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December 7, 2004

HAND DELIVERED

Ms. Blanca S. Bayo, Director Division of Commission Clerk and Administrative Services Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399-0850

> Request of Tampa Electric Company to exclude Outage Events on April 11 and Re: 12 and June 13, 24 and 26, 2004 from its Annual Distribution Service Reliability Report 041375

Dear Ms. Bayo:

Enclosed for filing in the above-styled matter are the original and fifteen (15) copies of each of the following:

- Tampa Electric Company's Request to Exclude Outage Events. 12952-04 1.
- Tampa Electric Company's Petition for Waiver of the 30-Day Filing Requirement in Rule 25-6.0455(3). 12953-042.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,

UBsen Ly

James D. Beasley

JDB/pp Enclosures

Howard T. Bryant (w/encls.) cc: Angela L. Llewellyn (w/encls.)

DOCUMENT NUMBER - DATE 12952 DEC-73 FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Request of Tampa Electric Company) to exclude Outage Events on April 11 and) 12 and June 13, 24 and 26, 2004 from its) Annual Distribution Service Reliability) Report.)

DOCKET NO. <u>041375-E1</u> FILED: December 7, 2004

TAMPA ELECTRIC COMPANY'S REQUEST TO EXCLUDE OUTAGE EVENTS

Tampa Electric Company ("Tampa Electric" or "the company"), pursuant to Rule 25-6.0455(3), Florida Administrative Code, hereby requests the Florida Public Service Commission ("the Commission") to approve the exclusion from the company's Annual Distribution Service Reliability Report for calendar year 2004 of outage events on April 11 and 12, 2004 and on June 13, 24 and 26, 2004, resulting from the severe weather systems described herein. In support of its request, Tampa Electric states as follows:

Introduction

1. Tampa Electric is a public utility subject to the regulatory jurisdiction of the Commission pursuant to Chapter 366, Florida Statutes. The company's principal place of business is located at 702 North Franklin Street, Tampa, Florida 33601.

2. All notices, pleadings and correspondence required to be served on Tampa Electric should be directed to:

Lee L. Willis James D. Beasley Ausley & McMullen Post Office Box 391 Tallahassee, FL 32302 (850) 224-9115 Angela L. Llewellyn Administrator, Regulatory Coordination Tampa Electric Company Post Office Box 111 Tampa, FL 33601-0111 (813) 228-1752

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FPSC-COMMISSION CLERK

Discussion

3. Commission Rule 25-6.0455(1), Florida Administrative Code, requires utilities to file an Annual Distribution Service Reliability Report for each calendar year by March 1 of the following year. The Report provides extensive distribution outage event data and related calculations of reliability indices, as specified in Commission Forms PSC/ECR 102-1 and 102-3. Section (2) of the Rule allows a utility to exclude from its Annual Distribution Service Reliability Report outage events caused by certain enumerated conditions. Finally, Subsection (3) provides that a utility may also request the exclusion of an outage event not specifically enumerated in Subsection (2) from its Report, and goes on to state: "The Commission will approve the request if the utility is able to demonstrate that the outage was not within the utility's control, and that the utility could not reasonably have prevented the outage." This request by Tampa Electric is submitted for Commission approval pursuant to the provisions of Subsection (3).

4. The outage events subject to this request resulted from highly unusual and prolonged severe weather disturbances experienced throughout Tampa Electric's entire service territory on the dates set forth above. The events caused extensive and widespread service interruptions to Tampa Electric's customers.

Events of April 11 and 12, 2004

5. As the company subsequently discovered, the conditions experienced on April 11 and 12 were the result of a weather phenomenon known as a Mesoscale Convective System or Complex. A Mesoscale Convective System, or MCS, is a system of thunderstorms that becomes organized on a scale larger than individual thunderstorms, and normally persists for several hours

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or more. When of sufficient size, shape and duration, the phenomenon is also known as a Mesoscale Convective Complex, or MCC.

6. The event of April 11 and 12 that impacted Tampa Electric was the same weather phenomenon described in detail in the requests for exclusions filed by Florida Power & Light Company ("FPL") in Docket No. 040449-EI and by Progress Energy Florida, Inc. ("Progress Energy:") in Docket No. 040792-EI.

7. Attached hereto as Exhibit A is Tampa Electric's report of the MCS events which the company experienced on April 11 and 12 including a description of the impact these events had on Tampa Electric's customers.

Weather Events of June 13, 24 and 26, 2004

7. Tampa Electric also experienced extremely intense and extraordinary thunderstorms with high lightning activity, which caused widespread service outages on the evenings of June 13, 24 and 26, 2004. Attached hereto as Exhibit B is Tampa Electric's report of these events, their abnormal nature and the impacts they had on Tampa Electric's customers.

