Matthew R. Bernier
SENIOR COUNSEL
Duke Energy Florida, Inc.

February 27, 2015

VIA OVERNIGHT MAIL

Mr. Tom Ballinger, Director
Division of Engineering
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Annual Service Reliability Report for 2014; Undocketed

Dear Mr. Ballinger:

Pursuant to Rule 25-6.0455, F.A.C., enclosed is an original and four (4) copies of Duke Energy Florida, Inc.'s ("DEF") 2014 Annual Service Reliability Report. Also enclosed is a CD of the report in electronic format. Please feel free to call me at (850) 521-1428 should you have any questions.

Thank you for your assistance with this matter.

Sincerely,

s/Matthew R. Bernier
Matthew R. Bernier
Senior Counsel
Matthew.Bernier@duke-energy.com

MRB/db
Enclosures

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2014 Year End Customers Served by Region

Zone / Regions	3 Char OP	Op Center	Cust Served	Date
NORTH CENTRAL	APK	APOPKA	96,879	12/31/2014
	DEL	DELAND	77,898	12/31/2014
	JAM	JAMESTOWN	129,427	12/31/2014
	LNG	LONGWOOD	83,983	12/31/2014
			388,187	
NORTH COASTAL	INV	INVERNESS	71,102	12/31/2014
	MON	MONTICELLO	47,364	12/31/2014
	OCA	OCALA	77,855	12/31/2014
			196,321	
SOUTH CENTRAL	BNV	BUENA VISTA	105,886	12/31/2014
	CLR	CLERMONT	30,853	12/31/2014
	HIL	HIGHLANDS	56,446	12/31/2014
	LKW	LAKE WALES	96,179	12/31/2014
	SEO	SE ORLANDO	84,836	12/31/2014
	WGN	WINTER GARDEN	75,163	12/31/2014
			449,363	
SOUTH COASTAL	CLW	CLEARWATER	152,847	12/31/2014
	SEV	SEVEN SPRINGS	171,371	12/31/2014
	STP	ST. PETERSBURG	165,256	12/31/2014
	WAL	WALSINGHAM	149,451	12/31/2014
	ZEP	ZEPHYRHILLS	25,048	12/31/2014
			663,973	
SYSTEM			**1,697,844**	

I. Overall Reliability Performance – 2014 (Rule 25-6.0455, F.A.C.)

a. Discuss overall performance absent adjustments

Please see attached Form 102. In 2014, Duke Energy Florida experienced (1) tropical storm event. Tropical Storm Arthur (July 1st and 2nd) affected all 4 DEF zones obliquely for a total of 0.4 SAIDI minutes. Weather excluded SAIDI in 2014 was 98.6% less than the 5 year average, and 84% lower than the lowest recorded Weather Excluded SAIDI number in the previous 5 year period. Please see table below for details.

Year	2009	2010	2011	2012	2013	2014
Weather Excluded SAI	6.5	2.5	65.3	52.4	18.8	0.4

**Please note that in 2014 DEF reported that the Weather Excluded SAIDI was reported as 18.8. This has been updated this year to reflect the actual number, 3.1. 18.8 was the total DEF excludable SAIDI minutes for 2013.*

In 2013, DEF's absent adjustments SAIDI was 107.9, which had been the lowest since DEF began recording reliability performance goals. DEF's SAIDI performance in 2014 was even better, at 102.8, a reduction of 20.6% from the 5 year average from 2009 to 2013. This performance improvement is a result of a focus on outage response and reliability projects including, Pole Replacements, Cable Replacements, Storm Hardening, and Feeder Standardization programs. Please see table below for details.

Year	2009	2010	2011	2012	2013	2014
Reported SAIDI	109.1	114.7	172.4	142.9	107.9	102.8

b.

b. Describe the level of detailed reliability data the Company tracks.

The Company tracks detailed reliability information in various databases. This detailed data is recorded per event, which includes affected device, time of day, length of outage, cause of outage, number of customers affected and other pertinent information.

c. Describe Company efforts to increase critical review of detailed reliability data.

In 2014, DEF continued to utilize the IEEE method for internal business goal reporting, due to integrated business practices. Duke Energy uses the IEEE Methodology (2.5 Beta) for calculating the reliability indices. This is also the way Duke Energy measures reliability for incentive goals. DEF will continue tracking PSC indices which are reported at year-end. The IEEE Method is the industry standard for Reliability measurement and comparison.

DEF continued the practice of auditing outage data to ensure accuracy and using Outage Management System Reconciliation (OMSR) as a platform which allows outage data to be captured in greater detail.

DEF continued to utilize the CEMI device report. The CEMI device report looks at devices that have gone out four times or more in the given year. This report is distributed to planning engineers, field personnel, and management for review. Funding is set aside for issues that are determined to need addressing immediately and long term capital projects are identified and submitted for approval for the following year. The CEMI premise database looks at CEMI outliers on a premise/meter level. This database will enable Duke Energy to identify the specific customers that are not solely affected by one consistently failing device and would therefore not be identified on the CEMI device report.

DEF continued the implementation of the Outage Follow-Up Process that began in 2013. The purpose of this initiative is to investigate significant outages and identify the primary root cause such that engineered solutions can be implemented to mitigate any reoccurrence. In 2014, this initiative helped highlight a training reinforcement area for our employees surrounding underground termination installations. The Outage Follow-Up Process is a long term initiative that we will continue to leverage to identify systematic improvements that will enhance a customer's overall reliability experience.

d. Describe the process used by your company to identify and select the level of detailed reliability data.

Customer feedback, benchmarking with other utilities, input from the FPSC, performance of assets, and trends are all considered when identifying the level of detailed reliability data.

e. Discuss adjustments

- i. Generation events – *see pages 11-12.*
- ii. Transmission events – *see page 13.*
- *iii.* Distribution events – *see page 16.*
- *iv.* Extreme weather – *see page 14-15.*

f. Discuss adjusted performance.

For the 2014 adjusted performance results, please see pages 17-25.

FLORIDA PUBLIC SERVICE COMMISSION
ANNUAL DISTRIBUTION SERVICE RELIABILITY REPORT – ACTUAL
Top Ten Outage Causes: Form PSC/ECR 102-1(a) (8/06) and Form PSC/ECR 102-1(b) (8/06)

PART I

CAUSES OF OUTAGE EVENTS – ACTUAL **(Absent Adjustments)**

Utility Name: Duke Energy Florida Year: **2014**

Cause (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
1. Animals	6,670,011	5,040	75.4	64.7
2. Vegetation	51,160,574	9,862	137.0	85.5
3. Lightning	5,734,811	1,666	166.3	69.4
4. Other Weather	14,587,978	5,932	107.5	76.9
5. Vehicle	11,173,743	423	240.3	88.9
6. Defective Equipment	29,212,412	7,255	150.2	76.8
7. Unknown	4,805,017	2,886	81.5	65.6
Subtotal	123,344,546	33,064	123.2	79.4
All Other Causes *See Attached	51,120,207	19,546	114.9	52.8
System Totals	174,464,753	52,610	120.1	69.2

PSC/ECR 102 (8/06)
Incorporated by reference in Rule 25-6.0455, F.A.C.

CAUSES OF OUTAGE EVENTS – ACTUAL **(Absent Adjustments)** Utility Name: Duke Energy Florida Year: **2014**				
Cause (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
U/G Primary Cable	15,825,604	1,927	256.6	84.1
Emergency Shutdown-PGN	7,806,368	1,073	101.7	28.2
Line Maintenance	6,964,476	5,304	135.8	127.7
Substation-Breaker-Preventable	2,694,358	43	48.4	38.0
Transmission-Conductor/Static	2,617,043	20	302.7	74.8
Transmission-Pole Failure-Non-Prevent	1,421,138	6	276.2	112.2
U/G Secondary/Service	1,194,338	3,481	180.9	207.9
Substation-Breaker-Non-prevent	1,121,034	15	74.3	50.1
Dig-In	953,659	282	212.6	91.0
Human Error-Public	920,389	272	112.8	67.0
Right-of-Way	832,412	24	65.0	33.4
Relay-Setting Error	790,708	20	56.5	26.3
Substation-Animal	655,868	7	87.5	49.9
Substation-Breaker Failure	624,372	10	37.9	35.8
Substation-Insulator Failure	603,245	6	81.0	81.5
Transmission-Insulator Failure	565,923	3	320.6	321.0
Overload	518,661	164	121.8	65.6
Substation-Switch Error-Other	463,833	7	64.4	64.4
Human Error-PGN Contractor	459,411	117	94.0	25.2
Substation-Transformer Failure	441,591	7	53.6	54.6

CAUSES OF OUTAGE EVENTS – **(Absent Adjustments)**

Utility Name: Duke Energy Florida Year:**2014**

All Other Causes Cause (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
Transmission-Human Err-Public	410,510	2	1,091.1	112.9
Relay-Human Error-PGN	390,416	25	19.7	11.9
Transmission-Unknown	383,953	20	16.7	16.1
Human Error-PGN	372,707	810	53.8	24.0
Substation-Current Transformer	331,796	2	91.0	90.8
Emergency Shutdown-Customer Request	246,133	51	76.1	144.4
Foreign Material In Line	232,938	83	73.6	48.9
Transmission-Tree-Non-Prevent	192,167	5	61.2	65.8
Relay-System Operation	166,280	2	67.1	38.4
Relay-Wiring Error	129,630	1	346.0	118.1
Miscellaneous	125,304	482	66.1	52.9
Relay-Relay Problem	115,392	1	64.0	64.0
Relay-Reclosing Relay Failure	104,746	2	37.1	20.2
O/H Secondary Cable	69,589	304	130.2	138.9
Substation-Switch Failure	68,675	4	7.2	16.6
Transmission-Cross arm Failure	49,521	2	50.7	51.0
Relay-Incorrect Setting Applied	39,882	1	146.7	67.8

CAUSES OF OUTAGE EVENTS – **(Absent Adjustments)**

Utility Name: Duke Energy Florida Year:**2014**

All Other Causes Cause (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
Improper Installation	30,304	37	123.8	83.7
Substation-Emergency Shutdown	28,173	11	3.3	3.0
Substation-Improper Installation	27,936	1	24.3	24.0
Customer Request	26,702	27	129.2	175.7
Transmission-Improper Install	23,829	1	12.8	13.0
Construction Equipment	23,434	18	99.7	88.8
Vandalism	19,851	126	58.8	67.8
Substation-Human Err-Contractor	14,028	2	7.0	7.0
Substation-Switch Error-Sub	11,541	2	3.0	3.0
Voltage Ok At Meter-No Customer Contact	6,409	728	7.5	7.6
Transformer Change out (TLM)	2,246	5	62.8	132.1
Inaccessible Meter	1,537	121	6.0	10.8
O/H Service Cable	147	1	147.1	147.0
Dispatcher Resolved	0	3,881	0.0	0.0
Other Causes	51,120,207	19,546	114.9	52.8

PART II

THREE PERCENT FEEDER LIST - ACTUAL **(UNADJUSTED)**

Utility Name: Duke Energy Florida __ Year: **2014**

Primary Circuit Id. No. or Name (a)	Sub-station Origin (b)	Location (c)	Number of Customers Residential (d)	Commercial (e)	Industrial (f)	Other (g)	Total (h)	Outage Events "N" (i)	Avg Duration "L-Bar" (j)	CAIDI (k)	Listed Last Year? (l)	No. of Years in the Last 5 (m)	Corrective Action Completion Date (n)
X71	VINOY	ST. PETERSBURG	3,218	220	-	42	3,480	10	97.5	26.8	Y	1	12/31/15
W0630	HOLOPAW	S E ORLANDO	590	56	-	12	658	9	150.2	127.8	N	1	12/31/15
A195	ARCHER	OCALA	1	-	2	-	3	8	75.6	75.8	Y	2	7/31/15
X149	MAXIMO	ST. PETERSBURG	2,511	167	-	63	2,741	8	85.6	49.1	Y	1	6/30/15
X113	GATEWAY	WALSINGHAM	2,024	169	-	9	2,202	8	138.2	54.0	N	-	12/31/15
K1687	DINNER LAKE	HIGHLANDS	593	62	-	12	667	7	85.0	40.1	N	-	12/31/15
W0105	CANOE CREEK	S E ORLANDO	456	121	-	14	591	7	140.2	63.1	N	4	12/31/15
M574	ALTAMONTE	LONGWOOD	1,078	187	-	28	1,293	6	108.4	71.1	N	2	12/31/15
A395	WILDWOOD	OCALA	1,445	302	5	14	1,766	6	101.7	80.5	N	-	12/31/15
K1688	DINNER LAKE	HIGHLANDS	709	146	4	42	901	6	135.8	83.8	N	-	12/31/15
W0904	BARBERVILLE	DELAND	934	108	-	12	1,054	6	104.6	27.8	Y	4	6/30/15
A34	REDDICK	OCALA	856	186	-	12	1,054	5	142.2	95.8	Y	2	12/31/15
K1685	DINNER LAKE	HIGHLANDS	1,844	153	3	56	2,056	5	87.2	19.7	N	-	12/31/15
K100	FROSTPROOF	LAKE WALES	839	166	-	55	1,060	5	121.3	55.1	Y	1	6/30/15
X16	BAYBORO	ST. PETERSBURG	2,482	139	5	37	2,663	5	88.3	24.2	N	-	12/31/15
X96	BAYWAY	ST. PETERSBURG	2,457	208	-	74	2,739	5	136.5	62.0	N	-	12/31/15
C342	ZEPHYRHILLS NORTH	ZEPHYRHILLS	1,259	122	1	7	1,389	5	92.1	56.1	N	-	12/31/15
N192	JASPER	MONTICELLO	522	130	1	49	702	4	149.8	96.7	N	-	12/31/15
A144	ALACHUA	MONTICELLO	450	96	3	20	569	4	153.9	95.2	Y	2	6/30/15
K858	SHINGLE CREEK	BUENA VISTA	1,747	47	-	5	1,799	4	289.7	91.1	N	-	12/31/15
K102	FROSTPROOF	LAKE WALES	1,661	213	-	17	1,891	4	140.2	89.1	N	-	12/31/15
A107	COLEMAN	OCALA	1,335	156	1	25	1,517	4	111.6	87.9	N	-	12/31/15
W4558	DELTONA	DELAND	1,368	101	-	10	1,479	4	121.8	86.6	N	-	12/31/15
K1772	CROOKED LAKE	LAKE WALES	1,629	213	3	8	1,853	4	149.5	83.3	N	-	12/31/15
N43	CARRABELLE	MONTICELLO	1,500	174	1	50	1,725	4	163.9	81.4	N	1	12/31/15
M1057	EUSTIS SOUTH	APOPKA	1,787	313	-	46	2,146	4	101.9	76.9	N	-	12/31/15
M345	CLARCONA	APOPKA	1,186	117	-	46	1,349	4	120.9	66.3	N	1	12/31/15
C443	NEW PORT RICHEY	SEVEN SPRINGS	2,170	146	-	30	2,346	4	93.3	65.2	N	1	12/31/15
K118	AVON PARK	HIGHLANDS	1,558	162	-	2	1,722	4	89.8	55.0	N	-	12/31/15
K116	AVON PARK	HIGHLANDS	931	118	-	33	1,082	4	108.7	54.5	N	-	12/31/15
A118	CROSS CITY	OCALA	654	151	2	50	857	4	99.0	47.1	N	1	12/31/15
J2907	TAYLOR AVENUE	WALSINGHAM	2,464	68	-	8	2,540	4	104.6	46.9	N	-	12/31/15
X125	GATEWAY	WALSINGHAM	4	123	3	12	142	4	100.7	43.7	N	-	12/31/15
W0364	SKY LAKE	S E ORLANDO	-	246	-	4	250	4	152.5	42.8	N	-	12/31/15
W0924	WINTER PARK EAST	JAMESTOWN	1,908	96	-	29	2,033	4	110.5	42.7	N	-	12/31/15
C4508	SEVEN SPRINGS	SEVEN SPRINGS	3,153	272	-	27	3,452	4	88.9	41.2	N	1	12/31/15
K1885	LAKE OF THE HILLS	LAKE WALES	928	88	1	4	1,021	4	138.4	40.8	N	-	12/31/15
J895	SEMINOLE	WALSINGHAM	2,426	470	1	39	2,936	4	98.6	40.8	N	-	12/31/15
X57	KENNETH CITY	ST. PETERSBURG	2,148	282	-	27	2,457	4	93.1	38.8	N	-	12/31/15
J892	SEMINOLE	WALSINGHAM	2,077	261	2	17	2,357	4	129.5	37.7	N	-	12/31/15

LBAR AND CAIDI Includes all devices.

PSC/ECR 102 (8/06)

Incorporated by reference in Rule 25-6.0455, F.A.C.

