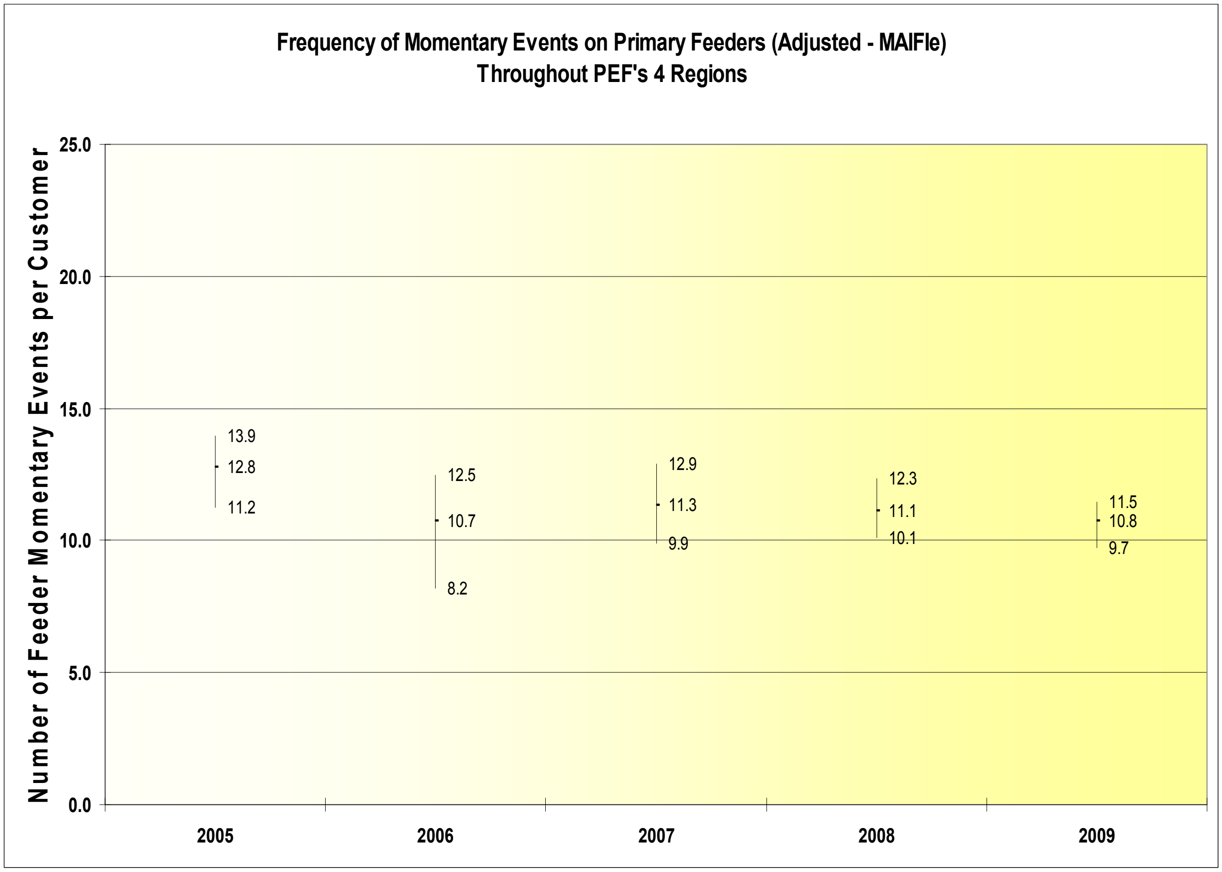


Figure 3-13 illustrates the frequency of momentary events on primary circuits for PEF's customers recorded across its system. A review of the supporting data suggests that the MAIFIe results between 2005 and 2009, appear to be trending downward. The best (lowest) results appear to be distributed among the regions.

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

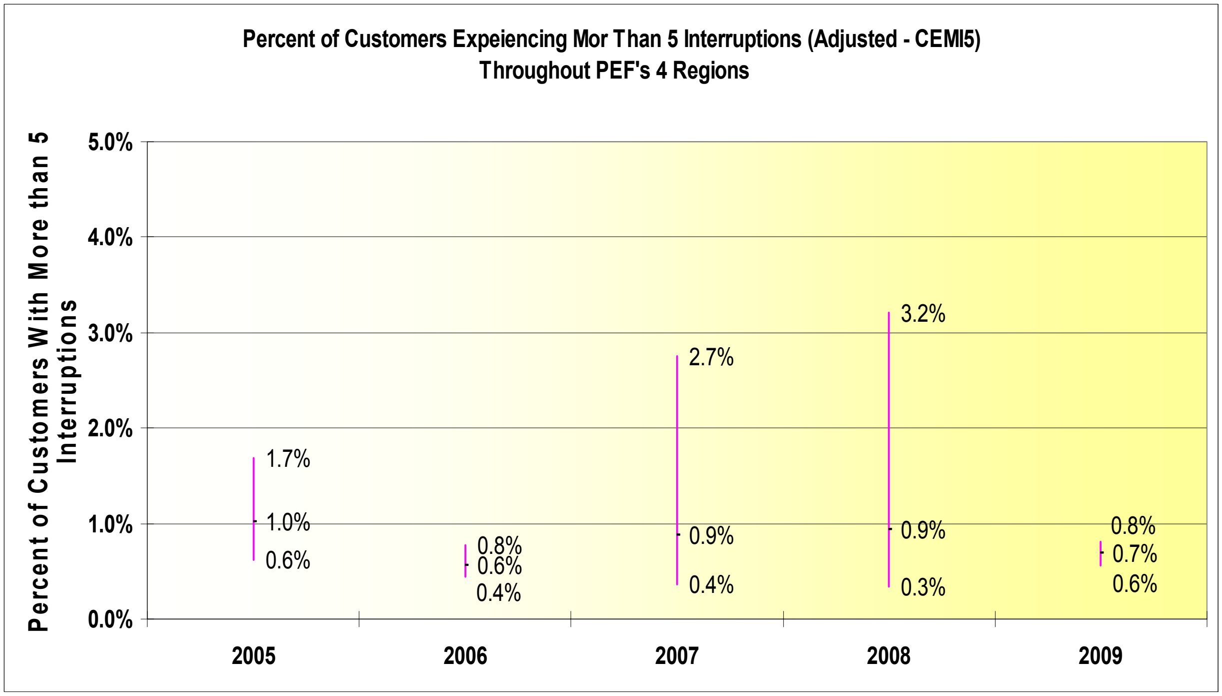


PEF's Regions with the Highest and Lowest Adjusted MAIFIe Performance by Year

	2005	2006	2007	2008	2009
Highest MAIFIe	S. Central	S. Coastal	S. Coastal	S. Coastal	S. Coastal
Lowest MAIFIe	N. Coastal	N. Coastal	N. Central	N. Central	S. Central

Figure 3-14 charts the percent of PEF's customers experiencing more than five interruptions over the last five years. PEF reported a 22 percent decrease in the average CEMI5 performance from 2008 to 2009. The South Coastal region continues to have the lowest reported percentage for all of PEF's regions. Overall, the reduced CEMI5 results indicate a significant improvement among all four PEF regions in 2009.

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



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

	2005	2006	2007	2008	2009
Highest CEMI5	S. Central	N. Central	N. Coastal	N. Coastal	N. Coastal
Lowest CEMI5	S. Coastal	S. Central	S. Central	S. Coastal	S. Coastal

The Three Percent Feeder Report lists the top three percent of feeders with the most feeder outage events. The fraction of multiple occurrences, Figure 3-15, is calculated from the number of recurrences divided by the number of feeders reported. Figure 3-15 shows the fraction of multiple occurrences of feeders using a three-year and five-year basis. During the period of 2008 to 2009, the five-year fraction of multiple occurrences continued to decline, while the three-year results had a significant increase compared to 2008 results.

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

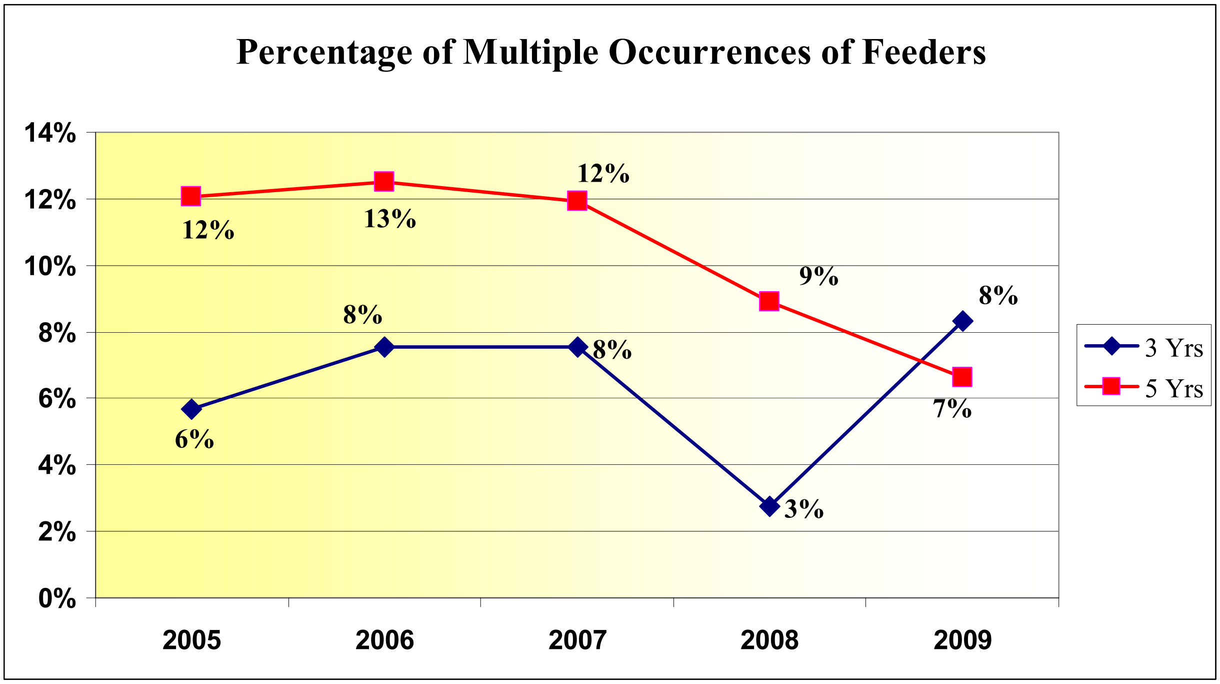
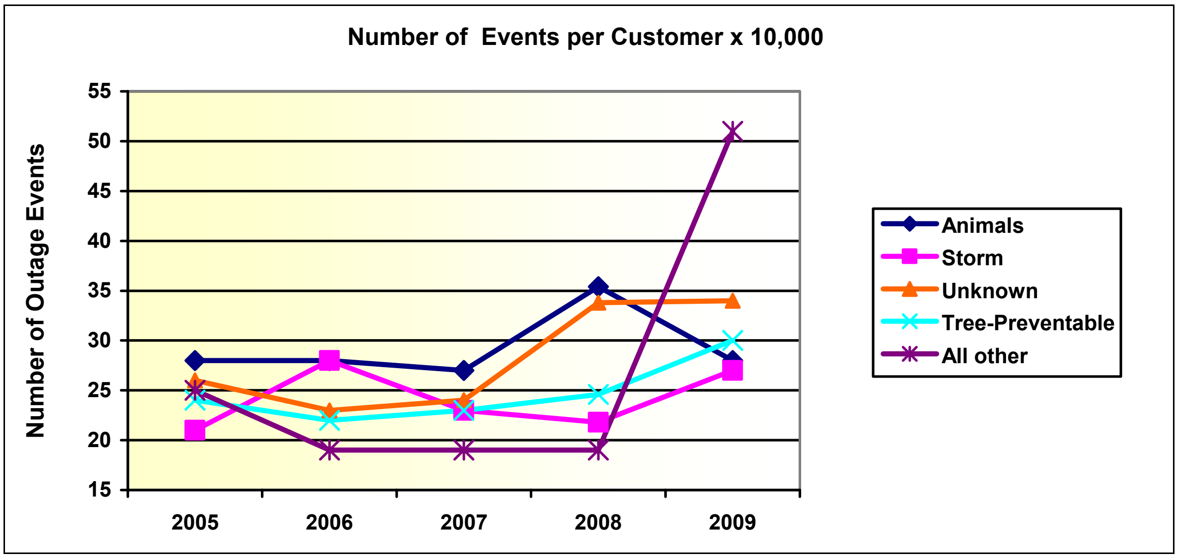


Figure 3-16 shows the top five causes of outage events on PEF's distribution system normalized to a 10,000 customer base. The figure is based on PEF's adjusted data of the top ten causes of outage events and represents 65.5 percent of the top ten causes of outage events that occurred during 2009. For the five-year period, the top five causes of outage events were: all other (20 percent), unknown (13 percent), animals (11 percent), tree-preventable (11 percent), and storm (10 percent) on a cumulative basis. The category "all other" is used when no reasonable evidence is available as to what caused the outage, and the figure climbed 266 percent from 2008 to 2009. PEF stated the increase can be attributed to the fact that underground service outages were included as a subset of the "all other" category in 2009 whereas in 2008 the underground service outages had not been included.

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



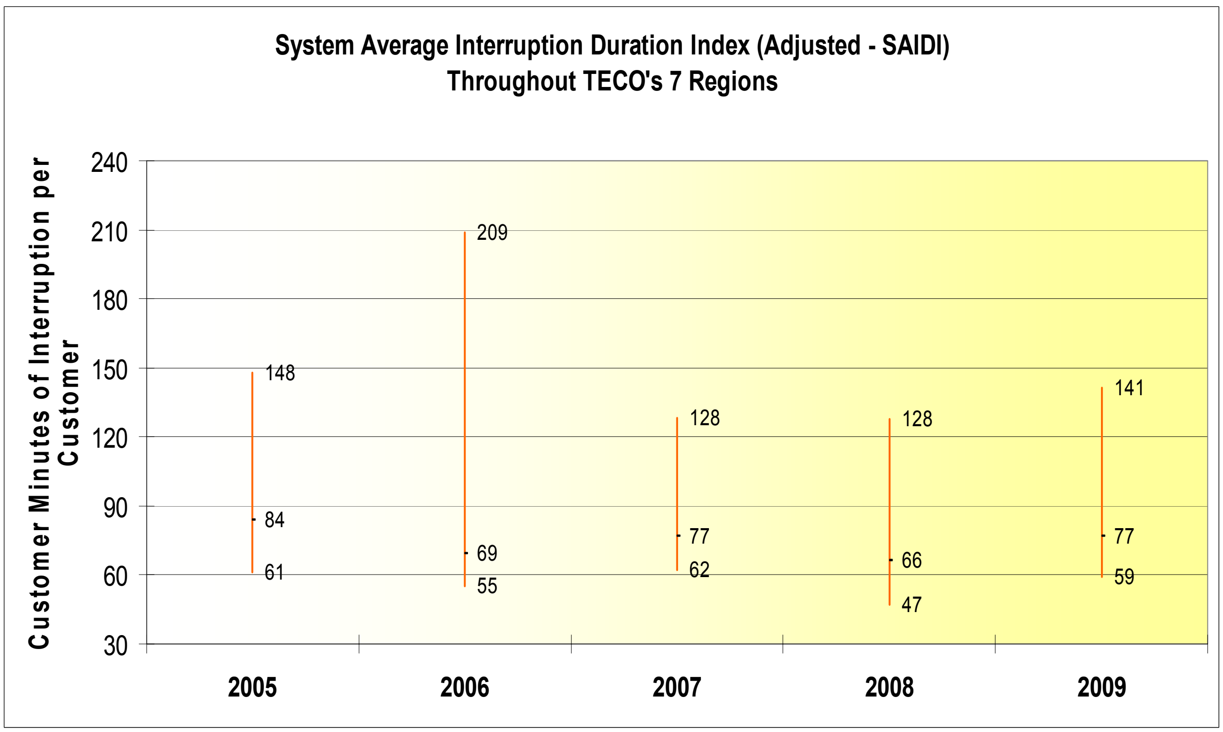
Observations: PEF's Adjusted Data

In general, the increase in trends for the CAIDI index appears to relate directly to the results of the North Coastal Region which has demonstrated the lowest service reliability of the four regions within PEF for the past five years. The South Coastal region had the most reliable SAIDI results of the four regions within PEF for four out of the last five years. There appears to be an upward trend (reliabilty is degrading) in the indexes in the North Coastal Region. This region has not demonstrated any improvement in the SAIDI, SAIFI, and CAIDI results for the period from 2005 to2009.

Tampa Electric Company: Adjusted Data

Figure 3-17 shows the adjusted SAIDI values recorded across TECO's system. Six of the seven TECO regions had an increase in SAIDI performance during 2009, with Plant City and Dade City having the highest SAIDI performance results for the fifth year in a row. Figure 3-17 shows an increase in the highest, average, and lowest SAIDI recorded for all of TECO's regions. Dade City and Plant City have the fewest customers and represent the most rural, lowest customer density per line mile in comparison to the other four Tampa Electric divisions. Actual reliability indices for the rural areas have varied from those of the more urban, densely populated areas for this period. The overall SAIDI values for TECO from 2005 to 2009 continue to go up and down, giving no indication of any patterns or trends on a company-wide basis.

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

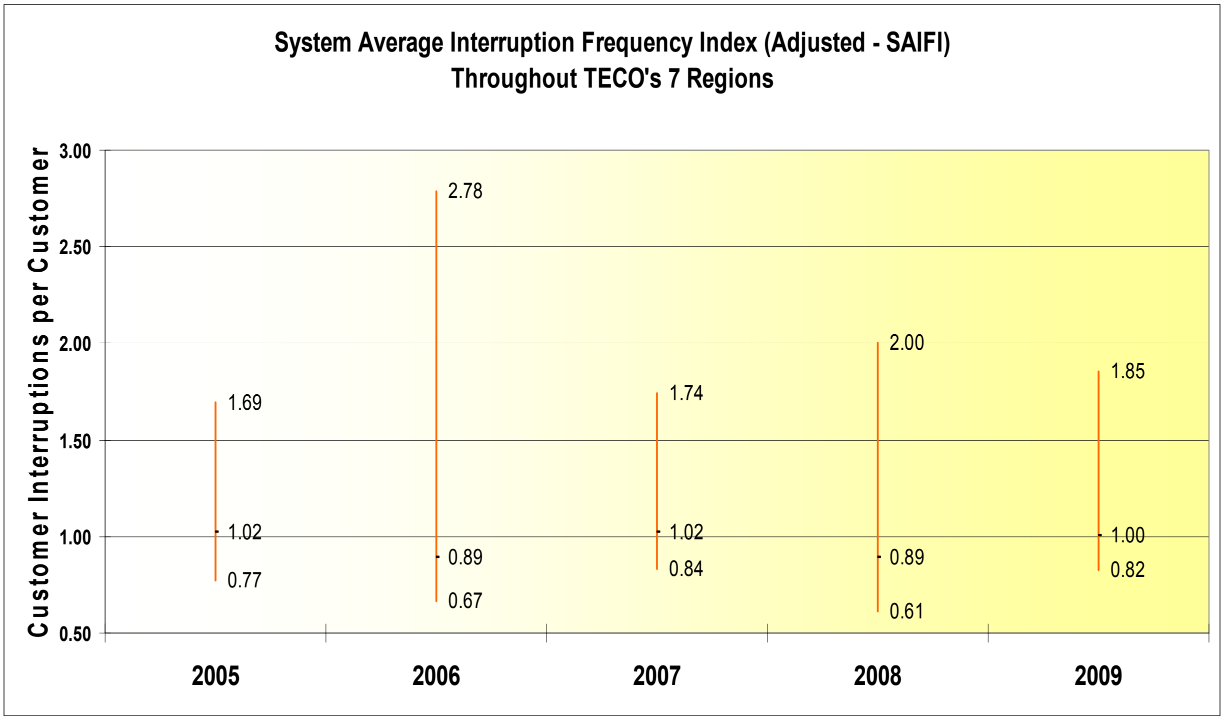


TECO's Regions with the Highest and Lowest Adjusted SAIDI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIDI	Dade City	Dade City	Plant City	Dade City	Plant City
Lowest SAIDI	Central	Central	Central	Central	Winter Haven

Figures 3-18 illustrates the adjusted number of interruptions per customer across TECO's system. TECO's data reported a decline in reliability in the average and lowest adjusted SAIFI results, with a 12 percent increase in the SAIFI average from 0.89 interruptions in 2008 to 1.00 interruptions in 2009. As noted in TECO's 2009 Reliability Report, all the service regions do not experience comparable reliability. TECO's Dade City and Plant City regions both have the highest service interruptions when compared to TECO's other regions. Staff has not identified any specific patterns among the SAIFI results throughout the seven TECO regions, as the average results varies between 1.02 to 0.89 interruptions.

