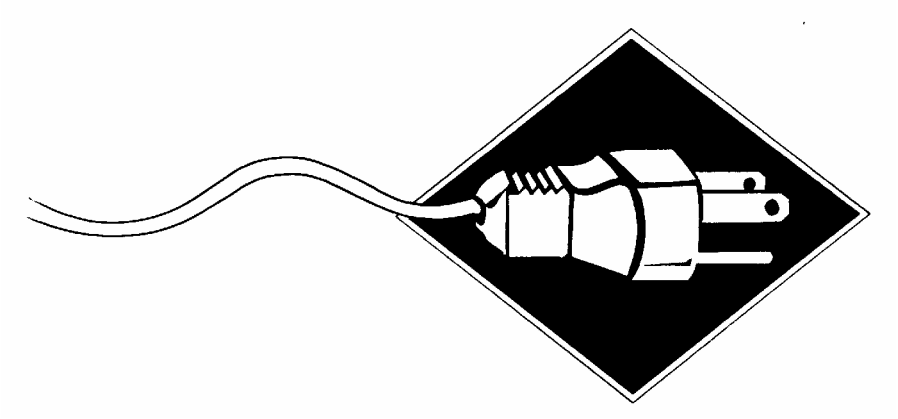

Review of

Electric Service Quality of Florida Investor-Owned Utilities - Gulf Power Company

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By Authority of
The State of Florida
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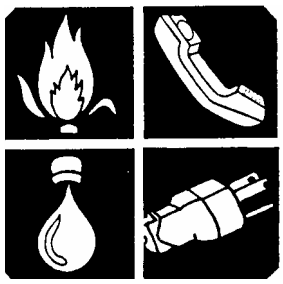

Review of

Electric Service Quality of Florida Investor-Owned Utilities - Gulf Power Company

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Division of Competitive Markets and Enforcement
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1.0 EXECUTIVE SUMMARY

1.0 Executive Summary

1.1 Objectives

This management review of Florida's five electric Investor-Owned Utilities (IOUs) was conducted on behalf of the Florida Public Service Commission (FPSC) by the Bureau of Performance Analysis (BPA). The review was requested by the Division of Economic Regulation in an effort to learn more about each electric utility company's efforts to improve distribution and transmission service quality and reliability during the period 1999-2005. The purpose of the management review was to update and document utility data and industry changes due to company restructuring, increased company use of outsourcing, and changes within FPSC rules. The review objectives were as follows:

- To provide FPSC staff with an update of reliability information originally captured in the Electric Service Quality management reviews of December 1997 and November 2000,

- To document any changes in corporate philosophy, company organizational structure, operational procedures, monitoring and measurement systems, operational processes, and company philosophies and capabilities impacting electric service quality and reliability, and

- To document electric utility activities and programs of improvement for distribution and transmission facilities during the period 1999-2005.

1.2 Scope

This review focused on distribution and transmission procedures, processes, systems, programs, and activities aimed at improving service quality and reliability. The review encompasses the period 1999-2005 and the company reliability results, programs and improvement efforts during that period. Staff considered both actual and planned company activities relevant to determining whether company service quality and reliability declined over the period 1999-2005. Staff focused on the following data:

- FPSC-received customer complaints
- Company-received customer complaints
- Company internal management reports
- Annual FERC Form-1 filing data
- Annual Reliability Reports filed with the FPSC
- Company-monitored reliability data
- Customer satisfaction surveys
- Company property damage claims

1.3 Methodology

BPA staff analyzed reliability performance indices and trended company performance during the review period. Staff also requested and reviewed company documents pertaining to Gulf Power's distribution and transmission improvement programs and activities. In-person and teleconference interviews were conducted with numerous company employees to better understand procedures, processes, systems, and improvement efforts. Particular attention was paid to improvement program objectives, measurements, budgets, performance results, and changes in utility practices and philosophies that may have impacted service during the period or that may have future impact upon service quality and reliability.

1.4 Overall Opinion

The data examined by BPA staff during this review shows that Gulf Power's outage frequency indices generally trended downward during the period 1999-2004 and increased during 2005. Gulf's duration indices increased somewhat during 1999-2003, but they increased substantially during 2004 and 2005. Staff believes this data signals Gulf Power customers generally received reliable electric service during the period 1999-2003, but experienced longer average outage durations during 2004 and 2005. During the audit review, staff identified three findings impacting reliability indices, improved program efficiency, and process controls that require additional company attention and action. These findings were:

1.4.1 CAIDI and L-Bar

The CAIDI index reflects the average annual interruption duration of customers experiencing an outage. CAIDI is calculated by dividing the total number of customer interruptions into the total number of customer minutes of interruption, thus giving the average minutes of duration for outages experienced by Gulf's customers during the year. The L-Bar index reflects the average length of all company outages during the year. L-Bar is calculated by dividing the total number of system outages into the total system minutes of interruption, thus giving an average annual duration for outages across the system. While CAIDI and L-Bar by themselves are not the only indicators of a company's service quality, they do indicate the average time a company takes to restore service after an outage. As the outage restoration time frame lengthens, system unavailability increases and customers endure longer outages. Increases in these two indices during the review period indicate that customer outage durations and the average length of all company outages have increased.

During the review period, Gulf Power's CAIDI increased 31 percent, from 80.6 minutes in 2000 to 105.9 minutes in 2004. Gulf's L-Bar also increased 31 percent, from 99.1 minutes in 2000 to 129.6 minutes in 2004. The greatest increases in CAIDI and L-Bar during the period were during 2004 and 2005; years in which Gulf's service territory was impacted by hurricanes.

Gulf Power states that the increases in CAIDI are partially attributable to system protection improvements that have reduced both outage frequency and the number of customers interrupted; however, Gulf Power explains that the increased 2004 CAIDI result is largely due to the continuing impact of hurricanes. However, Florida Public Service Commission Electric Rule 25-6.055(2) allows electric utilities to exclude the outages experienced as a result of hurricanes

from reliability indicator calculations. The purpose of allowing these exclusions is to normalize the impact of these abnormal events on electric utility reliability indices. Therefore, the impact of hurricanes has already been removed from Gulf's 2004 and 2005 CAIDI and L-Bar results. If these exclusions were not allowed, Gulf's CAIDI and L-Bar indices would have been considerably higher in 2004 and 2005. Gulf explains that post-hurricane outages occur during the clean-up and rebuilding, thereby extending the impacts of the storms beyond the period of storm-related exclusions from reliability indices.

Gulf's own SAIDI goals, discussed in Section 3.2.1, show that 2004 and 2005 company SAIDI targeted performance was not achieved. In 2004, Gulf's SAIDI goal was 84 minutes and its achieved result was 93.3 minutes, 11.1 percent higher than the goal. In 2005, the company's goal was again 84 minutes and the achieved result was 114.9 minutes, 36.8 percent higher than the goal. Gulf attributes the missed goals to the lingering after effects of the hurricanes during 2004 and 2005.

1.4.2. Maintenance of Street Lighting Accounts

Although the Power Delivery Engineering and Construction departments in each district are responsible for installation, inspection, maintenance, and repair of street lighting, Gulf Power states, there is "no formalized inspection program for street lighting at this time." Gulf says that after major storms, "we inspect and repair street lighting in order to restore damaged areas to pre-storm condition." However, Gulf Power has not made regularly scheduled inspections of street lighting.

A December 2000 Southern Company audit report of Gulf Power's Outdoor/Street Lighting indicated that overall controls over this area were adequate, but it offered opportunities to strengthen overall effectiveness by developing a tracking system for outdoor lights, street lights, and additional facilities. The audit report noted that outdoor lights and customer-owned lights were not mapped and that there were no controls to ensure all work orders were mapped into the Facilities Asset Mapping System. In addition, the report recommended that Gulf Power establish a plan to periodically audit lighting accounts and specific geographical locations.

Interviews with company personnel indicate that Gulf Power established a Lighting Services Group 18 months ago to direct and coordinate Customer/Outdoor Lighting throughout Gulf Power. Since its organization, the group has experienced key personnel changeover and has been hampered by the hurricanes of 2004 and 2005. The current Team Leader came to the job approximately 8 months ago and has just begun efforts to address the issues brought forth in the Southern Company audit of December 2000.

According to Gulf's Team Leader of lighting, a third-party vendor will begin auditing its overhead lighting facilities in January 2006. The audit of approximately 100,000 overhead lights is expected to be completed by June 2006. Gulf will add these lighting facilities to its mapping system and update its billing records accordingly. Gulf will complete its own audit of approximately 20,000 underground served lighting facilities and will update its facility maps as the audit is conducted. Gulf intends to interface its DistGIS mapping system with the billing system to automate future customer billing for lighting and to update its mapping system simultaneously.

However, Gulf has not yet established measurable goals and objectives for the Lighting Services Group, completed process procedures, established a regular scheduled lighting maintenance plan, or completed the scheduling of regular lighting system audits.

A lack of an organized street lighting tracking system, scheduled maintenance program, mapping program, and periodic street lighting audits could place Gulf Power at risk of having substandard lighting structures in service and of having inadequate knowledge of lighting infrastructure locations.

Staff believes the Southern Company audit recommendations of December 2000 remain valid today. Gulf Power should develop a documented maintenance program for customer and street lighting, track its progress, map lighting locations on company facility maps, and implement procedures to periodically audit lighting assets. Gulf Power should also document a measurable timetable to complete these activities in the near future.

1.4.3 Documentation of Distribution Contractor Performance

During the period 1999-2004, Gulf Power has not completed regular documented contractor performance evaluations of distribution contractors. It is important for Gulf Power to regularly assess contractors' performance and to retain evaluation documentation for the contracted term and beyond. Documented evaluations provide evidence of Gulf's efforts to evaluate the quality and productivity of its contractors and of contractor performance throughout the contract term. This documentation provides valuable information to be used in assessing whether contractors should be considered for contract extensions or for other work scope.

Findings of a September 2003 Southern Company audit report regarding Transmission Contract Governance noted the importance of these evaluations. The audit findings identified that Gulf Power's transmission department did not have a process for providing documentation and retention of contractor performance evaluations of both lump sum and time and materials contracts. According to Gulf Power's information, the recommendation to implement such a process was agreed upon and implemented by Transmission management by year-end 2003. However, when asked to provide all contract evaluations completed during the review period, Gulf provided seven evaluations. All seven evaluations were completed on April 7, 2005.

Gulf did not provide documented contract evaluations for any of its distribution contractors for the period. Gulf Power's distribution contractors' performance is not currently documented and maintained as a control for contract administration. The lack of documented distribution and transmission contractor performance evaluations is of concern because these evaluations provide valuable information regarding contractor quality and productivity and a record of both Gulf's actions and those of the contractor to alter expected levels of performance. Each of these findings are discussed further in Chapter 4.0, Conclusion.

2.0 BACKGROUND AND PERSPECTIVE

2.0 Background And Perspective

2.1 Service Quality Reporting

Since the inception of electric utility regulation, the ability to measure company performance, service quality, and service reliability have been of foremost concern. Performance measurement is essential to assess the company's ability to successfully provide expected service levels. Service quality and reliability measurements are essential to ensure that constructed facilities meet engineered standards and expectations and that service quality and reliability are maintained throughout the useful service life.

Measuring service quality and reliability has not lost its importance over the years. Changing technology has improved company measurement capabilities and has increased the levels of detail and accuracy of reliability reporting. As companies upgrade their procedures, policies, systems and processes, measurement capabilities will continue to improve.

2.1.1 Previous Service Quality Reviews

BPA staff has completed two prior sets of Service Quality Reviews at the request of Commission staff. The first review was completed in December 1997 and examined the four major electric utilities' distribution procedures, processes, and systems related to service reliability and service quality. In its 1997 report, staff concluded that service quality and reliability had declined at two of the major investor-owned electric utilities. Staff recommended that Florida Power Corporation and Florida Power & Light Company develop and implement service quality improvement programs, which the staff would later review.

The second set of Service Quality Reviews, completed in November 2000, was a follow-up review of the two companies identified in the initial audit as having declines in service quality and reliability. Staff efforts concentrated specifically on the improvement programs designed and implemented by Florida Power Corporation and Florida Power & Light and the expected improvements in measurement indices. Gulf Power Company and Tampa Electric Company were not reexamined during this review.

In its 2000 report, BPA staff concluded that Florida Power & Light had begun a reversal of the downward trend in electric service quality and reliability experienced during 1992-1997. BPA staff also reported that, as a result of Florida Power Corporation's improvement efforts, customers were experiencing shorter outages, fewer outages, and improved repair response times during the audit period.

During 2004-2006, BPA staff conducted a third set of Service Quality reviews. Complete reviews of Florida Public Utilities Corporation and Tampa Electric Company were performed. These reviews addressed both distribution and transmission operations at those companies in early 2005.

Limited scope reviews of Florida Power & Light Company and Progress Energy Florida were completed in July 2005. Due to rate case and storm cost recovery docket activities, the

reviews of these two companies were limited to their vegetation management, lightning protection, and pole inspection programs.

2.1.2 Importance of Service Quality and Reliability

The demand for electric power has continued to increase over time. As new consumer convenience products have reached the marketplace, business operations and applications have changed and industrial/manufacturing processes and improvements have been introduced. As residential consumers add more convenience products to the household, the demand for reliable electric service increases. Frequent power interruptions become a consumer irritant and nuisance. Business prosperity and growth also increase demand and dependence upon electricity. Updates to manufacturing processes and equipment will often change the power quality requirements. Increased demand not only brings greater consumer expectations for reliable electric service, it brings higher expectations for electric service quality. Electric reliability relates to the provision of service, while electric quality relates to the level of service provided and can be impacted by increased demand. Thus the demand for reliable quality electric power continues to grow.

Due to the high number of hurricanes and the extreme damage caused to our state's electric and communications networks during 2004 and 2005, system reliability and hardening have become topics of great attention. Florida has experienced devastating hurricanes in the past, but it has not experienced the number of extreme storms hitting the state in rapid-fire succession that it experienced during 2004 and 2005. Even greater importance has now been focused on how electric and telecommunications companies can protect their systems from stronger hurricanes and their devastating impact. Currently, the Florida Public Service Commission, the Florida legislature, Florida utility companies, and other public officials are joining together to address the most efficient and cost-effective methods to harden utilities to ensure electric and telecommunications services can survive the increased number and power of future hurricanes. These efforts are expected to reinforce future system reliability and to strengthen the network of electric and telephone facilities serving Florida's public.

2.2 FPSC Standards For Service Reliability

Florida Statute, 366.05(1) provides the statutory authority for electric utility rules applying to utilities operating under the jurisdiction of the Florida Public Service Commission. Chapter 25-6 of the FPSC Electric Service Rules provides the regulatory framework under which electric utilities in the Commission's jurisdiction must operate. The ten-part rules for electric utility operations provides guidance in topics such as General Provisions, Records and Reports, General Management Requirements, and Earnings Surveillance Reports. These rules also provide general service provisions and reporting responsibilities for electric utilities operating within the state of Florida. The following sections describe the FPSC Electric Service Rules related to customer complaint reporting, recording of outage data, and reporting of electric service reliability.

2.2.1 FPSC Rule 25-6.021 Customer Complaint Reporting

Chapter 25-6, Part II, Records and Reports, section 25-6.021, requires electric utilities to keep a record of all written complaints received by the company. The utility must record the

specific information regarding the complaint, including, the complainant's name and address, the date the complaint was received, the nature of the complaint, the results of any investigation, the disposition of the complaint, and the date of the complaint disposition. This rule is important because it provides for standard recording of customer written complaints received by the company. Records of customer complaints are periodically reviewed by FPSC staff to evaluate the levels and types of complaints recorded at the company level. These are in addition to consumer complaints submitted directly to the Commission. Staff analysis of FPSC and company recorded complaints is discussed in Section 3.8.

2.2.2 FPSC Rule 25-6.044 Continuity of Service

Chapter 25-6, Part IV, General Service Provisions, Section 25-6.044, requires each electric utility to keep a record of system reliability and continuity of service data, customer service interruption notices and other outage data. The utility must record each outage event as planned or unplanned and identify the origin of the outage such as generation, transmission, transmission substation equipment, or distribution equipment. The rule calls for each utility to determine the cause of each outage and record it in a standardized manner throughout the utility. The rule also requires that each utility record the date and time of the outage event and the number of service interruptions for the event. Distribution and Transmission outages and coding are discussed in Section 3.4.

2.2.3 FPSC Rule 25-6.0455 Annual Distribution Service Reliability Reporting

Chapter 25-6, Part IV, General Service Provisions, Section 25-6.0455, requires each utility to file an annual Distribution Service Reliability Report with the Commission prior to March first of the following year for the preceding calendar year. This report provides specific performance measurement indices representing the average system and customer outage frequency and duration during the calendar year. The Distribution Service Reliability Report also provides outage data for the utility's three percent of primary feeders with the highest number of feeder breaker interruptions during the calendar year. Annual Distribution Reliability Report results and the three percent of primary feeders with the highest interruptions are discussed in Section 3.2.

2.2.4 FPSC Rule 25-6.046 Voltage Standards

Chapter 25-6, Part IV, General Service Provisions, Section 25-6.046, requires each utility to adopt standard nominal voltages conforming to modern usage that may be required of its distribution and transmission system in its entire serving area or for each district in its system. This rule also requires the voltage at the point of delivery shall not exceed a specific percentage above or below the standard voltage adopted. Voltage standards are discussed further in Section 3.3.

2.2.5 FPSC Rule 25-6.047 Constant Current Standards

Chapter 25-6, Part IV, General Service Provisions, Section 25-6.047, requires each utility supplying constant current street lighting circuits to furnish, as is practicable, the rated current so that it does not vary more than 4 percent below or above the rated current of the circuit. The rule also provides that the utility will check the equipment supplying the constant current output at least once a year and adjust the current if necessary. Constant current standards and practices are discussed further in Section 3.3.

2.3 FPSC Standards For New Electric Construction and Grounding

Chapter 25-6, Part III, General Management Requirements, provides utilities with general standards for the construction of new electric utility distribution and transmission facilities throughout the state. Part III also provides instruction for inspection of electric utility plant facilities and grounding of primary and secondary distribution circuits. The following sections further describe FPSC Electric Service Rules related to new distribution and transmission construction, utility plant inspections, and service grounding.

2.3.1 Rule 25-6.034 Standard of Construction

This rule states that the electric utilities shall construct, install, maintain, and operate facilities in accordance with generally accepted engineering practices to ensure continuity of service and uniformity in quality of service. The rule incorporates the American National Standard Codes (ANSI) for electricity metering and requirements, terminology and test code for instrument transformers as reasonable and good standards of practice. The rule provides that a utility in compliance with the provisions of these publications, and variations approved by the Commission, are deemed to have facilities constructed and installed in accordance with generally accepted engineering practices.

2.3.2 Rule 25-6.0345 Safety Standards for Construction of New Transmission and Distribution Facilities

In compliance with Section 366.04(6)(b), F.S., 1991, FPSC Safety Standards incorporate, by reference, the 2002 edition of the National Electric Safety Code and ANSI C-2 standards, published in August 2001, as the applicable safety standards for transmission and distribution facilities under the Commission's safety jurisdiction. Each public electric utility, rural cooperative, and municipal electric system must comply with these standards for new construction of transmission and distribution facilities.