PART III

SYSTEM RELIABILITY INDICES – ACTUAL **(ABSENT ADJUSTMENTS)**					
Utility Name: Duke Energy Florida Year: 2014					
District or Service Area (a)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)
North Coastal	**182.7**	**90.7**	**2.01**	**10.0**	**6.04%**
Inverness	130.1	85.8	1.52	11.1	1.61%
Monticello	239.5	95.3	2.51	9.1	8.92%
Ocala	196.3	90.6	2.17	9.6	8.35%
South Coastal	**81.2**	**58.2**	**1.40**	**10.8**	**2.29%**
Clearwater	70.0	66.9	1.05	9.5	0.79%
Seven Springs	76.4	59.7	1.28	11.5	0.86%
St. Petersburg	99.9	52.7	1.90	10.9	4.34%
Walsingham	77.7	57.7	1.35	11.4	3.13%
Zephyrhills	80.2	61.5	1.30	10.6	2.60%
North Central	**103.4**	**66.6**	**1.55**	**10.9**	**2.01%**
Apopka	114.3	74.8	1.53	11.1	2.14%
Deland	129.7	64.5	2.01	11.4	4.33%
Jamestown	70.7	57.8	1.22	8.4	0.50%
Longwood	117.0	70.4	1.66	13.9	2.01%
South Central	**99.1**	**74.6**	**1.33**	**10.4**	**1.82%**
Buena Vista	75.5	76.8	0.98	8.1	1.00%
Clermont	56.1	65.4	0.86	8.1	0.10%
SE Orlando	112.2	78.0	1.44	8.0	2.80%
Highlands	127.8	65.5	1.95	14.6	5.01%
Lake Wales	119.1	81.7	1.46	14.1	1.44%
Winter Garden	87.7	70.5	1.24	9.3	0.66%
SYSTEM	**102.8**	**69.2**	**1.48**	**10.6**	**2.53%**

GENERATION EVENTS – ADJUSTMENTS (Rule 25-6.0455 F.A.C.)

a. **Discuss <u>each</u> generation event that resulted in customer outages.**

   There were no events to report for 2014.

b. **Address whether the event was localized or system-wide.**

   N/A

c. **Describe the Company's efforts to avoid or minimize any similar events in the future in terms of the level of costs incurred and outage duration.**

   N/A

d. **Provide the 2014 service reliability data for each generation outage event that is excluded from your Company's 2014 Annual Distribution Reliability Report pursuant to Rule 25-6.0455**

Generation Event	N/A
C	N/A
CMI	N/A
CI	N/A
SAIDI	N/A
SAIFI	N/A

Please see attached Form 103.

PART I

CAUSES OF OUTAGE EVENTS – ADJUSTED Utility Name: Duke Energy Florida Year:**2014**			
Cause (a)	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
Generation	N/A	N/A	N/A
System Totals:	N/A	N/A	N/A

PSC/ECR 103 (8/06)
Incorporated by reference in Rule 25-6.0455, F.A.C.

TRANSMISSION EVENTS – ADJUSTMENTS (Rule 25-6.0455 F.A.C.)

a. Discuss <u>each</u> transmission event that resulted in customer outages.

See Attachment A - "DEF Transmission Outages 2014 - Major Events Excluded".

b. Address whether the event was localized or system-wide.

See Attachment A - "DEF Transmission Outages 2014 - Major Events Excluded".

c. Describe the Company's efforts to avoid or minimize any similar events in the future in terms of the level of costs incurred and outage duration.

Outages that are less than 500,000 customer minutes are reviewed and investigated by local transmission maintenance staff. The results from these investigations are looked at from a system perspective by Duke Energy Florida's Transmission Department Asset Management Group to determine if the failure is isolated or similar failures are occurring on another part of the system. When similar failures are noted on the system, further investigation is performed to determine if a solution should be implemented system wide to remedy the problem. If a project is required, it is submitted for prioritization against other projects.

If the outage exceeds 500,000 customer minutes, a team is assembled to perform a root cause investigation. The root cause investigation will identify corrective actions needed to prevent repeat occurrences. If a project is required, it is submitted for prioritization against other projects.

d. Provide the 2014 service reliability data for each generation outage event that is excluded from your Company's 2014Annual Distribution Reliability Report pursuant to Rule 25-6.0455

There were no major events resulting in an exclusion in 2014. This information is reflected in attachment B-DEF Transmission Outages 2014-Major Events Only.

EXTREME WEATHER - EXCLUSIONS (Rule 25-6.0455 F.A.C.)

a. Include in the discussion, the type of weather event, strength (wind speeds/surge-flood levels), locations affected, source of meteorological information, and the performance of overhead and underground systems.

Distribution

See Attachment C - "Summary of Severe Weather Dates – 2014".
See Attachment C1-"Exclusion summary-2014.

Transmission

There were no major events resulting in an exclusion in 2014. This information is reflected in attachment B-DEF Transmission Outages 2014-Major Events Only.

b. Describe the Company's efforts to avoid or minimize in terms of costs incurred and outage duration any similar events in the future (Example: Reference specific storm hardening activity)

Distribution

Please see response to "Storm Hardened Facilities" on Page 39. These efforts are also addressed in our approved Storm Hardening Plan that was filed on May 1, 2013 (Attachment J).

Transmission

Please see response to "Storm Hardened Facilities" on Page 39. These efforts are also addressed in our approved Storm Hardening Plan that was filed on May 1, 2013 (Attachment J).

c. If the method of deriving the weather exclusion is different from the method used for 2010, please explain the changes and provide the CMI and CI for 2011 using the prior method.

For Distribution & Transmission - The exclusion method used is the same for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014.

d. Provide the 2014 service reliability data for <u>each</u> extreme weather outage event that is excluded from your Company's 2014 Annual Distribution Reliability Report pursuant to Rule 25-6.0455.

<u>Distribution</u>

Dates	Overhead vs. Underground	C	CMI	CI	Duration	L-Bar	N
July 1 to 2	Overhead	1,697,844	578,171	7,737	25,434	108.7	234
	Underground		84,549	735	9,855	121.7	81

<u>Transmission</u>

There were no major events resulting in an exclusion in 2014. This information is reflected in attachment B-DEF Transmission Outages 2014-Major Events Only.

OTHER DISTRIBUTION – ADJUSTMENTS (Rule 25-6.0455, F.A.C.)

a. Discuss the causation of each type of distribution event that resulted in customer complaints.

Since Duke Energy Florida has not taken other causations as exclusions for any events in 2014, DEF has no information to report in this section.

b. Describe the Company's efforts to avoid or minimize any similar events in the future in terms of the level of costs incurred and outage duration.

Since Duke Energy Florida has not taken other causations as exclusions for any events in 2014, DEF has no information to report in this section.

c. Provide the 2014 service reliability data for each distribution outage event that is excluded from your Company's 2014 Annual Distribution Reliability Report pursuant to Rule 25-6.0455

i. A table
ii. Electronic file
iii. Causation, Date, CMI, CI Total Repair Cost, etc.

Since Duke Energy Florida has not taken other causations as exclusions for any events in 2014, DEF has no information to report in this section.

2014 ADJUSTED RELIABILITY (Rule 25-6.0455, F.A.C.)

Duke Energy Florida's (DEF) 2014 annual adjusted SAIDI was 85.1, a decrease from 2013. The primary driver in 2014 was the frequency and severity of daily afternoon thunderstorm activity, causing higher outage volume to occur in the DEF service territory.

There were three (3) days in 2014 that totaled more than 1 SAIDI minute. March 29th had a daily SAIDI of 1.80, and this day had a line of severe thunderstorms cross the state and impacted all of the DEF service territory. The hardest hit area was in the South Central zone, where the National Weather Service estimated 65-70mph winds at ground level. The second day was July 3rd, with a daily SAIDI of 1.10 minutes, and it primarily involved the remnants of a tropical system. On July 1st/2nd Tropical Storm Arthur grazed the east coast of DEF service territory, but on July 3rd the 'tails' of the storm impacted the North Coastal zone. The third day of greater than 1 SAIDI minute was June 10th, at 1.08 SAIDI minutes, with a line of severe storms that impacted primarily the North Coastal and North Central zones with as much as 1.5-2" of localized rainfall.

In summary, 2014 was a year with very few weather exclusions but still an extremely active storm season as evidenced by DEF's recorded lightning strikes data. In 2013 there were a total of 139,308 lightning strikes, versus 240,403 strikes in 2014; an increase in lightning strikes of almost 73% year-over-year. In spite of the increase in lightning strikes, DEF adjusted SAIDI in 2014 was 85.1, a decrease of 4.0 SAIDI minutes from 2013. DEF's 5 year adjusted SAIDI average from 2009 to 2013 was 85.1 and the 5 year trend for SAIDI during this time period was downward. The 5 year trend from 2010 to 2014 continues this downward trend.

Year	2009	2010	2011	2012	2013	2014
Adjusted SAIDI	82.8	93.3	86.9	73.4	89.1	85.1

a. Causes of outages events – see attached forms.

i. 5-yr patterns/trends in outage causation for each of the top 10 causes of outage events, including the frequency, duration, restoration time, cost incurred to restore service, remediation programs and costs.

- *See Attachment D - "5 yr. Trend by Cause Code" Spreadsheet for 2010 - 2014.*

ii. The process used to identify and select the actions to improve the performance in each of the top 10 causes of outages.

DEF prioritizes the reliability improvement action plan by balancing historical and current year performance. System devices are evaluated based on the number of interruptions, customers interrupted (CI), and customer minutes of interruption (CMI). In addition, current year performance is *monitored monthly to identify emergent and seasonal issues including load balancing for cold weather and the need for foot patrols of devices experiencing multiple interruptions.*

iii. 2014 activities and budget levels addressing each of the 10 causes of service outage.

- *See Attachment E - "2014 Program Budget" Spreadsheet.*

b. Three percent Feeder list

i. Identify whether any feeders appear on the 3% listing more than once within a consecutive 5-yr. period and any actions implemented to improve feeder performance.

Feeder A195:

- *DEF Infrared scanned in June 2014, no issues found after completing Infrared scanning. DEF will continue to Infrared scan main feeder A195 in June/July 2015.*
- *A195 is an express industrial feeder to a foundry furnace that only runs intermittently. Outage impacts to industrial customers are minimal.*
- *Trimmed 1.8 miles of feeder in 2014, completed in March.*
- *This is 1/0A feeder through easements with limited ability to control private property tree canopy effects which cause the vast majority of outages. DEF has plans to completely rebuild approximately 3 miles of feeder as a double circuit line with A196 to reduce the amount of tree issues on the feeder.*
- *Upgrading the substation bank that feeds A195 to take customers in the City of Archer that are currently on A196 and move them to this feeder after it has been relocated.*

Feeder M574:

- *DEF Infrared scanned in June 2014. No issues found after completing Infrared scanning. DEF will continue to Infrared scan main feeder M574 in June 2015.*
- *Trimmed 2.3 miles of feeder in 2014, completed in March. 5.70 miles of lateral trimming planned in 2015.*

Feeder W0904:

- *DEF Infrared scanned in June 2014. One issue found after completing Infrared scanning, remediation expected completion in June 2015. DEF will continue to Infrared scan main feeder W0904 in June/July 2015.*
- *Trimmed 9.5 miles of feeder in 2014, completed in April.*
- *This is a very long feeder with large exposure to tree canopy. Two of the four outages in 2014 were caused by trees, and the completion of the feeder trimming cycle should limit these in the future.*

Feeder W0105:

- *DEF Infrared scanned in June 2014. No issues found after completing Infrared scanning. DEF will continue to Infrared scan main feeder W0105 in June/July 2015.*
- *Trimmed 12.8 miles of feeder in 2014, completed in November.*
- *3 breaker operations were the largest piece of the CMI associated with this feeder (70%). Two were due to lightning and the third was due to defective equipment in the breaker. This is a very long feeder in an area with many summer thunderstorms, and 2014 was an extremely active year for afternoon storms. The lightning strike total for 2014 was nearly 73% higher than 2013.*
- *There is a multi-year project planned to start in 2015 to reconductor approximately 10 miles of W0105. 3 miles are planned for 2015, with the other sections to follow in subsequent years.*

***Feeder M445**:*

- *DEF will Infrared scan main feeder M445 in June/July 2015.*
- *Entire circuit was trimmed (feeder and laterals) in the fourth quarter of 2013.*
- *One of the 2014 outages on this feeder was the result of a car-hit-pole event that occurred while M445 was tied to M0821 and carried those extra customers. The fault occurred on the M0821 side of the temporarily extended feeder. This outage was enough to push M445 into the 3% feeder list.*

ii. The process used to identify and select the actions to improve the performance of feeders in the 3% feeder list, if any.

DEF prioritizes the reliability improvement action plan for the 3% Feeder List by balancing historical and current year performance. Feeders are evaluated based on the number of interruptions, customers interrupted (CI), and customer minutes of interruption (CMI). In addition, current year performance is monitored monthly to identify emergent and seasonal issues including load balancing for cold weather and the need for foot patrols of feeders experiencing multiple interruptions.

iii. 2015 activities and budget levels directed at improving feeder performance.

Feeders are prioritized for maintenance and replacement work based on several criteria including customer minutes of interruption (CMI), number of interruptions, interruption cause code, and CEMI repeat outage performance. This process results in a work plan targeted at feeders and devices having the greatest impact on reliability and customer satisfaction. This process has resulted in consistent and sustained reliability performance.

The 3% feeder list is based primarily on the number of interruptions and the additional criteria above have minimal impact. While all feeders on the 3% list are patrolled for corrective action, the possibility exists that they could *appear on the list more than once due to their relative impact on system reliability.*

For the 2015 budget levels, please see Attachment E - "2015 Program Budget" Spreadsheet.

c. **Regional Reliability Indices –** *see attached forms.*

i. 5-Yr. patterns/trends in each regions reliability for each index and on any overall basis.

- *See Attachment F - "5 yr. Sum by Region" Spreadsheet.*

ii. The process used to identify and select actions to improve the regional reliability trends.

- *Regional reliability trends are tracked to ensure alignment with the system level goals they support. Specific device level improvements are measured and prioritized at a system level to ensure maximum benefit for resources expended.*

iii. Discuss any 2015 projected activities and budget levels directed at improving regional reliability performance.

- *See Attachment E - "2015 Program Budget" Spreadsheet. Regional reliability trends are tracked to ensure alignment with the system level goals they support. Specific device level improvements are measured and prioritized at a system level to ensure maximum benefit for resources expended.*
- *DEF is implementing a multi-year program to install over 100 electronic reclosers in 2015, with more planned in 2016-2017. This "Self-Healing Team" project is designed to reduce the overall number and duration of outages by automatic fault isolation achieved via SCADA communications between the field devices and DEF's Distribution Control Center (DCC).*
- *DEF added additional staff in January 2015 that will focus overall reliability and customer sensitive metrics of reliability such as CEMI and MAIFI. They will leverage recent investments in technology to gather information on momentaries and customer issues to engineer solutions in a more efficient manner. This new staff will collaborate with our first responders and other employees to provide a higher level of technical expertise to investigate and resolve customer concerns. As part of this model, the additional staff will conduct proactive analysis and review of reliability information meeting certain criteria aimed at reducing CEMI and MAIFI.*
- *DEF will continue to utilize the Outage Follow-Up Process that began in 2013. The purpose of this initiative is to investigate significant outages and identify the primary root cause such that engineered solutions can be implemented to mitigate any reoccurrence. In 2014, this initiative helped*

highlight a training reinforcement area for our employees surrounding underground termination installations. The Outage Follow-Up Process is a long term initiative that we will continue to leverage to identify systematic improvements that will enhance a customer's overall reliability experience.

FLORIDA PUBLIC SERVICE COMMISSION
ANNUAL DISTRIBUTION SERVICE RELIABILITY REPORT – ADJUSTED
Top Ten Outage Causes: Form PSC/ECR 102-1(a) (8/06) and Form PSC/ECR 102-1(b) (8/06)

PART I

CAUSES OF OUTAGE EVENTS – **ADJUSTED**

Utility Name: Duke Energy Florida Year:**2014**

Cause** (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
1.) Animals	6,655,942	5,020	75.4	64.7
2.) Vegetation	51,007,824	9,816	137.0	85.4
3.) Lightning	5,712,508	1,647	166.3	69.3
4.) Other Weather	14,517,059	5,875	107.5	76.8
5.) Vehicle	11,143,053	420	240.9	88.8
6.) Defective Equipment	29,160,503	7,221	150.3	76.7
7.) Unknown	4,800,270	2,867	81.5	65.6
Subtotal	122,997,159	32,866	167.7	79.3
All Other Causes*See attached	21,491,979	8,073	170.3	73.6
System Totals:	144,489,138	40,939	132.47	78.4

PSC/ECR 103 (8/06)
Incorporated by reference in Rule 25-6.0455, F.A.C.