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

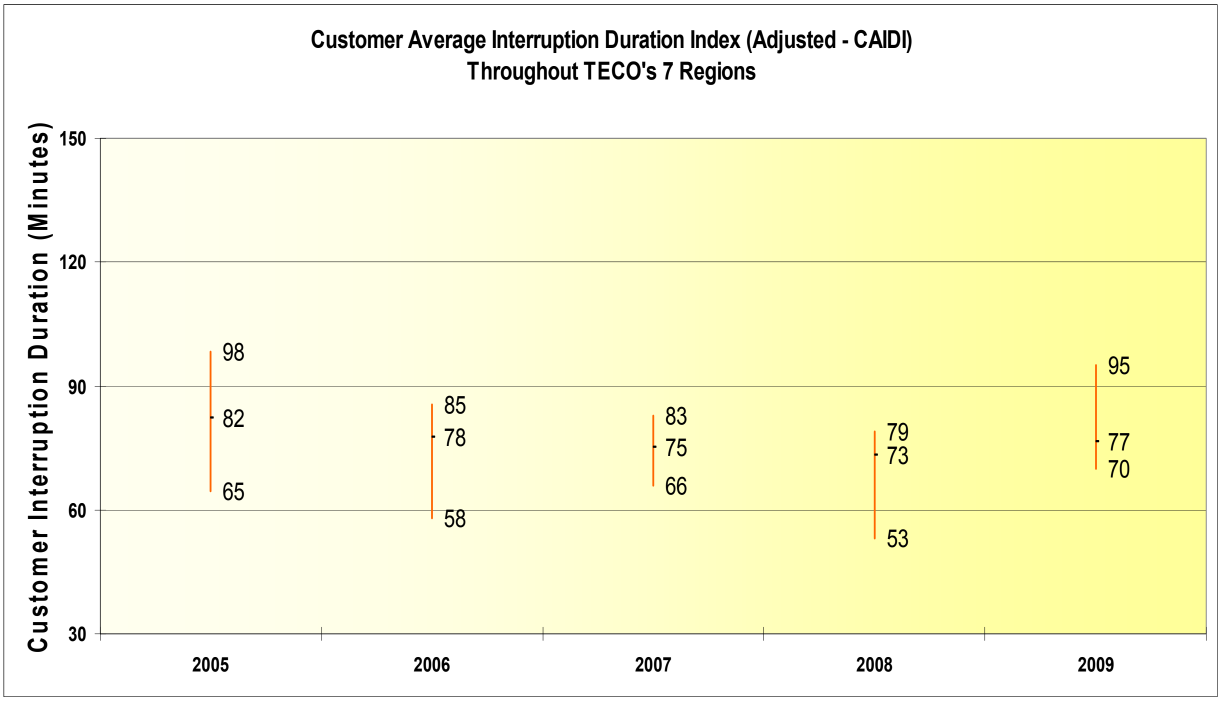


TECO's Regions with the Highest and Lowest Adjusted SAIFI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIFI	Plant City	Dade City	Dade City	Dade City	Dade City
Lowest SAIFI	Central	Central	Central	Central	Central

The length of time that a typical TECO customer experiences an outage is illustrated in Figure 3-19. The highest CAIDI minutes do not appear to be confined to any particular service area; however, Dade City and Plant City both make appearances. Winter Haven has had the lowest (best) results for four out of the last five years. The average seems to be trending along a flat line at this time suggesting stability in the duration of a customer's outage.

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



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

	2005	2006	2007	2008	2009
Highest CAIDI	Dade City	Western	Plant City	Plant City	S. Hillsborough
Lowest CAIDI	Winter Haven	Winter Haven	S. Hillsborough	Winter Haven	Winter Haven

The average length of time TECO spends restoring service to its customers affected by outage events, excluding hurricanes and other extreme outage events is shown in the index L-Bar. Figure 3-20 denotes a 10.4 percent increase in outage durations for the period from 2008 to 2009. TECO has made a 13 percent improvement in L-Bar since 2007 and L-Bar appears to be trending downward suggesting an overall improvement.

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

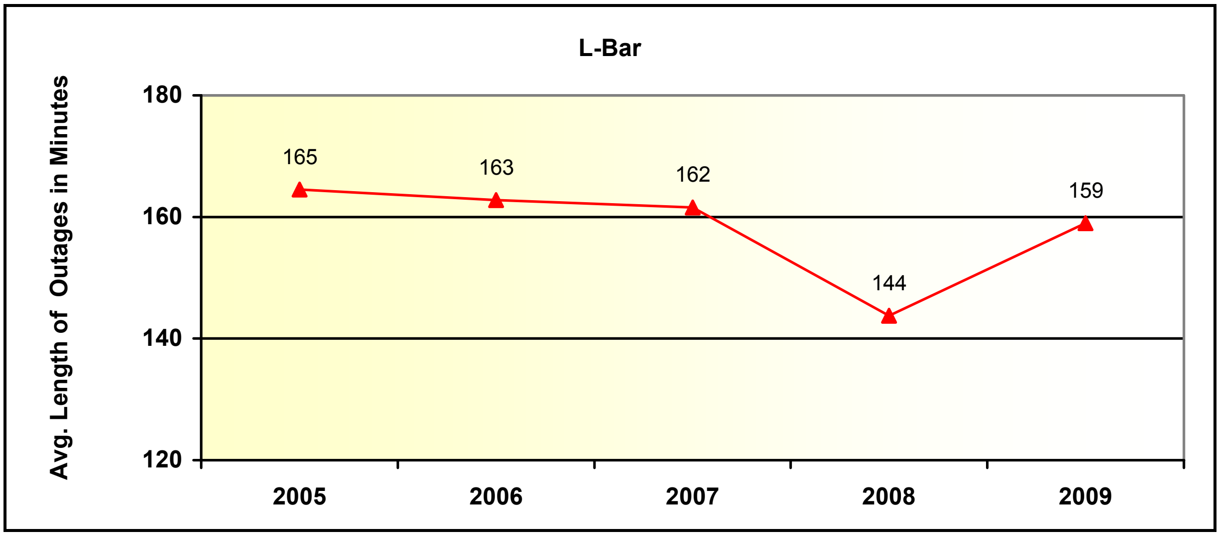
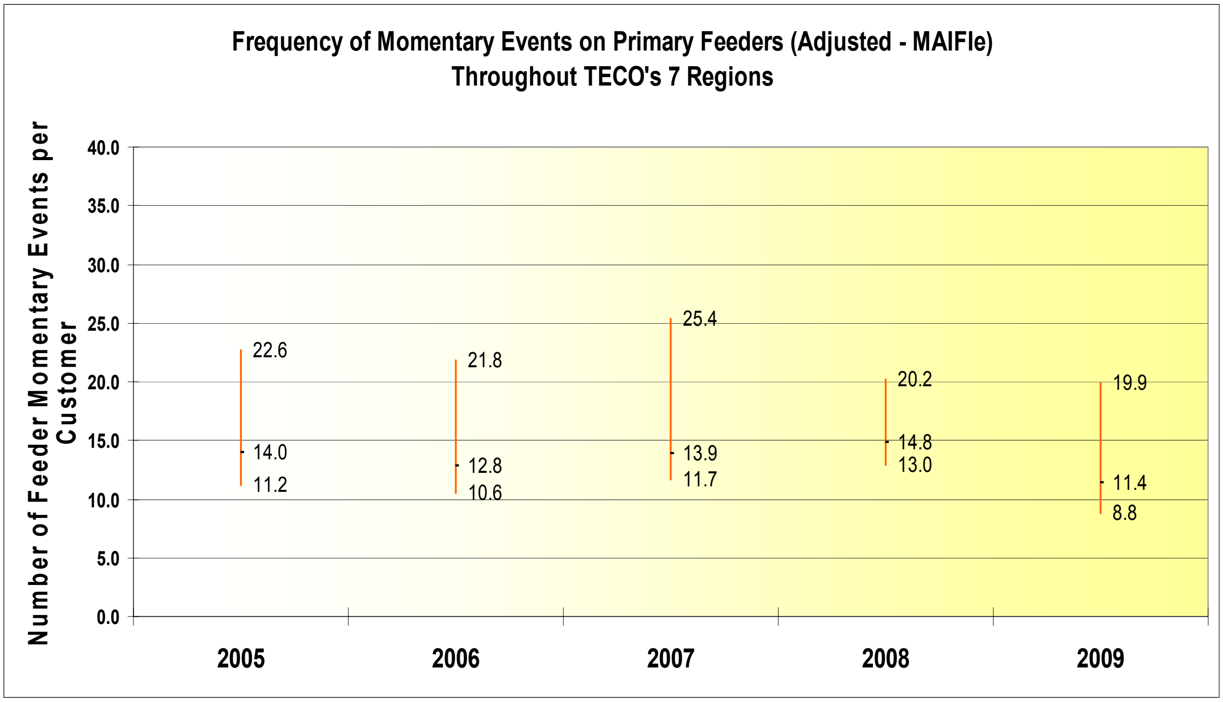


Figure 3-21 illustrates TECO's number of momentary events on primary circuits per customer recorded across its system. In 2009, MAIFIe results improved in all seven divisions of TECO's territory, which was a 23 percent improvement from 2008, suggesting a decrease in the number of feeder momentary events compared to the prior four years. Plant City also experienced improved results as indicated below.

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

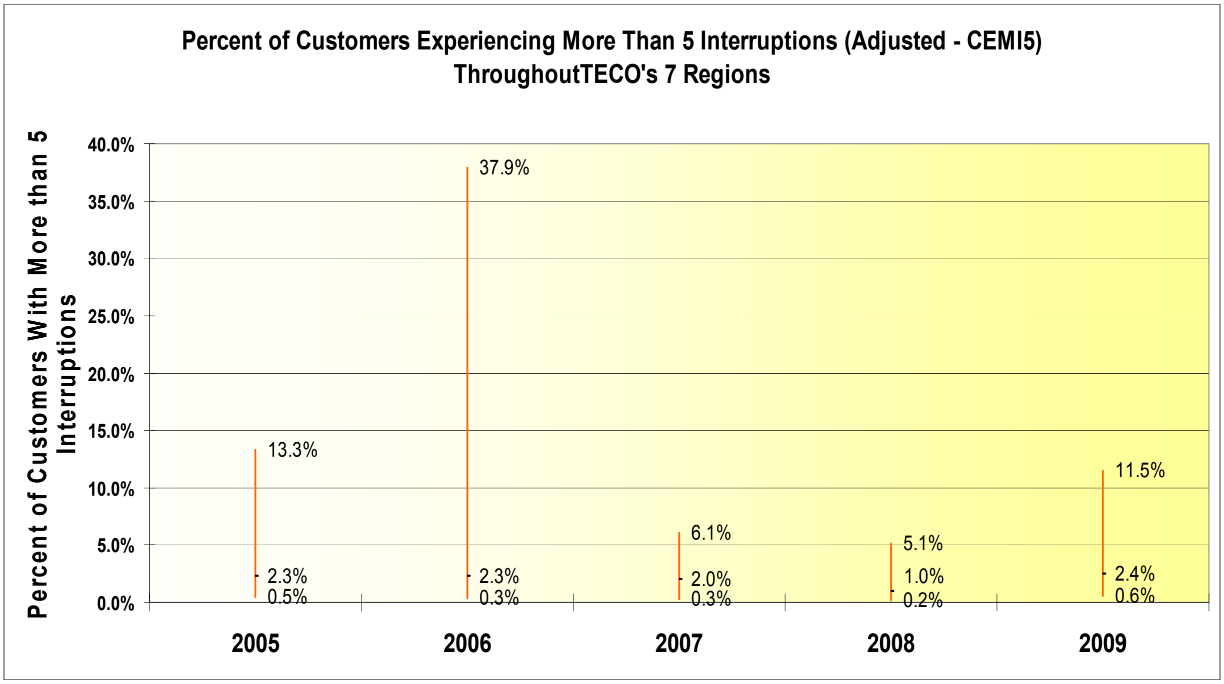


TECO's Regions with the Highest and Lowest Adjusted MAIFIe Distribution Reliability Performance by Year

	2005	2006	2007	2008	2009
Highest MAIFIe	Dade City	Dade City	Dade City	Plant City	Plant City
Lowest MAIFIe	Central	Central	Central	Central	Central

Figure 3-22 shows the percent of customers experiencing more than five interruptions. As opposed to the MAIFIe results, all seven regions in TECO territory experienced an increase in the CEMI5 results for 2009, and the highest average in the past five years. TECO's results for these indices have varied for the past five years.

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



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

	2005	2006	2007	2008	2009
Highest CEMI5	Plant City	Dade City	Dade City	Dade City	Dade City
Lowest CEMI5	Winter Haven	Central	Winter Haven	Eastern	Eastern

The Three Percent Feeder Report is a listing of the top three percent of feeders with the most feeder outage events. Figure 3-23, is calculated using the number of recurrences divided by the number of feeders reported. The five-year average of outages per feeder remained the same from 2008 to 2009, while the three-year average has improved dramatically since 2006.

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

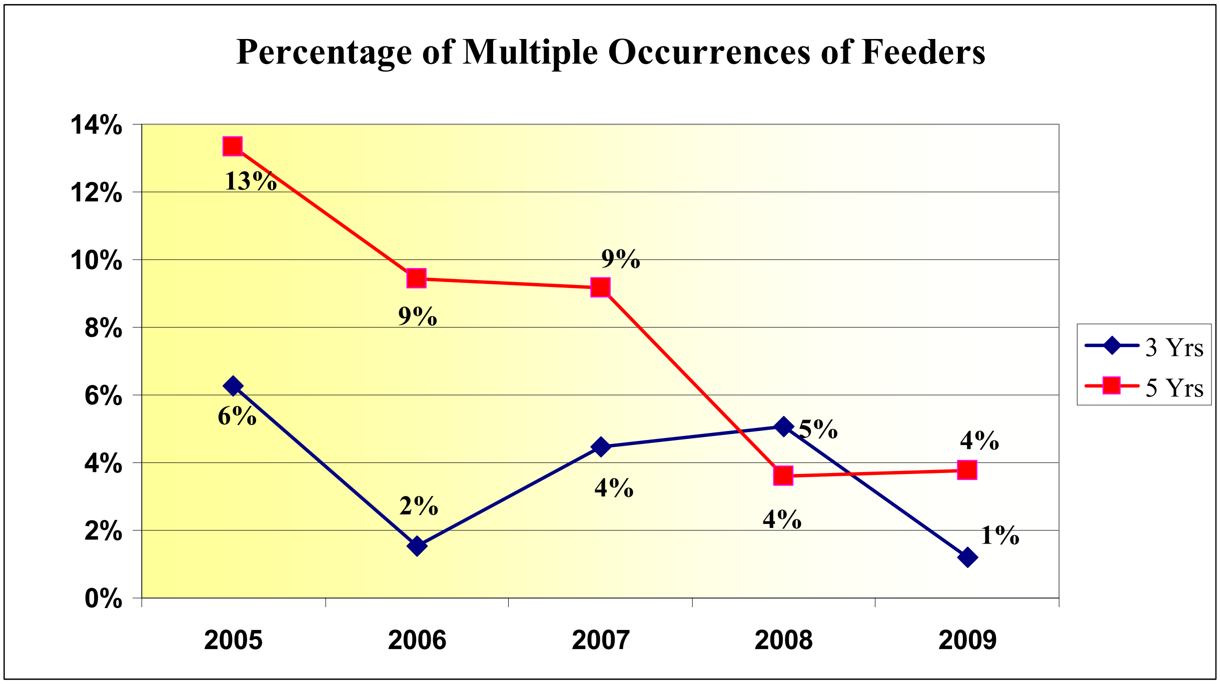
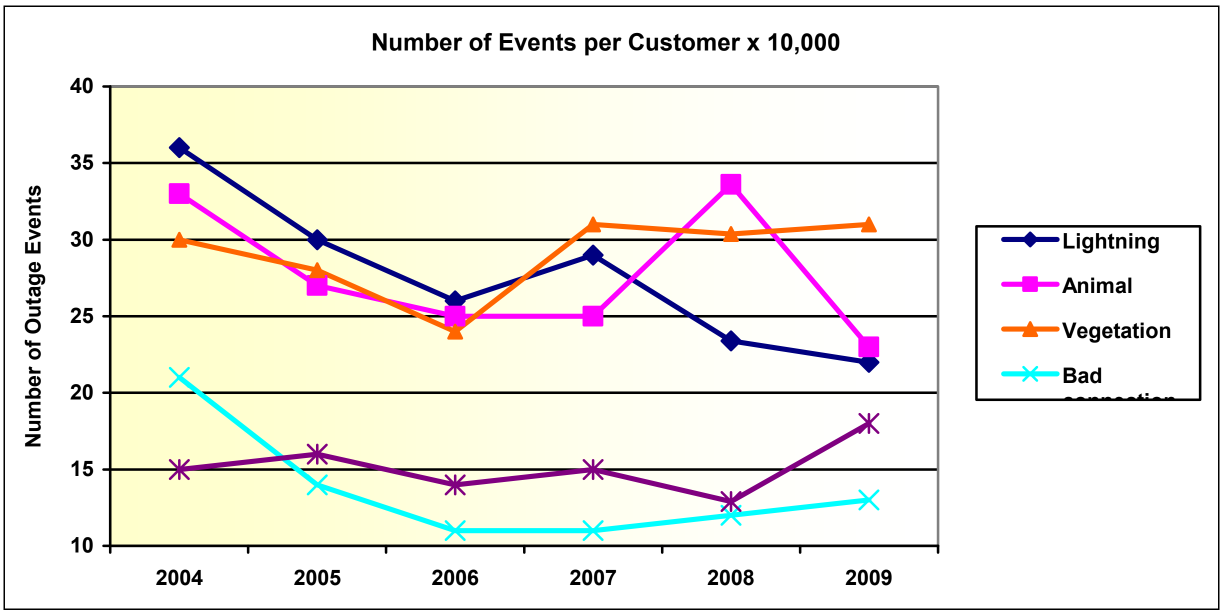


Figure 3-24 shows the top five causes of outage events on TECO's distribution system normalized to a 10,000 customer base. The figure is based on TECO's adjusted data of the top ten causes of outage events and represents 74 percent of the total outage events that occurred during 2009. Vegetation and animal causes continue to be the top two problem areas for TECO; however, the cause due to animal, was reduced by 31 percent from 2008 to 2009. TECO reports that from 2005 through 2009, outages due to animal contact have contributed the most to SAIDI. Beginning in 2004, TECO began installing animal protection in all new substation construction and substation upgrade projects. During 2009, animal protection was installed on an additional ten distribution busses in eight different substations. The result of these improvements showed a significant reduction in outages due to animals. A slight increase in bad connection and electrical causes also occurred between 2008 and 2009.