Section 26 of the NESC, Strength Requirements, contains provisions for the strength factor of distribution and transmission poles, which must be maintained during the service life of the poles. Electric utilities are required to strengthen or to replace poles in excess of 18 meters in length (60 feet) that have lost one quarter of their original installation strength under full load bearing conditions. Poles greater than 18 meters are usually used for transmission facilities. Poles greater than 18 meters are also required by the NESC to maintain their strength to withstand extreme wind loading with consideration of the loads associated with attachments and conductors.

For poles less than 18 meters in length, the NESC requires electric utilities to strengthen or to replace those having lost one third of their original strength at installation under load bearing conditions. Poles less than 18 meters in length are generally used for distribution facilities. The NESC also requires that when new or changed facilities place additional loads on existing poles, the strength of the pole must exceed the strength required at replacement or the pole must be replaced. Poles less than 18 meters in length are exempt from the NESC wind loading requirements, but must be able to withstand winds of 60 miles per hour under nonloaded conditions.

Each of these utilities is also required to report all electric work orders completed by the utility or its contractors at the end of each quarter of the year. In the quarterly report, each utility is required to identify all transmission and distribution facilities subject to the Commission's safety jurisdiction. These facilities must meet or exceed applicable standards. In addition, compliance inspections are to be completed by the Commission on a random basis or as appropriate.

2.3.3 Rule 25-6.040 Grounding of Primary and Secondary Distribution

This rule requires each utility to effectively ground the neutrals of all its multigrounded distribution circuits to render them reasonably safe to people and property. Electric utilities must conform with applicable provisions of the publications listed in Rule25-6. 034(2) to ensure the system is grounded to meet the requirements of this standard. These rules provide the standards to which all electric utilities operating in the state of Florida are measured for the provision of safe, reliable, and quality electric service.

3.0 GULF POWER COMPANY

3.0 Gulf Power Company

3.1 Company Profile

This section provides an overview of Gulf Power Company's (Gulf Power, Gulf, or the company) organizational, operational, and growth characteristics. An understanding of these characteristics helps our understanding of the dynamics impacting Gulf Power's management structure, operating territory, and marketplace.

3.1.1 Organizational Structure

Gulf Power Company is the fourth largest of Florida's five investor-owned electric utilities. It is owned by Atlanta-based Southern Company, a diversified holding company involved in energy-related businesses. Gulf's President and Chief Executive Officer (CEO) reports directly to the President and CEO of Southern Company. In addition, Gulf Power has a six member Board of Directors that provide oversight and input to the President and Chief Executive Officer.

In recent years, Gulf Power has completed some changes affecting the executive level reporting structure of its transmission and distribution functional operations. In March 2002, Gulf Power moved the Transmission and System Control function from Power Generation to the Power Delivery and Customer Operations function. In April 2004, Gulf Power also combined its Transmission and Distribution functions under a single General Power Delivery Manager, who reports to the Vice President External Affairs and Corporate Services.

Distribution and transmission operations are conducted through the Vice President, Customer Operations organization. Day-to-day distribution operations are divided into three geographical areas identified as the Western, Eastern, and Central districts. The District Manager, Engineering and Construction is responsible for distribution service in each of the three operating disticts and reports to the General Power Delivery Manager. **Exhibit 1** shows the current reporting structure for Gulf Power's distribution and transmission organizations.

GULF POWER DISTRIBUTION AND TRANSMISSION ORGANIZATION CHART

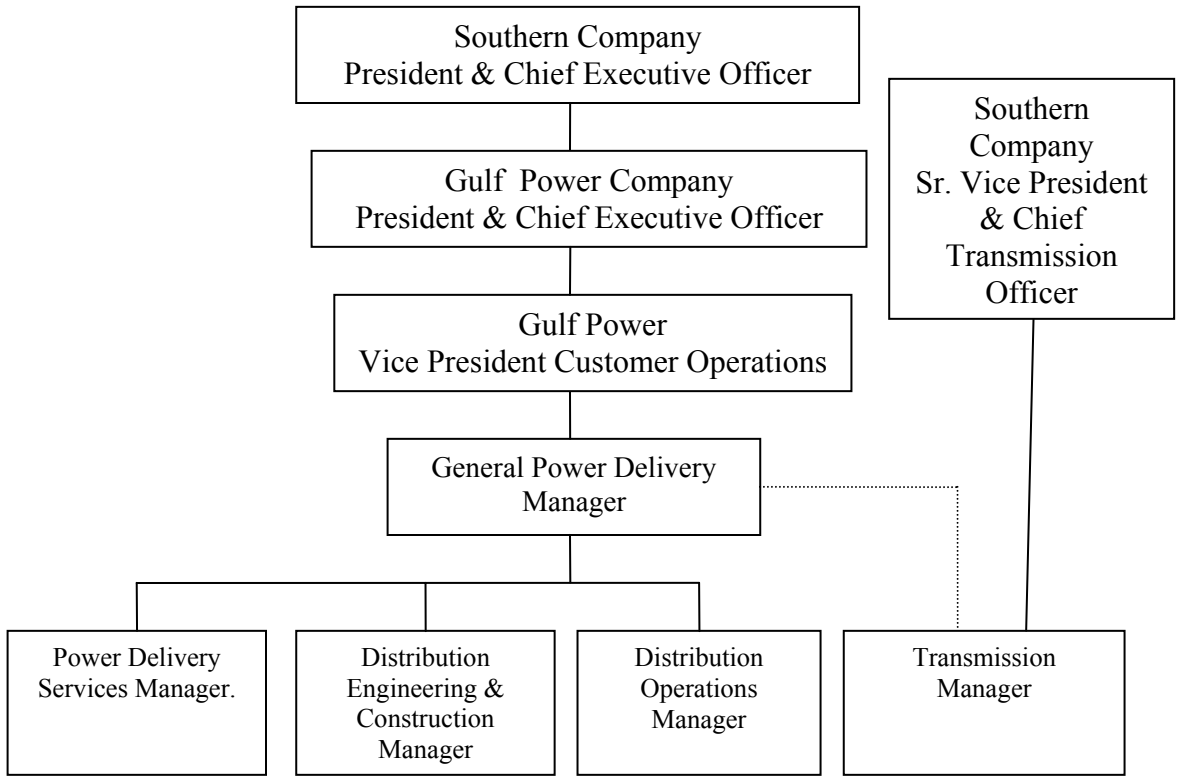


EXHIBIT 1

Source: DR-1.1a-b

3.1.2 Operational Characteristics

Gulf Power employs approximately 1,336 employees in order to provide electric service to about 404,085 retail and wholesale customers in 71 Florida towns and communities throughout Florida's panhandle. Gulf's service territory covers approximately 7,400 square miles and spans north and west to the Alabama border, east to the Apalachicola River, and south to the Gulf of Mexico. Gulf Power operates in ten northwest Florida counties including: Escambia, Okaloosa, Walton, Santa Rosa, Bay, Holmes, Gadsden, Calhoun, Gulf, and Washington counties. Some of the principal panhandle cities served by Gulf Power include: Pensacola, Gulf Breeze, Fort Walton Beach, Panama City, Bonifay, Graceville, DeFuniak Springs, and Chipley. Gulf Power provides its customers service through approximately 1,600 miles of transmission lines; 5,617 miles of overhead distribution lines; 1,340 miles of underground distribution lines; and 126 substations.

Gulf Power is supplied by three wholly-owned, coal-fired generating plants, a co-generation facility located in Northwest Florida, and two out-of-state generating plants it co-owns with Southern Company electric subsidiary companies. The total generating capacity of all units combined is 2,711,900 kilowatts of electric power. Plant Crist, located in Pensacola, generates a capacity of 1,022,500 kilowatts of electric power. Plant Smith, located in Lynn Haven, has a generating capability of 305,000 kilowatts of power, along with 39,400 kilowatts from a combustion turbine unit and 545,000 kilowatts from a combined cycle unit. Plant Scholz, located in Sneads, is capable of producing 80,000 kilowatts of power. In addition, a three unit co-generating facility at Pea Ridge supplies Gulf Power with 15,000 kilowatts of electric power.

The two out-of-state generating plants co-owned by Gulf Power are Plant Daniel, located in Escatawpa, Mississippi, and Plant Scherer, located in Juliette, Georgia. Gulf Power owns a 50 percent undivided interest in Plant Daniel with Mississippi Power Company. The plant has a generating capacity of one million kilowatts of electric power. Gulf Power also owns a 25 percent interest in unit three of Plant Scherer with Georgia Power Company. This unit has the capability to produce 818,000 kilowatts of electricity.

Exhibit 2 shows that the total number of Gulf Power employees remained relatively stable throughout the period 1999-2004. Employee levels ranged between a low of 1,309 in 2001 to a high of 1,339 in both 1999 and 2002. In 2005, there were 1,322 full-time and 14 part-time employees, for a total of 1,336.

Gulf Power Employee Totals 1999-2005

Year	Full Time	Part Time	Total	% Change
1999	1,313	26	1,339	
2000	1,306	22	1,328	-0.8
2001	1,286	23	1,309	-1.4
2002	1,316	23	1,339	2.3
2003	1,301	23	1,324	-1.1
2004	1,323	13	1,336	0.9
2005	1,322	14	1,336	0

EXHIBIT 2 *Source: FERC Form 1*

3.1.3 Growth Characteristics

Exhibit 3 shows the average number of Gulf Power's customer increased from 360,110 customers in 1999 to 404,085 in 2005. The increase of 43,975 customers represents a 12.2 percent growth in average number of customers during the period 1999-2005 and an average increase of 1.7 percent annually.

Gulf Power Customer Growth 1999-2005

Year	Residential	%	Commercial	%	Industrial	%	Light	%	Average # of Customers
1999	312,283	86.7	47,292	13.1	251	0.1	284	0.1	360,110
2000	319,506	86.9	47,584	12.9	270	0.1	378	0.1	367,738
2001	325,343	86.9	48,481	12.9	277	0.1	458	0.1	374,559
2002	331,637	86.9	49,139	12.9	272	0.1	472	0.1	381,520
2003	338,631	86.9	50,421	12.9	285	0.1	471	0.1	389,808
2004	345,467	86.8	51,981	13.1	279	0.1	472	0.1	398,199
2005	350,404	86.7	52,916	13.1	295	0.1	470	0.1	404,085

EXHIBIT 3 *Source: FERC Form 1*

Gulf Power's customer base consists of approximately 87 percent residential, 13 percent commercial, .1 percent industrial customers, and .1 percent lighting customers. Each customer category has experienced growth during the period. Residential customer numbers have grown from 312,283 in 1999 to 350,404 in 2005, or about 12 percent. Commercial customers have increased from 47,292 in 1999 to 52,916 in 2005, or 12 percent. Industrial customers have increased by 44, or 18 percent, during the period. Lighting customers increased by 186 during the period, or about 65 percent. Overall, about 99.8 percent of Gulf Power's customer base remains in its residential and commercial market base.

3.1.4 Operating Revenues

Based on information from the annual Form 1 Report submitted by Gulf Power to the Federal Energy Regulatory Commission (FERC), total operating revenues increased from $674,098,513 in 1999 to $1,083,848,118 in 2005, representing a 61 percent increase during the period. Total operating expenses increased from $586,766,854 in 1999 to $969,742,569 in 2005, or 65 percent during the period. **Exhibit 4** shows that Gulf Power total revenues increased 7.6 percent from 1999 to 2001 and 32 percent during the period from 2002 through 2005.

The largest single annual increases in Gulf Power total revenues were in 2002 and 2005. Gulf Power total expenses increased nine percent during the period 1999 through 2001 and 36 percent during the period 2002 through 2005. The largest annual increase in total expenses for the period was 13.2 percent in 2005.

Gulf Power Total Operating Revenues and Expenses 1999-2005					
Year	Total Revenues	Annual % Change	Total Expenses	Annual % Change	Net Revenues
1999	$674,098,513		$586,766,854		$ 87,331,659
2000	$714,318,829	6.0	$626,084,375	6.7	$ 88,234,454
2001	$725,203,052	1.5	$639,767,000	2.2	$ 85,436,052
2002	$820,467,289	13.1	$714,094,404	11.6	$106,372,885
2003	$877,738,071	7.0	$769,255,142	7.7	$108,482,929
2004	$960,128,210	9.4	$856,311,488	11.3	$103,816,722
2005	$1,083,848,118	12.9	$969,742,569	13.2	$114,105,549
EXHIBIT 4					*Source: FERC Form 1*

3.2 Statistical Measurements and Reports

Chapter 25-6, Part IV, General Service Provisions, Section 25-6.0455 of the FPSC Electric Service Rules requires each utility to file an Annual Distribution Reliability Report. Current reports provide annual performance indices measuring both company and district level electric service reliability, a listing of the company's three percent worst performing feeders, and the total number of company electric outages by cause during the year. This section of the report examines Gulf Power distribution and transmission service reliability performance measurements, causes for distribution and transmission service outages, and the company's worst-performing distribution feeders during the period 1999-2005.

Both 2004 and 2005 Annual Distribution Reliability Report results reflect outage exclusions related to the hurricanes experienced by Gulf Power in those years. Commission Electric Service Rule 25-6.055(2) allows electric utilities to exclude outage events directly caused by planned interruptions, storms named by the National Hurricane Center, tornados recorded by the National Weather Service, ice on the lines, planned load management events, electric generation disturbances, transmission system disturbances, or an extreme weather or fire event causing activation of a county Emergency Operations Center.

Gulf Power provided the 2005 Annual Distribution Reliability Report data to staff in advance of the scheduled March 1, 2006 reporting due date. Therefore, some data contained in the March 2006 final version may be slightly different than the reliability report data provided in this report.

3.21 Distribution Reliability Measures and Reports

Gulf Power tracks and uses the indices reported in the Annual Distribution Reliability Report to help measure distribution reliability performance. However, Gulf Power places greater importance on the System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI). These indices are used by Gulf Power to measure distribution electric reliability improvement monthly and are part of the company's corporate

improvement objectives. Gulf Power's SAIDI and SAIFI improvement goals and results achieved for the period 1999-2005 are shown in **Exhibit 5**.

During the period 1999 to 2003, Gulf Power met or beat its SAIDI goal, but fell short of the goals in 2004 and 2005. In every year except for 2000 and 2005, Gulf Power held outage frequency below its SAIFI goal. The only year in which Gulf Power failed to meet both SAIDI and SAIFI goals was 2005. Gulf Power states that the hurricanes experienced in 2004 and 2005, and their continuing negative impacts, kept Gulf from reaching its targeted goals in 2004 and 2005.

Gulf Power Distribution Management and Non-Management Performance Goals and Results 1999-2005

Year	SAIDI Goal	SAIDI Result	% Achieved	SAIFI Goal	SAIFI Result	% Achieved
1999	114	96.9	85	1.16	1.07	92
2000	114	96.9	85	1.16	1.20	103
2001	102	78.6	77	1.12	0.90	80
2002	93	89.2	96	1.073	0.97	90
2003	80	79.9	100	1.00	0.89	89
2004	84	93.3	111	.958	0.88	92
2005	84	114.9	137	.958	1.135	118

EXHIBIT 5 *Source: Annual Distribution Reliability Reports*

In addition to distribution and transmission SAIDI and SAIFI goals, Gulf Power management formulates company-wide operational and financial goals as part of the management and nonmanagement pay for performance goals. To include customer input into Gulf Power's performance assessment, Gulf uses several different customer surveys to measure overall distribution performance. The customer survey included in Gulf Power's "Pay for Performance" goals measures Gulf's customer survey results performance against peer utilities considered to be industry leaders. During the year, each employee and business group strives to exceed the established company operational and financial goals and attain the highest level of performance pay.

Two other forms of customer surveys help Gulf Power measure performance in different aspects of its business and assess how effectively and efficiently the customer's request was completed. Each of these surveys are also used by Gulf Power to assess customer distribution reliability and overall customer satisfaction.

In addition to the Annual Distribution Reliability Report indices, Gulf Power's distribution organization uses the number of Outages per 100 Miles and the number of Tree Outages per 100 Miles as further measures of reliability performance. These two measures will be discussed later in the report when outage causes and vegetation management are addressed.

Duration Indices

Duration indices filed in Gulf Power's Annual Distribution Reliability Report to the FPSC include the System Average Interruption Duration Index (SAIDI), the Customer Average Interruption Duration Index (CAIDI), and the average length of all distribution system outages for the year (L-Bar). L-Bar indices are used in conjunction with other reported indices to allow the FPSC to track the length of outages for each of the five major electric utilities.

Electric service interruptions are of differing lengths and are classified by their length. Based on the length of the interruption, it is classified as a momentary event or an outage. Outages are electric service interruptions of at least one minute in duration, and momentary interruptions are considered as electric interruptions of less than one minute in duration.

System Average Interruption Duration Index (SAIDI)

SAIDI measures the average system duration, in minutes, of outages experienced on the entire system during the year. Gulf Power's SAIDI results for 1999-2005 ranged between a high of 115 minutes and a low of 78.6 minutes. In 1999 and 2000, SAIDI remained the same at 96.9 minutes. SAIDI reached its highest level of the period during 2005 at 115 minutes of duration.

An increase in Gulf Power's SAIDI indicates that distribution system outage durations have increased and system availability has been reduced. A decrease in SAIDI indicates that Gulf's system outage duration is shorter and that system availability has increased. The primary factors affecting this measure are the number of customer minutes of interruption (CMI) and the total number of customers served (C) at year-end.

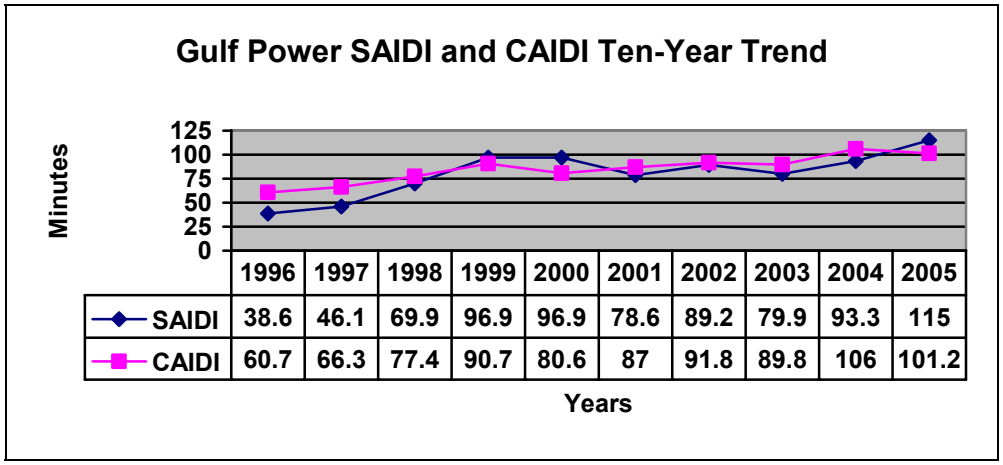
Customer Average Interruption Duration Index (CAIDI)

CAIDI measures the average duration for distribution customers experiencing an outage during the year. It generally equates to the weighted average response time the company takes to restore customers from an outage in minutes. Gulf Power's CAIDI results during the period 1999-2005 ranged from a low of 80.6 minutes in 2000 to a high of 106 minutes in 2004. In 2004, CAIDI increased 18 percent to 106 minutes, from the 89.8 minute level in 2003. CAIDI decreased from the 1999 level of 90.7 minutes during 2000-2001 before increasing to 91.8 minutes in 2002. While CAIDI decreased to 101.2 minutes in 2005, it remained above the 2003 level by about 15 percent and above the 1999 level by about 12 percent.