CAUSES OF OUTAGE EVENTS – **ADJUSTED**

Utility Name: Duke Energy Florida Year:**2014**

All Other Causes Cause (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
U/G Primary Cable	15,784,828	1,915	256.9	84.0
U/G Secondary/Service	1,191,437	3,466	180.9	207.9
Dig-In	953,418	281	212.5	91.0
Human Error-Public	883,456	269	112.3	68.0
Right-Of-Way	832,412	24	65.0	33.4
Overload	517,249	161	122.9	65.6
Human Error-PGN Contractor	459,411	117	94.0	25.2
Human Error – PGN	372,399	804	53.9	24.0
Foreign Material In Line	232,808	82	73.7	48.9
Miscellaneous	122,598	472	66.3	52.5
O/H Secondary Cable	69,099	301	129.9	141.9
Improper Installation	29,432	36	124.2	83.1
Construction Equipment	23,434	18	99.7	88.8
Vandalism	19,851	126	58.8	67.8
O/H Service Cable	147	1	147.1	147.0

PART II

THREE PERCENT FEEDER LIST – **ADJUSTED**

Utility Name: DUKE ENERGY FLORIDA, INC. Year: **2014**

PRIMARY CIRCUIT ID. NO. OR NAME (a)	SUBSTATION ORIGIN (b)	LOCATION (c)	NUMBER OF CUSTOMERS RESIDENTIAL (d)	COMMERCIAL (e)	INDUSTRIAL (f)	OTHER (g)	TOTAL (h)	OUTAGE EVENTS "N" (i)	AVERAGE DURATION "L-Bar" (j)	CAIDI (k)	LISTED LAST YEAR ? (l)	NO. OF YEARS IN THE LAST 5 (m)	CORRECTIVE ACTION COMPLETION DATE (n)
X113	GATEWAY	WALSINGHAM	2,024	169	-	9	2,202	7	174.7	60.1	N	-	12/31/15
W0630	HOLOPAW	SE ORLANDO	590	56	-	12	658	7	172.5	143.8	N	1	12/31/15
X149	MAXIMO	ST. PETERSBURG	2,511	167	-	63	2,741	7	105.0	70.3	Y	1	6/30/15
X71	VINOY	ST. PETERSBURG	3,218	220	-	42	3,480	6	114.6	35.0	N	-	12/31/15
A195	ARCHER	OCALA	1	-	2	-	3	6	83.3	83.5	Y	2	7/31/14
M574	ALTAMONTE	LONGWOOD	1,078	187	-	28	1,293	6	119.0	69.6	N	2	12/31/15
X96	BAYWAY	ST. PETERSBURG	2,457	208	-	74	2,739	5	146.0	61.6	N	-	12/31/15
K1687	DINNER LAKE	HIGHLANDS	593	62	-	12	667	5	94.4	55.6	N	1	12/31/15
A34	REDDICK	OCALA	856	186	-	12	1,054	5	156.2	109.5	N	1	12/31/15
K100	FROSTPROOF	LAKE WALES	839	166	-	55	1,060	5	132.5	54.7	Y	1	6/30/15
K1688	DINNER LAKE	HIGHLANDS	709	146	4	42	901	5	146.7	95.4	N	-	12/31/15
K119	AVON PARK	HIGHLANDS	1,462	215	2	43	1,722	4	83.2	28.2	N	-	12/31/15
K1685	DINNER LAKE	HIGHLANDS	1,844	153	3	56	2,056	4	89.7	21.2	N	-	12/31/15
W4558	DELTONA	DELAND	1,368	101	-	10	1,479	4	139.2	87.4	N	-	12/31/15
C342	ZEPHYRHILLS NORTH	ZEPHYRHILLS	1,259	122	1	7	1,389	4	102.8	64.4	N	-	12/31/15
W0904	BARBERVILLE	DELAND	934	108	-	12	1,054	4	128.0	69.9	Y	2	6/30/15
C443	NEW PORT RICHEY	SEVEN SPRINGS	2,170	146	-	30	2,346	4	113.3	65.0	N	1	12/31/15
K858	SHINGLE CREEK	BUENA VISTA	1,747	47	-	5	1,799	4	342.9	94.6	N	-	12/31/15
J895	SEMINOLE	WALSINGHAM	2,426	470	1	39	2,936	4	103.5	40.3	N	1	12/31/15
W0105	CANOE CREEK	SE ORLANDO	456	121	-	14	591	4	164.6	82.6	N	2	12/31/15
N192	JASPER	MONTICELLO	522	130	1	49	702	4	129.0	92.3	N	-	12/31/15
A107	COLEMAN	OCALA	1,335	156	1	25	1,517	4	125.6	91.1	N	-	12/31/15
A144	ALACHUA	MONTICELLO	450	96	3	20	569	3	168.9	120.3	N	1	6/30/15
K244	LAKE BRYAN	BUENA VISTA	2,124	125	-	13	2,262	3	150.2	114.0	Y	1	12/31/14
A395	WILDWOOD	OCALA	1,445	302	5	14	1,766	3	139.2	112.7	N	-	12/31/15
K1772	CROOKED LAKE	LAKE WALES	1,629	213	3	8	1,853	3	161.5	108.2	N	1	12/31/15
M445	BAY RIDGE	APOPKA	566	146	1	6	719	3	112.9	90.8	N	2	12/31/15
K102	FROSTPROOF	LAKE WALES	1,661	213	-	17	1,891	3	148.2	88.9	N	-	12/31/15
W0132	DELTONA EAST	DELAND	2,015	19	-	19	2,053	3	110.0	85.1	N	-	12/31/15
N43	CARRABELLE	MONTICELLO	1,500	174	1	50	1,725	3	225.7	79.8	N	-	12/31/15
K966	INTERCESSION CITY	LAKE WALES	1,782	102	-	55	1,939	3	138.8	79.0	Y	1	12/31/14
W4565	DELTONA	DELAND	1,175	74	-	7	1,256	3	116.3	78.8	N	-	12/31/15
K1066	LAKE PLACID	HIGHLANDS	965	329	4	69	1,367	3	107.2	78.7	N	-	12/31/15
A230	SANTOS	OCALA	975	126	-	-	1,101	3	140.8	77.6	N	1	12/31/15
M1057	EUSTIS SOUTH	APOPKA	1,787	313	-	46	2,146	3	102.1	76.9	N	-	12/31/15
C140	LAND O LAKES	SEVEN SPRINGS	1,941	100	-	24	2,065	3	116.9	71.5	N	-	12/31/15
M348	CLARCONA	WINTER GARDEN	1,349	8	-	4	1,361	3	143.3	69.2	N	-	12/31/15
K118	AVON PARK	HIGHLANDS	1,558	162	-	2	1,722	3	95.5	67.7	N	-	12/31/15
M345	CLARCONA	APOPKA	1,186	117	-	46	1,349	3	128.0	64.8	N	-	12/31/15
X132	CROSSROADS	ST. PETERSBURG	682	159	4	14	859	3	133.4	62.7	N	1	12/31/15

LBAR AND CAIDI Includes all devices.

PART III

SYSTEM RELIABILITY INDICES – **ADJUSTED**

Utility Name: Duke Energy Florida Year: 2014

District or Service Area (a)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)
North Coastal	**159.3**	**101.4**	**1.57**	**10.0**	**3.47%**
Inverness	116.3	98.5	1.18	11.0	0.69%
Monticello	191.6	102.8	1.86	9.0	4.35%
Ocala	179.0	102.2	1.75	9.6	5.48%
South Coastal	**65.5**	**68.4**	**0.96**	**10.8**	**1.36%**
Clearwater	55.4	74.6	0.74	9.5	0.41%
Seven Springs	59.8	69.7	0.86	11.4	0.51%
St. Petersburg	79.2	66.3	1.19	10.9	1.70%
Walsingham	65.5	65.1	1.01	11.3	2.78%
Zephyrhills	75.6	69.0	1.10	10.4	2.24%
North Central	**83.8**	**75.5**	**1.11**	**10.8**	**1.07%**
Apopka	87.4	79.7	1.10	11.1	1.37%
Deland	105.7	74.5	1.42	11.3	1.61%
Jamestown	59.7	71.4	0.84	8.4	0.27%
Longwood	96.2	76.4	1.26	13.8	1.44%
South Central	**82.8**	**79.6**	**1.04**	**10.3**	**1.04%**
Buena Vista	60.8	85.1	0.71	8.1	0.72%
Clermont	47.1	81.9	0.57	8.1	0.05%
SE Orlando	98.8	81.9	1.21	8.0	2.01%
Highlands	106.3	71.3	1.49	14.5	1.35%
Lake Wales	95.3	84.2	1.13	14.1	1.14%
Winter Garden	76.7	73.4	1.04	9.3	0.42%
SYSTEM	**85.1**	**78.4**	**1.09**	**10.6**	**1.45%**

FEEDER SPECIFIC DATA – Expanded to include OH/UG details

Provide the following information for each feeder circuit in service during 2014. If any data is not available explain whether the Company has any plans to begin tracking such data and if not, why.

For (A) thru (Y) - See Attachment G - CD containing Excel File – "2014 Feeder Specific Data".

- *In 2008, DEF transitioned from FRAMME to G-Electric. This change supported the move from a location-based GIS system to an asset-based GIS system. All 2014 data was obtained from G-Electric.*

For (Z) – See Attachment G - "2014 Summer Feeder Peaks".

(A)	Feeder ID	*See Attachment G*
(B)	Sub-Region in which the feeder is located	*See Attachment G*
(C)	Number of overhead lateral lines	*See Attachment G*
(D)	Number of overhead lateral miles	*See Attachment G*
(E)	Number of Customers served on OH lateral lines	*See Attachment G*
(F)	CMI for overhead lateral lines	*See Attachment G*
(G)	CI for overhead lateral lines	*See Attachment G*
(H)	Number of underground lateral lines	*See Attachment G*
(I)	Number of underground lateral miles	*See Attachment G*
(J)	Number of customers served on UG lateral lines	*See Attachment G*
(K)	CMI for underground lateral lines	*See Attachment G*
(L)	CI for underground lateral lines	*See Attachment G*
(M)	Number of automatic line sectionalizing devices on the lateral lines	*See Attachment G*
(N)	Number of automatic line sectionalizing devices on the feeder	*See Attachment G*
(O)	Whether the feeder circuit is looped	*See Attachment G*
(P)	Total length of the feeder circuit	*See Attachment G*
(Q)	Length of underground portion of the feeder circuit	*See Attachment G*
(R)	Number of customers served by underground feeders	*See Attachment G*
(S)	CMI for underground feeders	*See Attachment G*
(T)	CI for underground feeders	*See Attachment G*
(U)	Length of overhead portion of the feeder circuit	*See Attachment G*
(V)	Number of customers served by overhead feeders	*See Attachment G*
(W)	CMI for overhead feeders	*See Attachment G*
(X)	CI for overhead feeders	*See Attachment G*
(Y)	Load growth since December 31, 2009	*See Attachment G*
(Z)	Peak load recorded through December 31, 2009	*See Attachment G*

DISTRIBUTION SUBSTATION (Rule 25-6.0455, F.A.C.)

a. Describe the five year patterns/trends in reliability performance of distribution substations.

The five year patterns/trends in reliability performance of distribution substations is best described by the performance indices. These indices are used for calculating system reliability:

- *SAIDI – System Average Interruption Duration Index (minutes/customer).*
  Reflects the average number of minutes a customer was without power system wide. It is determined by dividing the sum of customer-minutes of interruption by the average number of customers served during a period.

- *CAIDI - Customer Average Interruption Duration Index (minutes/customer). CAIDI is the average customer-minutes of interruption per customer interruption. It approximates the average length of time required to complete service restoration. It is determined by dividing the sum of all customer-minutes of interruption durations by the number of customer interruptions during a period. CAIDI measures how long it takes DEF to restore service after an interruption.*

- *SAIFI - System Average Interruption Frequency Index. SAIFI is the average number of interruptions per customer per a certain period. It is determined by dividing the total number of customer interruptions by the average number of customers served during a period.*

- *FOHMY – Forced Outages per Hundred Miles per Year, measures the number of transmission line events, momentary AND sustained, that are incurred per hundred circuit miles per year. This measure is often grouped by voltage class.*

The following charts will show the trending for these Reliability Indices:

Table 1: 2014 Duke Energy-Florida SAIDI Reliability Indices

Section	Grid SAIDI	Grid Customers Affected	Grid CMI	SECI SAIDI	Retail SAIDI
North	5.22	244,499	11,425,439	8.76	3.49
South	4.07	284,909	8,893,375	1.66	4.23
Florida	9.29	529,408	20,318,814	10.42	7.72

In 2014, Grid SAIDI and Retail SAIDI increased from 2013. SECI (Seminole Electric Cooperatives, Inc.) SAIDI increased in 2014 from 2013. SECI represents its electric cooperative members in Florida.

In 2014, the affected customers increased 40.7%, and the customer minutes interrupted increased to 20.32 million CMI, from the 14.57 million CMI in 2013. This is an increase of approximately 39.4%. The average interruption duration per customer increased by 42.4%. This particular number went from 6.5260 in 2013 to 9.29 in 2014.

Roughly 50% of the total customer interruptions in 2014 occurred during the months of May to September, inclusive, as shown in Figure 4. Line Equipment, Vegetation, and Substation Equipment were the main contributors to higher CMI during this period. A single incident in March, caused by a broken pole but initiated by a tornado was high contributor to CMI outside of the typical storm season. In addition, a breaker failure in April resulted in almost 1 Million CMI.

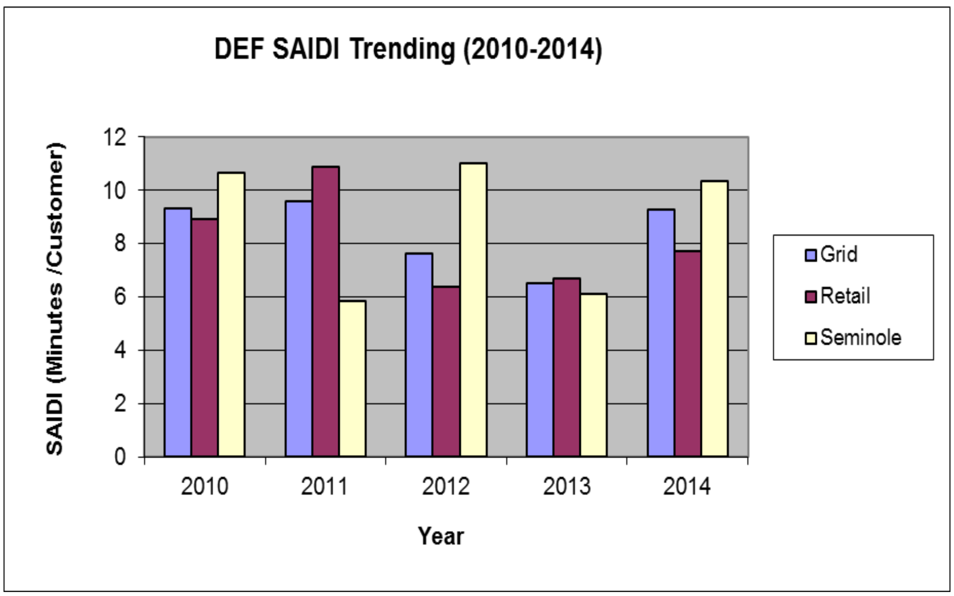


Fig.1 DEF SAIDI Trending (2010-2014)

Grid KPIs	2010	2011	2012	2013	2014
Customers (Thousands)	499.04	337.592	336.43	376.36	529.41
CMI (Millions)	20.222	20.803	16.65	14.57	20.32
SAIDI	9.336	9.573	7.614	6.526	7.720
CAIDI	44.29	68.116	46.992	39.266	39.400
SAIFI	0.2	0.16	0.136	0.17	0.14
FSO	66	46	32	N/A*	N/A*
FOHMY	N/A*	N/A*	N/A*	8.21	13.50

Table 2: DEF Statistics (2010-2014)

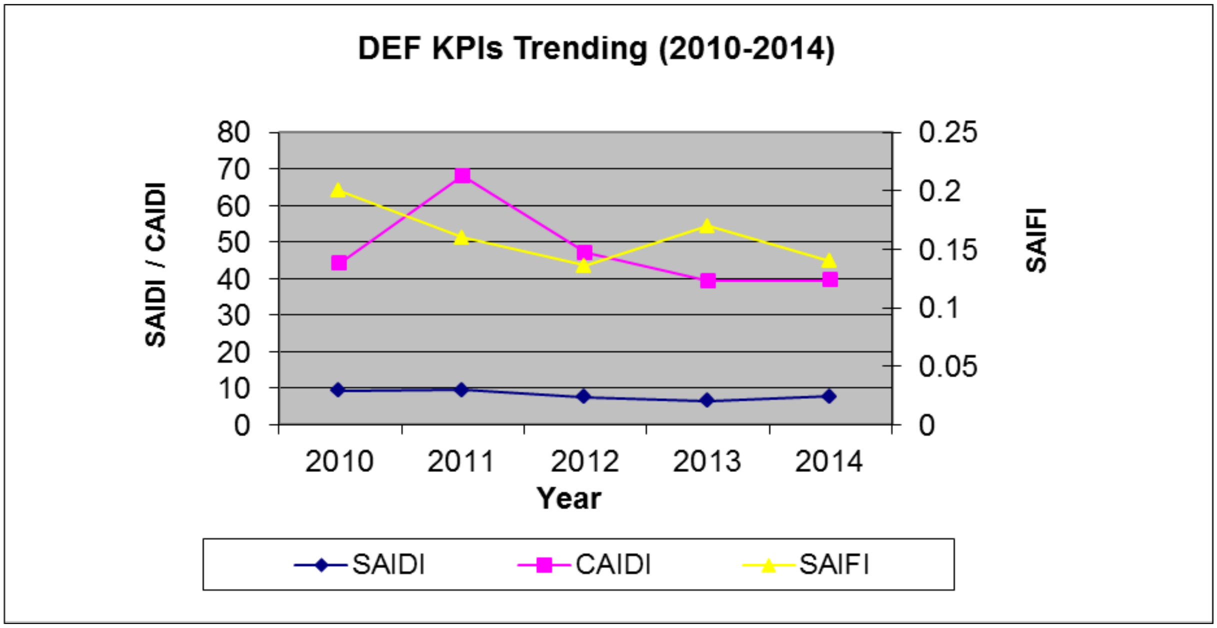


Fig.2 DEF Key Performance Indicators Trending (2010-2014)