As to All of the Extraordinary Outage Events

8. None of the outage events that occurred on April 11 and 12 and June 13, 24 and 26, 2004 was within Tampa Electric's control, nor could it have been reasonably prevented by the company. Tampa Electric utilized every available means following each of these events to restore electric service as safely and as promptly as possible, with service having been restored in an orderly, expeditious manner. The outage events described herein clearly appear to be the types of events that qualify for exclusion under Rule 25-6.0455(3), Florida Administrative Code.

WHEREFORE, Tampa Electric respectfully asks that, for the reasons set forth above, the Commission grant this request and approve the exclusion of the outage events on April 11 and 12

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and June 13, 24 and 26, 2004 and the resulting impacts to the reliability indices reported in the

company's Distribution Service Reliability Report for calendar year 2004.

DATED this <u>7</u> day of December 2004.

Respectfully submitted,

un ORcant

LIFE L. WILLIS JAMES D. BEASLEY Ausley & McMullen Post Office Box 391 Tallahassee, FL 32302 (850) 224-9115

ATTORNEYS FOR TAMPA ELECTRIC COMPANY

Tampa Electric Company

Exhibit A

Mesoscale Convective System Report April 11 and 12, 2004

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Tampa Electric is requesting exclusion of the distribution interruptions under Rule 25-6.0455(3), Florida Administrative Code, for April 11 and 12, 2004. Tampa Electric experienced a weather phenomena known as Mesoscale Convective System, which caused widespread outages on the evening of April 11, and early morning of April 12.

Reason:

In Progress Energy Florida's request for exclusion (Docket No. 040792-EI) and Florida Power & Light's request for exclusion (Docket No. 040449-EI), both companies provide great detail regarding the weather event termed a Mesocale Convective System. Tampa Electric experienced the effects from the same statewide system, which caused extensive outages and damage to its entire service area. The cause of the weather anomaly was a unique confluence of atmospheric conditions over the entire eastern portion of the country. This massive complex accompanied by thunderstorms and lightning, moved in from the Gulf of Mexico and proceeded across the entire state of Florida. Lightning data captured below for these dates illustrates the extensive lightning impact to all of Tampa Electric's service area.



The first storm on April 11 moved west to east across West Central Florida through the overnight hours. A second complex formed in the Gulf of Mexico during the first few hours of April 12 and moved west to east along the same path into Central Florida after sunrise. The Stroke Time Trend Plot that follows illustrates the timing of lightning events from 6:00 pm April 11 to 9:00 am on April 12.



Impact:

Very heavy rains and strong winds accompanied the extensive lightning event on April 11 and 12 affecting Tampa Electric's annual distribution reliability System Average Interruption Duration Index ("SAIDI") index. The following table shows a comparison between April 11& 12 for 2004 versus the five-year daily April average for 1999-2003.

	Daily April (5 Yrs Avg)	April 11&12, 2004
SAIDI (minutes)	0.09	3.05
Interruptions	23.4	174 .
Customers Interrupted	998	18,329

By way of comparison, the SAIDI index for the 24 hour period on April 11 and 12, 2004 is 33 times greater than the five year daily April SAIDI average index.

In response to the high level of customer service interruptions caused by the Mesocale Convective System on April 11 and 12, Tampa Electric mobilized active and off duty line distribution crews, equipment and support vehicles, management and supervisory personnel and support staff that were available to restore service. The data below provides an actual listing of the personnel involved in the response.

Management and Supervision	17
Staff Support	11
Line Resources	125
Total Personnel	153

Conclusion:

Tampa Electric's service area experienced severe weather on April 11 and 12, 2004 that significantly affected the company's reliability indices. These events were beyond the reasonable control of Tampa Electric. The company respectfully requests exclusion of these outage events from its annual distribution reliability reporting.

Tampa Electric Company

Exhibit B

Report on Severe Weather Events June 13, 24 and 26. 2004 Tampa Electric is requesting exclusion of the distribution interruptions under Rule 25-6.0455(3), Florida Administrative Code, for June 13, 2004, June 24, 2004 and June 26, 2004. Tampa Electric experienced extremely intense thunderstorms with high lightning activity, which caused widespread outages on the evenings of the aforementioned days. These events were beyond the control of Tampa Electric.

Reason (June 13, 2004):

The lightning data captured in Figure 1 below for June 13 illustrates the extensive impact to Tampa Electric's entire service area. An abnormally intense thunderstorm system began impacting the area at approximately 3:00 pm on June 13 and did not subside until approximately 9:00 pm that evening.