An increase in the CAIDI index indicates that Gulf Power distribution customer outage durations, on average, were longer during the year. The primary factors affecting this measure are the number of customer minutes of interruption (CMI) and the total number of customer interruptions (CI). However, other factors impacted these indices. In 1999, Gulf Power migrated from manual tracking of customer outages to a mechanized system of tracking outages through its Trouble Call Management System. Since that time, Gulf's accuracy in accounting for the number of customers impacted by outages has improved. Improved data accuracy will cause company indices to seem to increase, when the impact of improved data is actually what is being seen. Therefore, some of the increase in Gulf's indices in 1999 and 2000 may be due to the improved accuracy of data.

Exhibit 6 shows the last ten years of Gulf Power's SAIDI and CAIDI results. CAIDI increased from 60.7 minutes in 1996 to 101 minutes in 2005. SAIDI increased markedly from

38.6 minutes in 1996 to 115 minutes in 2005. The largest increases in CAIDI and SAIDI occurred during the four-year period 1996-1999, probably as a result of the improvement of Gulf's data collection mentioned above. During the four years, Gulf Power CAIDI increased 49 percent and SAIDI increased 151 percent. However, during the seven-year period from 1999-2005, CAIDI increased another 10 percent and SAIDI increased approximately 29 percent. While increases continued over the seven-year period, the rate of increase generally slowed.



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
SAIDI	38.6	46.1	69.9	96.9	96.9	78.6	89.2	79.9	93.3	115
CAIDI	60.7	66.3	77.4	90.7	80.6	87	91.8	89.8	106	101.2

EXHIBIT 6 *Source: Annual Distribution Reliability Reports*

Note: A new Outage Management System was implemented in 1999.

Average Duration Of An Interruption (L-Bar)

The average length of all company service interruptions during the year is measured by L-Bar. This measure simply averages all company minutes of service interruption regardless of the number of customers experiencing an outage during the year. It is calculated by dividing the total number of company outages experienced annually into the minutes of interruption annually. L-Bar, by itself, does not signal problematic interruption durations for the system or for customers. L-Bar, like other duration indices, is a tool to indicate when the company should examine conditions more closely. **Exhibit 7** shows Gulf Power's L-Bar results for the last ten years. As shown in the exhibit, Gulf's L-Bar increased 52 percent, from 65.6 minutes in 1996 to 99.7 minutes in 1999. As noted previously, some of this increase may have been due to the 1999 implementation of Gulf's improved trouble reporting system.

In the four years from 1996 to 1999, Gulf Power's L-Bar measurement increased 52 percent over the 1996 level. During the five-year period from 1999 through 2003, L-Bar only increased about one percent, from 99.7 minutes to 101 minutes during 2004 and 2005. However, L-Bar increased 51 percent over the 2003 measurement level. The increases in L-Bar and other duration indices indicate that both system and customer outage duration intervals have increased during the last ten years, and more precisely in the last two years.

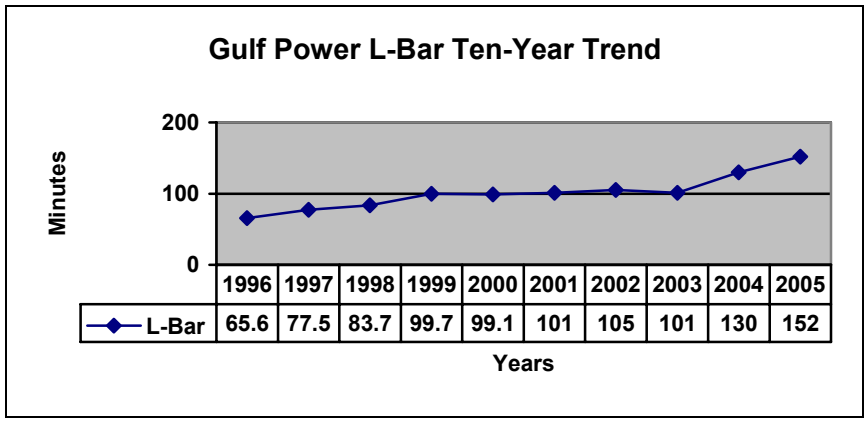


EXHIBIT 7 *Source: Annual Distribution Reliability Report*
Note: A new Outage Management System was implemented in 1999.

Frequency Indices

Frequency indices filed in Gulf Power's Annual Distribution Reliability Report to the FPSC include the System Average Frequency Index (SAIFI), the total number of interruptions annually (N), the Momentary Average Interruption Frequency Index (MAIFIe), and the Customers Experiencing More Interruptions than 5 (CEMI5) measure. These frequency indices track the number of electric interruptions and how often outages occur during the year. In addition, the Annual Distribution Reliability Report requires that investor-owned electric utilities provide a report of the company's three percent of feeders with the highest outages during the year. These three indices are used in conjunction with others to allow the FPSC to track each of the five major electric utility's electric service reliability performance for the year.

System Average Interruption Frequency Index (SAIFI)

SAIFI measures the number of customer interruptions (CI) on the distribution system against the total number of customers served at year end (C). While it is a frequency measure, SAIFI can be calculated by dividing SAIDI by CAIDI. For example, Gulf Power's 2004 SAIDI of 93.33 minutes divided by the 2004 CAIDI measure of 105.93 minutes yields the 2004 SAIFI results of 0.88.

An increase in SAIFI would indicate that Gulf Power customers have experienced an increased frequency of interruptions during the period. As shown in **Exhibit 8**, Gulf Power SAIFI increased 100 percent, from 0.60 interruptions in 1996 to 1.20 interruptions in 2000. During 2001 through 2004, Gulf Power decreased the level of SAIFI increase to about two percent, from 0.9 to 0.88 interruptions. However, SAIFI increased 29 percent to 1.135 in 2005.

While Gulf Power slowed the level of SAIFI increase between 2001 through 2004, the 29 percent increase in 2005 and the 100 percent increase between 1996 and 2000 show an overall increase in Gulf Power's frequency of system interruptions.

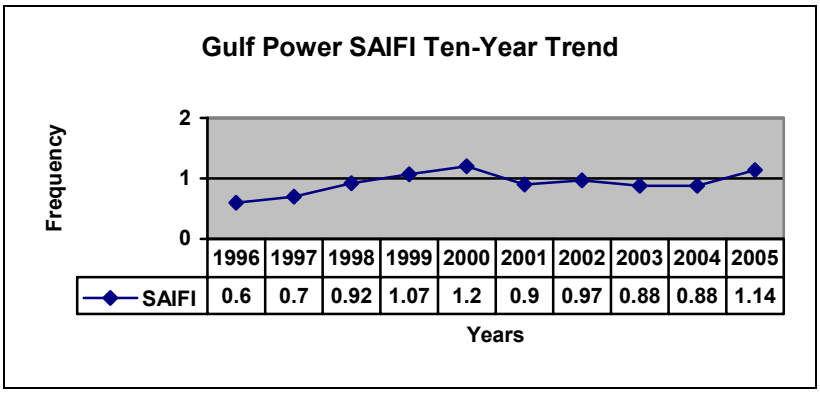


EXHIBIT 8 *Source: Annual Distribution Reliability Report*
Note: A new Outage Management System was implemented in 1999.

Total Number of System Interruptions (N)

"N" designates the total number of outages on a distribution system during the year. The number of outages experienced annually is a reflection of the distribution system's reliability and availability. As the total number of outages increase, the distribution system operates less reliably and customers experience more interruptions over one minute in length. **Exhibit 9** shows Gulf Power's total outages of one minute or more in length during the last ten years.

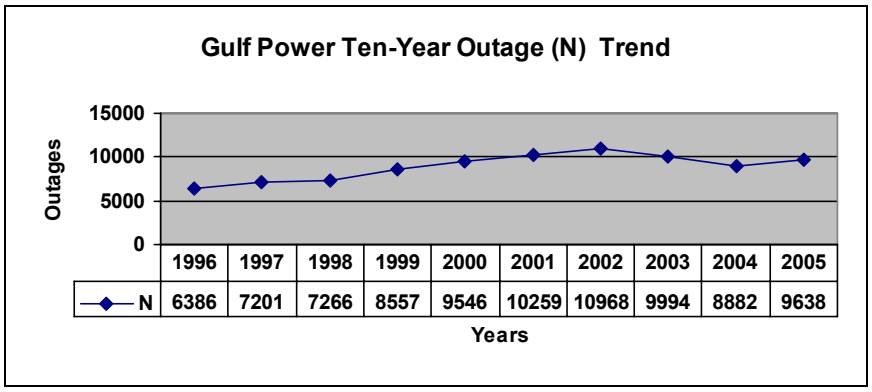


EXHIBIT 9 *Source: Annual Distribution Reliability*
Note: A new Outage Management System was implemented in 1999.

As shown in the exhibit, the number of Gulf Power's outages increased annually until 2002, when total outages began to decrease. During the three-year period from 1996 to 1999, the number of outages increased about 34 percent, from 6,386 outages to 8,557. In the four-year period from 1999 to 2002, the number of outages increased 28 percent from 8,557 outages to 10,968. Part of the outage increase during this timeframe could be related to Gulf's implementation of an improved trouble call management system, which allowed more accurate measuring of outages. Outages decreased 19 percent, from 10,968 in 2002, to 8,882 in 2004, and then increased about nine percent to 9,638 in 2005. Gulf Power's 2005 total outages are approximately 13 percent above its 1999 outage level, and 39 percent above its 1996 outage level.

As Gulf's customer base increases, so too does its probability for customer outages. During the period from 1999-2005, Gulf Power's customer base grew 11.2 percent. This represents an annual average growth increase of approximately 1.7 percent over the period. During the same period, Gulf Power's distribution outages increased 12.6 percent from 8,557 in 1999 to 9,638 in 2005. This represents an average annual outage rate of 1.8 percent annually. The average annual outage rate for the period was just slightly higher than Gulf's average annual growth rate.

Momentary Average Interruption Frequency Index (MAIFIe)

MAIFIe measures customer momentary interruption events (CME) on the distribution system against the total customers served by the company at year end (C). As MAIFIe increases, the more short duration interruptions of less than one minute are experienced by customers. This type of interruption causes electronic appliances to have to be reset often and irritates customers because of their frequency.

MAIFIe was not required to be reported by electric utilities until 1998 and, therefore, only the data for 1998 through 2005 have been provided. Therefore, an eight-year trend is described for MAIFIe instead of a ten-year trend for other indices. **Exhibit 10** shows Gulf Power's MAIFIe results over the eight years from 1998 through 2005.

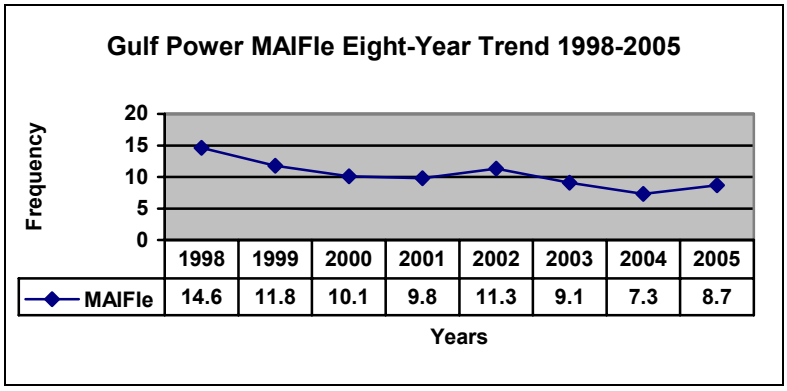


EXHIBIT 10 *Source: Annual Distribution Reliability Report*
Note: A new Outage Management System was implemented in 1999.

Gulf Power MAIFIe decreased from 14.6 events to 9.81 events in 2001, before increasing to 11.3 events in 2002. Since that time, Gulf Power's MAIFIe index has continued to decrease to the low of 7.33 events in 2004. Although 2005 MAIFIe increased over 2004, it remained below the 1999 level. Overall, Gulf has reduced the level of momentary interruptions in its system over the eight-year period displayed.

Customers Experiencing More Than Five Interruptions (CEMI5)

CEMI5 measures customers experiencing more than five distribution outages during a year as a percent of the total customers (C) served at year-end. This measure was not required to be reported to the FPSC until 2002. Thus, just four years of data are available. **Exhibit 11** shows Gulf Power's CEMI5 results since 2002.

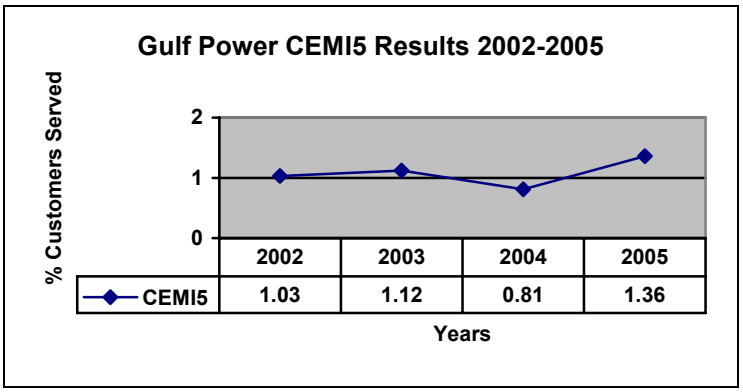


EXHIBIT 11 *Source: Annual Distribution Reliability Report*
Note: A new Outage Management System was implemented in 1999.

Results show that CEMI5 increased between 2002 and 2003 from 1.03 to 1.12 percent, then decreased from 1.12 percent in 2003 to 0.81 percent. In 2005, Gulf Power's CEMI5 measure increased to its highest level during the four-year period. Gulf Power's CEMI5 measure has remained above 1.0 for three of the four years. This indicates that more than one percent of Gulf Power's total customers experience more than five outages annually.

Three Percent Feeders With The Highest Number of Outages

The list of Gulf Power's three percent of distribution feeders with the highest number of outages is used by the FPSC to track company progress in correcting problematic feeders from year to year. **Exhibit 12** shows the list of all Gulf Power feeders reported, by district, during the period from 1999 through 2005. As shown in the exhibit, Gulf Power had back-to-back reporting years on only two feeders during the period. Cantonment Feeder 6932 in 1999-2000 and Beach Haven Feeder 6042 in 2001-2002 were repeat feeders. Both feeders are located in the Western District. However, Gulf Power has not had back-to-back repeat feeders since 2002.

If not corrected in a timely manner, repeat offenders on the three percent worst performing feeder list must be explained to the Commission, along with planned corrective actions and a schedule of completion. Gulf Power's three percent of worst performing feeder list shows that Gulf Power takes prompt action to correct feeders appearing on the list and has experienced infrequent repeats during the period from 1999-2005.

Gulf Power 3% Worst Feeders 1999-2005 - Eastern District

Substation	Feeder	1999	2000	2001	2002	2003	2004	2005
Longpoint	8322					Yes		
Parker	8282						Yes	
Redwood	8702				Yes			
Redwood	8732		Yes					
Greenwood	8202			Yes				
Hathaway	8122			Yes				
Longbeach	8522		Yes					
Oak Avenue	8232	Yes						

Note: "Yes" indicates the feeder was reported during the year identified

EXHIBIT 12 *Source: Annual Distribution Reliability Report*

Gulf Power 3% Worst Feeders 1999-2005 - Western District								
Substation	**Feeder**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Beulah	5522					Yes		
Beulah	5512						Yes	
Scenic Hills	7802					Yes		
Jay Road	7272					Yes		
Jay Road	7252		Yes					
Molino	5382						Yes	
Live Oak	5942						Yes	
Pace	7172		Yes				Yes	
Cordova	5992						Yes	
Cordova	5982							Yes
Devilliers	7406						Yes	
East Bay	5812				Yes			
East Bay	5822				Yes			
East Bay	5632							Yes
Cantonment	6932	Yes	Yes		Yes			
Cantonment	5852	Yes						
Beach Haven	6042			Yes	Yes			
Brentwood	6774			Yes				
Eastgate	7352			Yes				
Goulding	6632			Yes				
Goulding	6652							Yes
FW Beach	9422		Yes					
East Hill	734	Yes						
East Hill	714	Yes						
East Hill	748							Yes
Pine Forest	7302							Yes

Note: "Yes" indicates the feeder was reported during the year identified

EXHIBIT 12 *Source: Annual Distribution Reliability Report*

Gulf Power 3% Worst Feeders 1999-2005 - Central District								
Substation	**Feeder**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Glendale Rd.	7912					Yes		
Chipley	9212	Yes				Yes		
Airport	8932					Yes		
Turner	5652					Yes		
Ocean City	9292						Yes	
Clear Springs	2619				Yes			
Hurlburt	5882				Yes			
Paxton	6432				Yes			
Laurel Hill	9828			Yes				
Destin	9142			Yes				
Valparaiso	9252		Yes					
Century	812		Yes					
Ponce DeLeon	7952	Yes						
Miramar	8872	Yes						
East Crestview	9182							Yes
Shoal River	9812							Yes
Destin	9562							Yes
S. Crestview	9672							Yes

Note: "Yes" indicates the feeder was reported during the year identified

EXHIBIT 12 *Source: Annual Distribution Reliability Report*

3.2.2 Transmission Reliability Measures and Reports

The two measures used most by Gulf Power's management to indicate transmission reliability are Transmission SAIDI and Transmission SAIFI. Known as T-SAIDI and T-SAIFI, these measures are modified from the distribution industry standard SAIDI and SAIFI measurements. T-SAIDI is a duration measure and indicates the average length of transmission system outages. For any transmission outage greater than five minutes, T-SAIDI is calculated by dividing the system Mega Volt Amps (MVA) into the sum of the transmission outage duration in minutes multiplied by the MVA interrupted. Thus T-SAIDI is an adaptation of the distribution SAIDI measurement that substitutes MVA for customers served and applies it to the whole system instead of only parts of the system affected by the interruption.

T-SAIFI represents the average annual frequency of transmission outages greater than five minutes on the system. It is calculated by dividing the total system MVA into the total number of system interruptions. **Exhibit 13** shows Gulf Power's T-SAIDI and T-SAIFI during the period from 1999-2005.