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



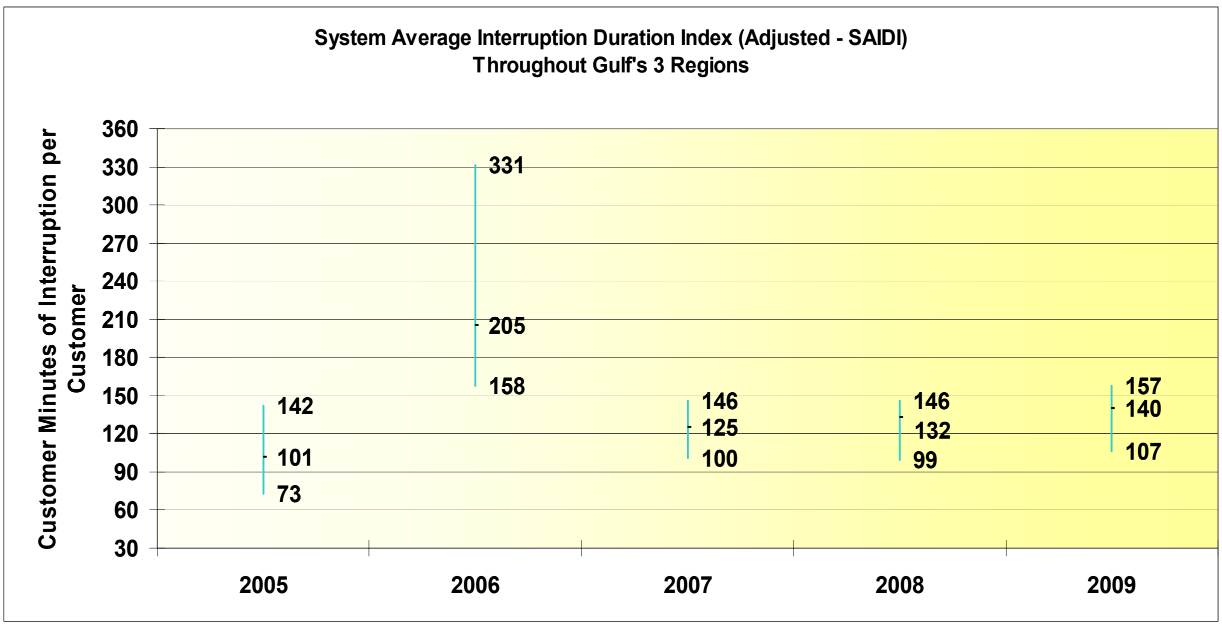
Observations: TECO's Adjusted Data

Overall service reliability in SAIDI, SAIFI, and CAIDI indicate that TECO has shown a slight reduction in service reliability as compared to 2008 results on a system-wide basis. The continued decreasing reliability in remote, rural areas, which have been previously identified; shows little or no improvement has been made in these regions. TECO reported that it focuses on divisional reliability through the operational management structure in place. In 2009, TECO's operating divisions established reliability indices goals which will be reported and reviewed by management on a weekly basis. It is expected that feeder and lateral performance will continue to be tracked in support of improving regional reliability.

Gulf Power Company: Adjusted Data

Gulf's SAIDI minutes, or the minutes of interruption per customer on a system basis, is shown in Figure 3-25. The chart illustrates an increase in SAIDI values by 8 minutes in Gulf's combined regions over the 2008 results. Gulf's 2009 average performance was 6 percent worse than the 2008 SAIDI results. Gulf reported there was an extreme March weather event that was not excludable because it was not a named storm or NWS recordable tornado. The total SAIDI impact for this significant event was 11.9 minutes, which would have resulted in a Gulf adjusted SAIDI of 128 minutes instead of the reported 140 minutes.

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

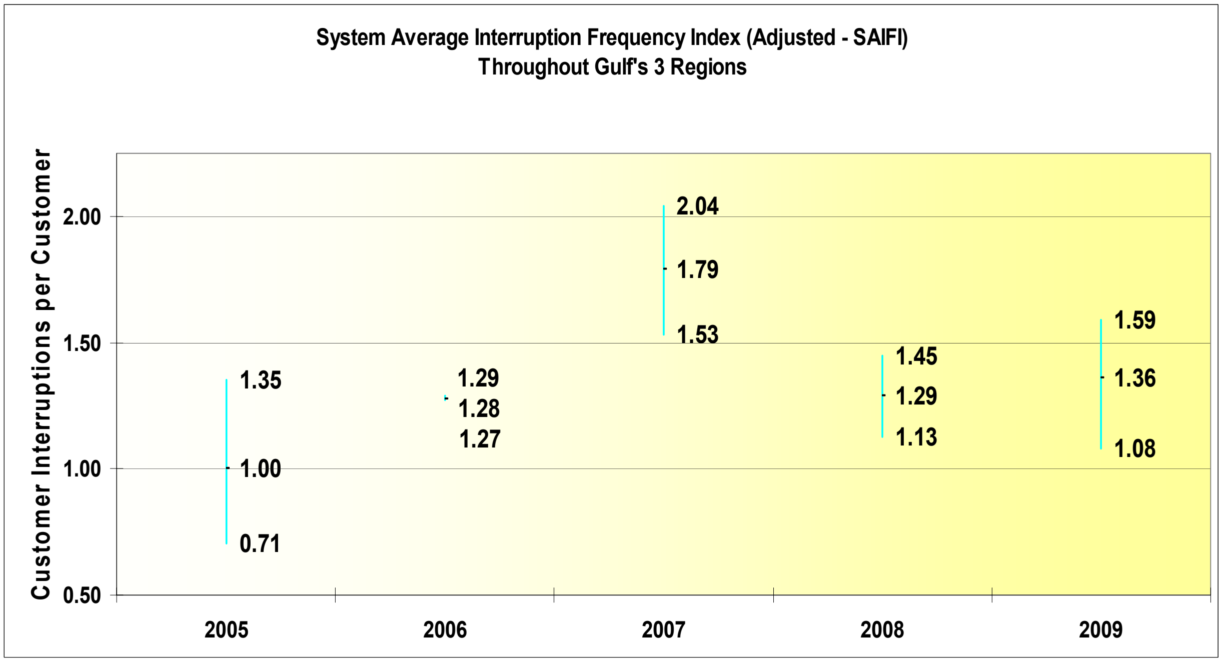


GULF's Regions with the Highest and Lowest Adjusted SAIDI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIDI	Western	Eastern	Western	Western	Western
Lowest SAIDI	Central	Western	Eastern	Central	Eastern

Figure 3-26, adjusted SAIFI, illustrates that Gulf's system average had a 5 percent increase in 2009 when compared to 2008. Gulf's Western region had the highest SAIFI values in four of the last five years. The lowest values do not appear to be confined to any particular region; however, the Eastern region does appear in three of the last five years. Overall, the 2009 combined regional SAIFI values appear to be trending upward and the average SAIDI indicates a rise of 36 percent from 2005 to 2009.

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

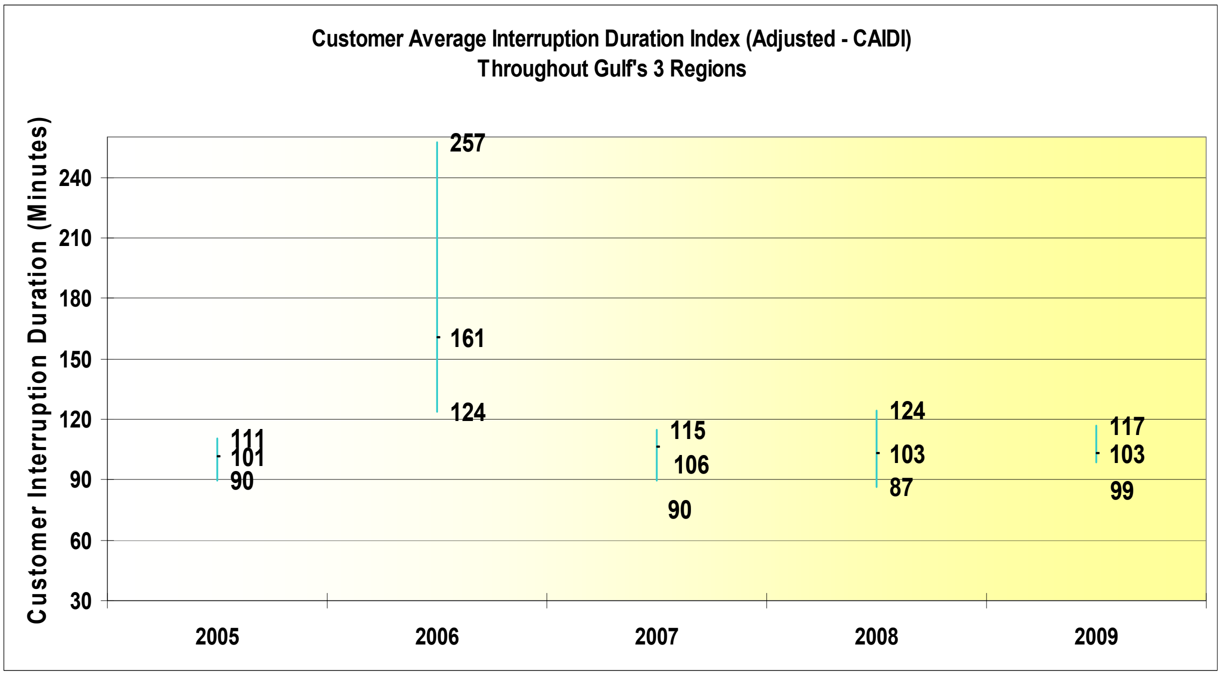


Gulf's Regions with the Highest and Lowest Adjusted SAIFI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIFI	Western	Eastern	Western	Western	Western
Lowest SAIFI	Eastern	Western	Central	Eastern	Eastern

Gulf's adjusted CAIDI (Customer Average Interruption Duration Index) is shown in Figure 3-27. The average CAIDI in 2009 was 103 minutes and there was no change from the 2008 value. The Eastern and Central regions continue to be in the highest and lowest CAIDI values for the last five years. The Western region has not appeared in the highest CAIDI analysis. Staff notes that the difference or spread between the highest and lowest values is approximately 26 minutes except for the year 2006, suggesting that the CAIDI values are relatively stable and do not differ greatly between the average system performance.

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



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

	2005	2006	2007	2008	2009
Highest CAIDI	Eastern	Eastern	Central	Eastern	Central
Lowest CAIDI	Central	Western	Eastern	Central	Eastern

The average length of time Gulf spends recovering from outage events, excluding hurricanes and other outage events, is the index L-Bar shown in Figure 3-28. Gulf's L-Bar showed a 9% improvement from 2008 to 2009; 28 minutes, or an 18 percent improvement overall, in the average length of service outages since 2005.

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

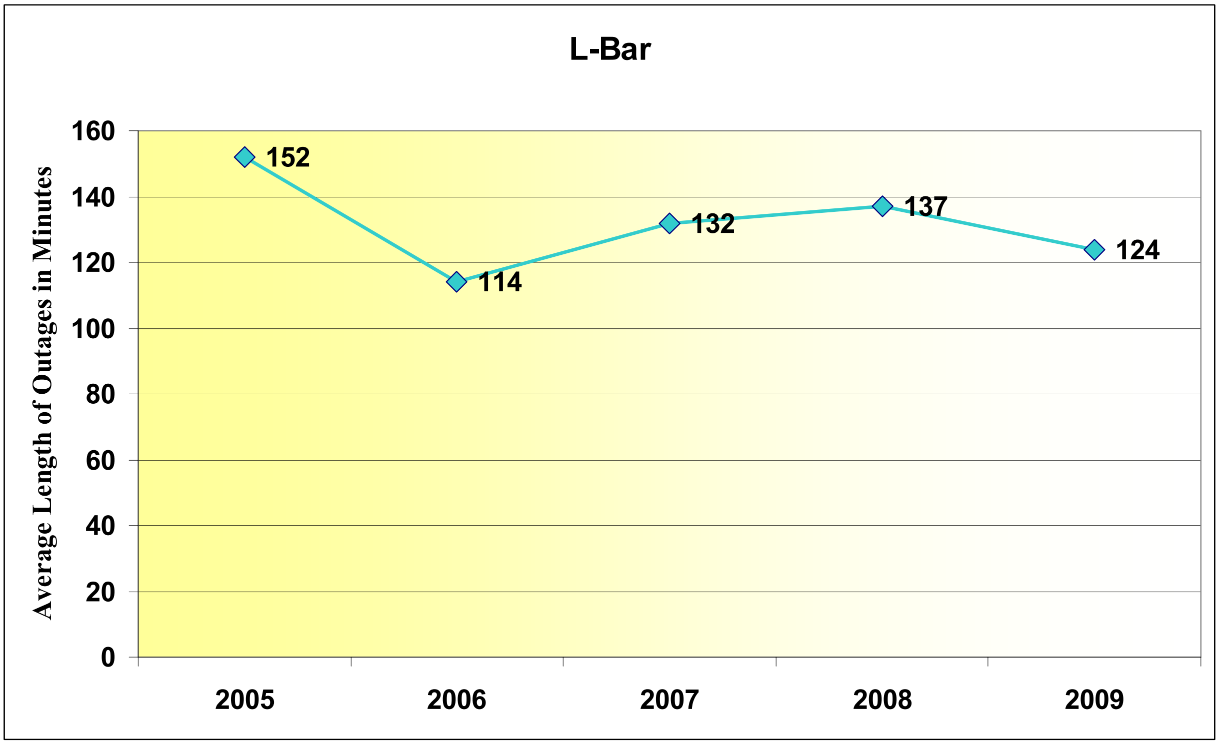
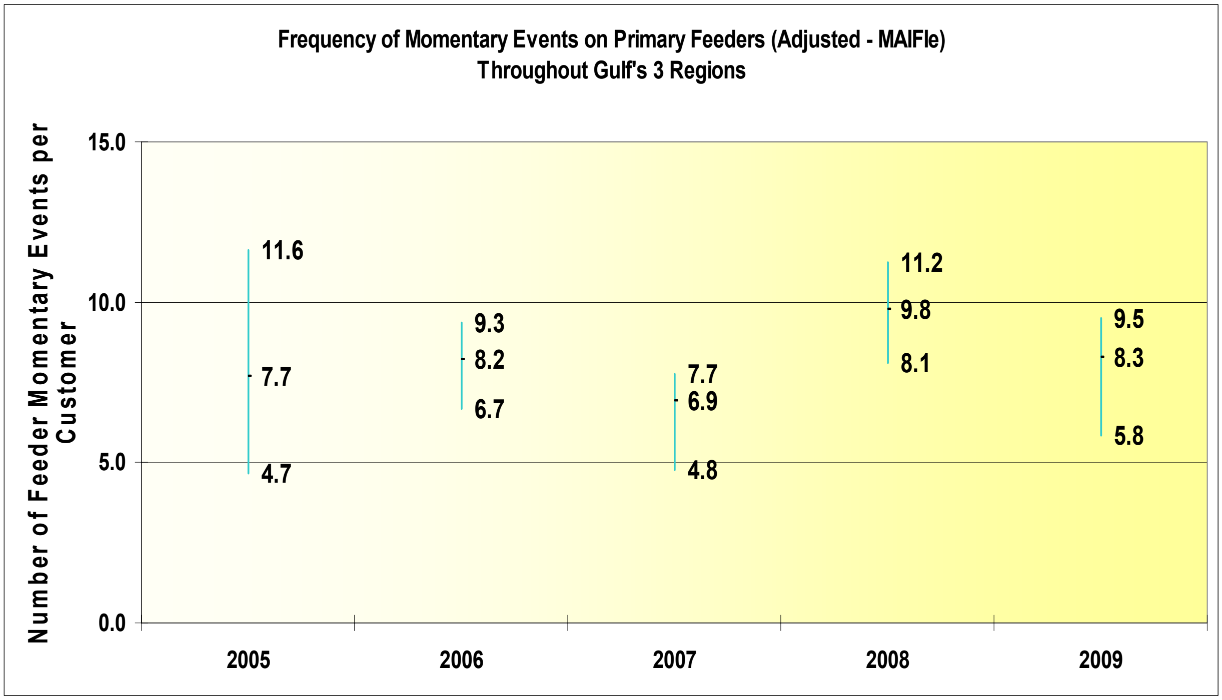


Figure 3-29 is the adjusted MAIFIe recorded across Gulf's system. The adjusted MAIFI results by region show that the Central region had the lowest frequency of momentary events on primary feeders, with a 33% improvement from 2008 to 2009. The Western region has the highest average. It had a 15 percent improvement from 2008 to 2009. The data suggests that the level of service reliability for the highest MAIFIe is trending downward which is good. However, the average and lowest MAIFIe appear to be trending slightly upward for the last five years.

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

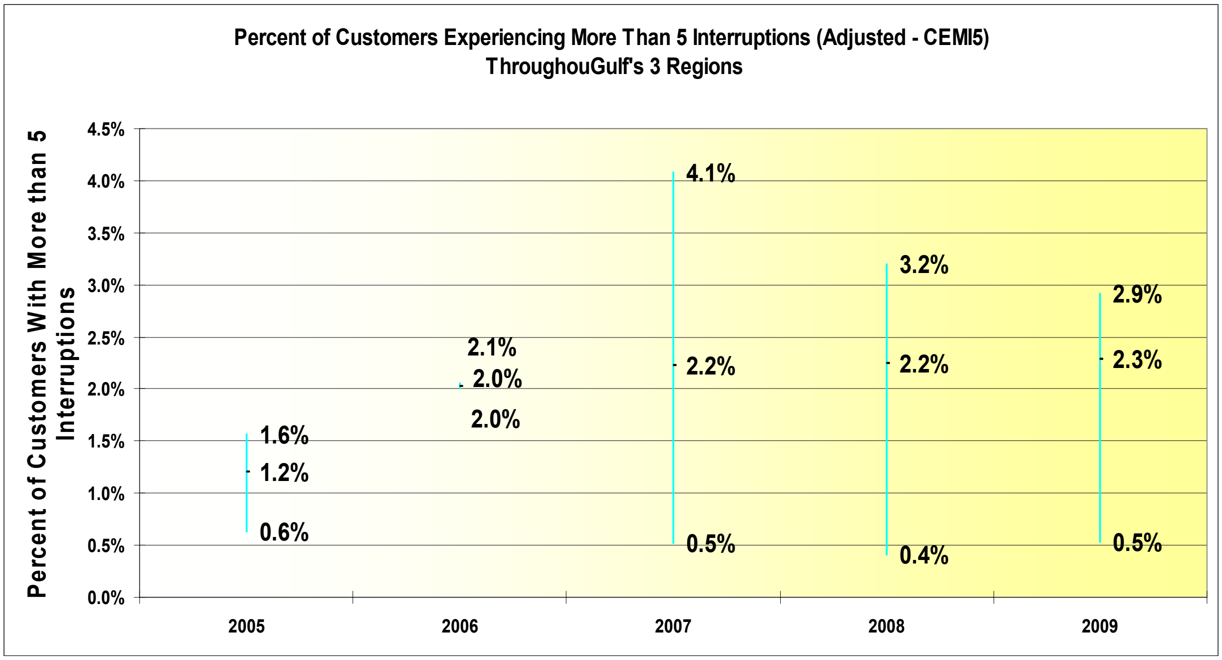


Gulf's Regions with the Highest and Lowest Adjusted MAIFIe Performance by Year

	2005	2006	2007	2008	2009
Highest MAIFIe	Western	Western	Western	Western	Western
Lowest MAIFIe	Central	Eastern	Eastern	Eastern	Central

Figure 3-30 shows the highest, average, and lowest adjusted CEMI5 across Gulf's Western, Central and Eastern regions. Gulf's 2009 results illustrate a slight decline when compared to 2008. The highest and lowest values have varied between the regions with regularity and with no discernable pattern. Overall, the average CEMI5 appears to be trending upward suggesting that the percentage of Gulf's customers experiencing more than five interruptions is gradually increasing over the last five years.