Impact (June 13, 2004):

Heavy rains and strong winds accompanied this extensive lightning event over the six-hour period affecting Tampa Electric's annual distribution reliability SAIDI index. This resulted in 3.93 minutes of SAIDI over the period compared to a five-year June daily average of 0.31 minutes, or 12.7 times greater than a normalized June day (see Figure 4 – Storm Indices Comparison to Five-Year Average). 15,205 customers were impacted by 169 interruptions, compared to a five-year June average of 3,220 customers and 53 interruptions. Lightning strokes were six times more intensive with 18,139 strokes compared to an average of 2,826. Please see Weather Analysis and Report from Impact Weather provided at the end of this exhibit for more specific June 13 weather impacts.

In response to the high level of customer service interruptions caused by the abnormally severe thunderstorm on June 13, Tampa Electric mobilized active and off duty line distribution crews, equipment and support vehicles, management and supervisory personnel and support staff that

were available to restore service. The data that follows provides an actual listing of the personnel involved in the response.

Management and Supervision	11	
Staff Support	. 11	
Line Resources	78	
Total Personnel	100	

Reason (June 24, 2004):

The lightning data in Figure 2 below for June 24 illustrates the extensive impact to Tampa Electric's entire service area. An abnormally intense thunderstorm system began impacting the area at approximately 4:00 pm on June 24 and did not subside until approximately 8:00 pm that evening.



Figure 2 - June 24 Lightning Stroke Plot

Impact (June 24, 2004):

Heavy rains and strong winds accompanied this extensive lightning event over the four-hour period affecting Tampa Electric's annual distribution reliability SAIDI index. This resulted in 3.78 minutes of SAIDI over the period compared to a five-year June daily average of 0.31 minutes, or 12.1 times greater than a normalized June day (see Figure 4 – Storm Indices Comparison to Five-ear Average). 12,964 customers were impacted by 127 interruptions, compared to a five-year June average of 3,220 customers and 53 interruptions. Lightning strokes were three times more intensive with 8,509 strokes compared to a June daily average of 2,826. Please see Weather Analysis and Report from Impact Weather provided at the end of this exhibit for more specific June 24 weather impacts.

In response to the high level of customer service interruptions caused by the abnormally severe thunderstorm on June 24, Tampa Electric mobilized active and off duty line distribution crews, equipment and support vehicles, management and supervisory personnel and support staff that were available to restore service. The data below provides an actual listing of the personnel involved in the response.

Management and Supervision	14
Staff Support	11
Line Resources	55
Total Personnel	80

Reason (June 26, 2004):

The lightning data captured in Figure 3 below for June 26 illustrates the extensive impact to Tampa Electric's entire service area. An abnormally intense thunderstorm system began impacting the area at approximately 1:00 pm on June 26 and did not subside until approximately 11:00 pm that evening.





Impact (June 26, 2004):

Heavy rains and strong winds accompanied this extensive lightning event over the ten-hour period affecting Tampa Electric's annual distribution reliability SAIDI index. This resulted in 3.17 minutes of SAIDI over the period compared to a five-year June daily average of 0.31 minutes, or 10.2 times greater than a normalized June day (see Figure 4 – Storm Indices Comparison to Five-ear Average). 16,043 customers were impacted by 134 interruptions, compared to a five-year June average of 3,220 customers and 53 interruptions. Lightning strokes were 5.5 times more intensive with 15,576 strokes compared to a June daily average of 2,826. Please see Weather Analysis and

Report from Impact Weather provided at the end of this exhibit for more specific June 26 weather impacts.

In response to the high level of customer service interruptions caused by the abnormally severe thunderstorm on June 24th, Tampa Electric mobilized active and off duty line distribution crews, equipment and support vehicles, management and supervisory personnel and support staff that were available to restore service. Figure 10 below provides an actual listing of the personnel involved in the response.

Management and Supervision	12
Staff Support	11
Line Resources	95
Total Personnel	118

Figure 4 – Storm Indices Comparison to Five-Year Average

	June 13, 2004	June 24, 2004	June 26, 2004	Daily June (5-Yr Avg.)
SAIDI Impact	3.93	3.78	3.17	0.31
(minutes)				
Interruptions	169	127	134	53
Customers Out	15,205	12,964	16,043	3,220
Lightning Strokes	18,139	8,509	15,576	2,826
Lightning Density	1.64	0.77	1.41	0.25
(strokes/km)				

Conclusion:

Tampa Electric's service area experienced severe weather on June 13, June 24 and June 26, 2004 that significantly affected the company's reliability indices. These events were beyond the reasonable control of Tampa Electric. The company respectfully requests exclusion of these outage events from its annual distribution reliability reporting.