Gulf Power Transmission T-SAIDI and T-SAIFI Results 1999-2005

Year	T-SAIDI	% Change	T-SAIFI	% Change
1999	16.49		0.249	
2000	20.77	26.0	0.271	8.8
2001	8.17	-60.7	0.180	-33.6
2002	12.00	46.9	0.203	12.8
2003	26.06	117.2	0.360	77.3
2004	5.54	-78.7	0.195	-45.8
2005	16.64	200.4	0.193	-1.0

EXHIBIT 13 *Source: DR-1.15*

As shown in the chart, Gulf Power's T-SAIDI transmission results have fluctuated considerably during the period. The measure ranged as low as 5.54 minutes in 2004 and as high as 26.06 minutes the previous year. The lowest T-SAIDI years were 2001 and 2004. All remaining T-SAIDI annual results during the period were higher than these two years.

T-SAIFI results show that the two lowest frequency years were 2001 and 2004, the same years with the lowest T-SAIDI numbers. The year showing the highest outage frequency is 2003 with an increase of 77.3 percent from the previous year.

3.3 System Design and Loading Characteristics

This section of the report examines Gulf Power's distribution and transmission design and loading characteristics and standards for new electric utility construction, its programs for grounding of circuits, and its voltage standards program for controlling voltage fluctuations.

3.3.1 Distribution Line and Substation Design and Loading

Gulf Power states that it "does not have a specific procedural document that delineates between procedures and standards" for distribution line and substation design and loading. Instead, Gulf Power's Distribution Planning Group provides automated systems and load flow models to assist in the initial design and loading considerations. The computer–modeling package known as Feeder Analysis Combined Systems and the Southern Company Engineering Toolkit are used to ensure distribution grounding and design standards are incorporated into all initial distribution construction designs.

The Distribution Planning Group also performs ongoing long-range area distribution studies to evaluate distribution system load growth and design needs after the initial design and placement of facilities. These studies are conducted regularly and look forward seven years into specific areas of the system experiencing rapid growth or increased loading needs. Area distribution studies provide recommendations to management for implementing capital projects, such as additional substations, to provide system relief in areas experiencing changing load conditions. Recommendations from these studies are incorporated into the capital construction budget to address future concerns with increased customer loads and system design.

Overhead conductors are designed to operate at 85 degrees Celsius (185 Fahrenheit), incorporating industry engineering standard parameters determined for specific equipment ratings attached to the system. Ratings for underground cables are determined based on individual installation requirements due to the operating range and material make-up of the cable and physical conditions under which the cable is installed. Due to the complexity of these conditions, Gulf Power uses a cable ampacity program adhering to industry engineering standards to determine cable ratings. Ampacity is the cable conductor's current-carrying limit, which can be impacted by cable make-up and operating conditions.

All other equipment, such as transformers, is operated at 100 percent of the design ratings for the specific equipment used. Increased ratings are applied when the equipment and operating conditions allow. For instance, the loading factors for residential use may allow transformers to be used differently than loading for a small commercial transformer application. Depending upon the individual case the loading factors and thus the percent of use designed, will vary.

3.3.2 Transmission Line and Substation Design and Loading

Gulf Power does not have a specific document that delineates its transmission line design criteria. However, Gulf's practice is to initially design transmission lines to "operate with sufficient safe clearances at a particular conductor temperature under certain assumptions of ambient temperature, wind speed and direction, and sun angle." Likewise, Gulf designs the use of all substation equipment based on the manufacturer maximum current and voltage rating. Gulf plans its system to operate at the maximum manufacturer rating, but may operate the equipment above this designed rating if necessary. Generally, this is only when loading conditions permit and only for short periods of time, so that the life of the equipment is not shortened.

As in distribution system design, Gulf Power's Transmission Planning Group provides system design and load flow models that assist in initial loading and design. Transmission load

flow models are conducted annually to study the design and components of the transmission system ten years into the future. These models identify line overloads and voltage fluctuations under contingency conditions, allowing planners and operational personnel to determine alternative solutions to making system design changes. If no operational alternative solution is found to relieve the conditions, prospective system improvements are incorporated into the model to assess the effect on the system. These planning models are periodically checked against the actual operating characteristics of the transmission system, as monitored by Gulf Power's Energy Management System, to ensure the models reflect actual operating conditions.

3.3.3 Monitoring and Measuring Voltage Levels

The responsibility for monitoring Gulf Power's distribution system voltage rests with Distribution Planning and Technical Services on a staff basis, with District Engineering on a daily field application basis, and with the Distribution Operations Center on a daily monitoring basis. The Distribution Operations Center continuously monitors the distribution system for load and other possible problematic conditions. This center checks and adjusts voltage levels on a continuous basis through the monitoring of substation voltages using Gulf Power's Supervisory Control and Data Acquisition system. The remaining groups check and analyze voltage levels on an as-needed basis and through distribution studies.

The responsibility for monitoring voltage levels in Gulf Power's transmission system rests with the System Control Department. This group monitors and adjusts voltages on the transmission system as needed throughout the day to keep the system operating as expected.

3.3.4 Customer and Outdoor Street Lighting

FPSC Rule 25-6.047 requires that voltage levels for constant current street lighting do not vary more than four percent above or below the rated current of the circuit. However, Gulf Power installs street lighting on its distribution system and does not use dedicated constant current street lighting circuits. Due to Gulf's method of street lighting, it does not directly fall under the requirements of Rule 25-6.047.

Each street light has its own photocell, which eliminates the need for lights to be installed and controlled from a single control point. Each light has a ballast for its own voltage and current adjustment. The ballast in each light makes it possible to provide the correct starting current and the correct voltage for consistent lighting.

Although the Power Delivery Engineering and Construction departments in each district are responsible for installation, inspection, maintenance, and repair of street lighting, Gulf Power states, there is "no formalized inspection program for street lighting at this time." Gulf states that after major storms, "we inspect and repair street lighting in order to restore damaged areas to pre-storm condition." However, Gulf Power admits that it does not make regularly scheduled inspections of street lighting and generally responds only when customers call in repair reports.

A December 2000 Southern Company audit report of Gulf Power Outdoor/Street Lighting indicated that overall controls in this area were adequate, but it offered opportunities to strengthen overall effectiveness by developing a tracking system for outdoor lights, street lights, and additional facilities. The audit report noted that outdoor lights and customer-owned lights were not mapped and that there were no controls to ensure all work orders were mapped into the

Facilities Asset Mapping System. In addition, the report recommended that Gulf Power establish a plan to periodically audit lighting accounts and specific geographical locations

While Gulf has established a Lighting Service Organization in the last 18 months and is in its beginning stages of its first lighting audit, the company has not yet established measurable goals and objectives for the Lighting Services Group, completed process procedures, established a regular scheduled lighting maintenance plan, or completed the scheduling of regular lighting system audits. Staff's review of Gulf's street lighting function led to a staff finding that is discussed further in Section 4.0.

3.4 Outage Causes and Coding

Chapter 25-6, Part IV, General Service Provisions, Section 25-6.044 of the FPSC Electric Rules requires each electric utility to keep a record of system reliability and continuity of service data, customer service interruption notices, and other outage data. The utility must record each outage event as planned or unplanned and identify the origin of the outage, such as generation, transmission, transmission substation equipment, or distribution equipment. The rule requires each utility to determine the cause of each outage and record it in a standardized manner throughout the utility. It also requires that each utility record the date and time of the outage event and the number of service interruptions for the event.

This section of the report examines Gulf Power's distribution and transmission outages and codes used to categorize outages during the period from 1999-2005. In addition, the impact of excluded outages, other outages, and unknown outages on distribution measurements will be examined.

In 1999, Gulf Power changed its distribution and transmission outage management systems. Gulf distribution outage tracking moved from a manual system, requiring some estimation of customers beyond the feeder breaker, to an automated system that now electronically computes the number of customers affected by an outage. Gulf's Trouble Call Management System allows its Distribution Operations Center to monitor the progress of outages from the time they are reported to the time the service is restored. Distribution Operations Center personnel can identify the outage location, complete preliminary assessments of the resources needed to respond to the outage and communicate directly with field personnel regarding the outage and its completion. The Trouble Call Management System has greatly improved the reliability of distribution outage data produced by Gulf Power and the speed with which the data is available for use.

Gulf Power's transmission department upgraded its Power Management System to a more technologically advanced Energy Management System in 1999. The aging legacy Power Management System was originally placed into service by Gulf in the early 1970's. Primary reasons for the upgrade were the obsolescence of the Power Management System software, the need to expand Supervisory Control and Data Acquisition points across the transmission system, and the ability to perform real-time data updates as opposed to making weekly batched updates. The upgraded Energy Management System provided both the added technological benefits Gulf

required for the future, and the system flexibility necessary to address impending year 2000 (Y2K) changes.

3.4.1 Distribution Outages and Coding

Gulf Power's Trouble Call Management System captures outage data from the substation breaker level down to the meter level. This ensures that Gulf Power is electronically capturing accurate customer outage data down to the customer location. With the addition of the Trouble Call Management System in 1999, Gulf Power no longer had to manually estimate how many customers were affected by an outage or for what duration. Gulf can accurately reflect the number of customers impacted by an outage and the duration of the outage for customers as they are phased back into service. Gulf Power Distribution Operations Center Operators use 23 different codes to categorize distribution outages reported by field technicians while restoring customer service.

As required by FPSC rules, Gulf Power has submitted its Annual Distribution Reliability Report each year during the period from 1999-2005. A summary of the ten primary causes for outage events is included as part of the annual reliability report. However, **Exhibit 14** concentrates on the top five primary causes of Gulf Power distribution outages during the period.

The five main outage causes during the period from 1999-2005 were Animal, Lightning, Deterioration, Unknown, and Vegetation. These five outage types made up between 85 and 90.5 percent of all outages reported by Gulf Power during the period 1999-2005. While these five outage categories increased during 1999 through 2003, they began to decrease in the percent of total outages during 2004 and 2005. As the percent of top five outage causes decreased in 2004 and 2005, two categories not previously in the top five increased markedly. Vehicle outages increased from 227 in 2003 to 303 in 2004 and 424 in 2005, an increase of 86.8 percent from 2003. Wind/Rain outages increased from 100 outages in 2003 to 118 in 2004 and then shot upward to 235 outages in 2005, an increase of 135 percent from 2003.

Gulf Power Top Five Primary Outage Causes 1999-2005

Cause	1999	2000	2001	2002	2003	2004	2005	Total
Animal	2,998	3,325	4,004	4,074	3,000	2,012	1,486	20,899
Lightning	1,915	1,727	1,629	1,865	1,885	1,541	1,851	12,413
Deterioration	1,451	1,388	1,543	1,677	1,594	1,611	1,634	10,898
Unknown	319	826	923	1,150	1,616	1,541	2,239	8,614
Vegetation	705	1115	1166	1075	1016	1193	980	7,250
Subtotal	7,388	8,381	9,265	9,841	9,111	7,898	8,190	60,074
Annual Outages	8,557	9,546	10,259	10,968	10,069	8,882	9,638	67,919
Percent Annual Outages	86.3%	87.8%	90.3%	89.7%	90.5%	88.9%	85.0%	88.4%

EXHIBIT 14 *Source: Annual Distribution Reliability Reports*

Animal outages led the top five causes over the period with 20,899 outages. Although these outages increased during the first four years of the period, Gulf Power has considerably reduced the number of Animal outages within the last three years. Animal outages increased 36 percent, from 2,998 outages in 1999 to 4,074 outages in 2002, then decreased 50 percent from 3,000 outages in 2003 to 1,486 outages in 2005.

Lightning-caused outages were the second-highest cause of outages during the period and also had one of the highest L-Bar and CAIDI averages in the primary cause report. Lightning outages have fluctuated between a high of 1,915 outages in 1999 and a low of 1,541 in 2004. There is a range of about 20 percent between the high and low number of outages. These outages have not decreased noticeably during the period.

Deterioration is the third-largest cause of Gulf Power distribution outages during the period with a total of 10,898 outages. The range of this type outage was between a high of 1,677 outages in 2002 and a low of 1,388 outages in 2000. Although total outages during the period had a range of about 21 percent, annual outages remained closer to the high end of the range and increased during 2004 and 2005. This outage cause continues to increase, and its L-Bar and CAIDI averages are among the highest in the primary cause report.

The fourth-leading cause of Gulf Power distribution outages is Unknown outages. Unknown outages are considered to be those events where technicians cannot identify any evidence showing the outage cause; yet an outage exists. Evidence of an outage cause may not be apparent because it has been cleared from the line, the cause was vaporized, or the cause led to an outage in a different location. Over the period from 1999-2005, Gulf Power classified 8,614 outages as unknown. These outages increased from 319 in 1999 to 2,239 in 2005, and represented 3.7 percent of the total outages in 1999 and 23.2 percent of the total outages in 2005.

The fifth-highest distribution outage cause for Gulf Power during the period 1999-2005 was Vegetation outages. Vegetation-caused outages increased from 705 in 1999 to a high of 1,193 outages in 2004. In 2005, Vegetation-caused outages dropped 18 percent to 980 outages.

3.4.2 Transmission Outages and Coding

Gulf Power transmission outages are monitored and reported through the Energy Management System. The Energy Management System provides the ability to monitor and control the power grid from the transmission line level down to the feeder level. All equipment operations are transmitted from the substations to Energy Management System terminals. The Energy Management System is a Supervisory Control and Data Acquisition system with the capability to record events any time a device changes its operating state. Outage data is then manually entered into the Standard Transmission and Operations Maintenance Program data base based on the outage data received from the Energy Management System. Since 1999, the Standard Transmission and Operations Maintenance Program has been used as the application to record all transmission-related outages and provide a historical database.

When a crew arrives to restore power to a transmission line or substation facility, the crew calls System Control by radio or a telephone inside the substation switch house. Details of the outage cause and the location of the problem is passed to the System Operator. The System

Operator uses nine broad categories to identify the outage cause. Each category has further breakdowns that provide further information for detailed analysis of outage causes.

Exhibit 15 shows the total number of Gulf Power transmission outages during the period from 1999-2005. As shown, Gulf Power's highest transmission outage years were in 2000, 2002, and 2003. The greatest number of outages were in the Western district, which has about half of the customer base. After having the fewest outages during the period in 2004, the Central district increased to 16 outages in 2005. Similarly, Eastern district went from 8 outages in 2004 to 14 outages in 2005. However, the total number of transmission outages trended downward in 2004 and 2005.

Gulf Power Transmission Outages By District 1999-2005

District	1999	2000	2001	2002	2003	2004	2005	Total
Western	16	23	12	16	30	17	5	119
Central	10	11	16	17	11	6	16	87
Eastern	8	6	5	12	9	8	14	62
Total	34	40	33	45	50	31	35	268

EXHIBIT 15 *Source: DR-1.11e*

3.5 Maintenance and Repair

FPSC Electric Rule 25-6.037 requires electric utilities to operate and maintain all of the facilities and equipment used in connection with the production, transmission, distribution, and delivery of electricity in safe, efficient, and proper condition. This requires that each company perform regular maintenance and upkeep of its facilities, while responding to customer requests for repairs necessary to restore service.

3.5.1 Trouble Reporting and Repair Process

Gulf Power customers report repair calls through either Customer Service Representatives or through an automated Integrated Voice Response Unit. If the customer chooses to talk to a representative, the customer's trouble information is entered into the Customer Service System and the repair request is forwarded electronically to the Trouble Call Management System.

Once the repair request enters the Trouble Call Management System, the Distribution Operations Center takes control of the request. The Distribution Operations Center operators assign necessary field resources to respond to the customer repair request and track its progress during the time it takes to complete the repair. When the customer's service is restored, field personnel electronically forward a completion report to the Distribution Operations Center, which includes the cause of the repair and the time service is restored. The Distribution Operations Center operator then closes out the repair request and inputs the cause into the Trouble Call Management System. A historical database of outage causes is compiled monthly from data extracted from the system and is used to compute Gulf Power's monthly and annual

reliability indices. Annual reliability indices are reported in the Annual Distribution Reliability Report provided to the Commission.

If the customer elects to report the repair request using the Integrated Voice Response Unit, the customer data is forwarded electronically to the Trouble Call Management System and the Distribution Operations Center takes control of the repair request. The process for completing and reporting the results of the repair is the same as described for calls handled by Customer Service Representatives.

All transmission device and equipment changes are transmitted from substations to the Energy Management System operator terminals. From this information, facility outages are determined and recorded in the Substation Transmission Operations and Maintenance Program, which records all transmission related outages. Once a device changes state and an alarm is sent to the system operator terminal, needed resources are dispatched to the problem if it is an outage. If the device is not critical to continuous operation, a record is made of the device condition and it is scheduled to be repaired or replaced with other maintenance at a later date.

3.5.2 Trouble Reporting and Repair Data

Gulf Power states that the number of distribution dispatches completed annually, by district and trouble type, for the period 1999-2005, is identical to the number of distribution repair and restoration troubles completed annually. **Exhibit 16** shows the total number of distribution and transmission dispatches completed during the period 1999-2005.

Gulf Power Distribution and Transmission Repair Dispatches 1999-2005

Type	1999	2000	2001	2002	2003	2004	2005
Distribution	8,557	9,547	10,259	10,968	10,069	8,882	9,638
Transmission	34	40	33	45	50	31	35
Total	8,591	9,587	10,292	11,013	10,119	8,913	9,673

EXHIBIT 16 *Source: DR-1.11e, DR-1.14a*

As shown in the exhibit, distribution repair dispatches increased from 1999-2002 before declining in 2003-2005. Although distribution dispatches declined during 2003-2005, the total number of dispatches remained higher than the 1999 level. Transmission repair dispatches ranged between 33 and 50 during 1999 through 2003, but decreased to 31 and 35 respectively during 2004 and 2005. Total transmission dispatches remained above the 1999 level in 2005.

The average restoration time for completing repairs and restoring service is important to both the company and its customers. Extended restoration timeframes reduce distribution system availability and lengthen the time customers are without service. For distribution restoration efforts, the response time includes the time from which the outage is first reported by the customer until the customer's service is restored.

For transmission restoration, the average response time includes the time from which the system first identifies an outage event through the time the transmission circuit is restored. Because transmission circuits serve substations, which further serve the distribution network, the

number of customers affected by this type of outage is greater. These outages generally receive a high level of attention and are kept to as short a duration as possible.

Exhibit 17 shows Gulf Power's distribution and transmission average restoration times, by district, for the period 1999-2005. As shown in the exhibit, Central district's distribution average restoration times have remained above the 1999 level during the entire period of 1999-2005 and remained at their highest level in 2004 and 2005. Eastern district's distribution average restoration times remained slightly below the 1999 level through 2003, but increased substantially in 2004 and 2005. Western district's distribution average restoration times increased during the study period, particularly in 2004 and 2005. The averages increased from 102.9 minutes in 2003 to 141.6 minutes in 2004 and 167.8 minutes in 2005.