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



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

	2005	2006	2007	2008	2009
Highest CEMI5	Central	Eastern	Eastern	Western	Western
Lowest CEMI5	Eastern	Western	Central	Central	Eastern

The Three Percent Feeder Report is a listing of the top three percent of feeders with the most feeder outage events. Figure 3-31 shows the multiple occurrences of feeders using a three-year and-five year basis. The five-year multiple occurrences analysis showed a marked decrease from the prior trend, which implies improving performance. The supporting data shows that the three-year multiple occurrences have dropped from 11 percent to 6 percent from 2008 to 2009. Gulf addressed the trend of poor feeder performance in the 2008 reliability report, with corrective efforts in 2009. The illustration in the chart below depicts the success of those efforts.

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

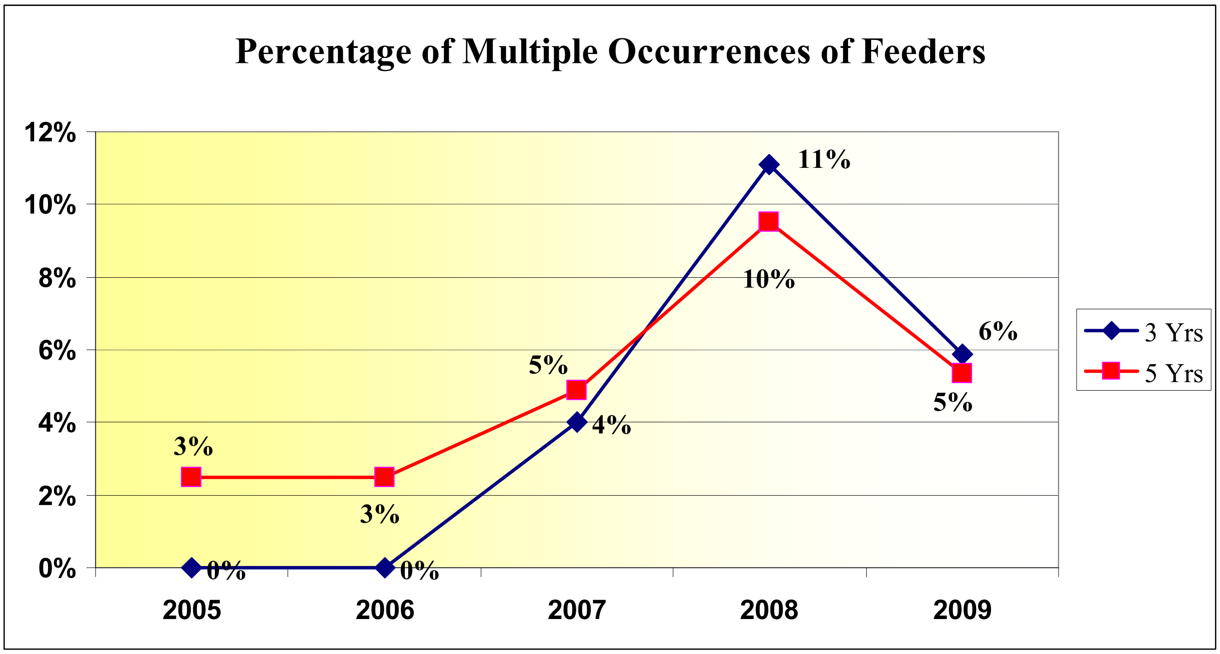
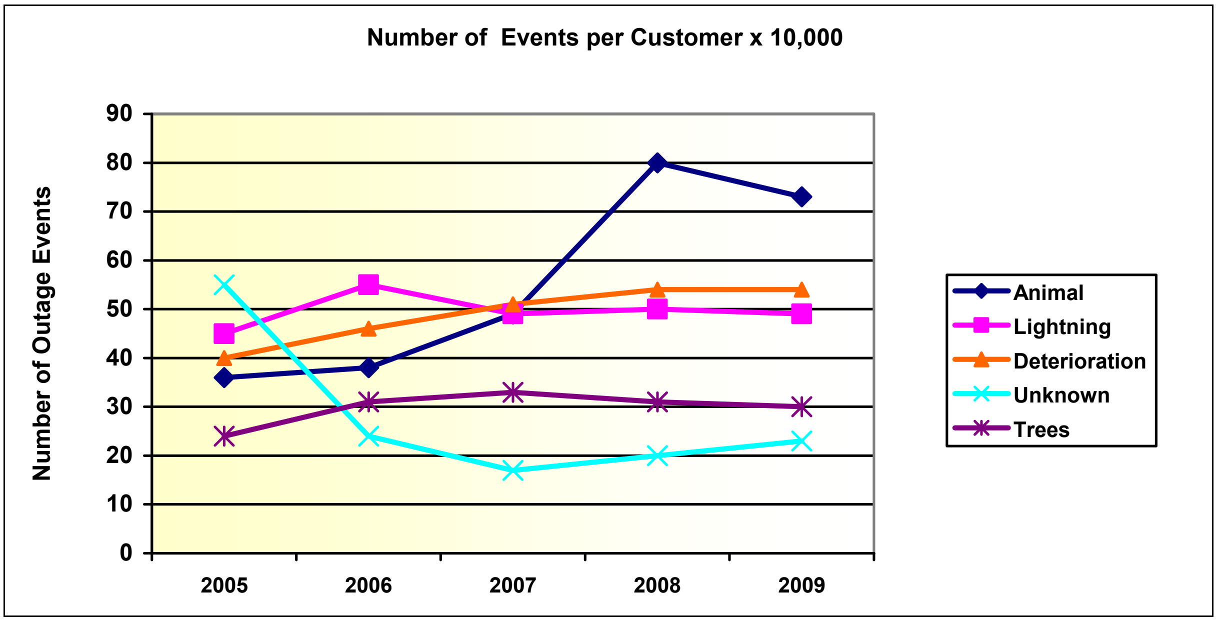


Figure 3-32 is a graph of the top five causes of outage events on Gulf's distribution system normalized to a 10,000 customer base. The figure is based on Gulf's adjusted data of the top ten causes of outage events and represents 87 percent of the total adjusted outage events that occurred during 2009. The top five causes of outage events were: animals (28 percent), deterioration (21 percent), lightning (18 percent), trees (12 percent), and unknown causes (9 percent). The percentage of cause of outages due to animal has decreased by 9 percent from 2008 to 2009, but still remains the highest cause of outages.

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



Observations: Gulf's Adjusted Data

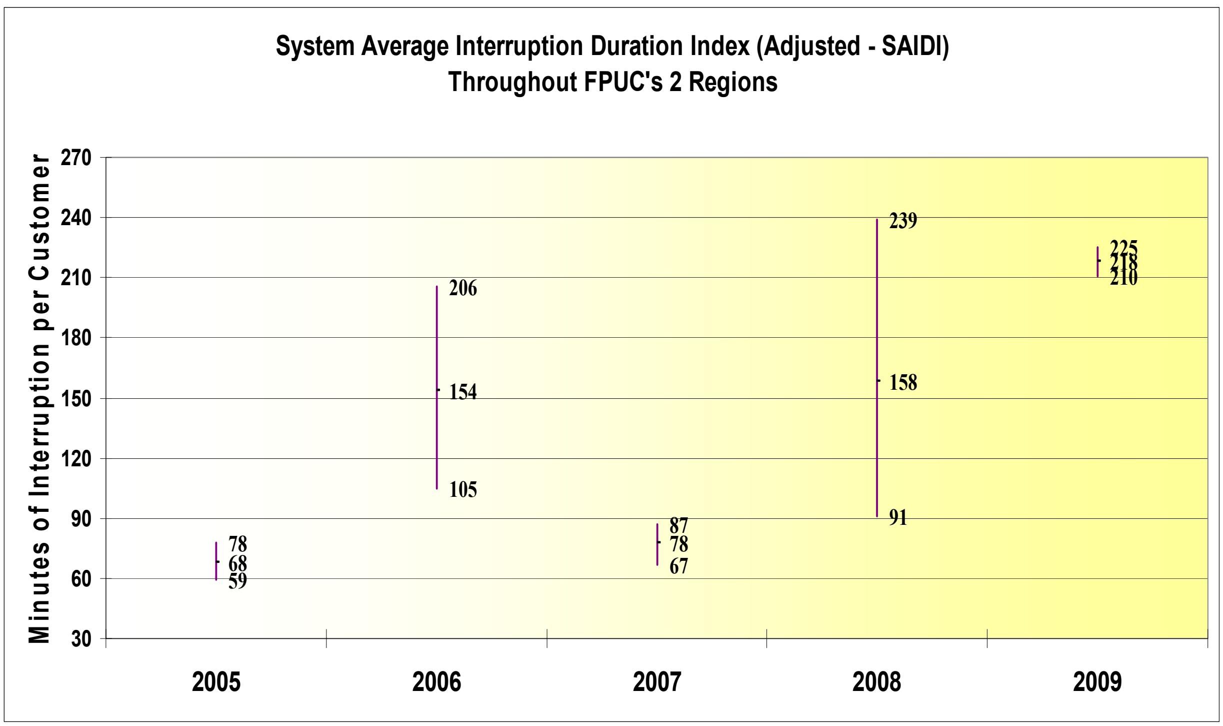
Gulf's SAIDI and SAIFI results declined slightly from 2008 to 2009 due to increases in the respective indices. In addition, the CAIDI index increased slightly, indicating that when a customer did experience an outage, the outage was of a longer duration. There were improvements seen in MAIFIe and L-Bar service reliabilty indices in 2009. Gulf reports that a single major weather event that was not excluded, had a direct impact on the overall results of the 2009 service reliability. In 2009, Gulf continued to seek improvements in the company's distribution reliability, and Gulf is still in the process of analyzing data to determine the need for any specific improvement activities beyond current programs and storm hardening initiatives which are underway.

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 results are reported separately because the two divisions are 250 miles apart. Although the divisions may supply resources to support one another during emergency situations, 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 across FPUC's system. The data shows a continued increase in SAIDI from 2005 to 2009. FPUC's 2009 Reliability Report notes the installation of an Outage Management System (OMS) in both divisions. FPUC stated this resulted in significant improvement in data collection and retrieval capability for analyzing and reporting reliability indices. The improved data collection resulted in higher reliability numbers, as expected by FPUC, and it attributed the higher numbers to better data, not necessarily a decline in system or personnel performance.

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

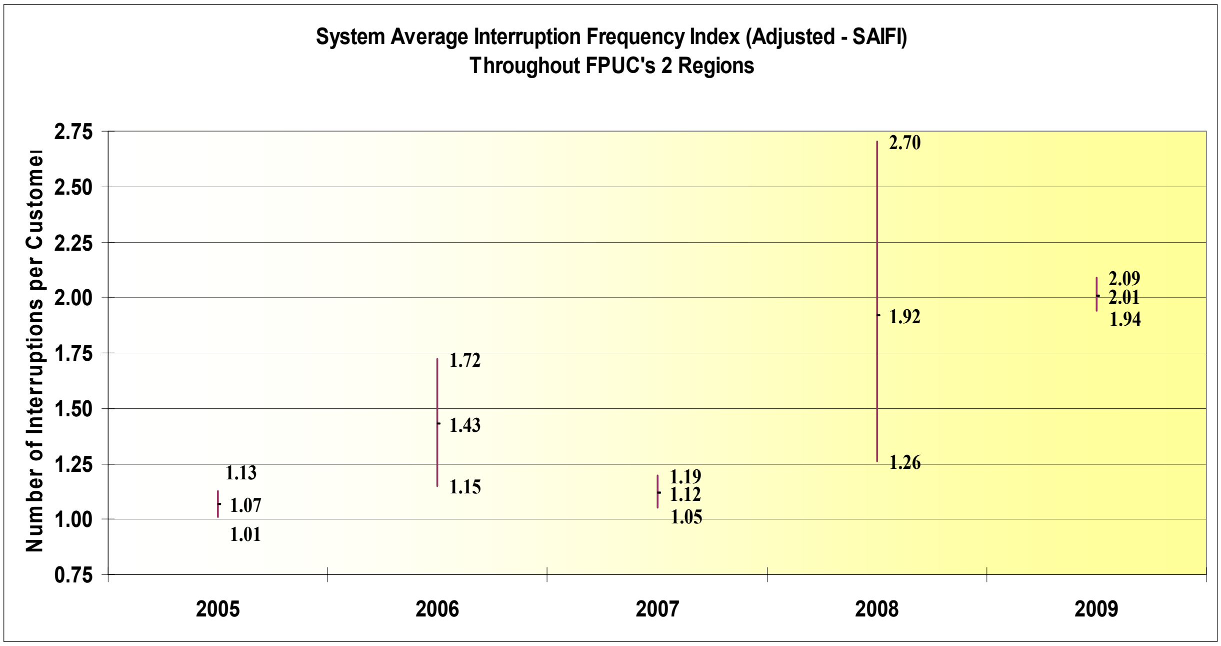


FPUC's Regions with the Highest and Lowest Adjusted SAIDI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIDI	Marianna (NW)	Marianna (NW)	Fernandina (NE)	Marianna (NW)	Fernandina (NE)
Lowest SAIDI	Fernandina (NE)	Fernandina (NE)	Marianna (NW)	Fernandina (NE)	Marianna (NW)

Figure 3-34 shows the adjusted SAIFI (number of interruptions per customer) across FPUC's two divisions. The data depicts a five percent increase in the 2009 average SAIFI reliability index from 2008. Staff notes that following the installation of the OMS for the Northeast Division in January 2009, the spread between the highest and lowest frequency of interruptions being reported appears to have narrowed.

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

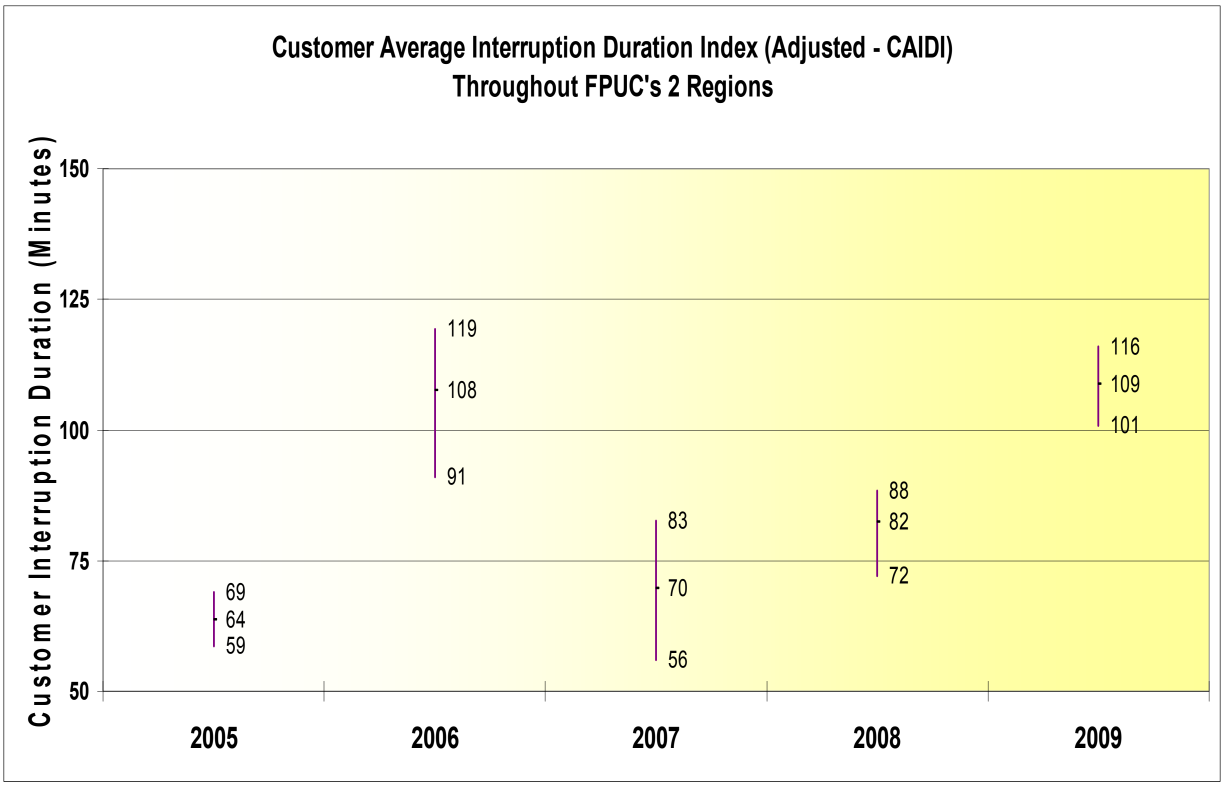


FPUC's Regions with the Highest and Lowest Adjusted SAIFI Performance by Year

	2005	2006	2007	2008	2009
Highest SAIFI	Marianna (NW)	Marianna (NW)	Marianna (NW)	Marianna (NW)	Marianna (NW)
Lowest SAIFI	Fernandina (NE)	Fernandina (NE)	Fernandina (NE)	Fernandina(NE)	Fernandina (NE)

Figure 3-35 shows the highest, average, and lowest adjusted CAIDI values across FPUC's system. FPUC's data shows a 31 percent increase in the 2009 reliability indices relative to 2008 values, and once again, this increase is attributed to the introduction of OMS in the divisions. FPUC has reported it is apparent that enhanced data collection for 2009 compared to prior year's information will not produce credible results for the NE Division. Additionally, this is the second year of data collection using the new OMS system in the NW Division, and FPUC reports that two years does not provide enough data to produce credible trend results. There is no specific pattern observed concerning the regional CAIDI values between the two divisions implying that FPUC's outage response process and location of service centers relative to affected customers are comparable in both divisions.

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

	2005	2006	2007	2008	2009
Highest CAIDI	Marianna (NW)	Marianna (NW)	Fernandina(NE)	Marianna (NW)	Fernandina (NE)
Lowest CAIDI	Fernandina (NE)	Fernandin a(NE)	Marianna (NW)	Fernandina(NE)	Marianna (NW)

The average length of time FPUC spends recovering from outage events (adjusted L-Bar), is shown in Figure 3-36 on the following page. The data demonstrates variability and an increasing trend of longer outage recovery times. Many factors contribute to increases in L-Bar, including increased number of underground outages, the cause and location of the outage event, the number of distribution facilities needing replacement or repair, and the number of available trained and equipped personnel. The L-Bar for FPUC's Northwest Division had a 40 percent increase from 2007 to 2009, while the Northeast Division experienced a 10 percent increase in 2009.