Weather Report and Analysis Provided by Impact Weather





A Rough June in the Tampa Electric Service Area

Lightning

Tampa Electric (TECO) serves 2,000 square miles in an area of Florida which sees the highest concentration of cloud to ground lightning strikes in June. This is due to the convergence of the east and west coast sea breezes which form nearly daily along the Florida peninsula. Note in Figure 1 below the concentration of lightning in the eastern suburbs of Tampa, the heart of the Tampa Electric service area. The red area shows an average of 3 lightning strikes per square kilometer (or 7.8 per square mile) for the month of June.



Figure 1

In June, TECO sees an average of 15,600 cloud to ground lightning strikes in their service area. With a climatological average of 13.6 storm days per month, this equates to an average of 1,147 strokes per storm day. (Data acquired from the National Weather Service.)

During the days of June 13, 24 and 26, 2004, an unusually large number of lightning strikes occurred in the area of concern.



Lightning Conclusion:

For these three storms, the number of lightning strikes exceeded well over 33,500. This is over twice the normal number of strikes expected for the entire month of June and from only about one fifth of the normal number of storm days. With lightning rates as high as 15 times the normal, this data explicitly shows the abnormality of these storms and their potential for extensive damage to the power grid of an electric utility. It is interesting to note, the high temperature for each day was about 93 degrees, 4 degrees above normal. These were the highest temperatures for the month. It was also apparent there was no sea breeze on these days, in fact, the air was drier and from the land. Hotter and drier surface air may have helped cause the extreme lightning events covered in this study.

Wind and tornadoes

Severe thunderstorms are rather common in Florida, especially along the Tampa to Orlando Interstate 4 corridor. Radar data was utilized to analyze if any of the storms on the days of interest were severe or not. Reflectivity, Storm Relative Velocity data and Vertical Integrated Liquid (VIL) were used. The most telling were the reflectivity and velocity data. The results are as follows:

On June 13 it was found that storms developed in the afternoon, by 6:00 pm they were beginning to collapse. As the storms collapsed, they released outflow boundaries with gusts of wind. Radar velocity data only revealed wind speeds near 35 mph, which is a good indication of strong wind in and around the storm. There is a strong likelihood wind was even stronger than radar could detect. The greatest wind was detected near 6:17 pm in the vicinity of Palm Harbor and Tarpon Springs. See the radar displays below. This severe thunderstorm likely affected only a small area, it is more likely the intense lightning caused more problems than the outflow winds. No storm damage was reported to the National Weather Service as a result of these storms in the TECO service area. This is fairly common, even when there has been damage.



June 24. It is interesting to note, although this day had the fewest lightning strikes as indicated by the lightning charts on page one and two, radar indicated there were more severe storms and some storm damage reports were made to the National Weather Service. First, radar indicated possible rotation in a storm about 8/10ths of a mile west-southwest of Orient Park near 7:24pm. This could indicate a funnel cloud or brief touchdown of a tornado. This is in an area between communities near a railroad yard. Shortly afterward, near 7:45, the storm began to collapse causing an outflow of wind that moved north-northwest. Areas believed to be affected by this strong wind are bounded by I-275, I-75 and I-4. From this area the wind also moved northward toward Land O' Lakes.



2334	UNK	TEMPLE TERRACE	HILLSBOROUGH	FL	2804	8238	NUMEROUS TREES DOWN IN THE VICINITY OF THE UNIVERSITY OF SOUTH FLORIDA. REPORTED BY NBC TV CHANNEL 8. (TBW)
2357	UNK	LUTZ	HILLSBOROUGH	FL	2814	8246	NUMEROUS TREES DOWN. REPORTED BY NBC TV CHANNEL 8 (TBW)

June 26 was similar to June 13, but in another part of the service area and earlier in the day, close to 3:20pm. Mostly in a sparsely populated region about 11 miles southeast of Brandon a thunderstorm collapsed causing an outflow which traveled northeast ending 14 miles to the east of Brandon.



Overall conclusion

Rating of Uniqueness or Abnormality (1-10, 10 being greatest, 5 being normal, 0 unremarkable)						
	Lightning Wind/ Tornado Reported Dama					
Jun 13	10	5	N/A			
Jun 24	7	7	5			
Jun 26	9	5	N/A			

Weather Analysis and Report Provided by Jeff Reichelt Meteorologist, Severe Weather Action Team Supervisor ImpactWeather, Inc. Houston, TX 77061 713-947-5797