Transmission average restoration times for Central district reached lows of 72.4 minutes during 2001, 2003, and 2004. All other years during the period experienced increases in the average restoration times, with 2005 having the largest increase at 87.8 minutes. Eastern district's transmission average restoration times were the lowest of the period during 1999 and 2004. All other years during the period were above those two years, with 2000 and 2003 having substantially higher average restoration times of 188.7 minutes and 131.8 minutes respectively. Western district's average transmission restoration times decreased considerably from the 1999 level of 109.8 minutes, with the exception of the 2001 restoration time of 126.6 minutes. The Western district's 2002-2005 transmission restoration times were among the lowest for the district during the period 1999-2005.

Gulf Power Distribution Average Restoration Time (in minutes) 1999-2005

District	1999	2000	2001	2002	2003	2004	2005
Central	84.9	94.1	88.7	96.4	91.9	107.2	125.0
Eastern	117.4	113.4	109.8	110.8	106.4	119.1	139.0
Western	99.1	96.8	103.9	107.8	102.9	141.6	167.8

Gulf Power Transmission Average Restoration Time (in minutes) 1999-2005

District	1999	2000	2001	2002	2003	2004	2005
Central	72.4	77.5	51.8	86.1	59.7	23.3	87.8
Eastern	38.9	188.7	55.7	48.8	131.8	37.0	90.2
Western	109.8	41.8	126.6	67.7	60.7	56.0	66.0

EXHIBIT 17 *Source: DR-1.15*

3.5.3 Scheduled Maintenance and Repair

Gulf Power states that it annually identifies and prioritizes distribution activities that are necessary for the upkeep and maintenance of the distribution system. These activities are reviewed and matched with the proper resources. If needed, Gulf contracts with vendors for additional manpower to complete the planned maintenance activities. The highest prioritized activities are completed first, with lower priority work being completed later. Throughout the year, Gulf Power monitors the schedule for each activity and updates to priorities are issued as needed to help keep maintenance activities at a constant level.

Planning for transmission line maintenance and substation maintenance is completed annually and updated throughout the year as needed. Using information from ground and aerial patrols, required transmission line maintenance activities are identified. Planned substation maintenance activities are prepared from data collected by preventative diagnostics performed on substation equipment and from substation equipment inspections. Work is then scheduled to ensure the efficient use of manpower and minimize planned outages. Activities are completed based on the type and number of abnormal situations, the critical nature of the transmission line or substation, and the ability to schedule planned outages on the transmission lines and equipment.

3.6 Reliability Improvement Programs

In this section, Gulf Power's maintenance activities for distribution, transmission, and substation will be examined. Gulf Power states that it does not have specific reliability improvement programs designed for each function, but instead has a general maintenance program that addresses distribution, transmission and substation maintenance needs. Gulf Power states that in general, "Virtually all transmission and distribution functional capital projects and O&M expenses have been or will be undertaken as part of Gulf's commitment to provide customers with reliable and high quality electric service."

Therefore, Gulf Power does not have specific programs designed to improve reliability. Gulf Power's maintenance programs most related to reliability will be examined in the areas of distribution line, pole, and substation inspections, lightning protection, animal protection, and transmission line and substation facility inspections. Vegetation Management is also an important part of a company's overall reliability improvement activities and will be discussed separately in Section 3.7 of the report.

3.6.1 Distribution Reliability Improvement Efforts

This section will examine each of Gulf Power's distribution activities most closely related to reliability improvement during the period 1999-2005.

Distribution Facility Inspection Activities

Gulf Power's Distribution Bulletin No. 10.00 outlines the basic responsibilities for the distribution system inspection and maintenance program. The bulletin outlines the methods that Gulf Power will use to inspect and maintain distribution facilities in compliance with FPSC Rule 25-6.036. Gulf states that each district must allocate and organize adequate resources to administer an effective inspection and maintenance program, including supervision, engineering, inspections, corrections, improvements, record keeping, budgeting, material, equipment, contractors, etc.

The bulletin specifies that lines and equipment shall be inspected at such intervals as experience has shown to be necessary. Defects found are to be documented in the Job Estimated and Tracking System and records are to be retained so that the latest inspection and correction results are retrievable for every location on the system. Distribution overhead line and oil-circuit recloser maintenance activities are included within the scope of this maintenance program.

Gulf uses its field engineering and line construction personnel on a continuous basis to inspect distribution line facilities as part of daily work. In addition, Gulf Power uses Southern Company guidelines to direct contractors performing inspections of distribution pole plant, structures, associated overhead lines and facilities, pole ground line inspections, internal and external pole treatments, reinspections of facilities, and other miscellaneous activities associated with overhead lines and facilities.

Gulf Power oversees and coordinates contractor activities through company representatives in each district. These representatives provide the contractors with copies of company facility maps related to the services being performed and make quality assurance checks of a joint nature with contractor supervision. The company representative also has the right to terminate services if the contractor does not exercise caution to prevent personal injury and to prevent damage to property at all times during the performance of work activities.

Line inspections are conducted visually by contractors during pole inspections, and damaged or missing associated items, such as equipment numbers, locks, hardware, identification numbers, etc., are reported. In addition to the items mentioned, the visual line inspection examines the condition of:

- Primary and secondary conductors
- All overhead equipment
- Damaged or blown lightning arresters
- Missing or damaged gang switch locks
- Grounding issues
- Underground risers
- Burning or tracking on poles
- Missing or damaged primary and secondary insulators
- Pole guying facilities
- Inadequate conductors
- Obvious rights-of-way encroachments
- Vegetation issues

Corrective work that the contractor is not authorized to complete is reported to the company and scheduled for later action. Weekly work summaries and completed maps are returned to the company to be matched with billing invoices. Copies of the completed maps are maintained by the districts for their use by pole and line crews. Additional reporting data is also furnished to the company by the contractor to help analyze the work performed and the costs for completing the work.

Although distribution line inspections are completed in conjunction with pole inspections, the expenditures for pole inspections and replacement will be discussed separately. **Exhibit 18** shows the overhead line maintenance and oil circuit recloser maintenance expenditures that represent Gulf Power line inspection activities for the period of 1999-2005.

As shown in the exhibit, overhead line maintenance ranged between a low of $3.1 million in 2004 and a high of $4.6 million in 2005. After decreasing overhead line maintenance

expenditures eight percent during 2004, Gulf Power increased expenditures 49 percent in 2005. Oil circuit recloser maintenance expenditures ranged between $60,716 and $357,393 during the period.

Gulf Power Overhead Line and OCR Maintenance 1999-2005

Activity	1999	2000	2001	2002	2003	2004	2005
Overhead Line Maintenance	$3,542,512	$4,154,620	$3,902,943	$3,306,501	$3,385,400	$3,108,996	$4,638,895
OCR Maintenance	$149,192	$137,927	$65,053	$60,716	$230,601	$357,393	$185,454
Total	$3,691,704	$4,292,547	$3,967,996	$3,367,217	$3,616,001	$3,466,389	$4,824,349

EXHIBIT 18 *Source: DR-1.18b*

Distribution Pole Inspection and Replacement Activities

Gulf Power had 246,925 wooden distribution poles in service at year-end 2004. Distribution pole inspection and replacement activities are conducted to determine whether poles are serviceable, require fungicidal treatment, need bracing, or should be replaced. The Power Delivery Services department uses a software application called Fast Gate Pole Manager to track company distribution inspection results.

Gulf Power targets a ten-year cycle for distribution pole inspections and uses a contractor to complete pole inspection, treatment, and bracing activities. Generally, Gulf Power crews are used to replace unserviceable poles. This audit review covers the period 1999-2005, which straddles two ten-year distribution pole inspection cycles. The first cycle was completed in 2002 and the latest began in 2003.

Gulf Power pole inspection specifications during the period 1999-2002 required a full excavation of 18 to 24 inches deep around the pole and external treatment of non-CCA (chromated copper arsenate) treated poles. However, Gulf changed its pole inspection specifications in 2003, with the start of the new inspection cycle. Specifications were changed to include the inspection and treatment of both CCA and non-CCA poles.

Under the new specification, some poles will initially receive partial excavation inspection. This entails digging in one or two sites around the pole to a depth and width of ten inches. If external decay is found after partial excavation, full excavation will be performed. Poles meeting certain age and treatment criteria now receive visual, sound, and selective bore inspection. The change in specifications also required one year of experience for certain levels of contract workers.

During the period 1999-2005, the total number of distribution pole inspections completed was 115,662. **Exhibit 19** shows Gulf Power's distribution pole inspections completed during the period 1999-2005. Over the seven-year period, total company inspections averaged 16,523 annually.

Gulf Power stated that the pole inspections scheduled for 1999 were completed in 1998. However, staff included them in Exhibit 19 as if they were completed during 1999. Gulf Power did not complete any inspections of distribution poles during 2000 and 2001. No specific reason for not scheduling inspections during those years was given. However, Gulf explained that inspections are not completed on a level basis annually and differ in the number completed from year to year.

Gulf Power Distribution Pole Inspections 1999-2005				
Year	**Western**	**Eastern**	**Central**	**Total**
1999	7,585	3,704	3,862	15,151
2000	0	0	0	0
2001	0	0	0	0
2002	15,948	4,000	4,736	24,684
2003	7,000	5,453	7,434	19,887
2004	10,078	7,571	3,215	20,864
2005	17,945	11,716	5,415	35,076
Total	58,556	32,444	24,662	115,662
EXHIBIT 19				*Source: DR-2.29c*

Since the beginning of the new inspection cycle in 2003, Gulf Power has completed 75,827 distribution pole inspections, with 35,000 inspections completed in 2005 alone. At its 2003-2005 rate of inspections of about 25,276 poles annually, Gulf Power would complete full inspection coverage over the ten-year distribution pole cycle ending in 2012.

As a result of the inspections, certain poles are identified for pesticide treatment, bracing, or replacement. **Exhibit 20** shows the number of poles that were treated and braced during the period 1999-2005, Gulf Power responded that pole replacement data was not available. Out of the 115,662 poles inspected during the period 1999-2005, a total of 46,978 poles were treated and 3,260 were braced. This shows that 40.6 percent of the poles inspected required treatment and 2.8 percent of those inspected needed bracing during the period.

Of the 75,827 poles inspected during 2003-2005, 13,288 poles were treated and 714 were braced. This shows that 17.5 percent of the poles were treated and .9 percent of the poles were braced. Gulf Power's percent of poles treated in the last three years decreased from the 40.6 percent treated during the entire review period to 17.5 percent in the last three years. The percent of poles braced decreased from the 2.8 percent for the entire review period to .9 percent for the three years since the new cycle began. Gulf Power states that the reduced percentage of treated and braced poles could be partially due to the changes in specifications, but it attributes the better results primarily to completing one pole inspection cycle prior to the current one, which began in 2003.

During the last two and one-half months of 2005, Gulf Power contractors completed 32,977 pole inspections. Of the poles inspected, 1,772 poles were rejected, or approximately five percent. In addition, contractors treated 5,180 poles, or 15.7 percent of the total inspected.

Contractors identified 412 poles, or approximately one percent, of the poles to be braced. A total of 1,386 poles, or approximately four percent, were identified for replacement in 2006.

Gulf Power Distribution Poles Treated 1999-2005								
District	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
Western	6,802	0	0	12,401	2,351	1,461	2,232	25,247
Central	3,196	0	0	3,630	1,176	1,123	1,906	11,031
Eastern	3,379	0	0	4,283	1,403	485	1,151	36,980
Total	13,377	0	0	20,314	4,930	3,069	5,288	46,978
Gulf Power Distribution Poles Braced 1999-2005								
District	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
Western	601	0	0	792	0	118	126	1,637
Central	300	0	0	217	0	34	234	785
Eastern	254	0	0	382	0	154	48	838
Total	1,155	0	0	1,391	0	306	408	3,260
EXHIBIT 20								*Source: DR-2.29b*

Exhibit 21 shows Gulf Power distribution pole inspection and replacement budget, actual expenditures, and cost per inspection during the period 1999-2005. As discussed previously, the inspections for 1999 were completed in 1998. Gulf Power explained that the expenditures for 1999 inspections were included in Gulf's expenditures for 1998 and could not be separated. Therefore, there are no expenditures shown for 1999. Gulf Power states that it did not conduct any distribution pole inspections during 2000-2001.

Gulf Power Distribution Pole Inspection Budget and Expenditures 1999-2005								
Year	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**Total**
Budget	$454,000	$350,000	$345,000	$670,000	$500,000	$500,000	$470,000	$3,289,000
Actual	$0	$0	$202,781	$848,692	$353,917	$307,267	$480,095	$2,192,752
Poles	-	-	-	24,684	19,887	20,864	35,076	100,511
Cost/ Pole	-	-	-	$34.38	$17.79	$14.73	$13.69	$21.81
EXHIBIT 21								*Source: DR-4.18j*

Although there were no pole inspections completed in 2001, Gulf Power budgeted $345,000 and spent $202,781 for the operations and maintenance portion of replacement pole costs completed that year. As shown in the exhibit, Gulf was able to bring the cost per pole inspection down each year for the period 2003 through 2005.

Distribution Lightning Protection Activities

Gulf Power states that it does not track specific improvement programs pertaining only to lightning protection. However, Gulf's lightning protection activities and schemes are designed to provide protection to the distribution network through proper grounding, the use of lightning arresters, transformer fuses, sectionalizing switches, and oil circuit recloser devices throughout its system.

Gulf states that lightning protection is addressed in the original construction of system facilities. All new construction is built to Southern Company standards incorporating improved basic impulse insulation levels. Lightning arresters are positioned every 1200 feet on all phases of a distribution line. Spacing is reduced to 600 feet in areas known for or likely to experience heavy lightning. Lightning protection for overhead distribution equipment is provided through heavy duty polymer-housed metal oxide varister surge arresters and heavy duty oil surge arresters in overhead stainless steel transformers.

Underground distribution is protected by heavy duty distribution class metal oxide varister elbow surge arresters and under-oil surge arresters in pad-mounted transformers. For underground distribution line protection, cutout-mounted fuses, under-oil fuses, electronic sectionalizers, switchgear-mounted fuses, network protectors, and electronic-controlled switchgear are used to isolate failed equipment and other fault conditions.

In 2003, Gulf Power reviewed its practices and devices used to mitigate lightning outages. After reviewing its practices, Gulf improved its design specifications for new construction and provided training and communications to engineering and construction personnel. According to Gulf Power, this change reduced the number of lightning outages during 1999-2004 by 20 percent and reduced lightning-related SAIDI by 36 percent. These changes in design specifications and activities continue today.

In addition to reliability indices of N, SAIDI, CAIDI and SAIFI, Gulf Power uses Outages Per 100 Strokes to assess its performance in mitigating lightning over the system. **Exhibit 22** shows the 1999-2005 lightning-related outage statistics. Gulf Power's lightning-related outages ranged from a high of 1,915 in 1999 to a low of 1,541 in 2004. Although total lightning outages varied during the period, there was no discernable trend upward or downward.

Gulf Power Lightning-Related Indices 1999-2005

Measure	1999	2000	2001	2002	2003	2004	2005
Outages	1,915	1,727	1,629	1,865	1,885	1,541	1,851
Outages Per 100 Strokes	5.6	6.4	6.5	5.0	3.5	3.9	3.6
SAIDI	35.7	26.4	17.1	23.2	23.3	22.9	31.0
CAIDI	111.9	93.5	100.0	108.6	98.7	133.5	118.2
SAIFI	0.3187	0.2819	0.1707	0.2135	0.2361	0.1714	0.2653

EXHIBIT 22 *Source: DR-1.22e*

Distribution Animal Protection Activities

Gulf Power states that it conducts animal outage mitigation as part of daily ongoing distribution construction and maintenance activities and that it does not specifically identify dollars for distribution-related animal protection programs. In 2003, Gulf Power implemented Southern Company guidelines and specifications for the installation of animal guards, including the proper use and application of approved animal guards. These guidelines describe the types of guards, pole configurations, when guards should be used, where the guards should be attached, spacing, and other critical installation information.

In 2003, the company began widely using electrostatic animal guards. Gulf states that since the guidelines were put in place, a 68.8 percent reduction in the frequency of animal outages and a 63.3 percent reduction in the duration of animal outages has occurred. Gulf also states that although overall animal-caused outages have decreased, the results at the district level are inconclusive. **Exhibit 23** shows Gulf Power animal outages during the period 1999-2005.

Guards are often placed to relieve animal-caused outages in areas where animal populations have increased or in areas that Gulf has not previously placed guards on its equipment for protection. Outage information from the Trouble Call Management System is also used by Gulf to help identify problematic locations where animal guards would be useful to reduce this type of outage.

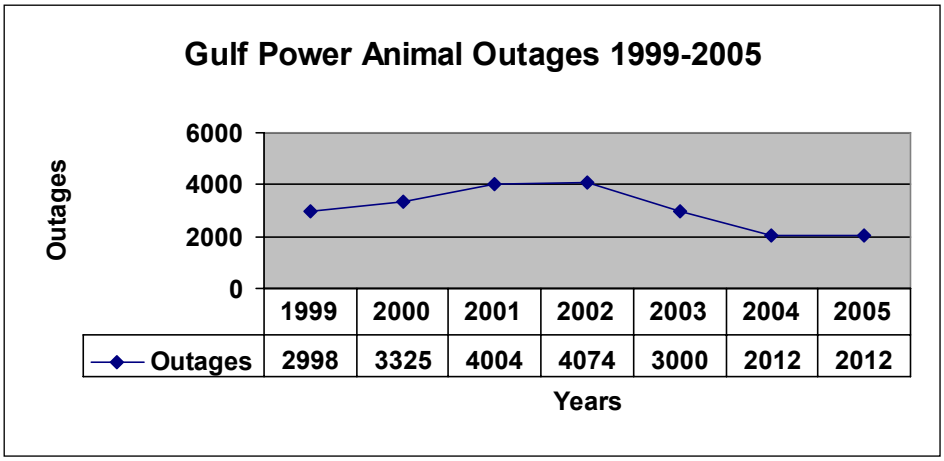


EXHIBIT 23 *Source: Annual Distribution Reliability Reports*

As shown in the exhibit, Gulf Power animal outages increased between 1999 and 2002. After a review of practices and devices in 2003, animal outages decreased. Between 2002 and 2005, animal outages decreased 51 percent, from 4,074 outages in 2002 to 2,012 outages in 2005.

The SAIDI, CAIDI, and SAIFI indices for animal-related outages further show the specific impact of Gulf's review of practices and devices in 2003. **Exhibit 24** shows these distribution indices for animal-related outages during the period 1999-2005.

Gulf Power Distribution Animal-Related SAIDI, CAIDI and SAIFI 1999-2005

Index	1999	2000	2001	2002	2003	2004	2005
Animal-related SAIDI	7.8	6.4	7.0	8.4	6.5	5.0	3.5
Animal-related CAIDI	62.9	50.2	59.2	63.9	65.1	78.0	82.2
Animal-related SAIFI	0.124	0.126	0.119	0.131	0.099	0.064	0.043

EXHIBIT 24 *Source: DR-1.25e, DR-4.16*

This information indicates that the animal–related outage SAIDI duration during 2003-2005 decreased 46 percent. Additionally, the animal-related outage frequency, or SAIFI, has decreased 57 percent during the period that Gulf Power increased the use of electronic guards.