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

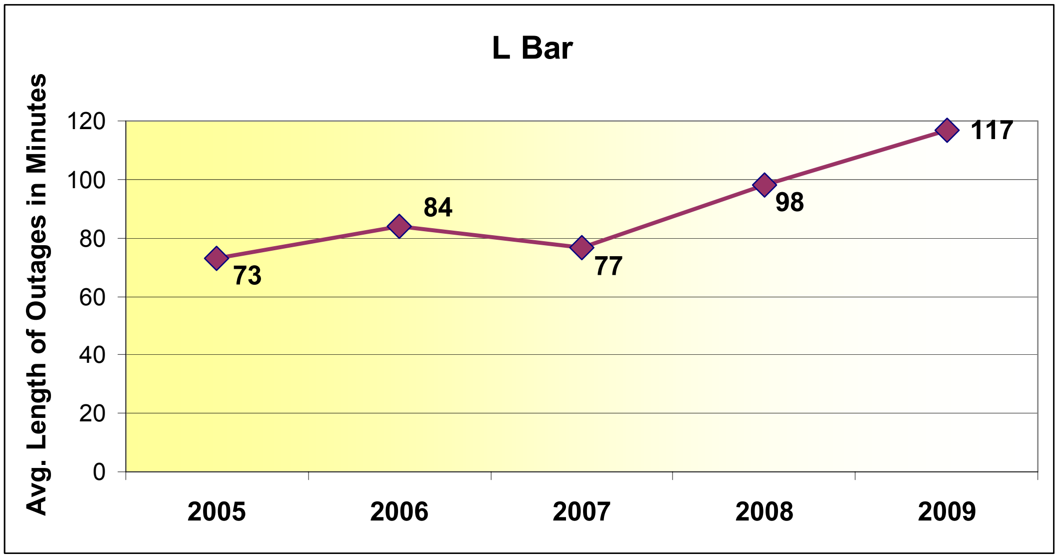
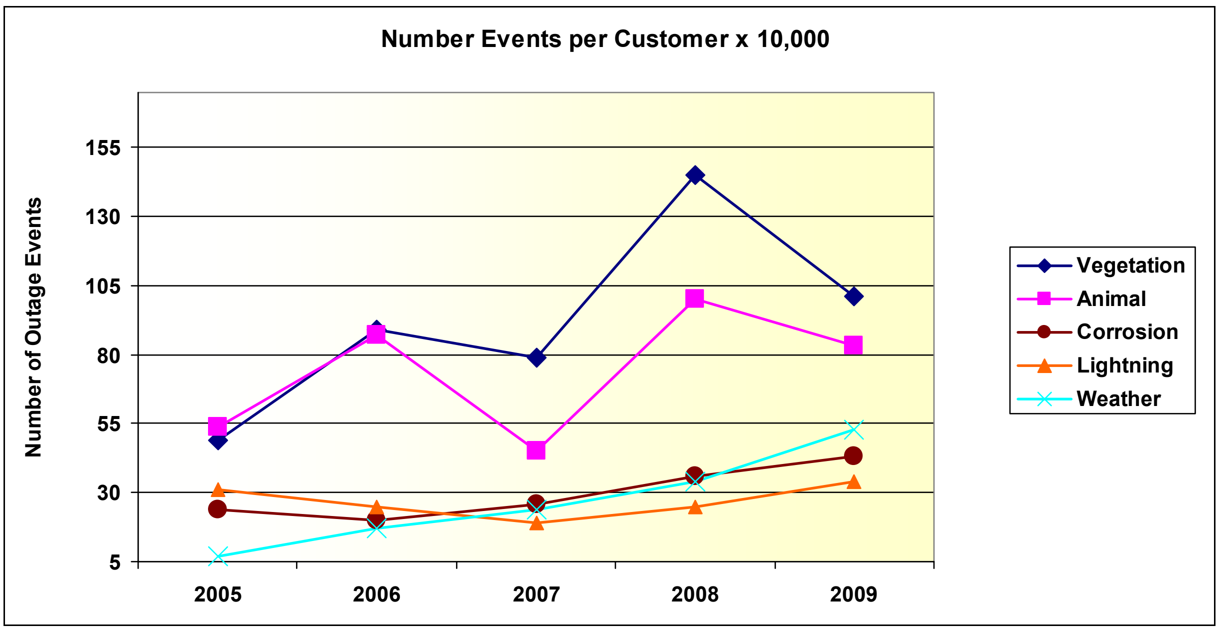


Figure 3-37 shows the top five causes of outage events on FPUC's distribution system normalized to a 10,000 customer base. The figure is based on FPUC's adjusted data of the top ten causes of outage. For the five-year period, the top five causes of outage events were vegetation (27 percent), animal (22 percent), weather (14 percent), corrosion (11 percent), and lightning (9 percent). These five factors represent 65 percent of the total adjusted outage causes in 2009. A decrease in vegetation and animal caused outages can be attributed to FPUC's commitment to better management of vegetation growth, continuance of FPUC's program of installing animal guards and insulating the primary taps of service transformers where the majority of damages occur from small animals. FPUC has a long range plan to address the corrosion issue by replacing sections of outdated underground cable. The cause of outages related to corrosion increased approximately 65 percent from 2007 to 2009. In other words, there were 43 corrosion outages in 2009 compared to 26 corrosion outages in 2007 on an adjusted 10,000 customer basis.

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



As reported in the report filed in 2008, FPUC filed a Three Percent Feeder Report listing the top three percent of feeders with the most feeder outage events. 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. Neither feeder was listed in last years report.

Observations: FPUC's Adjusted Data

As reported by FPUC, the overall service reliabilty provided appears to have declined relative to prior years. The frequency of customer service interruptions, the duration of service interruptions, service restoration time, and the number of outage events increased for FPUC's customers. However, the implementation of the OMS system and its impact to the indices has not been determined. Staff believes further analysis is required and that better reporting may be the cultprit in FPUC's appearance of declining reliabilty in the indices. While FPUC is anxious to use the new OMS system to gauge the effectiveness of storm hardening programs by observing trends in reliability indices, it is apparent that enhanced data collection for 2009 compared to prior year's information will not produce credible results for the NE Division. Additionally, this is the second year of data collection using the new OMS system in the NW Division.

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. Nevertheless, FPUC is implementing improvements one region at a time which will enable its management to review detailed performance data such as MAIFIe and CEMI5 for the entire FPUC system.

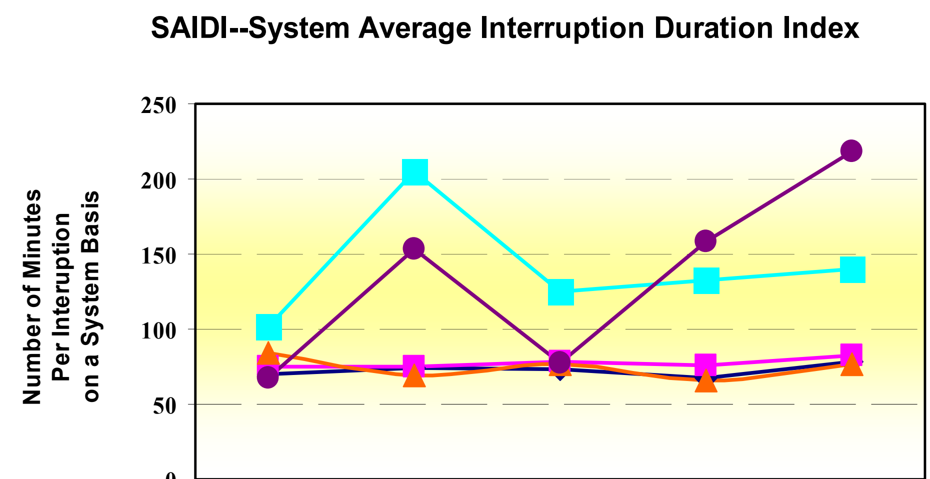
Section IV. Inter-Utility Reliability Comparisons

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 2005 through 2009. 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 that is used in generating the indices in the report 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. Average Interruption Duration (Adjusted SAIDI)

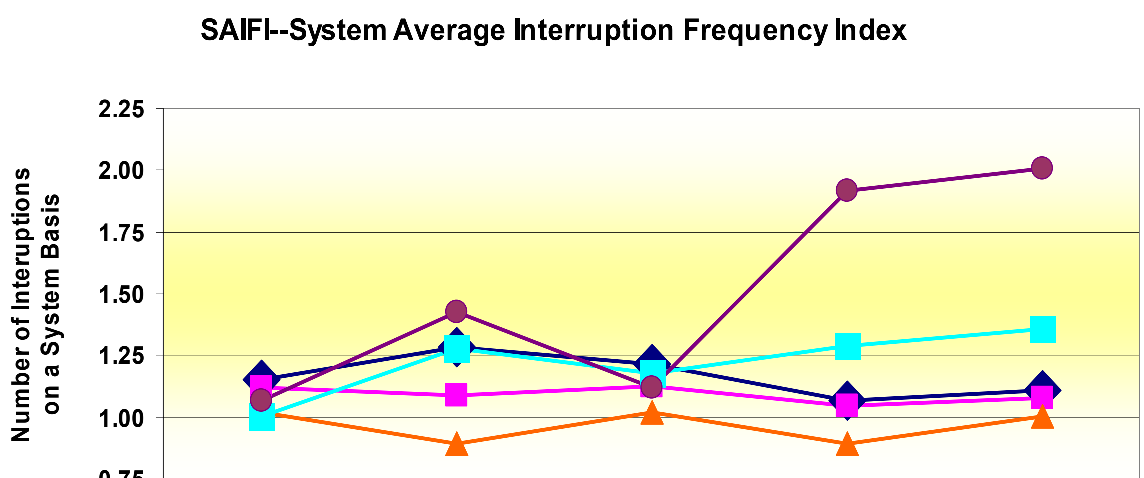


	2005	2006	2007	2008	2009
FPL	70	74	73	67	78
PEF	75	75	78	76	83
TECO	84	69	77	66	77
Gulf	101	205	125	132	140
FPUC	68	154	78	158	218

Figure 4-1 indicates that three IOUs, FPL, PEF, and TECO, have relatively flat SAIDI trends over the last five years. Gulf and FPUC have higher SAIDI values and more variability. FPUC's climb to 218 minutes in 2009 can be attributed to implementation of the Outage Management System (OMS) within its two divisions. FPUC stated the OMS resulted in significant improvement in data collection and retrieval capability for analyzing and reporting reliability indices. The improved data collection resulted in higher reliability numbers.

Figure 4-2 is a five-year graph of the adjusted SAIFI (system average frequency of interruptions per customer) for each IOU. In 2009, Gulf and FPUC recorded significantly higher values compared to the other IOU's.

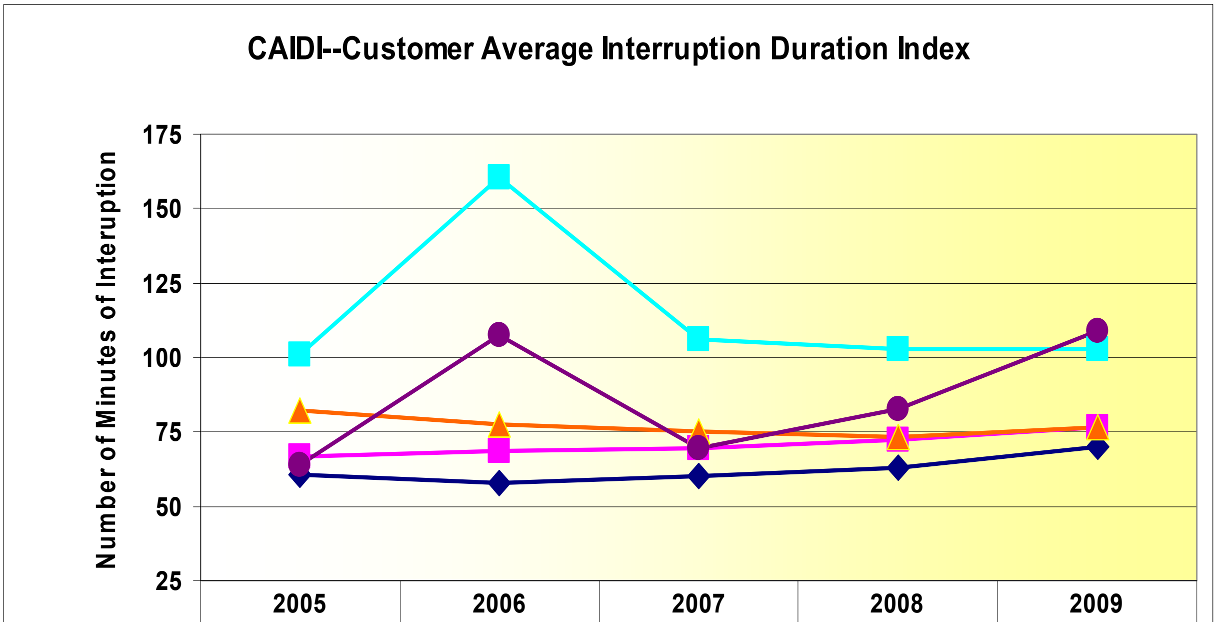
Figure 4-2. Average Number of Service Interruptions (Adjusted SAIFI)



	2005	2006	2007	2008	2009
FPL	1.15	1.29	1.21	1.07	1.11
PEF	1.12	1.09	1.13	1.05	1.08
TECO	1.02	0.89	1.02	0.89	1.00
Gulf	1.00	1.28	1.18	1.29	1.36
FPUC	1.07	1.43	1.12	1.92	2.01

Figure 4-3 is a five-year graph of the adjusted CAIDI (customer average interruption duration) for each IOU. FPUC attributes the rise in the CAIDI values to uncontrollable events which were not excluded from the adjusted values.

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



	2005	2006	2007	2008	2009
FPL	60	58	60	63	70
PEF	67	69	69	72	77
TECO	82	78	75	73	77
Gulf	101	161	106	103	103
FPUC	64	108	70	82	109

Figure 4-4 is a five-year graph of the adjusted MAIFIe (system average frequency of momentary events on primary circuits per customer) for FPL, PEF, TECO and Gulf. Improvements were indicated by FPL, PEF and TECO in 2009 from their 2007 results and continued improvement throughout the five-year period. However, Gulf show decreased performance as compared to 2007. Throughout the following comparative discussion it is important to remember that FPUC is exempt from reporting certain indices (MAIFIe and CEMI5) because FPUC has fewer than 50,000 customers.

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

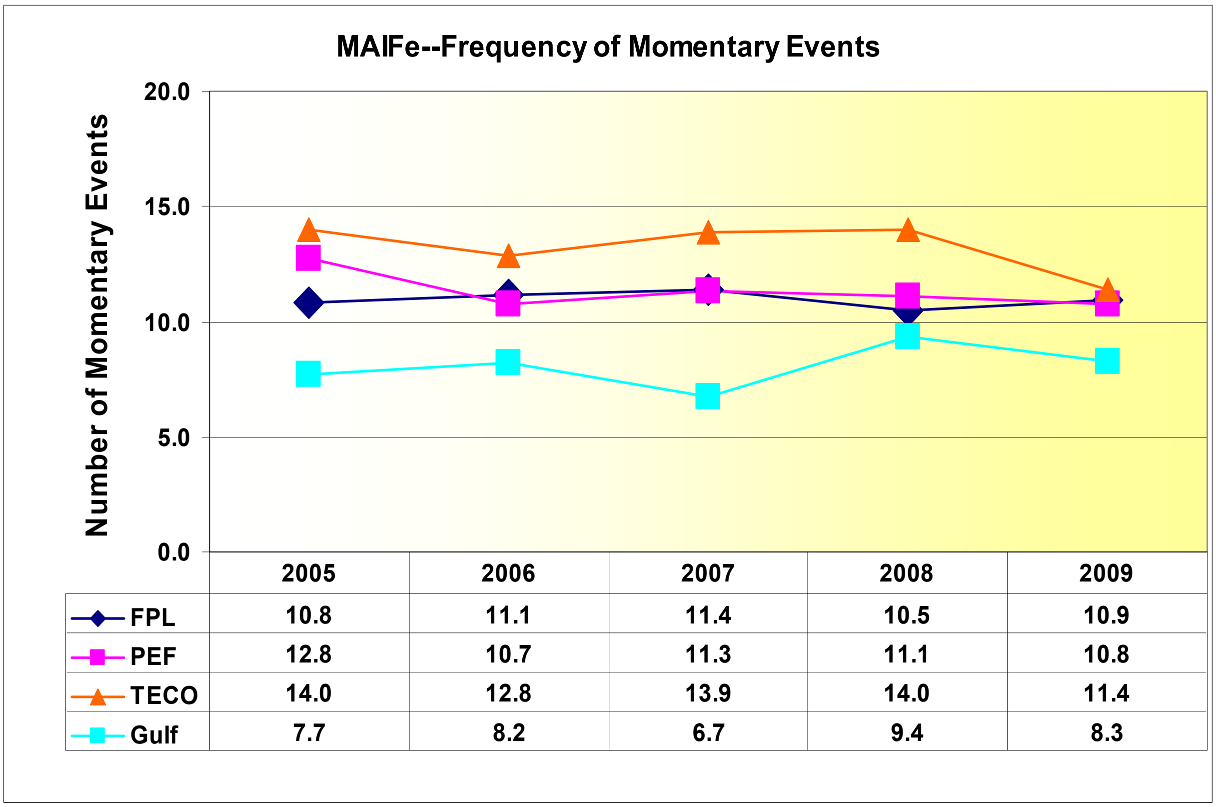
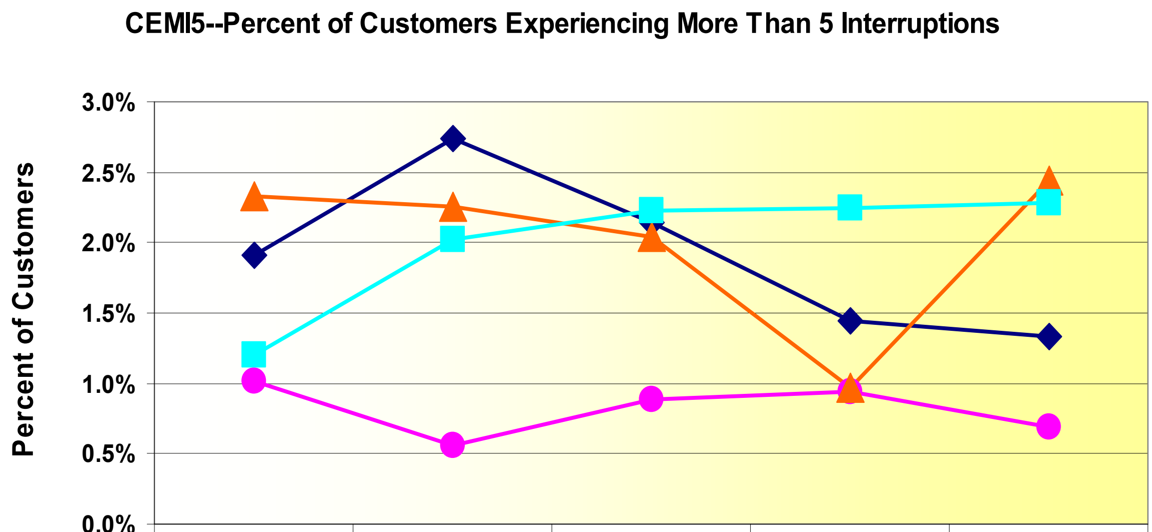


Figure 4-5 is a five-year graph of the adjusted CEMI5 (percentage of customers experiencing more than five service interruptions) for FPL, PEF, TECO and Gulf. The adjusted CEMI5 decreased in 2009 for Gulf relative to 2008 suggesting more customers were excluded from the category of experiencing more than five service interruptions. PEF, for the fourth consecutive year, reported the lowest adjusted CEMI5 and TECO had an increase from 1.0 percent in 2008 to 2.4 percent in 2009 indicating that more customers experienced five or more momentary events.