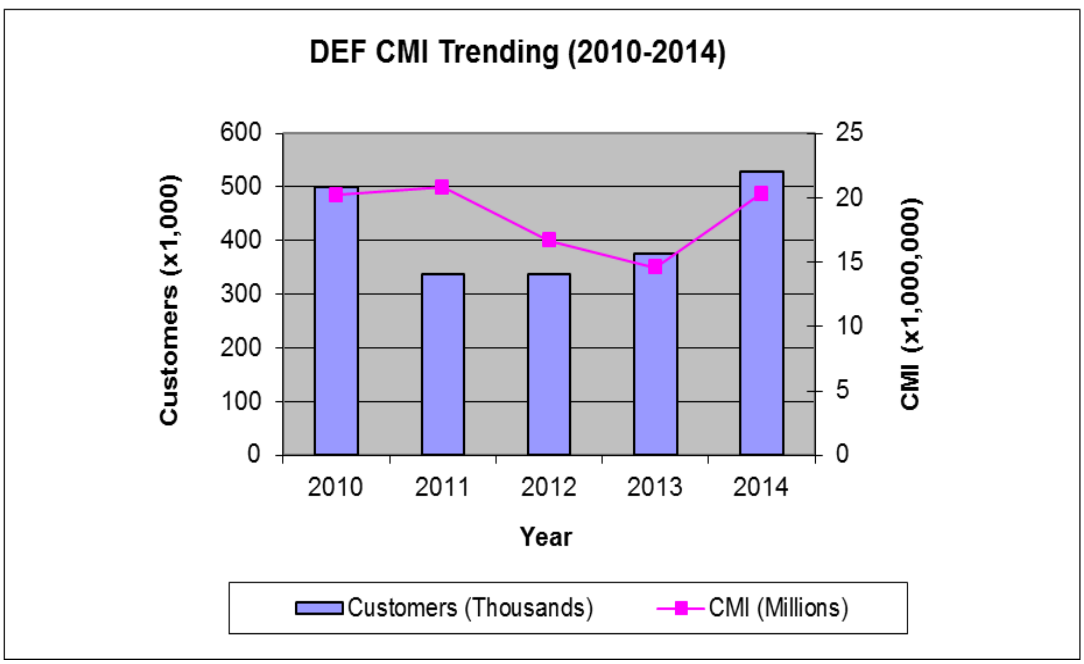


Fig.3 DEF Customers Minute Interruption Trending (2010-2014)

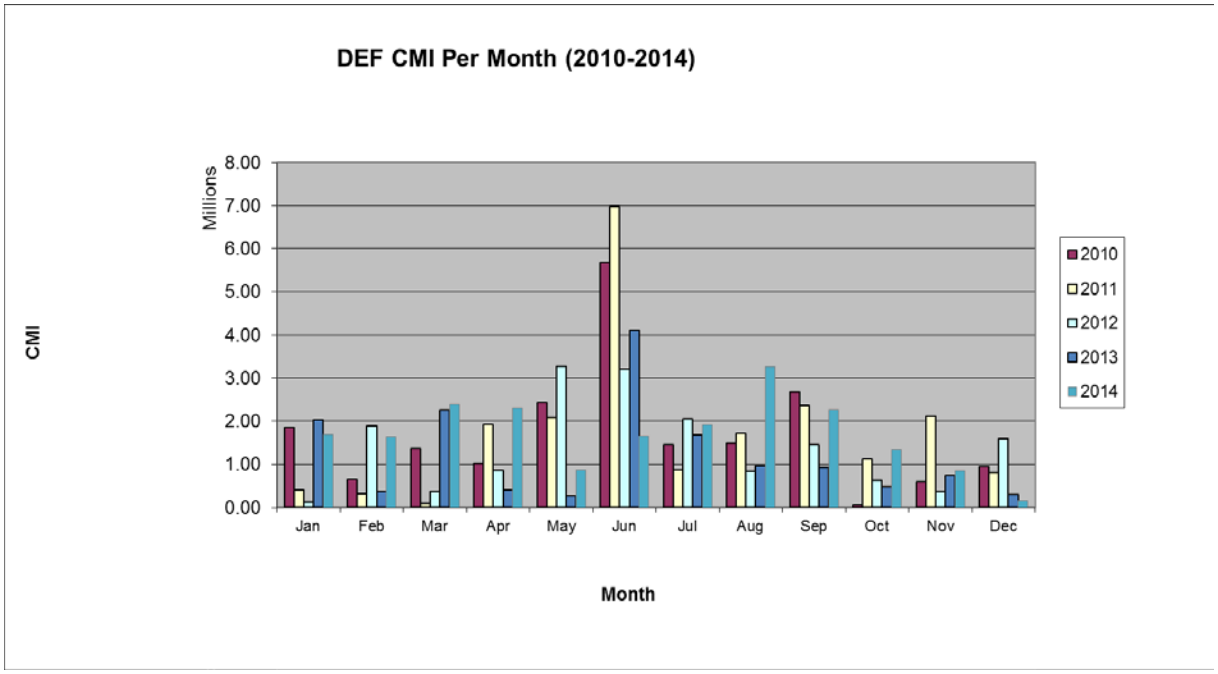


Fig.4 DEF CMI per month (2010-2014)

a. Describe Company efforts to track the reliability of distribution substations.

Duke Energy Florida has an in-house database, Transmission Outage Management System (TOMS), which is used to keep track and record all the events that occur every day. It maintains all the indices mentioned above.

b. Describe the process used by your Company to identify and select the actions to promote substation reliability.

To identify and promote substation reliability, DEF uses different methods, such as monthly substation inspections, predictive and preventive maintenance, infra-red analysis, and numerous diagnostics tests. Once a problem is identified, another tool (Cascade) is used to track the efforts to correct it.

c. Provide the number of distribution substations inspected during normal operations (non-storm related) for 2007 through 2014.

Duke Energy Florida has inspected each of its current 475 substations on a routine basis since 2004 to present. These routine inspections are scheduled and performed monthly.

SUPPLEMENTAL DISTRIBUTION INFORMATION

The next six pages contain the following information:

2014

	Unadjusted Data		Adjusted Data	
	CMI	**CI**	**CMI**	**CI**
NORTH CENTRAL	**40,154,149**	**602,480**	**32,510,924**	**430,882**
APOPKA	11,071,299	148,106	8,463,625	106,196
DELAND	10,105,300	156,635	8,235,697	110,560
JAMESTOWN	9,150,483	158,198	7,728,388	108,296
LONGWOOD	9,827,067	139,541	8,083,214	105,830
NORTH COASTAL	**35,873,044**	**395,548**	**31,281,338**	**308,518**
INVERNESS	9,247,942	107,759	8,271,139	83,972
MONTICELLO	11,342,477	119,034	9,076,131	88,270
OCALA	15,282,625	168,755	13,934,068	136,276
SOUTH CENTRAL	**44,511,619**	**596,487**	**37,205,267**	**467,187**
BUENA VISTA	7,994,711	104,034	6,433,167	75,604
CLERMONT	1,732,147	26,494	1,452,420	17,724
HIGHLANDS	7,214,251	110,176	6,000,238	84,119
LAKE WALES	11,456,934	140,226	9,168,738	108,870
SE ORLANDO	9,522,507	122,105	8,383,506	102,329
WINTER GARDEN	6,591,069	93,452	5,767,198	78,541
SOUTH COASTAL	**53,926,774**	**926,505**	**43,491,562**	**635,872**
CLEARWATER	10,704,385	159,981	8,473,759	113,588
SEVEN SPRINGS	13,092,423	219,235	10,252,769	147,117
ST. PETERSBURG	16,510,232	313,359	13,086,238	197,402
WALSINGHAM	11,611,761	201,286	9,786,115	150,325
ZEPHYRHILLS	2,007,973	32,644	1,892,681	27,440
Grand Total	**174,465,586**	**2,521,020**	**144,489,091**	**1,842,459**

CEMI5 Unadjusted Report - 2014

INTERRUPTIONS		1	2	3	4	5	6	7	8	9	10 +	Cust >5	CEMI >5
NORTH COASTAL													
	Inverness	17585	14275	7966	4074	2169	859	129	67	43	45	1,143	1.61%
	Monticello	10047	9651	7395	4941	2335	1745	952	645	293	589	4,224	8.92%
	Ocala	20412	13442	8215	4727	4699	2590	1419	788	645	1058	6,500	8.35%
	NORTH COASTAL	48044	37368	23576	13742	9203	5194	2500	1500	981	1692	11,867	6.04%
SOUTH COASTAL													
	Clearwater	42773	24378	9609	4893	1202	635	468	80	8	23	1,214	0.79%
	Seven Springs	50999	30161	13714	8933	2673	895	419	160	8	0	1,482	0.86%
	St. Petersburg	50808	25670	16373	10990	7081	2791	1127	799	506	1946	7,169	4.34%
	Walsingham	53653	22718	6310	7662	2093	2000	401	1932	283	58	4,674	3.13%
	Zephyrhills	4847	4067	1605	1373	611	156	36	113	190	156	651	2.60%
	SOUTH COASTAL	203080	106994	47611	33851	13660	6477	2451	3084	995	2183	15,190	2.29%
NORTH CENTRAL													
	Apopka	38748	19473	9332	3960	1477	1044	349	324	155	206	2,078	2.14%
	Deland	19185	15581	10204	6456	4561	1904	982	339	99	50	3,374	4.33%
	Jamestown	43071	27193	9911	4212	1333	371	168	35	2	71	647	0.50%
	Longwood	32576	19122	8391	4498	2082	1029	396	158	79	28	1,690	2.01%
	NORTH CENTRAL	133580	81369	37838	19126	9453	4348	1895	856	335	355	7,789	2.01%
SOUTH CENTRAL													
	Buena Vista	29807	13861	5969	2815	1326	308	189	249	242	66	1,054	1.00%
	Clermont	9246	4936	1206	571	55	20	10	0	0	0	30	0.10%
	Highlands	16761	11505	6366	3582	2832	1621	823	159	58	168	2,829	5.01%
	Lake Wales	33114	17416	9106	5092	2098	779	452	63	53	38	1,385	1.44%
	SE Orlando	25785	15017	7703	3244	934	710	147	286	441	795	2,379	2.80%
	Winter Garden	26428	11602	7257	3186	768	272	209	10	0	0	497	0.66%
	SOUTH CENTRAL	141141	74337	37607	18490	8013	3710	1830	767	794	1067	8,174	1.82%
	System	525845	300068	146632	85209	40329	19729	8676	6207	3105	5297	43,020	2.53%

CEMI5 Adjusted Report - 2014

INTERRUPTIONS		1	2	3	4	5	6	7	8	9	10 +	Cust >5	CEMI >5
NORTH COASTAL													
	Inverness	21033	12102	5508	2491	1383	320	74	26	54	14	488	**0.69%**
	Monticello	11524	8532	5902	3625	1880	886	326	462	115	269	2,058	**4.35%**
	Ocala	22972	12279	6735	4717	2856	1576	1080	514	462	632	4,264	**5.48%**
	NORTH COASTAL	55529	32913	18145	10833	6119	**2782**	**1480**	**1002**	**631**	**915**	6,810	**3.47%**
SOUTH COASTAL													
	Clearwater	43575	17206	5607	1810	788	547	72	9	4	0	632	**0.41%**
	Seven Springs	51131	20677	7103	3874	1426	589	272	20	0	0	881	**0.51%**
	St. Petersburg	49159	25454	11229	3875	3190	1846	643	140	134	39	2,802	**1.70%**
	Walsingham	46905	14635	9339	2491	528	1717	2211	169	52	0	4,149	**2.78%**
	Zephyrhills	5118	3497	2032	694	293	124	113	194	118	11	560	**2.24%**
	SOUTH COASTAL	195888	81469	35310	12744	6225	**4823**	**3311**	**532**	**308**	**50**	9,024	**1.36%**
NORTH CENTRAL													
	Apopka	31638	14921	6156	1799	1300	581	401	154	82	112	1,330	**1.37%**
	Deland	21798	13968	6849	5460	1440	889	291	33	37	6	1,256	**1.61%**
	Jamestown	33164	20089	6030	2608	361	105	146	23	14	59	347	**0.27%**
	Longwood	28739	15149	6763	2238	1381	882	198	79	39	10	1,208	**1.44%**
	NORTH CENTRAL	115339	64127	25798	12105	4482	**2457**	**1036**	**289**	**172**	**187**	4,141	**1.07%**
SOUTH CENTRAL													
	Buena Vista	22147	9911	3175	2822	1198	345	201	169	43	3	761	**0.72%**
	Clermont	9472	1860	817	302	26	13	2	0	0	0	15	**0.05%**
	Highlands	14482	11334	4521	4350	1670	406	194	38	121	5	764	**1.35%**
	Lake Wales	34155	13001	7798	1861	1343	599	358	53	53	31	1,094	**1.14%**
	SE Orlando	30883	14080	5581	1121	785	615	141	195	110	647	1,708	**2.01%**
	Winter Garden	21718	12474	6588	1532	458	199	105	4	0	0	314	**0.42%**
	SOUTH CENTRAL	132857	62660	28480	11988	5480	**2177**	**1001**	**459**	**327**	**686**	4,656	**1.04%**
	System	499613	241169	107733	47670	22306	**12239**	**6828**	**2282**	**1438**	**1838**	24,631	**1.45%**

MAIFIe - Unadjusted (01/01/2014 - 12/31/2014)					
		Customers Served	# momentary events	CME	MAIFIe
NORTH COASTAL					
	Inverness	71,102	614	787,755	**11.1**
	Monticello	47,364	504	430,208	**9.1**
	Ocala	77,855	599	750,080	**9.6**
	Totals for NORTH CO/	**196,321**	**1,717**	**1,968,043**	**10**
SOUTH COASTAL					
	Clearwater	152,847	754	1,457,046	**9.5**
	Seven Springs	171,371	1,014	1,972,418	**11.5**
	St. Petersburg	165,256	895	1,799,362	**10.9**
	Walsingham	149,451	915	1,699,225	**11.4**
	Zephyrhills	25,048	137	266,754	**10.6**
	Totals for SOUTH CO/	**663,973**	**3,715**	**7,194,805**	**10.8**
NORTH CENTRAL					
	Apopka	96,879	853	1,080,076	**11.1**
	Deland	77,898	627	890,526	**11.4**
	Jamestown	129,427	632	1,088,912	**8.4**
	Longwood	83,983	895	1,163,285	**13.9**
	Totals for NORTH CEN	**388,187**	**3,007**	**4,222,799**	**10.9**
SOUTH CENTRAL					
	Buena Vista	105,886	823	858,962	**8.1**
	Clermont	30,853	171	249,041	**8.1**
	Highlands	56,446	623	824,090	**14.6**
	Lake Wales	96,179	966	1,360,323	**14.1**
	SE Orlando	84,836	588	674,950	**8**
	Winter Garden	75,163	453	700,922	**9.3**
	Totals for SOUTH CEN	**449,363**	**3,624**	**4,668,288**	**10.4**
	System	**1,697,844**	**12,063**	**18,053,935**	**10.6**

MAIFIe - Adjusted (01/01/2014 - 12/31/2014)					
		Customers	# momentary		
		Served	events	CME	MAIFIe
NORTH COASTAL					
	Inverness	71,102	608	780,572	**11**
	Monticello	47,364	497	424,877	**9**
	Ocala	77,855	598	749,017	**9.6**
	Totals for NORTH	**196,321**	**1,703**	**1,954,466**	**10**
SOUTH COASTAL					
	Clearwater	152,847	754	1,457,046	**9.5**
	Seven Springs	171,371	1,010	1,962,109	**11.4**
	St. Petersburg	165,256	894	1,795,991	**10.9**
	Walsingham	149,451	913	1,696,181	**11.3**
	Zephyrhills	25,048	133	259,896	**10.4**
	Totals for SOUTH	**663,973**	**3,704**	**7,171,223**	**10.8**
NORTH CENTRAL					
	Apopka	96,879	849	1,075,063	**11.1**
	Deland	77,898	620	880,543	**11.3**
	Jamestown	129,427	628	1,083,015	**8.4**
	Longwood	83,983	893	1,161,073	**13.8**
	Totals for NORTH	**388,187**	**2,990**	**4,199,694**	**10.8**
SOUTH CENTRAL					
	Buena Vista	105,886	821	855,535	**8.1**
	Clermont	30,853	171	249,041	**8.1**
	Highlands	56,446	620	820,603	**14.5**
	Lake Wales	96,179	955	1,353,352	**14.1**
	SE Orlando	84,836	588	674,950	**8**
	Winter Garden	75,163	450	697,176	**9.3**
	Totals for SOUTH	**449,363**	**3,605**	**4,650,657**	**10.3**
	System	**1,697,844**	**12,002**	**17,976,040**	**10.6**

SYSTEM RELIABILITY INDICES – ABSENT ADJUSTMENTS

Utility Name: Progress Energy Florida

2014

Region	Operation Center	SAIDI
NORTH COASTAL		**182.7**
	Inverness	130.1
	Monticello	239.5
	Ocala	196.3
SOUTH COASTAL		**81.2**
	Clearwater	70.0
	Seven Springs	76.4
	St. Petersburg	99.9
	Walsingham	77.7
	Zephyrhills	80.2
NORTH CENTRAL		**103.4**
	Apopka	114.3
	Deland	129.7
	Jamestown	70.7
	Longwood	117.0
SOUTH CENTRAL		**99.1**
	Buena Vista	75.5
	Clermont	56.1
	Highlands	127.8
	Lake Wales	119.1
	SE Orlando	112.2
	Winter Garden	87.7
SYSTEM		**102.8**

Note: SAIDI indices are the contribution to the system level.