3.6.2 Transmission Reliability Improvement Efforts

This section will examine each of Gulf Power's transmission and substation activities most closely related to reliability improvement during the period 1999-2005. The Transmission Department has overall responsibility for both distribution and transmission substations, as well as transmission lines.

Gulf Power's planning for transmission line maintenance and substation maintenance is completed annually and updated throughout the year. Transmission line maintenance activities are identified by the completion of both ground and aerial patrols. Transmission line and substation schedules are completed to ensure efficient manpower use and to minimize required outages. Substation maintenance activities are determined by evaluation of collected preventive diagnostics performed on substation equipment and from substation equipment inspections.

Transmission Facility Inspections

Gulf Power states that a comprehensive transmission line inspection program is essential to the effective and orderly maintenance and safe and reliable operation of the transmission system. Gulf's objectives in its transmission inspection program are to maximize the plant facility life, to prioritize needs and resources, to minimize unscheduled or emergency maintenance, and to improve the reliability of the system by minimizing facility failures. Gulf must coordinate the scheduling of transmission inspections with Southern Company affiliates and within Gulf Power departments to complete annually scheduled inspections and minimize planned system outages. Gulf Power states that the risk of not completing company-wide transmission inspections includes the possibility of substandard poles, structures, and equipment performance.

Gulf Power uses three types of transmission line patrols for inspection: ground inspections, climbing/helicopter inspections, and aerial patrols. Ground inspections provide visual inspection of structures and rights-of-way conditions. The first ground patrol is scheduled to be performed after a line has been in service for twelve years and then continues on a twelve-year cycle. These inspections examine general conditions of the entire structure, foundations, structure arms, grounding, insulators, conductors, shielded wires, hardware tightness, guys and anchors, switches, and right-of-way conditions.

Climbing inspections provide a close-up inspection of the upper section of the structure in addition to items covered in ground inspections. The additional benefit of climbing inspections is that minor defects are repaired while someone is at the structure. The first climbing inspection is performed after the line has been in service for six years and then continues on a twelve-year cycle. Southern Company guidelines state that climbing inspections can be substituted for helicopter inspections as an economical method of determining the condition of the upper portion of a structure.

The purpose of the routine aerial patrol is to provide a quick and economical inspection of major transmission line components and right-of-way conditions. Until 2004, Gulf Power

used aerial patrols as needed. In 2004, Gulf Power began routinely flying the transmission system four times annually. This standard was adopted by Southern Company in late 2005 and is being implemented in all Southern Company electric utilities in 2006.

Gulf can either use a fixed wing aircraft or a helicopter to complete these inspections because both types of aerial inspection follow the same procedures. Results from either type of aerial inspection are input into Gulf's Transmission Line Maintenance System. Periodically, Gulf Power has used helicopter infrared inspections to detect hot spots on transmission lines and equipment. However, these inspections are not a part of the regular inspection guidelines. Gulf Power states that climbing/helicopter inspections are scheduled on an alternating basis with ground inspections so that every line will be inspected in six-year intervals.

Prior to 2004, Gulf Power did not keep data on the number of transmission system inspections. In 2004, Gulf began using Southern Company inspection guidelines and has tracked the number of lines/segments inspected each year since. In 2004, Gulf Power scheduled and completed the inspection of 16 lines/segments, representing one-twelfth of the system. In 2005, Gulf inspected one line/segment in January and two lines/segments in December. Gulf has stated that the hurricanes of 2004 and 2005 have caused the transmission inspection cycle to be incomplete to date.

Transmission Pole and Structures Inspection and Replacement

Prior to 2004, Gulf Power did not have documented procedures relative to transmission pole inspections. In 2004, Gulf adopted the Southern Company Ground Line Inspection program, which calls for a twelve-year wooden pole inspection cycle, based on the Ground Line inspection cycle requiring one-twelfth of the system to be inspected annually. Gulf Power states that Gulf Power transmission pole inspections were not completed on a specific cycle and inspection records were not kept in an electronic format prior to 2004. Therefore, Gulf stated it would be a tedious and time-consuming process, requiring considerable research, to document the total number of annual transmission pole inspections prior to 2004.

Transmission pole inspections are included as part of the ground and climbing inspections performed by contractors. In ground inspections, transmission wood poles are visually checked for decayed pockets, woodpecker holes, and the need for protective hardware cloth. Wood arms and braces are also inspected for signs of deterioration and splitting. Pole grounds are checked for broken or deteriorated grounding and repaired if necessary.

Climbing inspections require sounding the poles with a hammer at the ground line before climbing and during climbing. Pole cross arms are hammered and probed for decay pockets as well. This method tests the entire length of the wooden pole as it is climbed. Woodpecker holes are also examined closely and patched if needed. If the protective hardware cloth is damaged, it is repaired during climbing inspections. Numerous other equipment checks are also included in climbing inspections. **Exhibit 25** shows the total transmission pole inspections completed by Gulf Power and the average cost per inspection during 2004-2005.

As shown in the exhibit, the total number of transmission pole inspections completed in 2004 was 1,198. This included 958 wooden pole inspections and 240 steel pole inspections. In

2005, Gulf inspected 876 poles. This included 834 wooden transmission poles, two steel poles, and 40 concrete poles.

Gulf Power Transmission Pole Inspection Expenditures and Cost Per Inspection 1999-2005			
Year	**2004**	**2005**	**Total**
Expenditures	$102,266	$146,675	$248,941
Poles Inspected	1,198	876	2,074
Cost/Pole Inspection	$85.36	$167.43	$120.03
EXHIBIT 25			*Source: DR-4.18l*

As a result of the 2,074 transmission inspections completed in 2004 and 2005, Gulf Power treated 1,161 poles and replaced 160 poles. This equates to a treatment rate of 56 percent and a replacement rate of 7.7 percent. The remedial work performed indicates a fairly high failure rate and underscores the importance of a thorough inspection program. Gulf Power's transmission policy calls for replacement of poles that would otherwise be braced.

Substation Facility Inspections

Gulf Power's transmission department uses Southern Company guidelines and procedures for completing substation maintenance. Distribution substation planning is completed by a joint effort between the distribution and transmission organizations. However, the transmission group is responsible for planning and completing substation inspections. Substation inspections are generally completed by Gulf Power employees, with some specific work being completed by contractors. For instance, Gulf Power has used contractors to paint, regasket and reclaim oil for large power transformers, and to identify leaks in large substation breakers on the system.

Gulf Power states that it performs distribution and transmission substation inspections quarterly. The Gulf Power Substation Team Leader for each district is responsible for scheduling substation inspections and ensuring they are completed. Substation inspections include the following:

- Recording all counter readings for breakers and voltage regulators
- Recording breaker oil levels and gas pressure
- Reading voltage regulator step indicator positions
- Checking the power transformer oil level
- Recording the winding and oil temperature readings
- Checking that cooling fans are functioning
- Checking the power transformer tank pressure
- Checking the nitrogen bottle
- Checking capacitor banks for failed capacitors, blown fuses, and leaking oil
- Checking and recording the station battery voltage
- Verify substation signs, fencing and grounding are not damaged

- Checking fire extinguisher, eye wash system, yard lights, heat pump and spare fuses
- Checking that the yard is clean and no weed or miscellaneous problems are seen

The task list for substation inspections is lengthy and thorough. Substation batteries are inspected every six months, breakers have preventative diagnostics performed every two years, larger substation breakers have preventative diagnostics every three years, and 12kV vacuum breakers have preventative diagnostics performed every four years. Preventive diagnostics are performed annually on regulators, and dissolved gas analysis is performed annually on transformers, with power factor testing every six years.

Inspection results are recorded, and the data is stored electronically as text files. If conditions are identified and cannot be immediately repaired, they are reported to the Substation Team Leader who prioritizes the repairs as needed. Gulf Power plans work for repairs in coordination with System Control and other departments. Work is planned in advance and requests for outages are made at times when equipment can be taken out of service if necessary.

Gulf Power has 27 transmission substations and 99 distribution substations in which inspections are performed. The actual number of substation inspections completed is not known. Gulf says that determining how many inspections were completed in each year during the period 1999-2005 for each substation would take considerable time and effort. However, Gulf responded to staff that substation inspections were completed every four months (three times annually) during 1999-2002, every three months (four times annually) during 2003-2004, and every six months (two times annually) in 2005. Gulf Power states that the hurricanes experienced in 2005 kept it from completing the scheduled substation inspections.

3.7 Vegetation Management Program

Gulf Power's goal in vegetation management is to ensure that trees, vines, and other vegetation do not encroach on company distribution, transmission and substation facilities and rights-of-way. This section of the report examines Gulf Power's vegetation management organizational structure, program procedures and measurements, and program budget for the period 1999-2005.

3.7.1 Distribution and Transmission Vegetation Management Organization

Gulf Power's Forestry Services group is responsible for transmission and distribution vegetation management. Forestry Services is part of the Power Delivery Contract Services department. The Forestry Services Team Leader is responsible for managing day-to-day operations of Forestry Services and reports directly to the Contractor Services Supervisor.

Three Line Clearing Supervisors, located in each of the three districts, are responsible for developing work plans, overseeing contractor activities, and serving as customer contacts with the cities, towns, and municipalities served by Gulf Power. Two Forestry Services Technicians are responsible for supporting Line Clearance Specialist's activities, patrolling and evaluating vegetative conditions, and providing customer service support. The Forestry Services organization is evaluated in terms of safety, customer satisfaction, reliability trends, and budget

management. Gulf Power also uses reliability indices reported to the FPSC in the Annual Distribution Reliability Report, Outages per 100 Miles, and Tree Outages per 100 Miles as secondary measures to help assess vegetation performance.

During the period 1999-2005, all scheduled vegetation maintenance, herbicide, trimming, mowing, and other field vegetation maintenance activities were completed by contractors. The average annual contractor crew counts for Gulf Power was 30 distribution crews of 63 workers total and seven transmission crews of 21 workers total. Gulf does not have any tree crews of its own and relies on contractors to provide resources for day-to-day and emergency tree-trimming operations.

3.7.2 Vegetation Program Procedures and Measurements

The Gulf Power distribution and transmission vegetation management program is governed by a compilation of industry standards including the National Electric Safety Code (Part 2-Section 21), OSHA 29 CFR Part 1910, ANSI A300 (part 1)-2001 Pruning, ANSI Z133.1-2000, and established company plates and guidelines. These standards and procedures guide the daily operation of company tree trimming, vine spraying and right-of-way mowing and spraying.

Distribution Vegetation Management

Gulf Power has approximately 5,647 miles of overhead distribution subject to line clearing and pruning activities. Distribution vegetation activities consist of spot pruning and maintenance pruning. Spot pruning is performed to address problematic areas and conditions on the system. It is designed to correct immediate conflicts between vegetation and conductors that cause reliability or safety concerns. Gulf Power does not attempt to measure the miles of hot spot pruning, thus, those miles of pruning improvements are not captured for reporting. Due to this policy, Gulf Power states its annual reported miles of vegetation pruning may seem lower than other electric utilities that do record such activities.

Distribution maintenance pruning is the methodical pruning of trees and branches to establish three years of clearance between vegetation and conductors. Small trees in the right-of-way, which can ultimately grow into line conductors, are removed to prevent future conflicts. Maintenance pruning is designed to provide long-term improvements in areas where spot pruning will not solve reliability and safety issues. **Exhibit 26** shows Gulf Power's annual miles of maintenance pruning by district and cost per mile during 1999-2005.

Gulf Power Distribution Maintenance Pruning Miles 1999-2005

District	1999	2000	2001	2002	2003	2004	2005
Central	317	111	100	203	169	123	196
Eastern	149	53	74	138	232	192	87
Western	326	77	35	1,000	574	324	429
Total	792	241	209	1,341	975	639	712
Cost/Mile	$2,818	$6,784	$10,749	$3,099	$3,628	$4,415	$5,080

EXHIBIT 26 *Source: DR-1.34d, DR-4.21f*

As shown by the exhibit, Gulf Power maintenance pruning miles were the highest in 2002. During the period 1999-2002, Gulf pruned 2,583 miles, averaging 646 miles annually. During the period 2003-2005, Gulf pruned an average of 775 miles annually. Gulf Power states that management has placed greater emphasis on its maintenance pruning during this period.

Gulf's cost per mile for distribution maintenance pruning ranged between a low of $2,818 in 1999 to a high of $10,749 in 2001. During the period 1999-2002, Gulf Power's cost per mile averaged $5,863. In 2003-2005, Gulf averaged $4,374 annually per mile of maintenance pruning.

In addition to the above measures, Gulf Power examines distribution reliability trends to spot opportunities for improvement. These indices include vegetation outages, tree-related SAIDI, CAIDI and SAIFI, and Tree Outages Per 100 Miles. Each of these measures looks at distribution vegetation and tree-caused interruptions in relation to the electrical system, to customers served by the system, to the frequency of outages, and to the duration of outages. **Exhibit 27** shows Gulf Power's annual tree outage totals, tree-related SAIDI, CAIDI and SAIFI, and Tree Outages Per 100 Miles for the period 1999-2005.

Gulf Power Distribution Vegetation Indices 1999-2005

Indices	1999	2000	2001	2002	2003	2004	2005
Vegetation Outages	705	1,115	1,166	1,075	1,016	1,193	980
Tree-related SAIDI	11.3	17.8	14.0	17.0	10.1	17.8	10.0
Tree-related CAIDI	78.1	80.4	80.8	86.4	83.7	84.9	88.2
Tree-related SAIFI	0.145	0.221	0.174	0.197	0.121	0.209	0.113
Tree Outages/ 100 Miles	10.7	8.3	15.9	16.2	14.6	17.1	13.9

EXHIBIT 27 *Source: DR-1.34e, DR-4.21g*

Vegetation outages during 1999-2005 ranged between 705 and 1,193 outages with no discernable trend. Tree-related SAIDI ranged between a low of 10.0 in 2005 and a high of 17.8 in both 2000 and 2002. Overall, tree-related SAIDI averaged 14.0 minutes for the period 1999-2005, but the average during 2003-2005 was only 12.6 minutes. On average, Gulf Power tree-related SAIDI has decreased during the last three years.

Tree-related CAIDI ranged between 78.1 minutes and 88.2 minutes in 1999-2005. On average, Gulf Power tree-related CAIDI has increased since 2001. This indicates that Gulf Power's customers experiencing a tree-related since 2001 have, on average, experienced longer outage durations. Gulf's tree-related SAIFI ranged between 0.113 and 0.221 events during 1999-2005. The tree-related SAIFI index has remained lower than its high of 0.221 events since 2000, indicating that tree-related outages events have been less frequent since 2000.

At the same time, Gulf tree-related outages per 100 miles have increased since 2001. When asked why tree outages per 100 miles had increased since 2001, Gulf stated that it could not explain with certainty why they increased during this time. However, Gulf stated that it did not believe the increase was due to a deficiency in its tree trimming program. Gulf stated it believed the increase in outages per 100 miles could be influenced heavily by increases in wind and rain.

Gulf Power budget and expenditures for distribution vegetation management during 1999-2005 are shown in **Exhibit 28**. Distribution vegetation budget dollars ranged between $1,639,694 and $4,234,995 during the study period. The largest annual amount budgeted and spent on distribution vegetation management was during 2002. Distribution vegetation expenditures ranged from $1,634,914 to $4,155,922 during the study period. Average distribution vegetation expenditures for the period were $2,892,109. In general, Gulf Power spending for distribution vegetation management has fluctuated during the period with no discernable trend except a higher overall level of spending since 2002.

Gulf Power Distribution Vegetation Budget and Expenditures 1999-2005

	1999	2000	2001	2002	2003	2004	2005
Budgeted	$3,035,000	$3,010,997	$1,639,694	$4,234,995	$3,291,216	$3,211,072	$2,341,994
Expenditure	$2,231,662	$1,634,914	$2,246,475	$4,155,922	$3,537,527	$2,821,245	$3,617,018
% Change in Expenditures		-26.7%	37.4%	85.0%	-14.9%	-20.2%	28.2%

EXHIBIT 28 *Source: DR-1.34f, DR-4.11c*

Transmission Vegetation Management

Gulf Power has approximately 1,600 miles of overhead transmission lines and rights-of-way subject to ground patrol, herbicide spray, side trim, mowing, and urban tree pruning activities. Since 1999, Gulf Power has made two significant changes to transmission vegetation management methodology. Prior to 2002, danger trees, defined as dead, dying, leaning, or diseased trees that pose a threat to transmission lines within the growing season, were identified using aerial patrols.

The first change in Gulf's methodology was implemented in 2002 and 2003, when Forestry Services added a full-scale ground patrol program to identify danger trees and other vegetation threatening the line within the growing season. Any vegetation growing close to the line was removed or sprayed. Ground patrols continue to be used to check for vegetation that may grow into the transmission system and for lines that may sag into trees encroaching on the right-of-way. Additionally, Gulf Power aerial inspections of the transmission system still provide input as to potential conflicts between trees and the transmission system. In 2003, the second change to Gulf Power transmission vegetation methodology was implemented. It called for large-scale use of herbicide treatment to maintain vegetation on transmission rights-of-way, to provide long-term control of vegetation, and to reduce the need for mowing.

Gulf Power also uses side-trimming to maintain clearance between conductors and vegetation growing adjacent to the right-of-way. This activity is usually a result of ground patrol inspections, identifying vegetation adjacent to conductors requiring the entire line to be systematically pruned rather than individually trimmed on a hot spot basis. Gulf's mowing program is used to remove vegetation not controlled through herbicides to improve access to the rights-of-way. Urban tree trimming is Gulf's term for trimming activities used in cities where space constraints make it difficult to maintain clearance between conductors and vegetation on lines, roadside easements, and narrow rights-of-way. **Exhibit 29** shows Gulf Power's transmission vegetation acres treated with herbicide from 1999-2005, miles of side-trim, acres mowed, and miles trimmed for the period from 2002-2005.

Gulf Power Transmission Vegetation Activities 1999-2005

Activity	1999	2000	2001	2002	2003	2004	2005
Herbicide Acres Treated	6,273	4,781	2,350	265	12,580	5,456	200
Side Trimming Miles	-	-	-	0	243	197	0
Acres Mowed	-	-	-	613	3,220	1,125	1,855
Urban Tree Pruning Miles	-	-	-	340	124	7	30

EXHIBIT 29 *Source: DR-1.34d, DR-4.21f*

Gulf Power did not have records for transmission side trimming, mowing, and urban pruning for the period 1999-2001. As shown in the exhibit, Gulf Power transmission vegetation management activities now center primarily around herbicide spraying and mowing. In 2003, Gulf Power began the increased use of herbicide spray to reduce vegetation on rights-of-way and to reduce mowing.

Gulf Power treated 12,580 acres with herbicide and mowed 3,220 acres of rights-of-way in 2003. In 2004 and 2005, Gulf decreased its herbicide treatment acres and still reduced the number of acres mowed. According to the company, this situation was due primarily to the impact of the 2004 and 2005 hurricanes. Gulf Power states that the shortages in vegetation contractor crews immediately after the hurricanes affected the ability to complete scheduled activities. Additionally, Gulf has reduced the amount of urban tree pruning during the last three years due to the increased use of herbicides in these areas.