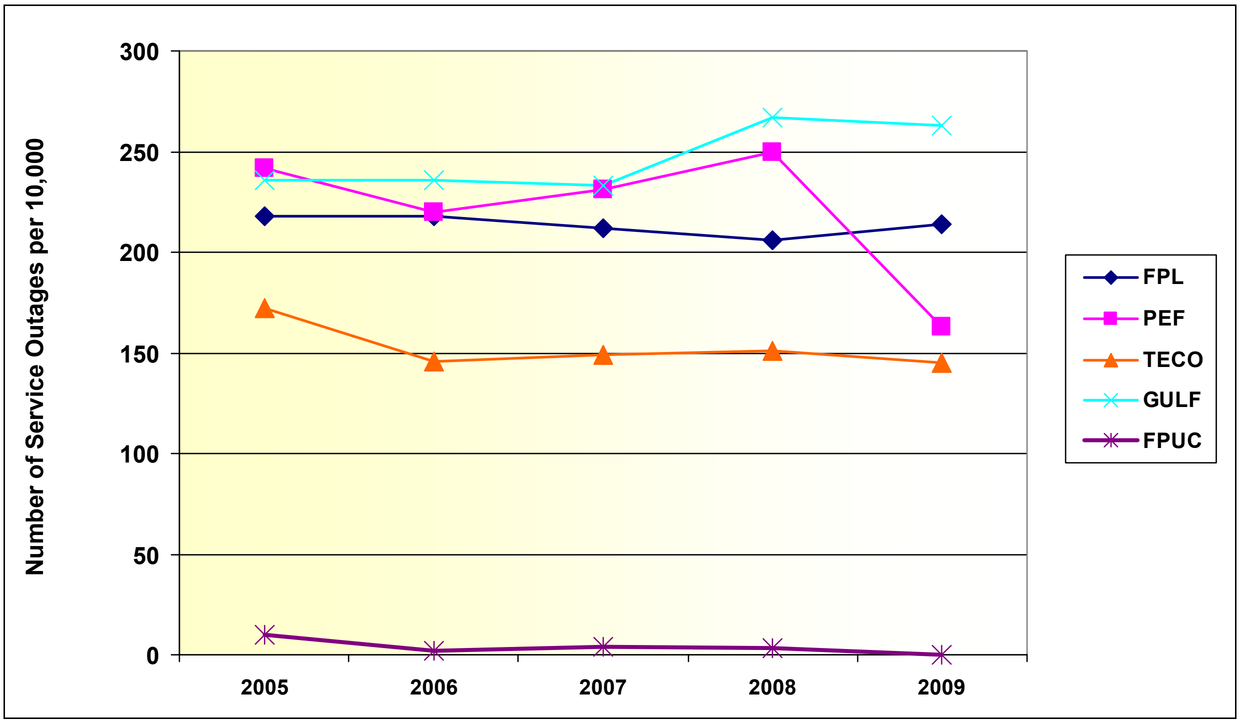
Figure 4-5. Percent of Customers with More Than Five Interruptions (Adjusted CEMI5)



	2005	2006	2007	2008	2009
FPL	1.9%	2.7%	2.1%	1.4%	1.3%
PEF	1.0%	0.6%	0.9%	0.9%	0.7%
TECO	2.3%	2.3%	2.0%	1.0%	2.4%
Gulf	1.2%	2.0%	2.2%	2.2%	2.3%

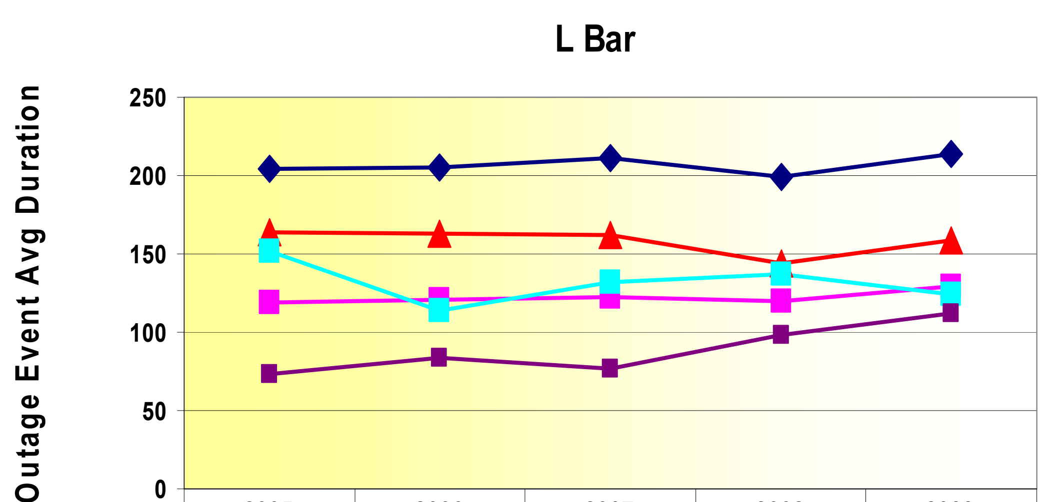
Figure 4-6 shows the number of outages per 10,000 customers on an adjusted basis for the five IOUs. The graph is developed from each utility's adjusted data concerning the number of outage events and the total number of customers on an annual basis. For example, FPL reported 91,647 outage events for 4,447,244 customers in 2009. Dividing the outage events by the number of customers and multiplying by 10,000 results in 206 outage events in 2009 per 10,000 customers. TECO has a declining number of outages since 2005, while Gulf, PEF, and FPL continue to demonstrate variability. FPUC's results appear to be relatively flat and are trending downward with 10 outage events per 10,000 customers in 2005, and less than one outage event per 10,000 customers in 2009.

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



The average duration of outage events (Adjusted L-Bar) for each IOU is graphed in Figure 4-7. Gulf had a decrease in the L-Bar value, demonstrating improvements in recovery time from outage events. FPUC attributes their higher readings to the recent installation of an Outage Management System (OMS) in the Northwest Division. This resulted in significant improvement in data collection and retrieval capability for analyzing and reporting reliability indices, not necessarily a decline in service reliability.

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



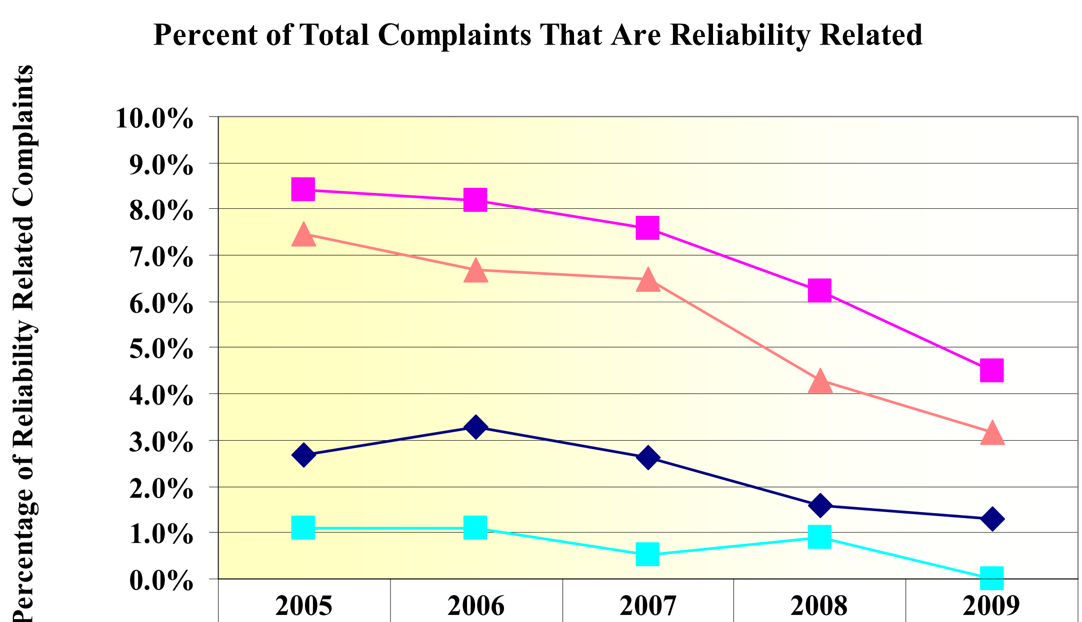
	2005	2006	2007	2008	2009
FPL	204	205	211	199	214
PEF	119	121	122	120	129
TECO	164	163	162	144	159
GULF	152	114	132	137	124
FPUC	73	84	77	98	112

Inter-Utility Comparisons of Reliability Related Complaints

Each customer complaint received by the Commission is assigned an alphanumeric category after the complaint is resolved. Reliability related complaints have ten specific category types. The reliability complainants pertain to trees, safety, repairs, quality of service, 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. For the years 2005 through 2009 and Figures 4-8 and 4-9, the consumer complaint data was extracted from the Commission's Consumer Activity Tracking System (CATS).[18]

As shown in Figure 4-8, the percentage of reliability related customer complaints in relation to the total number of complaints for each IOU appears to be trending downward. FPUC was excluded from the comparison because FPUC has relatively few customer reliability complaints and a much smaller customer base in comparison to the other utilities.

Figure 4-8. Percent of Complaints That Are Reliability Related



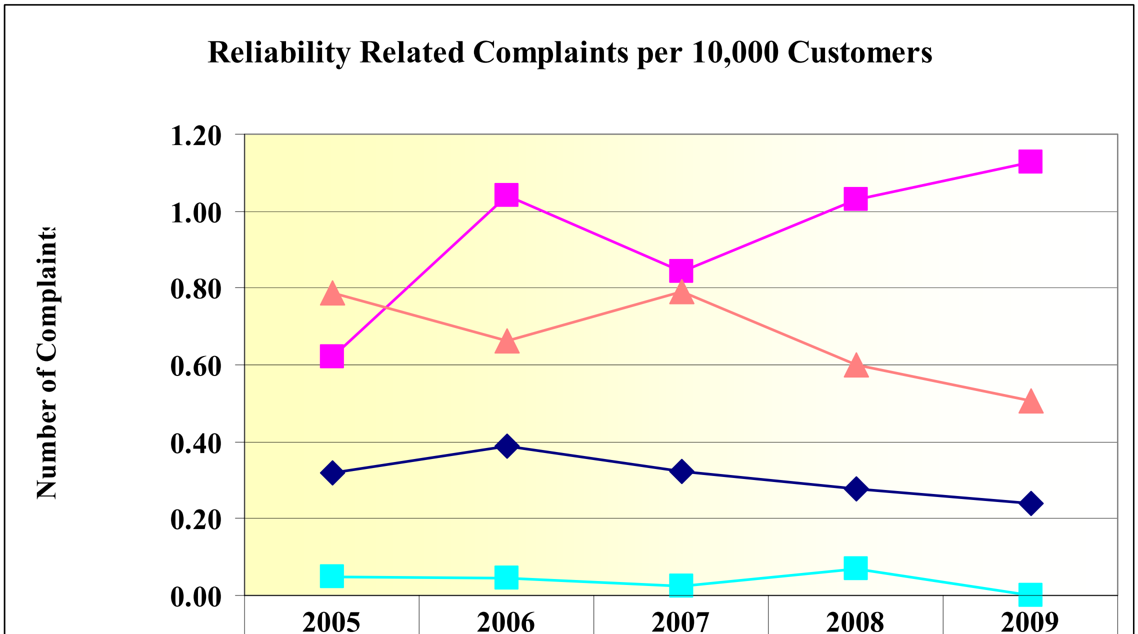
	2005	2006	2007	2008	2009
FPL	2.7%	3.3%	2.6%	1.6%	1.3%
PEF	8.4%	8.2%	7.6%	6.2%	4.5%
TECO	7.5%	6.7%	6.5%	4.3%	3.2%
GULF	1.1%	1.1%	0.5%	0.9%	0.0%

[18] Previous versions of the *Review of Florida's Investor-Owned Electric Utilities' Service Reliability* for the years 2005-2008 contain discrepancies in the compilation of the data from CATS.

The volume of service reliability related complaints is normalized to a 10,000 customer base for comparative purposes. This is calculated for each IOU by dividing the total number of reliability complaints reported to the Commission by the total number of the utility's customers. This fraction is then multiplied by 10,000 for graphing purposes. As shown in Figure 4-9, FPL, TECO, and PEF have between 0.238 and 1.126 reliability complaints for ten thousand customers. For 2009, Gulf's results were zero complaints per ten thousand customers.

FPUC was also examined and for 2009, the utility had 38 total complaints of which five were reliability related. Normalizing to a 10,000 customer basis results in 1.787 reliability related complaints. The results for the previous years varied from zero in 2005 to a high of 4.256 in 2008. The volatility of FPUC's results can be attributed to its small customer base which typically averages 28,000 or fewer customers.

Figure 4-9. Service Reliability Related Complaints per 10,000 Customers



	2005	2006	2007	2008	2009
FPL	0.318	0.390	0.323	0.277	0.238
PEF	0.620	1.040	0.842	1.030	1.126
TECO	0.789	0.664	0.791	0.599	0.508
GULF	0.048	0.047	0.023	0.070	0.000

Section V. Appendices

Appendix A. Adjusted Service Reliability Data

Florida Power & Light Company:

Table A-1. FPL's Number of Customers (Year End)

	2005	2006	2007	2008	2009
Gulf Coast	393,653	414,519	-	-	
Ft. Myers	-	-	184,719	183,172	184,230
Naples	-	-	236,111	235,816	236,430
Manasota	351,134	358,098	360,152	358,368	357,938
Boca Raton	343,569	347,030	350,336	349,157	349,273
West Palm	332,194	337,612	340,513	339,105	337,471
Gulf Stream	313,158	316,390	318,594	315,782	315,117
Pompano	298,740	299,874	298,881	294,881	294,184
S. Dade	286,995	293,656	297,229	295,591	280,926
Brevard	272,758	281,090	284,097	282,691	283,298
Treasure Coast	252,063	264,835	270,525	268,713	269,792
C. Florida	253,134	261,990	265,365	264,699	264,524
Wingate	253,775	254,358	254,455	252,931	251,991
Central Dade	235,400	242,649	247,429	254,825	257,751
N. Dade	218,848	222,019	224,805	223,159	221,592
W. Dade	218,097	221,686	223,049	221,682	237,215
Toledo Blade	154,821	164,917	168,429	167,401	167,850
N. Florida	127,860	134,688	138,398	139,271	139,400
FPL System	4,306,199	4,415,411	4,463,087	4,447,244	4,448,982

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)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Gulf Coast	71.0	79.7				1.26	1.53				56.4	52.2			
Ft. Myers			75.4	78.9	72.3			1.26	1.24	1.11			60.0	63.4	65.8
Naples			59.4	64.5	72.6			1.12	0.93	0.98			53.2	69.3	74.1
Manasota	54.0	66.4	67.9	72.5	82.6	0.83	1.01	0.87	.95	0.94	65.2	66.0	77.8	71.7	87.8
Boca Raton	77.8	74.7	68.3	53.8	66.9	1.35	1.39	1.23	1.04	1.29	57.8	53.9	55.7	51.8	52.0
West Palm	76.2	83.5	70.5	55.5	62.4	1.27	1.27	1.21	0.88	0.98	59.9	65.7	58.4	62.9	63.6
Gulf Stream	55.7	59.7	55.1	53.9	76.4	1.04	1.28	1.13	1.03	1.03	53.6	46.6	48.7	52.1	74.4
Pompano	55.2	67.7	61.4	48.9	57.2	0.88	1.16	1.03	0.91	0.82	62.8	58.2	59.3	53.8	69.7
S. Dade	74.2	83.1	95.7	88.8	122.2	1.27	1.25	1.42	1.35	1.52	58.6	66.2	67.2	65.7	80.4
Brevard	63.3	55.4	69.8	75.7	75.3	1.02	1.03	1.15	1.07	1.18	61.9	53.9	60.0	70.7	63.9
Treasure Coast	101.1	80.9	94.5	67.1	69.9	1.43	1.41	1.31	1.05	1.10	70.7	57.5	72.0	63.7	63.4
C. Florida	74.4	69.8	84.2	79.6	70.8	1.31	1.27	1.49	1.24	1.05	56.9	54.9	56.4	64.2	67.8
Wingate	74.6	82.7	76.3	71.0	87.7	1.39	1.51	1.50	1.35	1.42	53.8	54.6	51.0	52.6	62.2
Central Dade	55.2	49.1	90.3	82.7	72.7	0.94	1.05	1.20	0.94	1.16	53.9	54.2	75.6	88.0	64.5
N. Dade	63.3	74.0	58.4	80.7	64.9	1.10	1.19	1.13	0.83	0.89	57.5	65.2	51.2	97.4	73.1
W. Dade	55.7	64.3	77.8	66.4	85.8	1.20	1.64	1.40	1.17	1.19	55.7	58.4	55.6	56.7	71.9
Toledo Blade	61.4	93.3	74.3	60.0	79.1	0.82	1.42	0.96	0.77	1.02	74.5	57.6	77.1	77.6	79.0
N. Florida	117.4	96.3	94.3	129.3	103.1	1.90	1.14	1.38	1.58	1.30	61.9	59.9	68.5	81.6	79.4
FPL Sys.	69.6	74.3	73.2	67.2	78.0	1.15	1.29	1.21	1.07	1.11	60.4	57.8	60.3	62.9	70.2

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%)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Gulf Coast	8.71	9.83				2.4%	3.1%			
Ft. Myers			11.23	9.36	8.51			1.08%	2.26%	0.82%
Naples			8.33	7.54	7.70			4.29%	1.21%	1.04%
Manasota	8.55	9.29	9.50	9.19	8.53	1.0%	1.2%	1.08%	1.06%	0.65%
Boca Raton	8.20	8.77	9.64	8.90	10.59	1.1%	2.1%	2.28%	0.71%	1.64%
West Palm	11.43	11.66	10.76	10.04	10.86	2.5%	2.5%	1.87%	0.67%	0.82%
Gulf Stream	9.79	8.94	9.04	8.54	9.34	1.6%	5.4%	1.00%	0.46%	1.68%
Pompano	7.77	7.75	7.56	7.21	7.33	0.6%	2.3%	1.59%	0.92%	0.49%
S. Dade	11.92	10.28	10.25	8.93	10.97	3.1%	2.3%	3.32%	2.30%	3.91%
Brevard	14.11	15.83	16.63	14.06	13.63	0.5%	0.8%	0.94%	0.82%	1.09%
Treasure Coast	15.61	14.59	17.61	17.53	15.16	4.2%	4.6%	3.23%	2.17%	1.09%
C. Florida	15.12	12.75	14.12	13.34	12.33	2.8%	2.0%	1.80%	2.64%	1.16%
Wingate	12.03	12.78	13.11	11.03	13.95	2.2%	2.3%	3.01%	2.02%	1.14%
Central Dade	7.85	8.87	10.25	8.48	9.49	2.1%	1.2%	1.11%	1.16%	1.32%
N. Dade	8.84	9.72	10.01	7.77	8.84	1.1%	2.5%	2.75%	1.19%	1.08%
W. Dade	9.83	10.64	10.01	9.04	9.70	2.0%	7.4%	2.89%	1.45%	1.26%
Toledo Blade	16.31	20.43	17.08	16.53	18.16	1.9%	2.9%	3.00%	0.67%	1.15%
N. Florida	13.25	12.53	12.95	15.90	15.28	1.9%	1.4%	2.42%	5.54%	2.84%
FPL System	10.84	11.14	11.42	10.49	10.92	1.9%	2.7%	2.15%	1.45%	1.33%

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

	Adjusted Number of Outage Events						Adjusted L-Bar - Length of Outages				
	2005	2006	2007	2008	2009	Cumulative %ages	2005	2006	2007	2008	2009
Equip. Failure	26,752	27,692	30,102	29,904	31,933	33.5%	249	255	256	238	261
Unknown	16,970	17,273	12,016	11,639	11,806	12.4%	149	183	170	164	172
Vegetation	10,571	8,911	12,201	13,916	14,866	15.6%	199	192	206	205	219
Animal	8,711	10,006	9,655	10,297	9,343	9.8%	113	113	115	113	116
Remaining Causes	5,842	5,318	4,536	3,841	3,745	4.0%	223	203	191	191	214
Other Weather	7,250	7,148	8,318	6,903	8,185	8.6%	144	156	164	148	152
Other	8,865	10,165	7,343	6,940	7,654	8.0%	184	193	208	207	192
Lightning	4,682	4,575	6,059	4,431	4,292	4.5%	289	301	306	277	297
Equip. Connect	2,288	2,925	2,631	2,442	2,488	2.6%	217	227	228	208	253
Vehicle	1,905	2,181	1,678	1,334	1,088	1.0%	236	231	228	236	257
FPL System	88,966	93,836	96,194	94,539	95,400	100.0%	204	205	211	199	214

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

Progress Energy Florida, Inc:

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

	2005	2006	2007	2008	2009
S. Coastal	647,997	651,800	651,029	652,167	650,613
S. Central	384,292	401,943	411,225	412,576	411,992
N. Central	363,656	371,357	373,325	373,050	370,929
N. Coastal	183,861	190,414	192,295	192,498	191,826
PEF System	1,579,806	1,615,514	1,627,874	1,630,291	1,625,360

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)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
S. Coastal	64	70	61	59	76	1.04	1.07	1.05	0.92	1.11	61.8	65.2	58.7	64.1	68.0
S. Central	82	75	72	74	71	1.24	1.12	1.02	0.96	0.90	66.7	66.5	69.9	77.0	78.9
N. Central	73	77	81	82	81	1.09	1.13	1.13	1.13	0.97	67.2	68.1	71.9	72.5	83.0
N. Coastal	98	89	144	125	136	1.21	1.02	1.61	1.51	1.55	80.7	86.9	89.7	82.5	87.9
PEF Sys.	75	75	78	76	83	1.12	1.09	1.13	1.05	1.08	66.7	68.6	69.5	72.3	76.8