SYSTEM RELIABILITY INDICES – ADJUSTED

Utility Name: Progress Energy Florida

2014

Region	Operation Center	SAIDI
NORTH COASTAL		**159.3**
	Inverness	116.3
	Monticello	191.6
	Ocala	179.0
SOUTH COASTAL		**65.5**
	Clearwater	55.4
	Seven Springs	59.8
	St. Petersburg	79.2
	Walsingham	65.5
	Zephyrhills	75.6
NORTH CENTRAL		**83.8**
	Apopka	87.4
	Deland	105.7
	Jamestown	59.7
	Longwood	96.2
SOUTH CENTRAL		**82.8**
	Buena Vista	60.8
	Clermont	47.1
	Highlands	106.3
	Lake Wales	95.3
	SE Orlando	98.8
	Winter Garden	76.7
SYSTEM		**85.1**

Note: SAIDI indices are the contribution to the system level.

RELIABILITY RELATED CUSTOMER COMPLAINTS

Please see "Attachment H" for DEF's spreadsheet comparing DEF vs. PSC 2014 reliability-related complaints.

a. Describe the five year patterns/trends in reliability related customer complaints.

Duke Energy Florida receives customer complaints from the FPSC via a variety of methods (Formal Complaints, Courtesy Calls, Internet Transfers). The 5 year trend is shown below with DEF reliability related complaint data:

FPSC Formal (15 day/logged) complaints					
Complaint Category	**Year End Total**				
	2010	**2011**	**2012**	**2013**	**2014**
Outages - Momentary	24	18	10	27	15
Outages - Frequent	46	21	29	35	53
Outages - Delay in Restoring	4	12	2	2	5
Voltage	2	4	0	3	2
Equipment/Facilities	7	12	9	6	5
Tree Trimming	10	11	8	9	9
Safety	2	1	0	2	1
Total	**95**	**79**	**58**	**84**	**90**

b. Describe Company efforts to correlate reliability related complaints with reliability indices for applicable feeder, lateral and subregion.

Reliability complaints are typically driven by localized delivery system performance. The most effective remedy is surgical corrective action based on patrol/survey of a discrete segment in conjunction with analysis of outage cause(s) and duration. Corrective action scope is typically increased when appropriate to ensure maximum impact on established reliability indices such as SAIDI, MAIFIe, CEMI4, and CELID3.

c. Describe the process used by your company to identify and select systematic actions to improve reliability due to customer complaints (if no such program exists explain why).

Systematic corrective actions are prioritized based on expected improvement to established reliability indices such as SAIDI, MAIFIe, CEMI4, and CELID3. Reliability complaints are typically driven by localized delivery system performance. The most effective remedy is surgical corrective action based on patrol/survey of a discrete segment in conjunction with analysis of outage cause(s) and duration. Corrective actions are compared to the reliability work plan to ensure no unnecessary duplication of effort.

II. STORM HARDENED FACILITIES

Pursuant to the Stipulation regarding the "Process within the Process" entered into and filed jointly by the third-party attachers and IOU's with the FPSC on September 26, 2007, paragraph 7 requires each electric utility to file by March 1 each year a status report of its implementation of its storm hardening plan. Please see Attachment I - "*Spreadsheet of Storm Hardening Project Status*".

a. Describe each storm hardening activity undertaken in the field during 2014.

<u>Distribution</u>

In addition to the activities identified in DEF's Storm Hardening Plan (Attachment J), Wood Pole Inspection Plan (Attachment K), and other initiatives identified and discussed herein, Duke Energy Florida Distribution undertook the following specific activities that deliver a storm hardening benefit during 2014:

<u>Existing Overhead to Underground Conversion:</u>

See Attachment L - "Major Conversions Historical Data".

<u>New Construction Cable footage installed underground:</u>
In 2014, DEF installed 450 circuit miles of new underground cable. Overall, the DEF distribution system consists of 42.7% primary underground circuit miles (13,445 circuit miles).

<u>Network Maintenance and Replacement:</u>
2014 Actuals - $832k

<u>Switchgear Replacement</u>
2014 Actuals - $2.4m

<u>Midfeeder Electronic Sectionalizing (Reclosers):</u>
2014Actuals - $1.3m

<u>Wood Pole Inspection and Treatment:</u>
2014 Actuals - $2.7m

<u>Wood Pole Replacement:</u>
2014 Actuals - $22.3m

<u>Padmount Transformer Replacement:</u>
2014 Actuals - $8.1m

<u>Storm Hardening Projects</u>
2014 Actuals - $6.6m

Transmission

In addition to the activities identified in DEF's Storm Hardening Plan (Attachment J), Wood Pole Inspection Plan (Attachment K), and other initiatives identified and discussed herein, Duke Energy Florida Transmission undertook the following specific Storm Hardening Activities during 2014:

<u>Maintenance Change outs</u>:
Duke Energy Florida Transmission is installing either steel or concrete poles when replacing existing wood poles. This activity resulted in the replacement of 2,028 wood poles with steel or concrete during 2014

<u>DOT/Customer Relocations and Line Upgrades and Additions:</u>
Duke Energy Florida Transmission will design any DOT or Customer Requested Relocations and any line upgrades or additions to meet or exceed the current NESC Code Requirements and will construct these projects with either steel or concrete poles. This activity resulted in replacement of approximately 1,440 poles with steel or concrete during 2014.

b. Describe the process used by your company to identify the location and select the scope of storm hardening projects.

Distribution

The location and scope of projects that deliver hardening benefits varies by type of construction, maintenance, or replacement activity. Primary factors considered include operational and storm performance, remaining life, condition assessment of equipment as determined by inspection, and cost to repair or replace. In all cases, the cost to install, maintain, or replace equipment is balanced against the expected long term operational and cost benefit.

For additional information, please see Attachment J- DEF's Storm Hardening Plan.

Transmission

<u>Maintenance Change outs</u>
Poles that require change out are identified by Procedure MNT-TRMX-00053, "Ground Patrols" (Attachment M). The change out schedule is determined by the condition of the wood pole based upon inspector experience.

<u>DOT/Customer Relocations</u>
Poles that are changed out and upgraded are identified by requests from DOT or customers.

<u>Line Upgrades and Additions</u>
Duke Energy Florida Transmission Planning will determine where and when lines need to be upgraded.

For additional information, please see Attachment J - DEF's Storm Hardening Plan.

c. **Provide the costs incurred and any quantified expected benefits.**

Distribution

See Subsection (a) above.

Transmission

Line Maintenance Change outs
Duke Energy Florida Transmission spent approximately $43.2 million for Capital Improvements in 2014. Capital Improvements includes pole change outs and complete insulator replacements.

Quantified benefits will be a stronger and more consistent material supporting Transmission Circuits. Over the next 10 years, the percentage of wood poles on Duke Energy Florida's Transmission system should reduce wood poles on the system from approximately 50% today to 25%.

DOT/Customer Relocations and Line Upgrades and Additions
Duke Energy Florida Transmission spent approximately $91.6 million for DOT/Customer Relocations and Line Upgrades and Additions in 2014.

Quantified benefits will be a stronger and more consistent material supporting Transmission Circuits. Over the next 10 years, the percentage of wood poles on Duke Energy's Transmission system should reduce wood poles on the system from approximately 50% today to 25%.

d. **Discuss any 2015 projected activities and budget levels**.

Distribution

Duke Energy Florida Distribution's storm hardening strategy and activities for 2015 are still ongoing and under development. At this time, however, Duke Energy Distribution reports as follows:

Existing Overhead to Underground Conversion:

Major Underground Conversions are a customer driven activity based upon a willingness to pay the conversion costs. While specific annual totals are difficult to forecast, the trend indicated by Attachment L, "Major Conversions Historical Data" over the last 12 years is expected to continue.

New Construction Cable footage installed underground:
The specific span miles of new underground cable installed is driven by the level of new connect activity. While the number of span miles installed varies from year to year, the

percentage of new primary distribution span miles installed underground is expected to continue.

<u>Network Maintenance and Replacement:</u>
2015 Projections - $920k

<u>Switchgear Replacement</u>
2015 Projections - $2.0m

<u>Wood Pole Inspection and Treatment:</u>
2015 Projections - $2.9m

<u>Wood Pole Replacement:</u>
2015 Projections - $35.0m

<u>Padmount Transformer Replacement:</u>
2015 Projections - $10.5m

<u>Storm Hardening Projects</u>
2015 Projections - $7.3m

Transmission

Duke Energy Florida Transmission's storm hardening strategy and activities for 2015 are still ongoing and under development. At this time, however, Duke Energy Transmission reports as follows:

<u>Line Maintenance Change outs</u>
Duke Energy Florida Transmission should replace approximately 1,360 poles in 2015. Capital Budget for Line Maintenance is $33.3 million for 2015 which includes pole change outs, insulator replacements and any overhead ground wire (OHGW) replacements.

<u>DOT/Customer Relocations and Line Upgrades and Additions</u>
Duke Energy Florida Transmission should replace approximately 1,790 poles in 2015. Current identified DOT/Customer Relocation Projects and Line Upgrades and Additions has a capital budget of $89.1 million.

III. STORM SEASON READINESS

a. Describe the efforts the Company is taking to be storm-ready by June 1, 2015

Please see Attachment N – DEF's March 26, 2014 FPSC Presentation "Storm Season Readiness"

<u>Distribution</u>

DEF's Distribution Storm Plan has been reviewed and revised as of June 2014 (See Attachment X). The Distribution organization will conduct a storm readiness drill in April of 2015. By the start of storm season, all feeder backbones will be surveyed for tree conditions and corrective work completed. System reliability is continually monitored and upgraded through our storm hardening efforts. Critical restoration material and fuel will be ready and available from multiple sources, and we have taken steps to ensure that outside line and tree trimming resources are ready and available.

<u>Transmission</u>

DEF's Transmission Storm Plan has been reviewed and revised as of May 2014 (Attachment Y). The Transmission Department conducted a storm readiness drill during the week of May 13, 2014. Transmission will conduct its 2015 storm drill in conjunction with Distribution in April of 2015. Also, aerial patrols for DEF's entire transmission system took place between March-May and September-October, 2014. The next aerial patrols are scheduled between February-April and September-November, 2015.

IV. WOOD POLE INSPECTION PROGRAM

a. Provide a detailed description of the Company's wood pole inspection program.

Duke Energy Florida's wood pole inspection program philosophy is to determine the condition of the wood pole plant and provide remediation for any wood poles that are showing signs of decay or fall below the minimum strength requirements outlined by NESC standards.

Duke Energy is utilizing the expertise of Osmose Utilities Services, Inc., to perform the inspections on an eight year cycle. Osmose is using visual inspection, sound and boring, and full excavation down to 18 inches below ground line to determine the condition of all poles with the exception of CCA poles less than 16 years of age and poles that cannot be excavated due to obstructions. For CCA poles less than 16 years of age, Osmose is using visual inspection and sound, as well as, selective boring to determine the pole condition. In addition, Osmose is providing remediation of decayed poles through external and internal treatments. If the pole is below NESC standards and has the minimum remaining wood above ground line, Osmose will also reinforce the pole back to original strength.

For additional information, please see Attachment K - "Wood Pole Inspection Plan".

b. 2014 accomplishments

<u>*Distribution*</u>

Duke Energy, Florida inspected 108,475 wood distribution poles during 2014 (26,058 to complete the first 8-year cycle, and 82,417 as part of the second 8-year cycle). This completes the 8th year of an 8 year inspection cycle. - In addition to the inspections, GPS coordinates and physical attributes were updated and/or verified and inspection results were collected in a central database on all poles inspected.

2014 completed the first 8 year wood pole inspection cycle. The actual number of wood distribution poles owned by Duke Energy Florida was slightly less than originally forecast, with 762,905 wood distribution poles inspected and a total of 880,405 total poles inspected in this first cycle of inspections. Duke Energy Florida spent $23,200,000 dollars to inspect and treat these poles in this 8 year cycle (cycle 1).

Year of inspection	Total # of poles inspected	# of DEF wood poles inspected	# of poles rejected	% of wood poles rejected	$ spent on pole inspections & treatments
2006	75,585	64,208	3007	4.68%	$2,364,000
2007	110,543	95,956	4398	4.58%	$3,533,388
2008	111,407	96,054	6416	6.68%	$3,035,000
2009	110,870	95,867	5659	5.90%	$3,259,751
2010	99,489	97,093	5448	5.61%	$2,650,416
2011	103,168	99,292	6638	6.69%	$2,328,407
2012	130,119	91,306	6953	7.62%	$2,559,172
2013	111,826	97,071	16,233	16.72%	$2,679,895
2014 cyc 1	27,398	26,058	3,974	15.25%	$746,073
Total cycle 1	880,405	762,905	58726	7.70%	$23,156,102
2014 cyc 2	87,393	82,417	10,499	12.74%	$2,379,792

The distribution wood pole inspection program is planned to complete approximately 1/8 of the distribution pole fleet per year. In cycle 1, the route of the inspections was performed to inspect the coastal poles first, moving inland as the program proceeded. Cycle 2 will be conducted in a manner to provide a more even distribution of work to our engineering and line resources throughout Florida.

Transmission

In 2014, DEF's Transmission ground patrol inspected 4,891 wood pole structures. This represents approximately 20% of the wood pole structures on the DEF Transmission system.

c. Projected accomplishments for 2015

Distribution

Among other things, DEF's goal for 2015 is to begin cycle two inspections and to reroute the inspection pattern in a manner that provides a more even distribution of work throughout our system. DEF will continue to utilize the same inspection procedures in 2015 that we have in the past. Projected cost for the 2015 distribution pole inspection program is $2.9m.

Transmission

Current plans are to inspect approximately 1/3 to 1/5 of the system, which equates to approximately 1,000 miles of Transmission Circuits (or approximately 7,500 wood structures). We will have a 3rd party contract crew complete ground line sound and bore inspections for approximately 7,500 wood poles. We also will aerial patrol the entire transmission system two (2) times during 2015. We will perform a ground inspection on all lines 200kv and higher.

d. Wood pole inspection reports.

Each wood pole inspection report contains the following:

- A description of the methods used for structural analysis and pole inspection,
- A description of the selection criteria that was used to determine which poles would be inspected, and
- A summary report of the inspection data.

<u>Distribution</u>

Please see Attachment O - 2014 Annual Wood Pole Inspection Report filed with the FPSC on February 27, 2014.

For a description of the methods used for structural analysis and pole inspection – please refer to Attachment K - "Wood Pole Inspection Plan", pages 1 - 4 and 6 - 8.

For the summary report of the inspection data - See Attachment P - CD Rom containing Excel file - "2014 DEF Distribution Pole Inspection Data".

<u>Transmission</u>

Please see Attachment O - 2014 Annual Wood Pole Inspection Report filed with the FPSC on February 27, 2015.

For a description of the methods used for structural analysis and pole inspection – please refer to Attachment K - "Wood Pole Inspection Plan", pages 1 - 4 and 6 - 8.

For the summary report of the inspection data – See Attachment Q – CD containing Excel files - "2014 Pole Data" and "2014 Structure Data".

CCA Pole Sampling Report

Pursuant to Order No. PSC-08-0615-PAA-EI issued September 23, 2008 in Docket No. 080219-EI, the Commission approved modification to the sounding and boring excavation requirements of Order No. 06-0144-PAA-EI with regard to CCA wood poles less than 16 years old. On Pages 3 and 4 of Order No. PSC-08-0615-PAA-EI, it states,

> *"ORDERED that, consistent with the deviation granted to Gulf Power Company in Order No. PSC-07-0078-PAA-EU, Progress Energy Florida, Inc., Florida Power & Light Company, and Tampa Electric Company shall be required to sound and selectively bore all CCA poles under the age of 16 years, but shall not be required to perform full excavation on these poles. It is further*
>
> *ORDERED that Progress Energy Florida, Inc., Florida Power & Light Company, and Tampa Electric Company shall also be required to perform full excavation sampling to validate their inspection method. It is further*
>
> *ORDERED that the results of the utilities' sampling shall be filed in their annual distribution reliability reports."*

2014 CCA Pole Sampling Results

Please see Attachment O – Duke Energy's 2014 Annual Wood Pole Inspection Report filed with the FPSC on February 27, 2014. The "CCA Sampling Results for 2014" is included in Duke Energy's Wood Pole Inspection Report as "Attachment B".