Gulf's transmission vegetation-related SAIDI and SAIFI show indications of improved reliability. These measures should help identify whether the results of policy changes, such as Gulf's increased use of herbicides to reduce mowing and pruning, have impacted the frequency and duration of tree-caused outages. Gulf Power transmission vegetation SAIDI and SAIFI for the period 1999-2005 are included in **Exhibit 30**. As shown by the exhibit, Gulf's transmission vegetation SAIDI ranged from 1.80 to 0.00 during the period 1999-2005. The exhibit shows Gulf's transmission SAIDI and SAIFI have shown improvement during the period, and especially in the last three years. Both indices may have been improved during 2004 and 2005 by outage exclusions associated with the hurricanes in that period.

Gulf Power Transmission Vegetation Measures 1999-2005							
Indices	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Vegetation SAIDI	1.80	0.93	0.01	0.55	0.27	0.18	0.00
Vegetation SAIFI	0.014	0.019	0.003	0.011	0.015	0.008	0.00
EXHIBIT 30							*Source: DR-1.34e, DR-4.21g*

Exhibit 31 shows Gulf Power's transmission vegetation management expenditures for the period from 1999-2005. As shown, transmission vegetation budget dollars ranged between $600,000 and $1.2 million dollars during the study period. Gulf Power both budgeted and spent the largest amount for transmission vegetation management in 2005. Expenditures ranged from $561,623 to $1.8 million dollars during the period 1999-2005. Over the last three years, transmission expenditures increased from prior years included in the study period.

Gulf Power Transmission Vegetation Budget and Expenditures 1999-2005							
	1999	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Budgeted	$600,000	$600,000	$960,000	$895,430	$800,000	$900,000	$1,245,843
Expenditure	$1,052,921	$561,623	$1,584,971	$1,078,538	$1,726,965	$1,648,792	$1,813,083
% Change		-46.7%	182.2%	-32.0%	60.1%	-4.5%	10.0%
EXHIBIT 31							*Source: DR-1.34f, DR-4.21h*

3.8 Customer Complaint Reporting

Both Gulf Power and the FPSC monitor customer inquiries and complaint levels to help assess customer satisfaction with Gulf Power service. This section examines the level of customer inquiries received by Gulf Power and the number of FPSC complaints filed against the company during the period 1999-2005 relative to service quality and reliability issues.

3.8.1 Company-Received Inquiries 1999-2005

Gulf Power receives customer inquiries regarding a number of different topics from customer payments to tree trimming. However, the majority of all inquiries received by Gulf Power are regarding payment arrangements, the amount of the bill, new service connections, power outages, and disconnects of service. Not all customer inquiries received by Gulf power are complaints.

Customer complaints and inquiries are received through several methods, the Customer Service Center, online Customer Care services through the Internet, and through an Integrated Voice Response Unit. Most inquiries come through the Customer Service Center and Gulf customer service representatives. However, some inquiries such as the amount due, delinquent and disconnect dates, and the reporting of power outages can all be completed through the Integrated Voice Response Unit. Users of the online Customer Care website can initiate service

requests, pay and view their bill, update account information, report outages, and obtain other useful information. Complaints and other inquiries received by the three methods discussed are recorded in the Customer Service System. Gulf's Customer Service standards and internal web-based referral tools are used by customer service representatives to ensure quality and consistent handling of customer inquiries.

Gulf Power uses codes to identify the purpose of customer inquiries and to separate calls into 47 different categories. Prior to 2002, Gulf Power manually tracked customer inquiry data and did not have the detailed inquiry data it now has. Based on Gulf Power's inquiry tracking codes, the top five call categories during the period 2002-2005 were for amount of bill, payment arrangements, connections, power outages, and disconnections.

These five inquiry categories have remained at the top five during 2002-2005, but the percentage of total calls each inquiry category represents has changed. For instance, the "amount of bill" category decreased from approximately 20 percent in 2002-2003 to 18 percent in 2004 and to 16 percent in 2005. The "payment arrangements" category has dropped from 19 percent in 2003-2004 to 14 percent in 2005. On the other hand, "power outage" inquiries have increased from a low of seven percent in 2003 to just over ten percent in 2005.

Service-related inquiries, such as those for "street lighting repair" and "tree trimming" represent small percentages of the total inquiries received by customer representatives. For example, "street lighting repair" inquiries were between 1.7 and 1.8 percent of the total representative calls received in 2002-2003. The category increased to 2.7 and 2.5 percent in 2004-2005. In 2002-2003 "tree trimming" inquiries were .44 and .37 percent of the total calls received by representatives. In 2004 and 2005, "tree trimming" inquiries increased to .6 and .5 percent respectively of the total inquiries received by representatives. As can be seen by these examples, Gulf Power's service-related inquiries remain small percentages of the total inquiry level during 2002-2005.

Exhibit 32 shows the total number of inquiries answered by Gulf Power during the period 1999-2005. As shown by the exhibit, Gulf Power's customer inquiries ranged between 959,895 and 1,448,227 inquiries annually during the period 1999-2005. Gulf averaged 1,092,902 total inquiries during the period. As shown in the exhibit, 27,912 inquiries in 2004 and 114,497 inquiries in 2005 were handled by Gulf Power's overflow vendor. The vendor is contracted to answer customer calls during overflow conditions when Gulf's systems are unable to handle the additional volume of calls. In both 2004 and 2005, the overflow contractor answered calls were associated with hurricane-related call overflows. During the 2004 hurricane-related overflow, Gulf handled 256,774 calls and the vendor handled 27,912 overflow calls. In the 2005 hurricane-related overflow, Gulf handled 252,982 calls and the vendor handled 114,497 calls.

Gulf Power Customer Inquiries 1999-2005							
Received	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Representatives	759,641	796,274	830,791	917,656	952,143	984,317	962,198
IVRU	212,611	163,621	172,999	178,401	188,217	450,700	486,029
Overflow Vendor	-	-	-	-	-	27,912	114,497
Total	972,252	959,895	1,003,790	1,096,057	1,140,360	1,462,929	1,448,227
EXHIBIT 32							*Source: DR-4.22*

3.8.2 FPSC-Received Complaints 1999-2005

In addition to service quality goals, Gulf Power also has a goal to maintain the lowest FPSC complaint level of the investor-owned utilities in Florida. Elevated customer inquiries and FPSC inquiries are handled by employees that are in supervisory or leadership positions. Complaints received from the Commission come to Gulf by warm transfer, mail, and by fax. Two special phones are dedicated to receive the calls transferred from the Commission. According to Gulf Power, these calls are addressed immediately.

According to Gulf, Commission complaints are received by fax, telephone, or e-mail and are responded to the same day of receipt. A formal response is then given to the Commission within 72 hours. If the customer indicates concurrence with the company's resolution to the complaint, it is recorded as resolved within the Commission's 72-hour rule and is not reported as a complaint on the FPSC Consumer Activity Report. A monthly report summarizing results is prepared and provided to Gulf Power management and to the FPSC staff. **Exhibit 33** shows the number of electric industry complaints logged with the Commission during the period 1999-2005, the number of complaints logged against Gulf Power during the period 1999-2005, and the number of service-related complaints logged against Gulf Power with the Commission during the same period.

Gulf Power FPSC Complaints 2000-2005						
Category	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Electric Industry	748	738	961	1030	700	360
Gulf Power	20	45	31	13	9	4
Gulf Service Related Complaints	3	0	2	1	0	0
EXHIBIT 33						*Source: FPSC Consumer Activity Reports*

As shown in the exhibit, Gulf Power accounts for a small percentage of the electric industry complaints annually. Additionally, Gulf's total complaint level has decreased in the last three years, and service-related complaints were consistently low or nonexistent during the study period.

4.0 CONCLUSIONS

4.0 Conclusions

This section provides the Bureau of Performance Analysis staff conclusions regarding company reliability performance based on our review of company performance indices, procedures, processes and systems, ongoing reliability-related improvement programs, operating expenditures, employee interviews, and company information supplied through data requests. Staff recommended solutions for improving reliability-related conditions are also included. Company responses are included verbatim after each finding.

Finding 1

Increased CAIDI and L-Bar indices during the period 1999-2005 indicate that Gulf Power customers experienced longer outage durations during the period.

Description:

The CAIDI index reflects the average annual interruption duration of customers experiencing an outage. The L-Bar index reflects the average length of all company outages during the year. While CAIDI and L-Bar by themselves are not the only indicators of a company's service quality, they do indicate the average time a company takes to restore service after an outage. As the outage restoration time frame lengthens, system unavailability increases and customers endure longer outages. Increases in these two indices indicate that customer outage durations and the average length of all company outages have increased.

As shown in the table below, Gulf Power's CAIDI increased 31 percent; from 80.60 minutes in 2000 to 105.90 minutes in 2004. Gulf's L-Bar also increased 31 percent; from 99.11 minutes in 2000 to 129.60 minutes in 2004.

Gulf Power CAIDI and L-Bar 1999-2004 (minutes)		
Year	**CAIDI**	**L-Bar**
1999	90.66	99.70
2000	80.60	99.11
2001	86.97	101.26
2002	91.82	105.42
2003	89.80	101.25
2004	105.90	129.60
2005*	101.17	152.14
* Subject to change in final 2005 Annual Distribution Reliability Report		
Table 1 *Annual Distribution Reliability Reports*		

The greatest increases in CAIDI and L-Bar during the period were during 2004 and 2005. Gulf Power states that the increases in CAIDI are a result of system protection improvements that have reduced both outage frequency and the number of customers interrupted. Staff agrees

that, due to the inverse mathematical relationship between SAIFI and CAIDI, a reduction in SAIFI can result in an increased CAIDI. However, Gulf Power has not provided quantitative evidence or substantiation that proves its system protection improvement efforts reduced the frequency of outages and the number of customers impacted to cause the increases in CAIDI. For example, Gulf would have to remove more shorter than longer duration outages through its protection efforts to cause CAIDI to rise. This has not been demonstrated to have occurred.

Gulf Power explains that the increased 2004 CAIDI result is largely caused by the impact of hurricanes. However, Florida Public Service Commission Electric Rule 25-6.055(2) allows electric utilities to exclude from reliability indicator calculations the outages experienced as a result of hurricanes. The purpose of allowing these exclusions is to normalize the impact of these abnormal events on electric utility reliability indices. Therefore, the impact of hurricanes has already been removed from Gulf's 2004 and 2005 CAIDI and L-Bar results. If these exclusions were not allowed, Gulf's CAIDI and L-Bar indices would have been considerably higher in 2004 and 2005.

Gulf Power's CAIDI increased to 105.90 minutes in 2004 and decreased to 101.17 minutes in 2005. This represents a 17.9 percent increase in 2004 over 2003 CAIDI and a 12.7 percent increase in 2005 over 2003. Gulf Power's L-Bar increased to 129.60 minutes in 2004 and to 152.14 minutes in 2005. This represents a 28 percent increase in 2004 over 2003 results and a 50.3 percent increase in 2005 over 2003 results. Gulf Power CAIDI and L-Bar indices indicate that Gulf Power's customer annual outage duration and system average annual duration increased over the period, with more significant increases occurring in 2004 and 2005.

Impact:

Increased CAIDI and L-Bar indices indicate that, on average, Gulf Power customers experience longer outage durations and reduced system availability.

Company's Response:

The preliminary finding that CAIDI and L-Bar increased during the period 1999 - 2005 based on the data reported is indisputable.

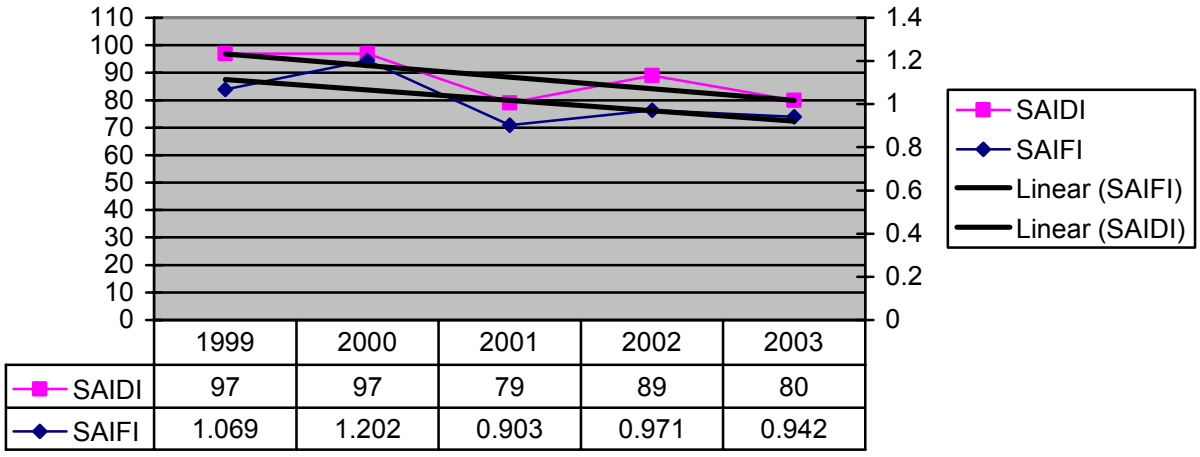
Gulf does not agree with the Revised Preliminary Finding Statement 1 which states that increased CAIDI and L-Bar indices during the period 1999-2005 indicate that Gulf Power customers experienced longer outage durations during the period.

The implied assumption is that Gulf's quality of service to the customer has been adversely impacted. CAIDI and L-Bar results from year to year are influenced by the level of storm activity, the "carry over" affects from major storms and the geographic area of the utility. No one indicator, or component of the indicator, can adequately reflect the total picture of service quality. Isolated indicators can be misleading if not taken in context with the total picture. Gulf's total picture of

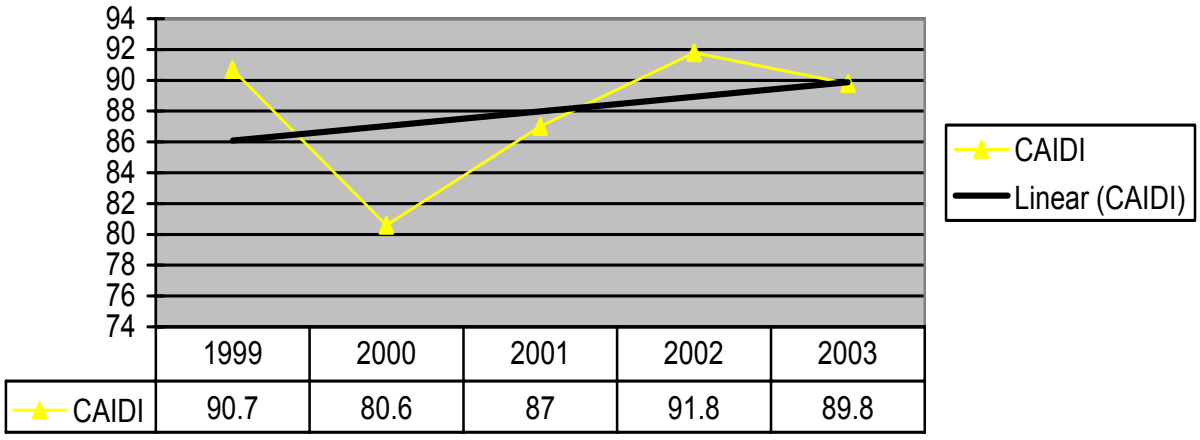
service quality includes not only reliability indices but also the balancing of the price of electricity with customer satisfaction.

1999 - 2003

CAIDI is equivalent to SAIDI divided by SAIFI. Where SAIDI is the average length of time of interruptions and SAIFI is the average frequency of interruptions. As can be seen in the graph below of SAIDI and SAIFI, Gulf's customers have been experiencing a downward trend over the period for both indices.



	1999	2000	2001	2002	2003
SAIDI	97	97	79	89	80
SAIFI	1.069	1.202	0.903	0.971	0.942

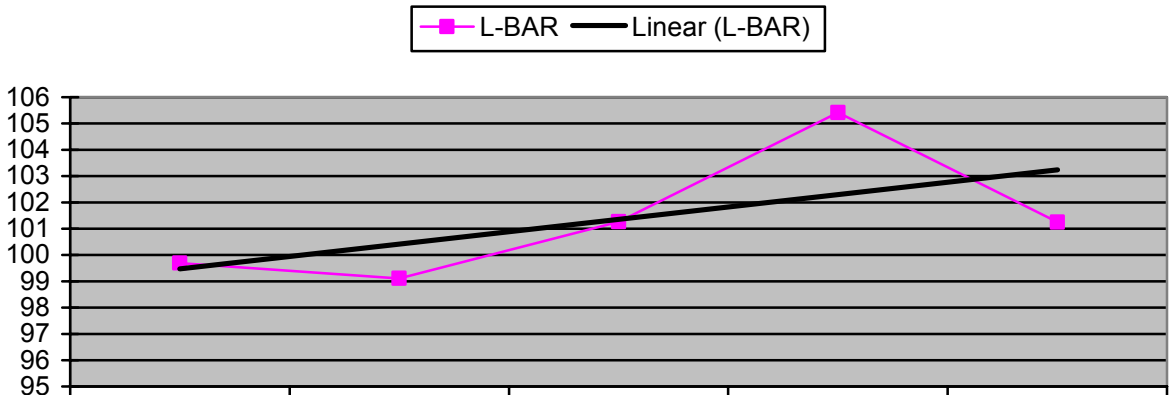


	1999	2000	2001	2002	2003
CAIDI	90.7	80.6	87	91.8	89.8

In the graph above, CAIDI by itself indicates a modest increasing trend for customer's average interruption duration, but as shown in the previous graph Gulf's customer's are experiencing a decreasing trend in both system average interruption duration and in system average interruption frequency. The CAIDI trend reflects a composite effect of both system improvements made by Gulf, the inverse mathematical relationship between SAIFI and CAIDI and weather variations during the 1999 to 2003 time period.

L-Bar, during this same time period (1999 to 2003), on the surface reflects an increasing modest trend as shown below. But a year by year comparison shows this trend is composed of a 1% decrease, 2% increase, 4% increase and then a 4% decrease from 1999 to 2003 respectively.

Again the L-Bar trend is a composite effect of both system improvements made by Gulf, and weather variations during the 1999 to 2003 time period.



	1999	2000	2001	2002	2003
L-BAR	99.7	99.11	101.26	105.42	101.25

2004 and 2005

For 2004 and 2005, increases in CAIDI and L-Bar were due to increased adverse weather during the year and the carry over affects of Ivan, a "residual negative effect" that continues after a major hurricane. In addition, for 2005, Gulf has had severe new storms to deal with and their after affects; Arlene, Cindy, Dennis, and Katrina. Each of these storms has contributed to sustaining this "residual negative effect". This drove up total outages, minutes of interruption, CMI and CI from which L-Bar and CAIDI are derived.