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

	Average Frequency of Momentary Events on Feeders (MAIFIe)					%age of Customers Experiencing More than 5 Service Interruptions (CEMI5)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
S. Coastal	12.8	12.5	12.9	12.3	11.5	0.62%	0.51%	0.55%	0.34%	0.56%
S. Central	13.9	10.6	10.1	10.5	9.7	1.68%	0.44%	0.36%	0.42%	0.75%
N. Central	12.3	9.1	9.9	10.1	11.1	0.78%	0.77%	1.08%	1.38%	0.79%
N. Coastal	11.2	8.2	11.5	10.5	9.8	1.48%	0.60%	2.75%	3.20%	0.81%
PEF System	12.8	10.7	11.3	11.1	10.8	1.01%	0.56%	0.89%	0.94%	0.74%

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

	Adjusted Number of Outage Events						Adjusted L-Bar - Length of Outages				
	2005	2006	2007	2008	2009	Cumulative %ages	2005	2006	2007	2008	2009
Animals	4,430	4,602	4,414	5,732	4,589	10.8%	65	140	65	66	67
Storm	3,337	4,534	3,817	3,538	4,407	10.4%	111	158	105	101	122
Tree-preventable	3,814	3,552	3,728	3,992	4,827	11.4%	107	109	113	115	126
Unknown	4,058	3,685	3,973	5,472	5,582	13.1%	74	74	74	77	79
All Other	3,946	3,064	3,101	3,168	8,428	19.4%	115	138	119	113	139
Defective Equip.	3,694	3,317	3,144	2,991	3,718	8.8%	180	181	186	181	183
Vehicle/Const. Equip.	4,139	4,464	4,122	4,761	353	0.8%	156	158	166	171	210
Connector Failure	2,853	2,967	3,010	2,982	3,244	7.6%	102	106	102	103	113
Tree Non-preventable	2,044	1,823	3,197	3,347	3,474	8.2%	112	119	133	131	149
UG Primary	2,586	2,735	2,566	2,506	3,521	8.3%	198	184	188	209	228
Lightning	3,277	875	2,551	2,217	1,525	3.6%	116	189	131	128	158
PEF System	38,178	35,618	37,623	40,706	42,486	100%	119	121	122	120	129

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)

	2005	2006	2007	2008	2009
Western	184,826	185,868	187,390	186,062	186,960
Central	175,919	179,020	180,380	179,224	179,160
Eastern	102,328	105,687	107,861	107,495	108,206
Winter Haven	64,981	67,362	67,775	67,243	66,979
S. Hillsborough	53,627	57,675	59,315	59,540	60,356
Plant City	51,633	53,081	53,612	93,925	54,103
Dade City	13,421	13,818	13,778	13,806	13,686
TECO System	646,735	662,511	670,111	667,295	669,450

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)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Western	75	64	77	70	79	0.88	0.75	0.95	0.89	1.01	84	85	81	78	78
Central	61	55	62	47	62	0.77	0.67	0.84	0.61	0.82	79	83	75	76	75
Eastern	97	62	77	69	64	1.13	0.87	1.11	0.94	0.90	86	71	70	74	70
Winter Haven	65	58	66	52	59	1.01	1.00	0.91	0.97	0.84	65	58	72	53	70
S. Hills.	127	96	74	65	85	1.38	1.15	1.12	0.90	0.89	92	84	66	73	95
Plant City	130	96	128	108	141	1.69	1.25	1.54	1.37	1.85	77	77	83	79	76
Dade City	148	209	127	127	138	1.50	2.78	1.74	2.00	1.85	98	75	73	64	75
TECO	84	69	77	66	77	1.02	0.89	1.02	0.89	1.00	82	78	75	73	77

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

	Average Frequency of Momentary Events on Feeders (MAIFIe)					%age of Customers Experiencing More than 5 Service Interruptions (CEMI5)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Western	11.4	12.6	12.1	13.5	10.4	0.57%	0.61%	1.97%	0.82%	1.74%
Central	11.2	10.6	11.7	13.0	8.8	0.52%	0.35%	1.22%	0.29%	1.22%
Eastern	15.5	12.6	15.8	16.3	12.0	1.20%	0.66%	2.98%	0.23%	0.59%
Winter Haven	15.8	12.3	13.6	14.9	11.2	0.49%	1.19%	0.31%	1.00%	1.69%
S. Hillsborough	19.4	15.4	14.7	16.0	13.3	8.52%	1.05%	2.45%	1.20%	2.47%
Plant City	19.6	17.3	19.9	20.2	19.9	13.31%	11.05%	3.82%	3.84%	11.27%
Dade City	22.6	21.8	25.4	18.5	13.4	0.63%	37.90%	6.13%	5.12%	11.50%
TECO System	14.0	12.8	13.9	14.0	11.4	2.33%	2.26%	2.04%	0.97%	2.45%

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

	Adjusted Number of Outage Events						Adjusted L-Bar - Length of Outages				
	2005	2006	2007	2008	2009	Cumulative %ages	2005	2006	2007	2008	2009
Lightning	1,962	1,723	1,921	1,570	1,498	15.4%	220	224	222	189	82
Animal	1,742	1,656	1,708	2,252	1,555	16.0%	91	82	81	79	198
Vegetation	1,797	1,564	2,086	2,035	2,059	21.2%	157	153	157	147	163
Unknown	1,243	895	727	703	721	7.4%	130	123	113	113	209
Other Weather	930	703	578	645	636	6.5%	161	163	151	143	149
Electrical	1,065	954	979	864	1,204	12.4%	190	189	179	165	181
Bad Connection	917	704	726	785	880	9.1%	182	186	188	181	128
Human Interference	266	223	195				200				
Vehicle	349	334	261	220	234	2.4%	182	180	184	181	145
Defective Equip.	291	441	508	511	396	4.1%	217	209	219	202	203
All Other	807	724	503	513	536	5.5%	174	177	152	151	155
Down Wire	230	237	249	264				197	170	158	
TECO System	10,873	9,475	9,997	10,098	9,719	100.0%	164	163	162	144	159

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.

Gulf Power Company:

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

	2005	2006	2007	2008	2009
Western	184,826	205,779	208,436	208,570	208,372
Central	175,919	108,859	109,817	109,168	110,532
Eastern	102,328	104,254	109,410	110,191	109,250
GULF System	463,073	418,892	427,663	427,929	428,154

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)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Western	142	158	146.	146	157	1.35	1.27	1.32	1.45	1.59	105	124	110	101	99
Central	73	174	109	99	140	0.81	1.28	0.95	1.14	1.20	90	136	115	87	117
Eastern	78	331	100	140	107	0.71	1.29	1.12	1.13	1.08	111	257	90	124	99
GULF	101	205	125	132	140	1.00	1.28	1.18	1.29	1.36	101	161	106	103	103

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

	Average Frequency of Momentary Events on Feeders (MAIFIe)					%age of Customers Experiencing More than 5 Service Interruptions (CEMI5)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Western	11.6	9.3	7.7	11.2	9.5	1.17%	2.01%	2.15%	3.20%	2.91%
Central	4.7	7.5	7.6	8.8	5.8	1.56%	2.01%	0.52%	0.42%	2.83%
Eastern	5.8	6.7	4.8	8.1	8.5	0.64%	2.06%	4.08%	2.26%	0.53%
GULF System	7.7	8.2	6.7	9.4	8.3	1.20%	2.02%	2.22%	2.25%	2.28%

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

	Adjusted Number of Outage Events						Adjusted L-Bar - Length of Outages				
	2005	2006	2007	2008	2009	Cumulative Percentages	2005	2006	2007	2008	2009
Animal	1,486	1,609	2,089	3,417	3,112	21%	92	163	83	94	81
Lightning	1,851	2,307	2,112	2,154	2,080	20%	192	170	151	165	155
Deterioration	1,634	1,914	2,188	2,300	2,333	19%	188	174	165	172	150
Unknown	980	987	742	874	988	10%	141	157	91	99	90
Trees	254	1,292	1,419	1,314	1,293	11%	139	157	144	158	155
Vehicle	2,239	284	336	288	275	7%	171	381	165	167	173
All Other	288	299	345	354	388	3%	110	139		152	135
Wind/Rain	235	680	175	169		3%	146	219	160	170	
Overload	129	223	271	198	245	2%	108	156	99	109	104
Vines/Dig-in	424			162	150	1%				134	108
Other	129	144	130		166	2%	217		96		85
Contamination / Corrosion	118	137	143	203	212	1%	194	182	127	134	116
GULF System	9,638	9,876	9,950	11,433	11,242	100%	152	114	132	137	124

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)

	2005	2006	2007	2008	2009
Fernandina(NE)	14,731	14,859	15,120	15,376	15,254
Marianna (NW)	12,661	13,934	12,846	12,822	12,730
FPUC System	27,392	28,793	27,966	28,198	27,984

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)				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
NE	59	105	87	91	225	1.01	1.15	1.05	1.26	1.94	59	91	83	72	116
NW	78	206	67	239	210	1.13	1.72	1.19	2.70	2.09	69	119	56	88	101
FPUC	68	154	78	158	218	1.07	1.43	1.12	1.92	2.01	64	108	70	82	109

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

	Adjusted Number of Outage Events						Adjusted L-Bar - Length of Outages				
	2005	2006	2007	2008	2009	Cumulative %ages	2005	2006	2007	2008	2009
Vegetation	135	257	220	409	284	26.7%	80	83	95	73	89
Animal	149	250	127	283	231	21.7%	48	49	50	57	62
Lightning	84	72	52	71	95	8.9%	81	72	99	60	115
Unknown	113	202	37	71	90	8.5%	55	49	69	74	119
Corrosion	66	59	74	102	120	11.3%	115	116	124	100	101
All Other	40	33	43	46	43	4.0%	86	75	73	56	98
Other Weather	20	50	67	97	149	14.1%	124	69	103	75	275
Trans. Failure	38	32	35	22	24	2.3%	161	154	170	83	150
Vehicle	14	28	27	31	27	2.5%	91	68	162	107	63
Cut-Out Failure	12	5	4	10	0	0.0%	71	74	55	61	0
Fuse Failure	27	6	6	8	0	0.0%	49	47	95	53	0
FPUC Sys	698	994	696	1,150	1,063	100%	73	84	77	98	117

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 2009

SUMMARY of Municipal Electric Utility Reports Pursuant to Rule 25-6.0343, F.A.C. — Calendar Year 2009

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management	
	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	8-year cycle (12.5% per year)	Planned 12.5% and completed 297 poles (11%). The City of Alachua only has distribution poles, no transmission	39 poles failed due to shell rot, decay top, and woodpecker holes	All failed poles replaced with 45-50 foot, class 3 poles	Currently using information from PURC conference held Jan, 2009, to improve vegetation management	Overhead distribution is trimmed on an annual basis. 130 miles were trimmed in 2009
Bartow, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	8-year cycle using visual inspection and tests for shell rot and insect infestation	1,500 planned for 2009, with 1,669 completed in 2009	358 poles failed inspection due to pole top rot and rotten ground decay	115 poles replaced ranging in size from 30-50 foot; class 7-2	4-year trim cycle. Use foliage treatments and herbicidal treatments	4-year cycle complete on target
Beaches Energy Services	Yes	Yes	10 year Capital Funding Program to provide for relocating all overhead within 3 city blocks of Atlantic Ocean to underground	Yes	Yes	Transmission: Annual inspection Distribution: 8-year cycle, was 100% complete in 2007. Next inspection schedule is 2015	Transmission: 100% planned and completed. Distribution: 4,637 planned and completed 2007	Transmission: No failures. Distribution: No inspections in 2009	All failed inspections prior to 2009 have been replaced. Class not reported	Transmission: Inspected and trimmed annually Distribution: 2-3 year trim cycle	100% complete in 2009 for all vegetation management activities per PURC research conference held January, 2009

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Bushnell, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	No written policy. An attachment audit was conducted in 2009 to ensure that pole loading was acceptable	No transmission facilities. Distribution: 3-year cycle. Visual, sound/bore, pole condition rating, and wind load assessment	319 poles inspected in 2009 which makes 97% of entire system inspected since 2007	11 poles failed rejection due to shell rot, splitting, and decay	All but 1 pole has been replaced, which is scheduled for replacement in 2010.	Tree trim contract on 3-year cycle for tree removal, power line trim, and right of way clearing. Annual trimming before hurricane season	Not reported
Chattahoochee, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	3-year cycle for 100% inspection using visual, excavation around base, sounding, and probing with steel rod	1,957 distribution poles	58 poles failed due to ground line and pole top decay	Replacement of all 58 poles began in February, 2009 and 2ill continue through 2010. Poles ranged in size from 30-45 foot, class 4 & 6	Trimming completed on an annual basis	PURC and FEMA conference notes used to improve vegetation management
Clewiston, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	No standard guidelines for pole attachments, however all attachments are reviewed by engineers	8-year cycle using sound and bore with strength test inspection. Infrared inspections on 3-4 year cycle	363 (25%) poles inspected in 2009, with 25% for 2010 planned which will complete entire system for past 4 years. 2010 begins new cycle	42 poles rejected due to rot and decay	59 poles replaced in 2009, these are class 3 and 4 wood distribution poles. All transmission poles are concrete	City ordinance prohibits planting of hedges or trees in the easements. Feeders trimmed annually; laterals trimmed as-needed	all transmission and feeders checked in 2009, with 39 customer requests for tree trimming

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Fort Meade City of	Yes	Yes	Currently participating in PURC study on conversion of overhead to underground	Yes	Yes	8-year cycle using visual and the sound and probe technique	No transmission lines. Distribution: not reported	2,725 total poles with 461 inspected in 2009 (17%). The failures were due to age deterioration and animal infestation	7 poles failed and were replaced. Poles ranged in size from 40-55 foot; class 3,4, and 5	3-year inspection cycle	Completed trimming 99% of entire system through 2009. There were 143 outages in 2009, with 41 outages due to tree limbs
Fort Pierce Utilities Authority	Yes	Yes	Yes, for new construction have installed submersible vacuum switch gear to minimize effects of flooding and storm surge	Yes	Yes	Transmission: Annual visual, sound and bore for wood poles; 3-year for concrete & steel. Distribution: 8-year cycle	Transmission: 100% planned and completed. Distribution: 100% completed in 2008, no planned inspections for 2009	Transmission: Three poles failed in 2009 due to woodpecker damage. Distribution: No inspections in 2009	3 poles replaced which was all class 1.	Maintains year round contract for tree trimming, removal, clearing. Vegetation is monitored and patrolled annually, trees quarterly	Works with developers to suggest which species of trees may be planted under or within specified distance from utility lines
Gainesville Regional Utilities	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	Transmission: Twice per year after major storm events. 8-year cycle for all lines; includes visual, sound and bore methods.	Planned and completed 100% transmission poles. Planned 3,561 distribution poles and completed 3,542 poles (99.5%)	Transmission: No poles failed. Distribution: 32 poles replaced due to shell rot, heart rot, decay, split top, termites, and carpenter ants	32 poles replaced ranged in size from 30 foot class 6 to 60 foot class 1	560 overhead lines on a 3-year rotating cycle using herbicidal treatments, tree trimming and removal	Transmission: 76.2 miles-138kV and 2.5 miles 230kV Distribution: 22 circuit miles trimmed

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Green Cove Springs, City of	Yes	Yes, for new construction	Yes, for new construction and continue to evaluate, but will wait for results of the current research program to justify costs	Yes	Yes	8-year cycle doing visual and sound and bore techniques. Does not have transmission lines as defined by 69kV and above	Planned 12.5%, completed 11% while in the process of upgrades to two major sections of 4kV during next 4 years	4 wood poles failed inspection due to rot, vehicle impact, customer damage during trimming, and rebuilt after storm damage	7 poles replaced in 2009 were all 30 foot, class 3 poles	Contracts annual trim of 100% if system, and problem trees removed as needed	80% of system was trimmed in 2009.
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 1,169 poles; inspected annually	100% planned and completed in 2009	13 poles failed inspection due to old age	600 feet of overhead replaced due to age; 13 poles replaced ranging in size from 30 foot class 4 to 45 foot class 4	One third of entire system trimmed annually	75% trimmed in 2009 due to increased rainfall resulting in faster than usual growth
Homestead, City of	Yes	No. Participating in PURC granular wind research study through the Florida Municipal Electric Assoc.	Yes, for new construction and continue to evaluate, but will wait for results of the current research program to justify costs	Yes	Yes	All transmission poles are concrete. Distribution on 8-year cycle; annual thermograph type inspection of feeder circuits	12.5% annual planned; 900 poles(13.5%) completed in 2009	Transmission: No Distribution: Replaced 48 poles; repaired 20 poles; removed 8 poles; bundled 69 poles to contract for replacement	Poles replaced, removed, or repaired were all class 4, ranging in size from 35-45 foot.	Trimming services are contracted out and entire system is trimmed on a 2-year cycle	Recently enacted Code changes that require property owners to keep vegetation trimmed to maintain 6-feet of clearance from city utilities

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Jacksonville Electric Authority	Yes	Yes	Yes, for new construction and continue to evaluate, but will wait for results of the current research program to justify costs	Yes	Yes	Transmission: 4-year cycle, except critical N-1 240kV on a 2-year cycle. Distribution: 8-yr inspection cycle, use NESC for reject status	Transmission: New cycle began 2006 and completed 2009. Distribution: Planned and completed 40 circuits per year	Transmission: 24 poles failed at ground level inspections. Distribution: 13% of completed inspections failed due to decay & rot	All 94 poles found in 2008 replaced. 24 failed poles found in 2009 are to be replaced in 2010	Transmission in accordance with NERC FAC-003-1 Distribution: 3-year trim cycle for more than 8 years; 2.5 year completed 2009	JEA fully compliant with NERC standard for vegetation management in 2009; and 2010 activities are on schedule
Keys Energy Services	Yes	Yes	Yes	Yes	Yes	Transmission: No wood poles. Distribution: 2 year cycle includes visual, sound and bore, excavation, annual infrared inspection	Distribution: 11,100 poles tested to date with 2,232 (29.9%) rejected due to ground/shell rot, structural overload, pole top rot, and other	Transmission: None. Distribution: Replaced 620 rejected poles in 2009; 755 poles in 2007-2008.	KEYS in 5 year contract to replace approx. 2,300 poles over 5 years with storm harden facilities. Planned 500 for 2010, and 445 for 2011	216 miles 3 phase distribution lines; 66 miles transmission lines on 2-year trim cycle, plus quarterly maintenance	KEYS on target for trim cycle, plus revisit list put in place to handle tropical climate and substantial growth rate throughout year
Kissimmee Utilities Authority	Yes	Yes, on 5-year budget plan which allocates $50,000 per year for target replacements	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	Transmission on a biennial visual inspection cycle. Distribution: 8-year inspection includes sound and bore, ground line inspection	Transmission: 100% planned & completed in 2009. Distribution: 2,000 planned and 2,684 completed in 2009	107 poles failed inspection due to shell rot, heart rot, decay, split top, mechanical damage below, termites, carpenter ants, and other	3,583 poles were treated with MP400; MITC; and Hollow Heart. 23 poles replaced or scheduled, ranging in size from 65-85 foot	Currently using information from PURC conference held Jan, 2009, to improve vegetation management	Transmission: 100% remediation identified during inspection was completed. Distribution: 107 miles inspected; 81 miles completed