V. EIW INITIATIVES

VEGETATION MANAGEMENT – THREE YEAR CYCLE (*Initiative 1*)

a. Provide a complete description of the Company's vegetation management program (policies, guidelines, practices) for 2014 and 2015 in terms of both activity and costs.

- *See Attachment R - "Internal Policy & Guidelines".*
- *For activities and costs - See information herein on pages 50-56.*

b. Describe tree clearing practices in utility easements and authorized rights-of-ways.

See Attachment R - "Internal Policy & Guidelines".

c. Identify relevant portions of utility tariffs pertaining to utility vegetation management activities within easements and authorized rights-of-ways.

DEF's tariffs do not contain specific language pertaining to utility vegetation management activities within easements and authorized rights-of-ways.

d. Describe tree removal practices for trees that abut and/or intrude into easements and authorized rights-of-ways.

See Attachment R - "Internal Policy & Guidelines".

e. Describe tree clearing practices outside of utility easements and authorized rights-of-ways.

See Attachment R - "Internal Policy & Guidelines".

f. Identify relevant portions of utility tariffs pertaining to utility vegetation management activities outside of easements and authorized rights-of-ways.

DEF's tariffs do not contain specific language pertaining to utility vegetation management activities outside of easements and authorized rights-of-ways.

g. Describe tree removal practices for trees outside of easements and authorized rights-of-ways.

See Attachment R - "Internal Policy & Guidelines".

h. Identify relevant portions of utility tariffs pertaining to customer vegetation management obligations as a term or condition of electric service.

There is no specific language in DEF's tariffs that pertain to customer vegetation management obligations as a term or condition of electric service. However, in Section 4 of DEF's tariff book, Sheet 4.11, reference is made to a customer's responsibility regarding vegetation management.

i. Describe Company practices regarding customer trim requests.

When a customer calls into the call center, either a tree work ticket is generated or a Duke Energy Florida field resource will submit a ticket using the work management system. For the *remaining process, please see Attachment S - "Vegetation Management – Customer Demand Tree Trimming Requests".*

j. Describe the criteria used to determine whether to remove a tree, replace a tree, spot-trim, demand trim, or mid-cycle trim, etc.

The criteria used is comprised of a number of considerations, i.e., location, customers on the line, removal vs. trim candidate, species, customer permission, easement rights and risk. Apart from identifying these factors, as a general matter, DEF cannot elaborate as to how these factors may apply in a given factual circumstance.

k. Discuss any 2015 projected activities and budget levels.

See charts below.

SYSTEM VEGETATION MANAGEMENT PERFORMANCE METRICS

	Feeders			Laterals		
	Unadjusted*	Adjusted	Diff.	Unadjusted*	Adjusted	Diff.
(A) Number of Outages	N/A *	202	N/A *	N/A *	9,613	N/A *
(B) Customer Interruptions	N/A *	275,348	N/A *	N/A *	321,969	N/A *
(C) Miles Cleared	N/A *	3,297	N/A *	N/A *	2,782	N/A *
(D) Remaining Miles	N/A *	0	N/A *	N/A *	417	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.06	N/A *	N/A *	3.00	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	80.66	N/A *	N/A *	100.64	N/A *
(G) Number of Hotspot trims	N/A *	28,998	N/A *	N/A *	23,031	N/A *
(H) All Vegetation Management Costs	N/A *	$ 18,454,040	N/A *	N/A *	$ 14,458,289	N/A *
(I) Customer Minutes of Interruption	N/A *	15,362,541	N/A *	N/A *	35,645,236	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2014	N/A *	$ 16,388,102	N/A *	N/A *	$ 17,460,898	N/A *
(L) Vegetation Goal (current year) - 2014	N/A *	3,180	N/A *	N/A *	2,365	N/A *
(M) Vegetation Management Budget (next year) – 2015	N/A *	$ 2,445,602	N/A *	N/A *	$ 31,884,095	N/A *
(N) Vegetation Management Goal (next year) – 2015	N/A *	472	N/A *	N/A *	3,850	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

Note: Total miles cleared in 2014 was 6,079. Annual variations from target are expected as DEF manages resource and unit cost factors associated with its integrated vegetation management plan. Based on the 3-year feeder / 5-year lateral tree trimming cycle, since 2006 initiation, DEF is at 100% of total 3-year cycle feeder miles and 77% of total 5-year cycle lateral miles.

* There is no unadjusted data on tree caused storm events that would be relevant to DEF's tree trimming program. It would not be reasonably possible to gather this data and furthermore the data would not be accurate if we could obtain it. It would take extraordinary effort and considerable conjecture to estimate the impact of trees on DEF's distribution system for outage causes that are currently coded "storm". It would not be reasonably possible to gather such data because contractors move around the System and operate under a myriad of restoration contracts and agreements. To track this data, it would require the establishment of both a financially based tracking system to monitor costs as well as crew activity system-wide during a catastrophic event. Additionally, it is not practical to perform a forensic analysis of outages during a catastrophic event for the purpose of obtaining the root cause since several agencies assist in the effort as well as the magnitude of damage that impact a localized area of the system. During a storm event, outage tracking migrates from Outage Management System event to a Damage Assessment event. As such, our ability to capture reliable data becomes significantly compromised.

** This data is actual complete in 2014 and scheduled in 2015.

*** Distance varies according to species' growth rates.

**** This data was not previously tracked. A means of extracting tree outage data from total storm restoration costs is still being investigated.

MANAGEMENT ZONE (NORTH CENTRAL) VEGETATION MANAGEMENT PERFORMANCE METRICS

	Feeders			Laterals		
	Unadjusted*	Adjusted	Diff.	Unadjusted*	Adjusted	Diff.
(A) Number of Outages	N/A *	53	N/A *	N/A *	2,163	N/A *
(B) Customer Interruptions	N/A *	74,418	N/A *	N/A *	75,216	N/A *
(C) Miles Cleared	N/A *	776	N/A *	N/A *	469	N/A *
(D) Remaining Miles	N/A *	72	N/A *	N/A *	11	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.06	N/A *	N/A *	4.51	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	87.72	N/A *	N/A *	156.75	N/A *
(G) Number of Hotspot trims	N/A *	9,509	N/A *	N/A *	5,732	N/A *
(H) All Vegetation Management Costs	N/A *	$ 5,699,422	N/A *	N/A *	$ 3,440,039	N/A *
(I) Customer Minutes of Interruption	N/A *	3,302,002	N/A *	N/A *	8,074,754	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2014	N/A *	$ 4,435,454	N/A *	N/A *	$ 4,494,295	N/A *
(L) Vegetation Goal (current year) - 2014	N/A *	705	N/A *	N/A *	458	N/A *
(M) Vegetation Management Budget (next year) – 2015	N/A *	$ 132,208	N/A *	N/A *	$ 7,184,078	N/A *
(N) Vegetation Management Goal (next year) – 2015	N/A *	23	N/A *	N/A *	806	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

MANAGEMENT ZONE (SOUTH CENTRAL) VEGETATION MANAGEMENT PERFORMANCE METRICS

	Feeders			Laterals		
	Unadjusted*	Adjusted	Diff.	Unadjusted*	Adjusted	Diff.
(A) Number of Outages	N/A *	50	N/A *	N/A *	1,278	N/A *
(B) Customer Interruptions	N/A *	75,212	N/A *	N/A *	34,873	N/A *
(C) Miles Cleared	N/A *	1,134	N/A *	N/A *	458	N/A *
(D) Remaining Miles	N/A *	53	N/A *	N/A *	149	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.04	N/A *	N/A *	2.10	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	63.37	N/A *	N/A *	57.39	N/A *
(G) Number of Hotspot trims	N/A *	8,018	N/A *	N/A *	3,236	N/A *
(H) All Vegetation Management Costs	N/A *	$ 4,670,559	N/A *	N/A *	$ 1,886,719	N/A *
(I) Customer Minutes of Interruption	N/A *	4,262,311	N/A *	N/A *	4,229,059	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2014	N/A *	$ 5,056,419	N/A *	N/A *	$ 2,069,214	N/A *
(L) Vegetation Goal (current year) - 2014	N/A *	1,082	N/A *	N/A *	309	N/A *
(M) Vegetation Management Budget (next year) – 2015	N/A *	$ 430,951	N/A *	N/A *	$ 5,795,778	N/A *
(N) Vegetation Management Goal (next year) – 2015	N/A *	90	N/A *	N/A *	806	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

MANAGEMENT ZONE (NORTH COASTAL) VEGETATION MANAGEMENT PERFORMANCE METRICS

	Feeders			Laterals		
	Unadjusted*	Adjusted	Diff.	Unadjusted*	Adjusted	Diff.
(A) Number of Outages	N/A *	66	N/A *	N/A *	3,281	N/A *
(B) Customer Interruptions	N/A *	63,639	N/A *	N/A *	112,044	N/A *
(C) Miles Cleared	N/A *	699	N/A *	N/A *	1,411	N/A *
(D) Remaining Miles	N/A *	23	N/A *	N/A *	141	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.09	N/A *	N/A *	2.11	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	88.14	N/A *	N/A *	72.21	N/A *
(G) Number of Hotspot trims	N/A *	4,844	N/A *	N/A *	9,773	N/A *
(H) All Vegetation Management Costs	N/A *	$ 2,845,957	N/A *	N/A *	$ 5,742,985	N/A *
(I) Customer Minutes of Interruption	N/A *	5,157,187	N/A *	N/A *	13,538,470	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2014	N/A *	$ 2,531,934	N/A *	N/A *	$ 5,705,651	N/A *
(L) Vegetation Goal (current year) - 2014	N/A *	676	N/A *	N/A *	1,270	N/A *
(M) Vegetation Management Budget (next year) – 2015	N/A *	$ -	N/A *	N/A *	$ 8,619,445	N/A *
(N) Vegetation Management Goal (next year) – 2015	N/A *	-	N/A *	N/A *	1,473	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

MANAGEMENT ZONE (SOUTH COASTAL) VEGETATION MANAGEMENT PERFORMANCE METRICS

	Feeders			Laterals		
	Unadjusted*	Adjusted	Diff.	Unadjusted*	Adjusted	Diff.
(A) Number of Outages	N/A *	33	N/A *	N/A *	2,891	N/A *
(B) Customer Interruptions	N/A *	62,079	N/A *	N/A *	99,836	N/A *
(C) Miles Cleared	N/A *	687	N/A *	N/A *	445	N/A *
(D) Remaining Miles	N/A *	(31)	N/A *	N/A *	115	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.05	N/A *	N/A *	5.16	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	94.57	N/A *	N/A *	178.30	N/A *
(G) Number of Hotspot trims	N/A *	6,627	N/A *	N/A *	4,290	N/A *
(H) All Vegetation Management Costs	N/A *	$ 5,238,103	N/A *	N/A *	$ 3,388,546	N/A *
(I) Customer Minutes of Interruption	N/A *	2,641,041	N/A *	N/A *	9,802,953	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2014	N/A *	$ 4,364,295	N/A *	N/A *	$ 5,191,739	N/A *
(L) Vegetation Goal (current year) - 2014	N/A *	718	N/A *	N/A *	329	N/A *
(M) Vegetation Management Budget (next year) – 2015	N/A *	$ 1,882,442	N/A *	N/A *	$ 10,284,794	N/A *
(N) Vegetation Management Goal (next year) – 2015	N/A *	359.30	N/A *	N/A *	$ 765.30	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

<u>Local Community Participation:</u> A discussion addressing utility efforts to collect and use input from local communities and governments regarding (a) r-o-w tree clearing, (b) easement tree clearing, (c) hard-to-access facilities, (d) priority trees not within r-o-w or within easements where the utility has unobstructed authority to remove the danger tree, and (e) trim-back distances.

Please see pages 72-76.

<u>Priority Trees</u>

a) Number of priority trees removed? 8,078
b) Expenditures on priority tree removal? $635,901 **(*includes tree removal, removal trims, overhang & vines*)**
c) Number of request for removals that were denied? 21 (*These trees were on private property. The owners refused a request for removal. DEF instead trimmed the trees as much as possible within its legal rights to do so.)*
d) Avoided CI with priority trees removed (estimate)? **[See Below]**
e) Avoided CMI with priority trees removed (estimate)? **[See Below]**

In response to items d) and e), the determination of the number of customers (CI) that would have been interrupted and/or the extent of an outage (CMI) is dependent upon a number of variables such as: species of tree; tree wind resistance characteristics; age of tree; condition of tree; type of failure – electrical vs. mechanical (limb or stem); location along the feeder; soil conditions, the extent of any disease and/or insect infestation; the type, magnitude and duration of a storm; etc. To quantify or estimate the avoided CI or CMI as a general matter for all possible conditions would require DEF to guess and speculate on conditions for which it has neither reliable nor supporting data. DEF therefore cannot provide data for these fields.

JOINT-USE POLE ATTACHMENT AUDITS FOR THE YEAR 2014 (*Initiative 2*)

a) **Percent of system audited.** *Feeders and Laterals: 100%*
b) **Date audit conducted?** *A Joint-Use Pole Loading Analysis is conducted every eight (8) years per FPSC requirements. In 2014, one-eighth (1/8) of the joint attachments were audited to fulfill the 8-year requirement.*
c) **Date of previous audit?** *2013 Partial Joint Use Structural Analysis System Audit.*
d) **List of audits conducted annually.** *Partial system audits are conducted annually. A full Joint-Use Pole Loading Analysis is conducted every eight years.*

2014 Joint-Use Structural Audits – Distribution Poles (all pole types)

(A) Number of company owned distribution poles.	996,558
(B) Number of company distribution poles leased.	449,832
(C) Number of owned distribution pole attachments (cable & phone attachments on PE poles)	771,948
(D) Number of leased distribution pole attachments. (PE attachments on phone poles)	13,603
(E) Number of authorized attachments. (3312 new attachments permitted in 2014)	775,260
(F) Number of unauthorized attachments.	0
(G) Number of distribution poles strength tested. (complete loading analysis needed)	65,263
(H) Number of distribution poles passing strength test. (complete loading analysis needed) *	65,215
(I) Number of distribution poles failing strength test (overloaded).	48
(J) Number of distribution poles failing strength test (other reasons). (Hardware upgrades required)	0
(K) Number of distribution poles to be corrected (strength failure) (added down guy)	32
(L) Number of distribution poles corrected (other reasons).	0
(M) Number of distribution poles to be replaced. (Overloaded poles entered into the DARTS database)	16
(N) Number of apparent NESC violations involving electric infrastructure.	None
(O) Number of apparent NESC violations involving 3rd party facilities.	None

** For each group of poles in a tangent line, the pole that had the most visible loading, line angle, and longest or uneven span length was selected to be modeled for wind loading analysis. If that one pole failed, the next worst case pole in that group of tangent poles was analyzed as well. Each pole analyzed determined the existing pole loading of all electric and communication attachments on that pole. If the existing analysis determined the pole was overloaded, that pole was added to a current year work plan to be corrected. Should the original pole analyzed meet the NESC loading requirements, all similar poles in that tangent line of poles was noted as structurally sound and entered into the database as "PASSED" structural analysis.*

2014 Joint-Use Attachment Audits – Transmission Poles (all pole types)

(A) Number of company owned transmission poles.	51,757
(B) Number of company transmission poles leased.	5,580
(C) Number of owned transmission pole attachments (cable & phone attachments on PE poles)	7,394
(D) Number of leased transmission pole attachments. (PE attachments on phone poles)	0
(E) Number of authorized attachments.	7,394
(F) Number of unauthorized attachments.	0
(G) Number of transmission poles strength tested.	261
(H) Number of transmission poles passing strength test.	260
(I) Number of transmission poles failing strength test (overloaded).	1
(J) Number of transmission poles failing strength tests (other reasons).	0
(K) Number of transmission poles corrected (data provided to transmission for replacement)	1
(L) Number of transmission poles corrected (other reasons).	0
(M) Number of transmission poles replaced	0
(N) Number of apparent NESC violations involving electric infrastructure.	None
(O) Number of apparent NESC violations involving 3rd party facilities.	0

State whether pole rents are jurisdictional or non-jurisdictional. If pole rents are jurisdictional, then provide an estimate of lost revenue and describe the company's efforts to minimize the lost revenue.

Pole attachment rents are jurisdictional and are booked in Account 454 – "Rent from Electric Property". DEF conducts partial audits of its pole attachments throughout the year. A full Joint-Use Pole Loading Analysis is conducted every eight years. When DEF discovers unauthorized attachments on DEF poles, DEF follows-up with the attacher who owns the unauthorized attachments and DEF seeks all revenue applicable under controlling laws, rules, and regulations.

SIX YEAR INSPECTION CYCLE FOR TRANSMISSION STRUCTURES (*Initiative 3*)

Describe the extent of the inspection and results pertaining to transmission wires, towers, and substations for reliability and NESC safety matters. The intent is to assure the Commission that utilities know the status of their facilities and that reasonable efforts are taken to address transmission structure reliability and NESC safety matters.