Gulf does not agree with the statement that the Florida Public Service Commission Electric Rule 25-6.055(2) for exclusions removes all of the impact associated with major storms. It does remove the bulk of it for a finite time period, but Gulf's experience has shown as illustrated below for 2004 and 2005, that there are events which occur long after the exclusion period that are a result of the storm. Some are more obvious than others such as increases in vehicle accidents, others are revealed by looking at historical trends. These less than obvious problems, in Gulf's analysis, are a direct result of Gulf's distribution facilities being subjected over long periods of time to wind blown debris, equipment being submerged, a high level of salt water spray off the Gulf, high wind induced line oscillations, and the earth being saturated by heavy rains. This results in the storm having a "carry over" effect or a "negative residual effect".

Below are some illustrations using 2005 YTD August and historical data:
For outage cause "Unknown":

	2005	04-00 AVG	% INC	2004	2003	2002	2001	2000
SAIFI JAN – AUG	**0.2317**	0.0805	188%	0.1035	0.0813	0.0458	0.0781	0.0937
SAIDI JAN – AUG	**17.52**	5.22	235%	7.23	6.19	4.00	5.32	3.35

For outage cause "Vehicles":

	2005	04-00 AVG	% INC	2004	2003	2002	2001	2000
SAIFI JAN – AUG	**0.0976**	0.0403	143%	0.0410	0.0413	0.0361	0.0405	0.0424
SAIDI JAN – AUG	**12.60**	4.30	193%	4.36	3.44	4.76	5.08	3.85

For outage cause "Contract Crew, Dig-Ins, Improper Installation, Trees Cut, Vandalism":

	2005	04-00 AVG	% INC	2004	2003	2002	2001	2000
SAIFI JAN – AUG	**0.0752**	0.0177	325%	0.0174	0.0168	0.0063	0.011	0.0368
SAIDI JAN – AUG	**5.29**	1.19	345%	0.92	0.90	0.71	1.45	1.98

In addition, Gulf would like to clarify and address the observation, "Gulf Power has not provided quantitative evidence or substantiation that proves its system protection improvement efforts reduced the frequency of outages and the number of customers impacted to cause the increases in CAIDI. For example, Gulf would have to remove more shorter than longer duration outages through its protection efforts to cause CAIDI to rise. This has not been demonstrated to have occurred."

Gulf historically has had a low SAIFI (average frequency of interruptions) as a result of its system protection system and focus on those system improvements that affect more customers per outage. It does not require the removal of "more shorter than longer duration outages". SAIFI equals Total Number of Customer Interruptions (CI) divided by Total Number of Customers Served (C). CI is composed of outages with varying number of customers impacted.

Examples of quantitative data that support Gulf's conclusion include the following. Gulf's reduction of animal outages more often affect transformers which involve a low number of customers but are high in total outages. Another example is reduced lightning outages which are low in volume but typically affect more customers. Gulf's system protection system helps to mitigate the impact of these outages when they do occur to the lowest number of customers, thus reducing CI, which reduces SAIFI and in turn contributes to a higher CAIDI.

Finding 2

Gulf Power has not fully implemented a documented maintenance program, tracking system, mapping system, or procedures for periodic auditing of lighting accounts, which puts Gulf Power at risk of providing substandard outdoor/street lighting.

Description:

Although the Power Delivery Engineering and Construction departments in each district are responsible for installation, inspection, maintenance, and repair of street lighting, Gulf Power states, there is "no formalized inspection program for street lighting at this time." Gulf says that after major storms, "we inspect and repair street lighting in order to restore damaged areas to pre-storm condition." However, Gulf Power admits that it does not make regularly scheduled inspections of street lighting.

A December 2000 Southern Company audit report of Gulf Power outdoor/street lighting indicated that overall controls over this area were adequate, but it offered opportunities to strengthen overall effectiveness by developing a tracking system for outdoor lights, street lights, and additional facilities. The audit report noted that outdoor lights and customer-owned lights were not mapped and that there were no controls to ensure all work orders were mapped into the Facilities Asset Mapping System. In addition, the report recommended that Gulf Power establish a plan to periodically audit lighting accounts and specific geographical locations.

Interviews with company personnel indicate that Gulf Power established a Lighting Services Group 18 months ago to direct and coordinate customer/outdoor lighting throughout Gulf Power. Since its organization, the group has experienced key personnel changeover and has been hampered by the hurricanes of 2004 and 2005. The current Team Leader came to the job approximately 8 months ago and has just begun efforts to address the issues brought about in the Southern Company audit of December 2000.

According to Gulf's Team Leader of lighting, a third-party vendor will begin auditing its overhead lighting facilities in January 2006. The audit of approximately 100,000 overhead lights is expected to be completed by June 2006. Gulf will add these lighting facilities to its DistGIS mapping system and update its billing records accordingly. Gulf will complete its own audit of approximately 20,000 underground lighting facilities and will update its facility maps as the audit is conducted. Gulf intends to interface its DistGIS mapping system with the billing system to automate future customer billing for lighting and update mapping simultaneously.

While Gulf has established a Lighting Service Organization and is in its beginning stages of the first lighting audit, it has not yet established measurable goals and objectives for the Lighting Services Group, completed process procedures, established a regular scheduled lighting maintenance plan, or completed the scheduling of regular lighting system audits.

The Southern Company audit recommendations of December 2000 remain valid today. Gulf Power should develop a documented maintenance program for customer and street lighting, track its progress, map lighting locations on company facility maps, and implement procedures

to periodically audit lighting assets. Gulf Power should also document a measurable timetable to complete these activities in the near future.

Impact:

The lack of an organized street lighting tracking system, a scheduled maintenance program, a mapping program, and periodic street lighting audits places Gulf Power at risk of having substandard lighting structures in service and of having inadequate knowledge of lighting infrastructure locations.

Company's Response:

Gulf Power is committed to providing a quality outdoor lighting program for our customers. Since the Southern Company audit of 2000 the Lighting Services Team has evolved from a single person to an entire department dedicated to manage our outdoor lighting programs and meet the needs of our customers. Our Customer Service goal for outdoor lighting installations and repairs is 2 days. Even with the added work load and damage during the past two hurricane seasons the actual number of days associated with the repair of an outdoor light averaged less than 4 days. Following the hurricanes the company conducted night time patrols, inspections, and audits of the lighting system in damaged areas to restore lighting services to our customers as quickly as possible. During normal operating conditions we have in the past relied on the billing customer to report outdoor lighting issues. This process associated with our 2 day goal for repairs has allowed us to create a very efficient and customer focused outdoor lighting operation.

The Southern Company audit indicated that the overall controls in the outdoor lighting area were adequate, but did offer some opportunities to strengthen this program. Since that time Gulf has worked to put the necessary resources in place to support the enhancement of the outdoor lighting area.

The current implementation of the new mapping system, Distribution Geographical Information System (DistGIS), will be the key component in capturing and managing our outdoor lighting resources. The development of a new mapping system will not only allow us to track and map lighting locations but also map other components of our system in a more efficient way. As part of this implementation Gulf has contracted with a third party vendor to conduct a system wide audit of our outdoor lighting assets and the results of this audit will be used to populate the new DistGIS system as it is coming online. The second phase of the audit, conducted by Gulf Power Lighting Services Representatives will tie the physical lighting location data in DistGIS to a billing account in our Customer Service System. At the end of the second phase of this audit the necessary data will be in place to conduct periodic audits and inspections of the lighting system.

Lighting Services Representatives currently spend approximately fifty percent of their time auditing lighting accounts. This is often not scheduled but the result of numerous triggers in our system. The audits usually consist of field visits and inspections of the lighting facilities as well as account verification and reconciliation.

The Gulf Power Lighting Services Team is solely dedicated to improving our lighting system through constant evaluation of processes and implementation of best practices to make our system and programs even stronger. This Team will continue to seek ways to improve processes, complete documentation, measure results, and work with customers at all levels to meet their needs in an efficient and effective way.

Finding 3

Gulf Power has not completed documentation of distribution contractor evaluations during the period, which weakens contract controls and may allow inadequate performance to go undocumented.

Description:

During the period 1999-2004, Gulf Power has not completed regular, documented contractor performance evaluations of distribution contractors. It is important for Gulf Power to regularly assess contractors' performance and to retain evaluation documentation for the contracted term and beyond. Documented evaluations provide evidence of Gulf's efforts to evaluate the quality and productivity of its contractors and of contractor performance throughout the contract term. This documentation provides valuable information to be used in assessing whether contractors should be considered for contract extensions or for other work scope.

Findings of a September 2003 Southern Company audit report regarding Transmission Contract Governance noted the importance of these evaluations. The audit findings identified that Gulf Power's transmission department did not have a process providing for documentation and retention of contractor performance evaluations of both lump sum and time and materials contracts. According to Gulf Power information, the recommendation to implement such a process was agreed upon and implemented by Transmission management by year-end 2003.

Therefore, since 2003, Gulf Power has completed documented transmission contractor performance evaluations. However, Gulf Power's distribution contractors' performance is not currently documented and maintained as a control for contract administration.

Impact:

The lack of documented Distribution contractor performance evaluations is of concern because these evaluations provide valuable information regarding contractor quality and productivity and a record of both Gulf's actions and those of the contractor to alter expected levels of performance.

Company's Response:

At this point in time, no problems have been identified that would have been prevented by the presence of a documented contractor evaluation system at Gulf Power. This finding does not reveal the existence of any problems associated with or caused by a lack of documentation, but focuses on differing opinions on how contractors should have been managed over the past five years.

During the period 1999 – 2004, Gulf Power used distribution line contractors very sparingly, using few contractors and small numbers of crews. In the case of vegetation management, Gulf's largest user of contract crews, the span of control is less than an average of eight crews per Gulf employee responsible for crew inspection.

Employees perform random, unannounced crew checks on a daily basis. If crews are observed performing below acceptable levels, the crew is immediately reported to contactor's management and remedial action is taken. If the contractor fails to take appropriate remedial action, then the contractor can and will be removed from the system. Using this methodology, it has not been necessary to remove any contractors from Gulf's system due to non-performance.

It was noted in this finding that Gulf's Transmission Department had begun using documented contractor evaluations. Gulf feels a comparison between distribution and transmission is misleading. Gulf's Transmission Department makes extensive use of Southern Company system-wide contracts which cover five operating companies located in four states. The contracts also cover many contractors with large numbers of crews. In a situation like this, it is appropriate to utilize a documented system in order to communicate performance information from one state to another to avoid the possibility that a problem contractor could hide within the system by simply moving from one area to another.

With regard to distribution, the contracts are not Southern Company system-wide contracts. The distribution contracts are locally established and locally managed. The contract field inspectors have regular team meetings which allows for free and open exchanges of contractor performance issues. Once a problem crew or a problem contractor has been identified on Gulf's system, there is no place to hide. Due to its small size and low number of contractor resources that have been utilized in the past, Gulf has not found great value in documenting the process prior to this point in time.
In 2005, Gulf Power created a new department, Power Delivery Contract Services, solely dedicated to the management of Power Delivery contractors. This department was created in recognition of the fact that Gulf will have to increase its use of contractors in areas other than vegetation management in order to meet the demands being placed on it by rapid customer growth. This new department is less than one year old and to date has focused its attention on more immediate issues. It is anticipated that a documented process for contractor

performance will be implemented in the future as Gulf's use of contractors increases and the new Contract Services Department continues to develop contractor oversight programs. However, up to this point in time, the lack of documentation of crew inspections has not proved to be a weakness in Gulf's overall management of contractors.

5.0 GLOSSARY

5.0 Glossary

Ampacity – A conductor's current-carrying limit is its ampacity.

ARMS - Automated Resource Management System.

Arresters - or Surge Arrester - Device which protects lines and equipment against voltage surges caused by lightning, equipment switching, or abnormal system conditions. The surge arrester is connected from the line to ground to provide a conducting path. This limits the voltage on lines or equipment and dissipates excess energy harmlessly.

C - Total customers served

CAIDI - Customer Average Interruption Duration Index - Measure of the average duration of interruptions experienced by the customers interrupted.

CCA - Chromated Copper Arsenate - Used in the treatment of fungicidal deterioration of wooden poles.

Capacitor - An electrical device that maintains or increases voltage in power lines and improves the efficiency of the electrical system by reducing inductive losses that produce wasted energy.

CME – Customer Momentary Interruption Events – The total number of momentary interruption events experienced by customers annually.

CEMI5 - Customers Experiencing Multiple Interruptions Index - Measure of the total number of customers experiencing more than five sustained outages relative to the total number of customers served.

CI - Customer Interruptions - The number of interruptions of one minute or longer to customers.

CMI - Customer Minutes of Interruption.

CMI/C - Total customer minutes of interruption divided by the number of customers served - this measures the average duration of outages for the total number of customers served by the company annually.

CSC - Customer Service Center - Handles customer orders, billing inquiries, and trouble reporting to the Distribution Operations Center.

CSR - Customer Service Representative - Works within the Customer Service Center to resolve customer orders, inquiries, and trouble reports.

CSS - Customer Service System - Used by the Customer Service Center to handle customer orders, billing inquiries, trouble reporting, and customer data base inquiries and services.

DOC - Distribution Operations Center - Operates as the hub for reporting and coordinating distribution outage restoration activities throughout Gulf Power's operating territory.

Distribution Feeder - The main circuit or trunk line from which taps carry electricity to residential and commercial customers.

DTR - Distribution Trouble Report.

E & C - Engineering and Construction.

ED - Energy Delivery.

EMS - Energy Management System - Used to continuously monitor the transmission grid and report device states and outages.

FACS - Feeder Analysis Combined System - Used for completing load flow analysis in construction design.

Feeder - An electric circuit with limited capacity extending from the main distribution line feeder, usually supplying a small number of customers. (Often used interchangeably with "circuit".)

FPC - Florida Power Corporation.

FPL - Florida Power & Light Company.

FPSC - Florida Public Service Commission.

Gulf – Gulf Power Company.

GPC - Gulf Power Company.

Harmonic Distortion - A power quality problem caused by customer load and wiring characteristics, resulting in irregular currents or voltages - Harmonic distortion can affect computers, audio equipment, and other types of equipment.

Hot Spot trimming – trimming and pruning areas of high priority where immediate line clearing is necessary – This type of trimming and pruning is completed to alleviate outage conditions and prevent future tree-related outages from distribution lines.

IEEE - Institute of Electrical and Electronic Engineers.

Inquiries/Infractions - Inquiries are customer calls received by the FPSC Division of Consumer Affairs, which may be deemed to constitute an infraction of FPSC rules or tariffs or of a company policy.

Interruption - Interruption of electric service to a customer, usually of one minute or more in duration. Usually excludes Momentary Interruptions, defined below.

JETS – Job Estimating and Tracking System - Used to record Gulf distribution line and equipment inspection results.

kWh - Kilowatt hour - A common unit of electric energy consumption, and the basic unit of electric energy - It equals the total energy developed by the power of one kilowatt (kW) supplied to or taken from an electric current steadily for one hour. In other words, 1,000 watts consumed for one hour equals a single kilowatt hour.

Kva - Kilovolt-amperes - A unit of electrical force equal to 1,000 volt-amperes - The kilovolt-ampere is the practical unit of apparent power.

L-Bar - Average length of all service interruptions experienced - This measure is not weighted for the number of customers effected by an interruption.

Line Clearing – Activities to remove trees, vines and other vegetation – The activities are performed to clear and maintain electric lines from vegetation encroachment, which may have caused a service outage or created an unsafe line condition.

Line Transformer - A garbage can-sized cylindrical object generally attached to power poles - Transformers step down primary distribution voltage to secondary distribution voltage for delivery to individual customers.

MAIFI - Momentary Average Interruption Frequency Index – A measure of the total number of customer momentary interruption events relative to the total number of customers served.

Momentary Interruption - Interruption of service to a customer of less than one minute in duration - Momentaries include power losses of a fraction of a second up to less than one minute in duration. These interruptions are generally caused by transient conditions, such as tree limbs or animals coming into contact with components of the distribution system. Momentaries generally cause air conditioners to quickly shut off and cycle back on, and many digital clocks to have to be reset.

N - Number of Interruptions - As reported in the Distribution Service Reliability Report to the FPSC, this includes the total number of power interruptions recorded by the company annually, less any Commission approved outage exclusions.

NESC - National Electric Safety Code - The American National Standard that covers basic provisions for safeguarding people from hazards arising from the installation, operation, or

maintenance of 1) conductors and equipment in electric supply stations, and 2) overhead and underground electric supply and communications lines.

OCR - Oil-Circuit Reclosers - Used in distribution line protection to isolate feeders from secondary line faults.

O & M - Operations and Maintenance.

Outage - In a strict sense regarding electric distribution, the condition of a piece of equipment being out of service, which may not result in service interruption to customers, for example through the use of circuit breakers and switching. The term is also used as interchangeable with interruption of service.

Padmount Transformers - Transformers located on the ground on concrete pads and protected by steel cabinets. Used in conjunction with underground distribution systems.

SAIDI - System Average Interruption Duration Index - Measure of the average duration of interruptions for the total number of customers served by the system. Conceptually equivalent to CMI/C and SU.

SAIFI - System Average Interruption Frequency Index - Measure of the average frequency of interruptions for the customers served by the system.

SCADA – Supervisory Control and Data Acquisition system – Used to monitor the electric system grid and allow data to be extracted for analysis and reporting.

SOCKET – Southern Company Engineering Toolkit - Used to insure distribution grounding and design standards are incorporated into new distribution construction designs.

STOMP - Substation/Transmission Operations and Maintenance Program.

Substation - An assemblage of equipment designed for switching, changing, or regulating the voltage of electricity. This definition does not include service equipment, line transformers, line -transformer installations, or minor distribution or transmission equipment. High electrical voltages from 69,000 to 765,000 volts are required to move electricity through transmission lines across great distances. Electric motors and appliances are not designed to use electricity at these high voltages, so voltage reductions must take place at a substation near a community served or along the transmission line serving a very large customer.

TCMS - Trouble Call Management System - Used to identify distribution line fault conditions, track the status of distribution outages, document the numbers of customers impacted by an outage, and record the duration of outages.

Transformer - An electromagnetic device that increases the voltage of electricity as it leaves the power plant so it can travel long distances, or lowers the voltage of electricity for distribution use.

Trouble Ticket - Generic term referring to a trouble call received from a customer and the resulting work order to resolve the problem. Trouble tickets may or may not involve an interruption of service.

Under oil arresters - Lightning arrestors that are submerged inside a container of non-conductive liquid to reduce arcing that occurs when lightning arrestors are blown by a lightning discharge.

IVRU – Integrated Voice Recognition Unit or Voice Response Unit - A computer-assisted telephone answering system that guides the customer in obtaining or reporting information such as reporting service interruptions.

Voltage Dips or Sags - A brief period of under-voltage that can be caused by start-up of on-site customer equipment, faults on a power system, large load changes in a utility service area, or utility equipment malfunction. Dips lasting half a cycle or longer can cause computer memory loss.

Voltage Surge or Swells - A sudden dramatic increase in the voltage of electricity. Surges can be caused by lightning or abnormal system conditions and are potentially damaging to electronic devices. Spikes are similar but last for a shorter period of time.