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Lake Worth Utilities Department	Yes	Yes	Underground distribution construction practices require installation of dead front pad mounted equipment in areas susceptible to flooding	Yes, for placement of new distribution facilities. Policies for new construction require front easements	Yes	Visual inspection of all transmission on an annual basis. Distribution: 8-yr. cycle. Pole tests include hammer sounding, prod, and penetration 6 in. below ground	8-yr. cycle, results not reported	Not reported	Not applicable	System wide 2-yr. trim cycle under contract to include dead or defective trees; fast growing weeks, non subject to removal	Not reported
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	8-year inspection cycle using visual, sound and bore, with ground line excavation and in addition; visual inspection during normal course of daily activities	Transmission: 147 (12.5%) planned and 161 (13.7%) completed. Distribution: 7,500 (12.5%) planned and 7,821 (13%) completed	Transmission: 5 poles failed due to decay. Distribution: 397 poles failed due to decay	38 poles reinforced with struts and 177 poles replaced, repaired, or removed. 46 poles were deferred to 2010 for replacement	3-year inspection cycle for transmission and 3-1/2 year cycle for distribution trimming. Vegetation Management plan is contracted out	Transmission: 40 miles planned, 42 miles completed. Distribution: 300 miles planned, 305 miles complete
Leesburg, City of	Yes	Yes, and Participation in PURC granular wind research study through the Florida Municipal Electric Assoc.	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	No transmission facilities. Distribution: 8-year cycle. Visual, sound/bore, excavation method, and ground level strength test	3,224 poles were inspected in 2009 which included poles not inspected during FY2008 due to budget constraints	250 poles failed/rejected during inspection were due to slit top, woodpecker holes, failed minimum strength, etc.	84 wood poles were replaced of the 250 that failed inspection. Height and class not reported	4-year trim cycle for feeder and lateral circuits. Use foliage treatments and herbicidal treatments	Vegetation management completed as scheduled in 2009 and an additional tree crew was added as planed during April, 2008

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Moore Haven, City 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	Annual visual inspections, as the city is one square mile and easily inspected on a routine basis	No transmission lines. Distribution: 100% planned and completed	No poles found defective, but began upgrading 3-phase poles by replacing 3 poles	The city has constantly worked on the rear-of secondary, making them more accessible to the crew	Continuous tree trimming in easements and right of way. 100% of distribution system is trimmed each year	Expended approximately 20% of Electric Dept. Resources to vegetation management
Mount Dora, City of	No written documentation that its construction standards comply with the National Electrical Safety Code (NESC)	An engineering firm to be hired in FY 2011 to make evaluation of electric distribution system and compliance with Figure 250-2(d)	Non-coastal utility; therefore storm surge is not an issue, and the terrain around Mount Dora is very hilly, making it less susceptible to flooding	Yes	No written policy, however, field personnel conduct annual inspections of all facilities to identify overloaded poles	No transmission lines. Distribution lines and structures are visually inspected for cracks and a sounding technique used to determine rot	Annual field inspection, 100% planned and completed of wood poles and street lights; but 6 distribution feeders were deferred to 2010	The City remediated all of the issues indentified in the annual field inspection. 41 poles failed due to damage, rot, and loose or missing hardware	69 wood poles ranging in size from 30-45 foot, replaced with concrete poles in 2009	Tree trimming is completed on a 12 month cycle by an outside contractor working 80 hours per week.	Trimmed trees on a 12 month cycle, also removed limbs from trees in right of way and easements that could create clearance problems
New Smyrna Beach	Yes	Yes	Yes, where economically feasible	Yes	Yes	8-year inspection cycle for transmission and distribution facilities	Transmission: 12.5% planned and 18% complete. Distribution: 12.5% planned and 13% completed	Transmission: 7 failed/rejected due to decay and woodpeckers Distribution: 215 failed/rejected due to decay, split top, woodpecker damage	Transmission: Replaced 7 poles ranging from 70-85 foot, class 1 & 2 Distribution: Replaced 118 poles, restored 89 poles, repaired 8 poles	Maintains two crews on continuous basis to do main feeder and "hot-spot" trimming	Trimmed approximately 15% of total distribution system in 2009, and performed clear cutting on 20% of the transmission lines

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Newberry, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	3-year inspection cycle at ground line for deterioration, entire upper art of the pole for cracks, and soundness of upper part of pole	1,007 (100%) distribution poles inspected in 2009	40 poles found defective due to top rot	Replaced 15 poles, size 30-45 foot, class 5	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
Ocala Electric Utility	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	8-year inspection cycle which include above ground inspection, sounding, boring, excavation, chipping, and internal treatment	3,150 distribution poles inspected in 2009 (9.8% of total); 100% of transmission poles were inspected 2007; will not be inspected until next 8-year cycle	381 poles failed inspection due to shell rot or decayed tops. Transmission poles to be inspected again in 2015	272 of the 381 poles which failed will be replaced; the remaining 109 poles will be braced using the Osmose C-Truss. Poles were 30-50 foot, class 1, 3 & 5	3-year trim cycle, with additional pruning where designated canopy areas are allowed minimal trimming	In 2009, 4 miles of 230kV transmission was schedule and cleared. Additional funding allowed for completion of 23 miles of work scheduled for 2010 to be completed
Orlando Utilities Commission & City of St. Cloud	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	8-year inspection cycle which include above ground visual inspection, sounding, boring, excavation, chipping, and internal treatment	Distribution and Transmission planned 6,400 (12%); completed 6,411 (12%)	280 poles (4.4%) failed inspection. Failure causes in detailed report OUC 2009 Pole Inspection Report, not included in report sent to PSC	4 poles replaced, 66 poles restored, and the remaining 210 poles have work orders generated for replacement	Transmission: 200 miles of lines on a 3-year trim cycle. Distribution: 1,261 miles of lines on a 4-year trim cycle	330 miles of distribution line clearance and 99 miles of transmission right of way to remain on established cycles with 100% planned/completed

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Quincy, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	City of Quincy did drive-by patrols of all poles in the distribution system in 2009	2,842 poles had drive-by inspections, 773 poles had sound and bore inspections, and 31 poles had detailed inspections in 2009	33 distribution poles failed inspection due to signs of rotting around the base of the pole. No transmission poles failed inspection	10 distribution poles were replaced in 2009 and the remaining poles which failed inspection will be replaced in 2010	Trimming of 25% of system each year for the past 4 years with in-house crews. Contracted tree service in 2009 provided 30,000 linear feet of right of way	Approximately 25 miles or 24% of distribution system medium trimming planned and completed; 100% of transmission lines in 2009.
Reedy Creek Improvement District	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Does not have any foreign attachments on the facilities	Distribution: Wood poles inspected every 2-year and last performed in 2008. Reedy Creek is not a transmission owner	All distribution poles inspected and treated in 2008; next scheduled inspection in 2010	Not applicable	Not applicable	15 miles of transmission right of way is trimmed and cleared in 2007-2008, not scheduled until 2010. Distribution is trimmed with transmission	Periodic inspections conducted in 2009 showed no vegetation encroachments
Starke, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	No written policy	Poles inspected annually	3,443 poles visually inspected in 2009	27 poles found bad from rotting and splitting	27 poles replaced ranging in size from 30-45 foot, class 2	Annual tree trim and vegetation contract with Gainesville Regional Utilities. 33% of distribution completed annually by City of Starke	Lines are trimmed throughout the year as-needed basis

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Tallahassee, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	8-year cycle for all distribution and transmission poles and structures and 5-year cycle for transmission physical inspection	Inspection includes infrared, flying visual, sound and bore, internal treatment, reinforcement or replacement. 535 poles inspected in 2009	Transmission: 8 poles replaced due to decay and woodpecker holes. Distribution: 14 poles replaced due to decay and ensure class of pole appropriate	64 transmission poles replaced due to various construction projects ranging in size from 75-120 ft. 342 distribution poles ranging from 40-65 ft., class 2-3	Transmission: 3-year trim cycle with target of 20 ft horizontal clearance on lines. Distribution: 18 month trim cycle on overhead lines to 4-6 ft clearances	Transmission rights of way & easements mowed annually and as needed. Distribution: Maintained 2/3 of total 1,037 overhead lines
Vero Beach, City of	Yes	Yes	Facilities installed a minimum of 8 in. above roadway and grading required preventing erosion. Ongoing participation in PURC study	Yes	Yes	55 miles of transmission lines driven and inspected every 2-3 months.	Transmission planned/completed 4 full inspections in 2009. Distribution planned and completed 33% of system	Transmission: No failures. Distribution: 3,500 inspected with 150 failures (4.3%) due to ground rot and hit by vehicle	Distribution replaced 290 poles ranging in size from 30-50 foot; class 3-5	3-year cycle includes trimming trees, limbs within 3 feet of neutral or 5 feet of the primary. Top trees in the right of way and maintain proper clearances	3-year vegetation management cycle with goal to complete 60 blocks (40 square miles of entire territory) every three years
Wauchula, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Not addressed. City has the ability for crews to be able to access distribution facilities in rear of property if work needs to be done	No standard guidelines for pole attachments, but will examine this issue in 2010	The City of Wauchula does a sound and bore inspection	3-year cycle. Completed 1/3 of system in 2009	Less than 1% failure due to poles rotting at the ground	One of the total five transmission poles replaced in 2009. Size and class not reported	3-year cycle includes trimming trees and herbicides for vines	Complete 1/3 of system every year

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Williston, City of Extension requested to 4-15-10	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Not yet developed due to turnover in management. The City anticipates to outsource this function in the 2010-2011 budget year	Distribution: Visual and sound inspection on a 3-year cycle; since 2007, use both bore method with sound/bore to inspect poles	3-year cycle. Completed 100% in 2009. This year (2010) begins a new 3-year cycle	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	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	Complete 1/3 of system every year
Winter Park, City of	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	No transmission structures. Distribution: 8-year trim cycle Inspection includes visual, assessment prior to climbing, sounding with a hammer	2009 results not reported	35 poles replaced in 2009, broken during storms when tree limbs fell on lines. 78 non-priority poles from 2008 failed due to base rot, remain to be replaced	The 2008 formal Osmose inspected 1,002 poles, class 3,4,5. Damaged poles from decay or insects were treated with chemicals or reinforced	Vegetation Management is performed by an outside contractor on a 3-year trim cycle	Crews are trimming approximately 15,800 ft of lines each month. Using FEMA report to improve vegetation management practices

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Utility	Major Planned Work Expansion, Rebuild or Relocation	Targeted Critical Infrastructures and major thoroughfares									
Central Florida Electric Cooperative, Inc	None. Self audit and evaluation on a case by case basis	Insufficient data to substantiate effort and cost to make major upgrades at this time	Continuing evaluation of PURC study to determine effectiveness of relocating to underground	Yes	Yes	Transmission: 100% annual inspections Distribution: 8-year cycle for inspections	Transmission: 100% inspected Distribution: 9.1% inspected in 2009 and 10.5% planned for 2010	Distribution: 7,682 inspections in 2009	Distribution: 27 poles found defective and scheduled for replacement in 2010	5 years into a 5-year right of way vegetation clearance plan	507 of 2,931 miles completed in 2009. Currently scheduling approximately 20% annually
Choctawhatchee Electric Cooperative, Inc	Yes	Yes	Yes	Yes	Yes	Yes; maintains a 3-yr. inspection cycle	Currently on an 8-yrs. Inspection cycle. 13.11% completed 2009	124 poles failed, reasons not reported	124 (100%) replaced in 2009	Currently there is no board policy directly related to right of way vegetation management	Current right of way program is to cut, mow, or otherwise manage 20% of it's right of way on an annual basis
Clay Electric Cooperative, Inc	Yes	Not designed by Figure 250-2(d) except as required by rule 250-C	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	Prior to 2007, working on a 1-year cycle and complete 2013. Beginning 2014, going to 8-year cycle	Rebuilt 7 miles of 69kV lines from wood poles placed in1965, to concrete. 17 miles planned for 2010	28,981 inspected; 229 failed due to ground rot, decay, split, top decay, and danger	229 poles replaced ranging in size from 65-25 ft; class 2-6	Policy is mowing, herbicide spray, and systematic precutting on a 3-year cycle. Exceeded 2009 planned by 5%	3,229 miles planed & complete in 2009. City on 3-year cycle; urban on 4-year cycle; rural on 5-year cycle

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management	
	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									
Escambia River Electric Cooperative	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	Visual, sound and bore techniques. Distribution: 8-year cycle	Distribution: 3,840 planned and 4,652 completed 2009. No transmission poles owned	17 poles failed due to ground level decay	17 replaced, ranging in size from 40-30 ft., class 4-6	5-year trim cycle. Right of way is cleared 20 feet; 10 feet on each side	364 miles (20%) planned and completed in 2009
Florida Keys Electric Cooperative Association, Inc	Yes	Yes	Yes	Yes	Yes	Annual helicopter inspection 100%. Distribution: 4-year cycle, completed 25% in 2009	Distribution: 3,091 planned and completed in 2009	3 concrete structures failed inspection; had temporary repairs in 2009. To be replaced in 2010	266 wood poles failed inspection; 66 replaced and 131 reinforced	Transmission: 100% annually. Distribution: 8-year cycle implemented in 2007; 36% completed	Transmission: Trimmed 22 miles; remainder spot trimmed. Distribution: 200 miles complete in 2009
Glades Electric Cooperative, Inc	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	8-year cycle using sound/bore and excavation inspection procedures	Distribution: 4,022 poles with 10% completed. Transmission: 87 miles, 100% completed	Distribution 146 poles failed due to split poles, ground line rot, and pole top decay	Distribution: 146 poles, 100% rejected poles replaced. Transmission: 24 60-foot, class 2 poles replaced	All trimming on a 3-year cycle; right of way trimmed for 10 foot clearance on both sides	Distribution: Planned/completed 264 miles Transmission: Planned/completed 1.5 miles in 2009

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management	
	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	None. Self audit and evaluation on a case by case basis	Not designed by Figure 250-2(d) except as required by rule 250-C	Continuing evaluation of PURC study to determine effectiveness of relocating to underground	Yes	Yes	No transmission lines. Visual inspections are performed on all new work, and case by case as needed	818 inspections completed	24 poles rejected due to rot, broken pole, split pole, and leaning	Not reported	1,632 miles overhead and underground owned and on a 5-year cycle.	Currently on a definitive 4-year program for ground to sky cut
Lee County Electric Cooperative, Inc	Yes	Yes	Yes	Yes	Yes	Transmission: 2-year cycle visual Distribution: 10-year cycle for splitting, cracking, decay, twisting, and bird damage	1,500 of 2,020 poles and structures, 100% of scheduled for 2009.	Transmission: 128 poles failed Distribution:1512 poles failed. These were due to rot, out of plumb, and birds	Repaired through patching & replumb, 19 transmission and 112 distribution. The remainder replaced	Transmission: Trim 230KV bi-annual 138KV Annual Distribution: 3-year (2&3 phase circuits) 6-year (1 phase circuit)	Met 100% of yearly goal of 954 for trimming and 28 for mowing
Okefenoke Rural Electric Membership Cooperative	Yes	Yes, but not on a system wide basis	Continuing evaluation of PURC study to determine effectiveness of relocating to underground	Yes	Yes	No transmission lines. Distribution is on an 8-year cycle	22,038 poles inspected in 2009, which is 39% of system total	128 poles rejected due to split top, decay, and mechanical damage	25 poles replaced, 58 repaired, 45 poles were inactive and retired from service	Vegetation control practices consists of complete clearing to the ground line, trimming, and herbicides	Planned and completed 500 miles of right of way, which is 20% of 5-year cycle

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management	
	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									
Peace River Electric Cooperative, Inc.	Not on a system wide basis	No	Participating in PURC study to determine effectiveness of relocating to underground	Yes	Yes	Located in Decay Zone 5, on an 8-year cycle and as needed basis	100% of total inspection in progress and to complete in 2010. Inspection procedures not addressed	228 rejected after inspection. Actual specific reasons not addressed	Reported by classt and percentage 30-6 1.2% 35-4,5,6 3.5% 40-3,4,5 2.5% 45-3,4,5 < 1% 50-2,3 < 0.19% 55-1,2 0.18%	Cut the system in a 3 year period from the substations to the consumer's meter.	Year 1 = 39.66%
Seminole Electric Cooperative, Inc	Yes	Yes	Not applicable. Seminole does not own or operate any distribution facilities	N/A	Yes	2-year cycle on all transmission structures	3,090 structures (34 lines) were 100% inspected in 2008; next inspection to be completed in 2010	122 poles failed 2008 inspection due to pole top rot and woodpecker damage	Replaced 122 poles ranging in size from 70-55 foot, class 1 & 2, in 2009, found in 2008 inspection	Annual inspection for tree removal program; 3-year cycle on herbicidal applications	Planned and completed 124 miles on 230KV lines and 31 miles on 69KV lines
Sumter Electric Cooperative, Inc	Yes	Insufficient data to substantiate effort and cost to make major upgrades at this time. Continue to self audit to determine needs	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	5-year cycle on all lines using ground line visual inspections	782 structures in 2009. Beginning 2010 will use infrared inspections. Distribution is on an 8-year cycle	Transmission: 94 poles failed Distribution:409 poles failed. These were due to ground rot and deterioration	Planned and completed 100% of inspections for distribution by 1/20/2010. Poles were 50-25 foot and class 4-8	Transmission is on a 3-year trim cycle for feeder and 6-year for laterals	Trimmed 1,241 miles; of which 508 were feeder trim, 514 were lateral trim, and 21 miles of transmission trim

Utility	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management	
	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**									
Suwannee Valley Electric Cooperative, Inc.	Yes	No, not on a system wide basis. Continue to self audit and research thru FECA	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes	8-year cycle using sound/bore and visual inspection procedures	10,085 (12%) poles completed in 2009	1,418 poles remediated and 84 poles replaced due to ground line decay and excessive splitting	100% planned and completed on all wood structures; class and size not addressed	5-year inspection cycle includes cutting, spraying and visual on as-needed basis	578 miles cut in 2009 and 898 miles sprayed in 2009, which represents close to 20% of total structures
Talquin Electric Cooperative, Inc	Yes	Yes	Recently added ground sleeves to better secure cabinets, with no storm in 2009 to test new anchor system	Yes	Yes, inspecting on a 5-year cycle	Transmission: Annual inspections in house. Distribution: Annual inspection by outside forces	8,279 planned and completed in 2009	Transmission: 187 rejected due to decay. Distribution: 53 rejected due to decay	Distribution: 47 repaired with 6 replaced. Transmission: Remediated through repair or replacement	3-year cycle which includes mechanical cutting and herbicidal treatment	670 miles of right of way treated in 2009 (15%) and 1200 requests for tree maintenance completed
Tri-County Electric Cooperative, Inc.	Yes	Yes	Continuing evaluation of PURC study to determine effectiveness of relocating to underground	Yes	Yes	Transmission: Annual visual inspections. Distribution: 8-year ground line and visual inspections	100% of planned inspections completed in 2009 with a combined total of 10,056 inspected between 2008-09	795 poles failed inspection, reason not addressed	795 poles replaced, class and size not reported	Obtain 30 foot right of way easement for new construction and increase 20 foot to 30 foot on existing to inspect annually	Distribution: Cut 430 of 3,100 miles in 2009; which represents 14% of current right of way management area

	The extent to which Standards of construction address:					Transmission & Distribution Facility Inspections				Vegetation Management	
	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
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West Florida Electric Cooperative Association, Inc	Yes	Yes	Non-coastal utility; therefore storm surge is not an issue	Yes	Yes, inspecting on a 8-year cycle	West Florida uses RUS Bulletin 1730B-121 as its guideline for pole maintenance and inspection	During 2009, inspected 14% of entire system; number planned was not addressed	Less than 7 percent.. Number not reported.	Less than 1 percent. Not broken out by class or description.	Ground to sky side trimming along with mechanical mowing and tree removal	25 percent of its distribution system
Withlacoochee River Electric Cooperative, Inc	Yes	No, not on a system wide basis, however, most new construction, major planned work after 2006	Yes	Yes, in 2009 relocated 50,000 feet of overhead from rear lots to street side; and this practice will continue to 100%	Yes	Physical and visual inspections on an on-going basis annually	Transmission: 100% inspected Distribution:100% inspected in 2009 Inspections include aerial patrol & infra-red	Data for 2009 unavailable for exact failure rates	3,901 poles installed and 3,762 poles retired in 2009. Poles ranged in size from 12 to 120 foot in size	3-4 year trim cycle, some on as-needed basis	Inspected annually for all transmission lines. No right of way issues found in 2009