Duke Energy Florida's Transmission Department follows Procedure MNT-TRMX-00053 titled "Ground Patrols" (Attachment M) to periodically assess the condition of the transmission circuits. The primary goal of the ground patrol is to inspect transmission line structures and associated hardware and conductor on a routine basis to identify any required material repairs or replacements. Please also see Initiative 3 in DEF's Storm Hardening Plan.

Transmission Circuit, Substation and Other Equipment Inspections

	2014 Activity		2014 Current Budget		Next Year (2015)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A)Total transmission circuits	N/A	587	$4,531,153	$3,480,621	N/A	$2,120,292
(B) Planned transmission circuit inspections	107	N/A	N/A	N/A	195	N/A
(C) Completed transmission	N/A	107	N/A	N/A	N/A	N/A
(D) Percent of transmission	N/A	18%	N/A	N/A	33%	N/A
(E) Planned transmission substation	N/A	482	$18,134,962	$13,930,431	482	$21,617,167
(F) Completed transmission	N/A	482	N/A	N/A	N/A	N/A
(G) Percent transmission	N/A	100%	N/A	N/A	N/A	N/A
(H) Planned transmission	N/A	N/A	N/A	N/A	N/A	N/A
(I) Completed transmission	N/A	N/A	N/A	N/A	N/A	N/A
(J) Percent of transmission	N/A	N/A	N/A	N/A	N/A	N/A

Note: For most entries of "N/A" in the chart above, Duke Energy Florida does not specifically budget for Transmission line or substation inspections on an item by item basis. The budget and actual figures that are entered include inspections, emergency response, preventative maintenance, training, and other O&M Costs.

Transmission Tower Structure Inspections

	2014 Activity		2014 Current Budget		Next Year (2015)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total transmission tower structures.	N/A	3,331	Please see note 1	N/A	N/A	Please see note 1
(B) Planned transmission tower structure inspections	N/A	Please see note 2	N/A	Please see note 2	N/A	N/A
(C) Completed transmission tower structure inspections.	N/A	400	N/A	N/A	N/A	N/A
(D) Percent of transmission tower structure inspections completed.	N/A	12%	N/A	N/A	N/A	N/A

Note 1: Please see the previous budget and actuals on page 59 for line inspections. All inspections for wood poles, towers, steel and concrete structures are included in the O&M budget. Duke Energy Florida does not specifically budget for Transmission line or substation inspections on an item by item basis. The budget and actual figures that are entered include inspections, emergency response, preventative maintenance, training, and other O&M Costs.

Note 2: Transmission circuits with towers are inspected on a 5-year cycle. Inspections are planned and completed based upon the 5-year cycle.

Transmission Pole Inspections

	2014 Activity		Current Budget (2014)		Next Year (2015)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of transmission pole structures.	N/A	45,170	$4,531,153 See Note 1	$3,480,621 See Note 1	N/A	$2,120,292
(B) Number of transmission pole structures strength tested. *Item A: number of poles analyzed* *Item B: Number of pole structures ground inspected*	N/A	A: B: 7,952	N/A	N/A	N/A	N/A
(C) Number of transmission pole structures passing strength test. *Item A: number of poles analyzed* *Item B: Number of pole structures ground inspected*	N/A	A: B: 7,952	N/A	N/A	N/A	N/A
(D) Number of transmission poles failing strength test (overloaded).	N/A		N/A	N/A	N/A	N/A
(E) Number of transmission poles failing for other reasons – *Ground Inspection (See Note 2)*	N/A	1,567	N/A	N/A	N/A	N/A
(F) Number of transmission poles corrected (strength failure).	N/A	See note 4	N/A	N/A	N/A	N/A
(G) Number of transmission poles corrected for other reasons - *Ground Inspection*	N/A	2,028 see note 2	N/A	N/A	N/A	N/A
(H) Total transmission poles replaced.	N/A	2,028	N/A	N/A	N/A	N/A

Note 1: Duke Energy Florida does not specifically budget for Transmission line or substation inspections on an item by item basis. The budget and actual figures that are entered include inspections, emergency response, preventative maintenance, training, and other O&M costs.

Note 2: Duke Energy Florida Transmission has prioritized the remaining number of transmission poles that need to be corrected based upon the inspection results and the status of the poles. Poles that needed to be replaced quickly have already been replaced as reflected above. Poles that can remain in service have been prioritized and DEF is in the process of working through corrections based on those prioritizations.

Note 3: Transmission circuits are inspected on a 3 or 5 year cycle depending on structural material. Inspections are planned and completed based on the 5 year cycle.

Please also see Attachment O – "Wood Pole Inspection Report" filed on February 27, 2015 with the FPSC.

STORM HARDENING ACTIVITIES FOR TRANSMISSION STRUCTURES (*Initiative 4*)

Describe the extent of any upgrades to transmission structures for purposes of avoiding extreme weather, storm surge or flood-caused outages, and to reduce storm restoration costs. The intent is to assure the Commission that utilities are looking for and implementing storm hardening measures.

Hardening of Existing Transmission Structures

	2014 Activity		Current Budget (2014)		Next Year (2015)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Transmission structures scheduled for hardening.	2,497	N/A	114.6M	N/A	3,150	$122.4M
(B) Transmission structures hardening completed.	N/A	3,468	N/A	$134.8M	N/A	N/A
(C) Percent transmission structures hardening	N/A	139%	N/A	N/A	N/A	N/A

Note: *Budget and Actual costs include maintenance pole change-outs, insulator replacements, and other capital costs. The budget and actual figures also include DOT/Customer Relocations, line rebuilds and System Planning additions. Structures are designed to withstand current NESC Wind Requirements and are build utilizing steel or concrete structures. DEF does not break out the cost of the structures separately and is reporting the entire construction costs for the Transmission Line Projects.*

Storm Hardening Activity and Remaining Population

Report Year	Maintenance Change outs	DOT/Relocation, Upgrades and Rebuilds	Total
2014	2,028	1,440	**3,468**
2013	1,384	857	**2,241**
2012	1,080	857	**1,937**
2011	635	915	**1,550**
2010	782	1,134	**1,916**

Report Year	Wood Pole Beginning Balance	Current Balance	Poles changed
2014	28,000	25,370	**2,630**

GEOGRAPHIC INFORMATION SYSTEM (GIS) (*Initiative 5*)

In 2008, DEF completed the transition to the new GIS system (G-Electric). The move to G-Electric enabled DEF to migrate from a location based GIS system to an asset based GIS system (consistent with Commission Order No. PSC-06-0351-PAA-EI).

In addition to this effort, DEF created a team dedicated to upgrading the Work Management system. The scope of this project included the implementation of the Facilities Management Data Repository (FMDR) along with the Compliance Tracking System (CTS). The implementation of these two systems was completed in 2011, allowing DEF to facilitate the compliance tracking, maintenance, planning, and risk management of the major Distribution assets.

Since its creation in 2010, the Distribution Data Integrity department has continued to ensure the accuracy and quality of the data within the Geographical Information System (GIS) and the Outage Management System (OMS) with a focus on business processes. This department has created and enhanced key performance indicators that are used to continually measure and monitor the quality of DEF's GIS and OMS data. The consistency, accuracy, and dependability of these systems have led to improvements in the reliability and performance of our utility system, contributing to the safety of the DEF field crews.

Distribution OH Data Input

	Activity		Current Budget		Next Year	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of system wide OH assets for input.	N/A	N/A	N/A	N/A	N/A	N/A
(B) Number of OH assets currently on system.	N/A	1,348,193	N/A	N/A	N/A	N/A
(C) Percent of OH assets already on system.	N/A	100%	N/A	N/A	N/A	N/A
(D) Annual OH assets targeted for input (goal).	N/A	N/A	N/A	N/A	N/A	N/A
(E) Annual OH assets input to system (actual).	N/A	N/A	N/A	N/A	N/A	N/A
(F) Annual percent of OH assets input.	N/A	100%	N/A	N/A	N/A	N/A

DEF cannot necessarily report data in the form of items (A)-(F) above given that such items are not entirely consistent and in line with the status of DEF's current GIS system and DEF's ongoing efforts to upgrade that system.

Distribution UG Data Input

	Activity		Current Budget		Next Year	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of system wide UG assets for input.	N/A	N/A	N/A	N/A	N/A	N/A
(B) Number of UG assets currently on system.	N/A	175,303	N/A	N/A	N/A	N/A
(C) Percent of UG assets already on system.	N/A	100%	N/A	N/A	N/A	N/A
(D) Annual UG assets targeted for input (goal).	N/A	N/A	N/A	N/A	N/A	N/A
(E) Annual UG assets input to system (actual).	N/A	N/A	N/A	N/A	N/A	N/A
(F) Annual percent of UG assets input.	N/A	100%	N/A	N/A	N/A	N/A

DEF cannot necessarily report data in the form of items (A)-(F) above given that such items are not entirely consistent and in line with the status of DEF's current GIS system and DEF's ongoing efforts to upgrade that system.

Transmission OH Data Input

	Activity (2014)		Current Budget (2014)		Next Year (2015)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of system wide OH transmission assets for input.	N/A	49,349	N/A	N/A	N/A	N/A
(B) Number of OH transmission assets currently on system.	N/A	48,860	N/A	N/A	N/A	N/A
(C) Percent of OH transmission assets already on	N/A	99%	99%	N/A	99%	N/A
(D) Annual OH transmission assets targeted for	N/A	N/A	N/A	N/A	N/A	N/A
(E) Annual OH transmission assets input to	N/A	N/A	N/A	N/A	N/A	N/A
c(F) Annual percent of OH transmission assets	N/A	N/A	1%	N/A	1%	N/A

Transmission UG Data Input

	Activity (2014)		Current Budget (2014)		Next Year (2015)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of system wide UG transmission assets for input.	N/A	69.87 miles	N/A	N/A	N/A	N/A
(B) Number of UG transmission assets currently on system.	N/A	69.87 miles	N/A	N/A	N/A	N/A
(C) Percent of UG transmission assets already on	N/A	100%	N/A	N/A	N/A	N/A
(D) Annual UG transmission assets targeted for	N/A	N/A	100%	N/A	N/A	N/A
(E) Annual UG transmission assets input to	N/A	N/A	N/A	N/A	N/A	N/A
(F) Annual percent of UG transmission assets	N/A	100%	N/A	N/A	N/A	N/A

POST-STORM DATA COLLECTION AND FORENSIC ANALYSIS (*Initiative 6*)

a) **Has a forensics team been established?**

<u>*Distribution*</u>

Yes. The forensics process will again participate in DEF's 2015 Storm Drill.

<u>*Transmission*</u>

Yes.

b) **Have forensics measurements been established? If yes, please describe/provide.**

<u>*Distribution*</u>

Yes. During the field observations, Forensic Assessors collect various information regarding poles damaged during storm events:

- *Data points typically collected during the initial approach to the pole would include: pole type, number of conductors, joint-use status, number of transformers and other distribution equipment attached, etc.*
- *Data points typically collected during the pole detail review would include: birth date, pole class, pole height, etc.*
- *Data points typically collected during the site review would include a free form rendering of the site as well as qualitative data about damaged pole structures (e.g. whether the pole is leaning, broken, location of break, etc.).*

<u>*Transmission*</u>

Yes. The forensic team shall collect sufficient data at the failure sites to determine the nature and cause of the failure. Data collection shall include the following:

- *Structure identification*
- *Photographs*
- *Sample of damaged components as necessary*
- *Field technical assessment (soil conditions, exposure, vegetation, etc.)*
- *Inventory of attachments and guys*

Forensic Analysis: Data and forensic samples will be analyzed to determine the cause and correlating factors contributing to the failure. Analysis will include as required:

- *Conditional assessment of failed components*
- *Structural evaluations*
- *Failure analysis*
- *Correlation with storm path and intensity*
- *Correlation with GIS data*

c) **Has a forensics database format been established?**

<u>*Distribution*</u>

Yes, in collaboration with the University of Florida's Public Utility Research Center (PURC), DEF and the other Florida investor owned utilities developed a common format to collect and track data related to damage discovered during a forensics investigation. This ensures we are collecting compatible data to allow analysis of performance and refinement of the inputs to OH to UG Cost/Benefit model.

Transmission

Yes, DEF Transmission uses a spreadsheet tool to manage the data described in subsection (b) above.

d) **Describe/provide GIS and forensics data tracking integration.**

Distribution

Pole location information is manually collected during forensic inspections in the field. Data is then available for analysis using GIS applications.

We have re-assessed statistical pods in our GIS system to ensure their accuracy and statistical validity as a sample of the Duke Energy Florida service territory. The statistical pods are a post-storm sample used to quickly forecast the level of damage sustained by our facilities following a major storm or hurricane. The damage assessment that results from these statistical samples allows more accurate targeting of the need and location for forensics teams.

Transmission

The forensic data that is collected is identified and cataloged by the structure number or GPS coordinate if the structure number is not available. The failure data can then be correlated with the data contained in the MapInfo GIS system. The maintenance history of the poles/structures will be populated in the GIS system.

e) **Describe/provide forensics and restoration process integration. (Established and documented processes to capture forensics data during the restoration process.)**

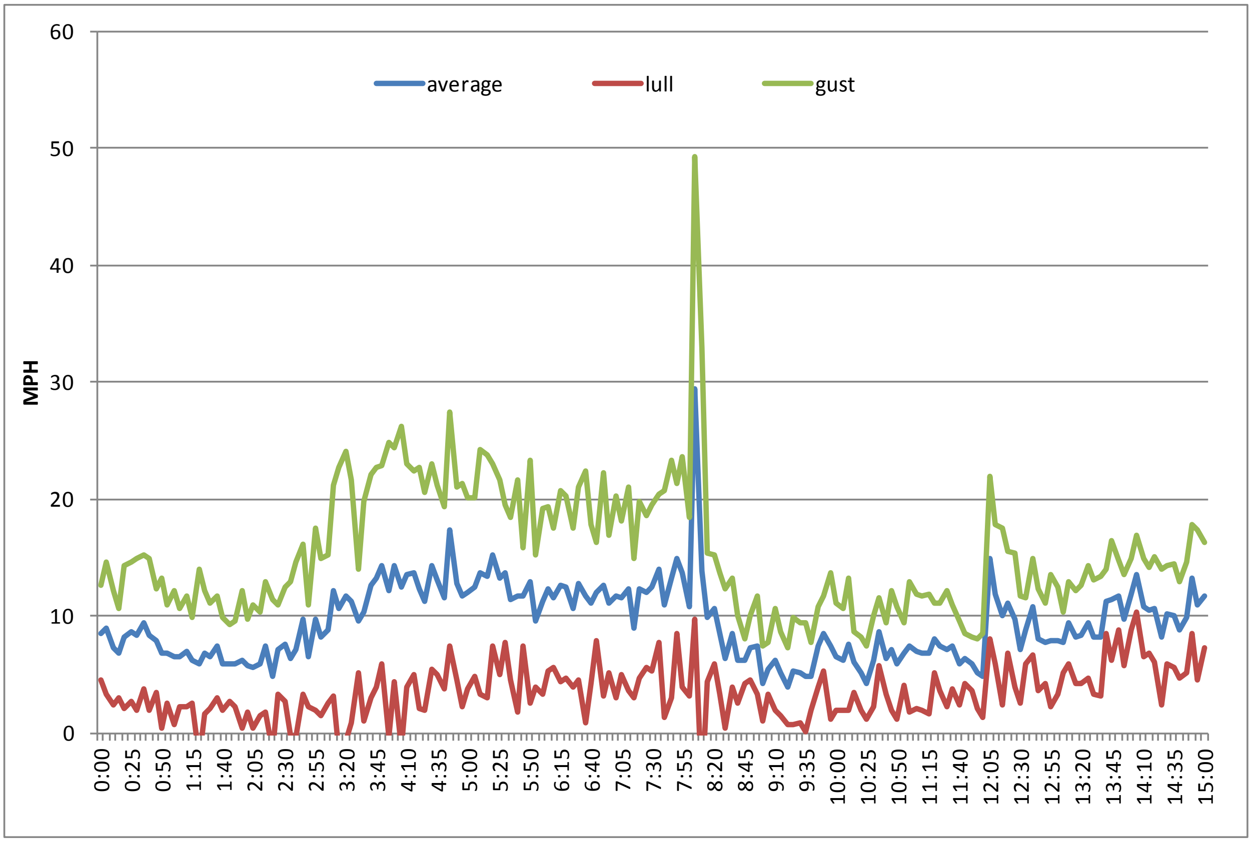
See Attachment T - "Damage Assessment" – EMG-EDGX-00048 - Distribution's damage assessment process and "Transmission Storm Forensic Analysis Specification".

f) **Describe/provide any forensics data sampling methodology.**

Distribution

Forensic assessors are mobilized to areas predicted to have the highest sustained wind speeds within the service territory to identify pole failure modes in a manner that will minimize interference with the restoration process.

As a result of the installation of weather stations across Florida (as part of the collaborative research project done with PURC and the other Florida electric utilities), we are now able to correlate, at a high level, experienced outages with nearby wind speeds. The graph below shows the registered wind speeds (mph) at the Land O Lakes substation weather station as severe weather caused more than 500 outages on April 5, 2011. This type of information is augmented with on-site forensics data following a major storm or hurricane.



<u>Transmission</u>

See Attachment T.

g) **Describe/provide forensics reporting format used to report forensics results to the Company and the Commission.**

See Attachment T - "Damage Assessment" – EMG-EDGX-00048 - Distribution's damage assessment process and "Transmission Storm Forensic Analysis Specification".

OVERHEAD/UNDERGROUND RELIABILITY (OH/UG) (INITIATIVE 7)

a. **Describe the five year patterns/trends in reliability performance of underground systems vs. overhead systems.** (Do a Table) See separate spreadsheet attachment.

   See Attachment U -"Comparison of Historical Trends-Overhead vs. Underground"

b. **Describe Company efforts to separately track the reliability of overhead and underground systems**.

Following is a description of the process that will be used to separately track the reliability of overhead and underground systems:

DEF will collect information to determine the percentage of storm caused outages on overhead systems and underground systems. Some assumptions are required when assessing the performance of overhead systems versus underground systems. For example, underground systems are typically protected by overhead fuses. DEF will provide for these factors in its analysis.

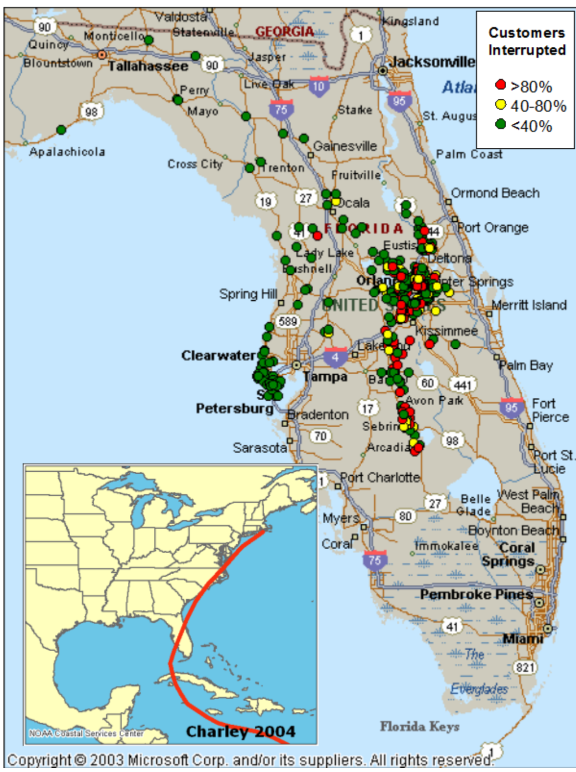
DEF has an internal hierarchy in its Outage Management System (OMS) that models how all of its facilities are connected to each other. This information provides the connection to the feeder breaker down to the individual transformer. DEF's Customer Service System (CSS) captures which customer is tied to what individual transformer. DEF's Geographical Information System (GIS) provides several sets of data and information points regarding DEF's assets. DEF uses these systems to help analyze the performance of the following types of overhead and underground assets:

- *Breakers*
- *Electronic Reclosers*
- *Fuses*
- *Hydraulic Reclosers*
- *Interrupters*
- *Motor Operated Switches*
- *OH Conductors*
- *OH Transformers*
- *Primary Meters*
- *Switch Gear Fuses*
- *Sectionalizers*
- *Services*
- *Switches*
- *Terminal Pole Fuses*
- *Under Ground Conductors*
- *Under Ground Transformers*

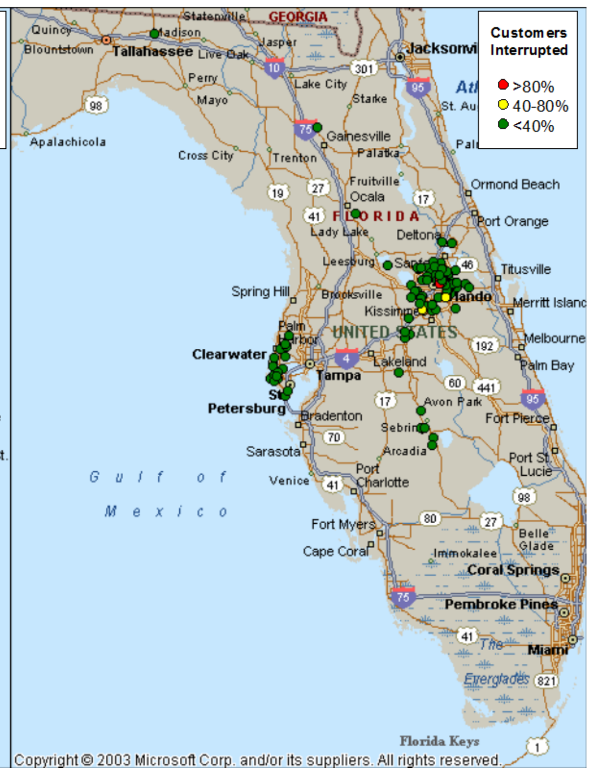
As part of this process, the location of each feeder circuit point is determined by approximating the geographic midpoint of each circuit. Outages experienced as a result of a named storm will be extracted from system data. The outages will then be grouped by feeder *circuit ID and by outage type, where outage type is either overhead or underground. The number of customers interrupted by an overhead device will then be summed by feeder circuit ID and the number of customers interrupted by an underground device will be summed by feeder circuit ID. A single feeder circuit may have overhead and underground outages, so approximations will be made in those circumstances.*

Once this information is collected, the percentage of customers interrupted will be calculated by dividing the sum of customers interrupted per feeder circuit by the total customers served for that feeder circuit. This process is applied as the sum of customers interrupted by all overhead devices on a feeder circuit divided by the number of customers served by the feeder circuit and the sum of customers interrupted by all underground devices on a feeder circuit divided by the number of customers served by the feeder circuit. As a result of this process, DEF will produce graphic representations of performance such as those depicted below:

OH Construction Outage Severity



UG Construction Outage Severity



DEF will also collect available performance information as a part of the storm restoration process via servicemen in the field, such as:

- *Restore time;*
- *Cause code;*
- *Observations and comments;*
- *Failed device name;*
- *Failed device size;*
- *Failed device type;*
- *Failed device phase; and*
- *Failed device location.*

c. Describe the process used by your company to identify and select the actions to promote underground distribution systems.

DEF notes that it does not necessarily promote underground distribution systems in all instances. Rather, DEF's programs are designed to identify areas where an underground distribution system would be effective both from an operational and cost/benefit perspective, and to help customers considering underground projects to receive the information that they need to make a well-thought decision.

In 2007, DEF created a project management organization dedicated to streamlining the engineering and construction of all infrastructure projects including underground conversions. .

In 2014, DEF installed 269circuit miles of new underground cable. Overall, the DEF distribution system consists of 42.1% primary underground circuit miles (13,445 circuit miles).

d. Provide Overhead/Underground metrics (miles, # of customers, CMI, CI, MAIFIe, CEMI5 and L-Bar for the Calendar Year).

See Attachment V- "Overhead/Underground Metrics".

Coordination with Local Governments (*Initiative 8*)

Update on Duke Energy Florida's (DEF) local government storm preparation, storm hardening, and storm response coordination activities:

DEF's storm planning and response program is operational twelve months out of the year and response activities for catastrophic events can be implemented at any time. Currently, there are approximately eighty (80) resources assigned to coordination with local government as part of an emergency planning and response program. Also, approximately forty (40) employees are assigned full-time, year-round, to coordinate with local government on issues such as emergency planning, vegetation management, undergrounding and service related issues.

***Vegetation Management** –Maintaining trees and vegetation along distribution and transmission rights of way helps reduce outages on a day-to-day basis as well as during storm events and enhances safety for customers, the public, and DEF's employees and contractors. DEF maintains a rigorous inspection process that identifies vegetation encroachments and ensures vegetation-management activities follow required pruning and clearance specifications.*

***Tree Trimming** - To enhance communication with our communities regarding specific tree trimming projects, we meet with municipalities prior to implementation of significant projects in order to inform them of the general areas that are expected to be impacted, note concerns, and answer questions. DEF also conducts communication and outreach to customers along the impacted areas for significant activities to inform them of the project, as well as explain the need for vegetation management.*

***Tree Line USA** – In 2014, DEF was designated a "Tree Line USA Utility." This designation is given by the National Arbor Day Foundation, in cooperation with the National Association of State Foresters. It recognizes public and private utilities across the nation that demonstrate practices that protect and enhance community forests while managing the need for reliable electric power. This is the eighth consecutive year DEF has received the Tree Line USA designation.*

***Undergrounding** – DEF works with communities to inform them of available undergrounding options and to be a part of their planning processes. This assists them in several ways – better fiscal planning, coordination with other utilities, and improved communications with affected residents. DEF is working with cities in Pinellas County in response to a multi-year plan by the communities to underground utilities, as well as enhance streetscapes and improve pedestrian safety. The construction will be done in increments and is anticipated to be completed in 8-10 years.*

***Other Construction Projects** – In addition to undergrounding conversion projects, there are planned transmission and distribution enhancement projects that are expected to result in improvements to system reliability during storm events. DEF works extensively with local governments and communities to coordinate such projects.*

***Emergency Planning and Coordination** – DEF's team works with counties and municipalities year round and during catastrophic events. Prior to storm season, DEF holds meetings with communities to discuss emergency planning preparations and coordination, participates in county drills and training exercises, and holds community education workshops and events. DEF conducts an internal week-long storm preparedness training prior to storm season to simulate the response to a real storm* *including pre-storm preparations activities during a major storm event and post-storm response. During this exercise, the county Emergency Operations Centers (EOCs) are engaged as part of the simulation.*

As part of our yearly planning process, we work with counties to identify and prioritize specific infrastructure within the counties. This prioritization of accounts is factored into restoration activities by our operation centers during storms.

We have developed our capability to produce detailed electronic outage information which is provided to county EOCs throughout storm events. The information is available in multiple formats, including formats that may be imported into county GIS systems. This program provides significant information to EOCs during storms to assist in their response efforts. Information includes detailed outage data per each square mile within the county and is produced periodically during each day of a significant catastrophic event. DEF has modified its program to make this detailed outage data available to counties during mid-level storm events as well.

DEF has created a webpage with an interactive map that is available to the public, including the media and local governments. The interactive map provides access to the latest outage information twenty-four hours a day, seven days a week. These maps provide county-specific estimates for power restoration when available and the ability to search by address. Also, DEF has developed a system to report outages online via computer or other mobile device. This online reporting tool gives our customers another way to communicate with DEF, helping ensure any disruptions in service are recognized immediately and that power is restored as quickly and safely as possible.

DEF has four state-of-the-art mobile command centers. Each of these electric generator powered mobile command centers is equipped with work stations, satellite phones and internet capabilities and will be stationed in the hardest hit areas following a major storm event. These mobile command centers will act as self-sufficient emergency command posts, giving DEF the ability to respond more quickly to isolated or severely damaged areas. The units will also serve as individual processing locations allowing field supervisors to effectively manage the flow of the thousands of employees from numerous utilities responding to a single staging site following a storm.

In 2014, DEF greatly enhanced our "Make it Safe" road clearing program to provide dedicated resources to assist selected counties in our service territories for the first 24 – 48 hours of storm restoration with road clearing and "make it safe" activities. DEF has dedicated contract crews for each service territory zone staged at county facilities or Duke Operations centers. The benefits of this program include improved response time to county priorities, improve customer satisfaction by reducing customer outage time, reduced exposure to night time storm hazards, and increased DEF crew productivity during daylight hours.

***Educational Outreach** - DEF has developed live line demonstrations, called "Arc and Spark," which include critical information for first responders and emergency management personnel. DEF's team of experts recreate live-voltage scenarios such as downed power lines, trees and/or ladders on power lines, vehicle wrecks involving power lines, and digging into underground facilities incidents. DEF shares this information with city, county and emergency personnel to assist them in planning and safety instruction. Additionally, these live line demonstrations were conducted in conjunction with the Youth Energy Academy, which is a seminar that introduces under-served youth to careers in the utility field. About 150 youth were present at the sessions.*

In March 2014, the Duke Energy Foundation awarded a sponsorship level grant to the American Red Cross for the Prepare Florida program. Prepare Florida is a landmark statewide campaign that will mobilize communities to be better prepared in the face of disaster. It is a three year campaign covering all counties in Florida that aims to raise awareness so that Florida residents prepare for disaster, recover quickly, and flourish in the aftermath of a disaster.

2014 Activities

The following activities are not an exhaustive list, but include examples of the activities associated with DEF's coordination activities with state and local governments for 2014:

- *Emergency Operation Center visits were performed in Alachua, Bay, Citrus, Columbia, Franklin, Gadsden, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Liberty, Leon, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla counties. During those visits, DEF participated in EOC exercises to review storm procedures prior to storm season and to discuss the Make It Safe road clearing program. (February – August 2014)*

- *Pinellas County Disaster Vehicle Staging Exercise – DEF representatives attended several meetings leading to the final exercise that took place in April. The exercise was for all of the participating utilities and county personnel to stage their vehicles at the EOC and ride out a mock storm as part of the debris clearing activities. Additionally, participants toured the major roads and corridors in the county to be cleared after a major storm event. (February – April 2014)*

- *Annual Healthcare and Hurricane Conference – DEF attended this conference and provided information on emergency back-up generation, hurricane preparedness and energy efficiency programs. Held in Pinellas County, representatives from several various hospitals and nursing facilities attended the event to assist in emergency awareness. (March 2014)*

- *Storm Restoration Presentation – In Pinellas County, DEF representatives had the opportunity to speak about products, services, and weather and hurricane readiness to the Clearwater Rotary. (April 2014)*

- *Florida Statewide Hurricane Exercise - Representatives throughout the DEF service territory participated in storm preparedness activities throughout this event. (May 2014)*

- *Pinellas and Pasco Counties EOC Visits – DEF Executive Leaders, Community Relations Managers, and EOC representatives met with the Pinellas and Pasco county EOC Directors and staff to discuss storm coordination for 2014. (May and June 2014)*

- *Weathering the Storm Hurricane Forum – Representatives from DEF's Large Account Management group that serve as EOC representatives hosted a hurricane forum specifically for commercial, industrial and governmental customers. There were a panel of experts including a DEF Executive Leader, the Director of the Pinellas County EOC, a city manager, an attorney and a chief meteorologist who spoke on storm management planning. There were about 125 customers who attended the forum. (June 2014)*

- *Pinellas County Road Clearing – DEF representatives met with the Director of the Pinellas county EOC to discuss and coordinate the DEF Make It Safe program. The main topics of discussion were road clearing, the number of crews, the staging locations and the roads to be cleared. (June 2014)*

- *Arc & Spark Sessions – From July to October, DEF held nine individual live line demonstration sessions across our service territory. These events provided a forum for collaboration on emergency response and general safety awareness. Attendees included representatives from sheriff's departments, public works, fire and rescue departments, public schools, and emergency management. Approximately 300 county representatives attended. (July – October 2014)*

- *Pinellas County Response Operations Coordination – Representatives attended a meeting that was held at the new Pinellas county building in July to discuss evacuation implementation guidelines, municipal liaisons, new storm surge illustrations and damage assessment. (July 2014)*

- *Orange County Public Schools – DEF representatives led a storm response and coordination meeting with the facilities staff from the Orange County Public Schools. (August 2014)*

- *Tampa Bay Beaches Chamber – DEF representatives spoke at this luncheon about storm preparation and response as well as undergrounding storm hardening. (October 2014)*

- *Pinellas County EOC Infrastructure Functional Group Table Top Exercise – The Pinellas EOC conducted this exercise to evaluate the EOC's Infrastructure Functional Group's actions during a storm. Multiple infrastructure capabilities were exercised such as restoration of critical infrastructure, critical transportation, operational coordination, operational communications, and private and public services and resources. (November 2014)*

2015 Activities

The following activities are currently planned activities associated with DEF's coordination activities with state and local governments for 2015:

State Activities:

- *Florida's Severe Weather Awareness Week (February 2- 6, 2015)*
- *28th Annual Governor's Hurricane Conference (May 10 – 15, 2014)*
- *Florida Annual Statewide Hurricane Exercise (May 19 - 21, 2015)*
- *Governor's Annual Domestic Security Executive Exercise (TBD)*

2015 County/City Activities:

- *DEF representatives will meet with county representatives in each of our counties throughout our service territory during the year as well as participate in pre-storm season planning activities such as mock drills at the County EOCs. These meetings and visits will also include updating the EOCs on DEF emergency response policies and DEF website demonstrations on how to access electronic outage information during storm events. Some examples are provided below.*
    - *DEF conducts ongoing communications with municipalities to provide information about DEF's emergency response planning, respond to inquiries, and to update county contact information for all EOCs.*
    - *DEF executives will meet with many of the county EOC directors and their staff to discuss DEF's storm response planning and enhancement of the coordination between the company and county emergency management.*

- *DEF is planning to greatly expand the number of "Arc and Spark" live line demonstrations across the service territory. These events will take place from March – May and continue after the end of the hurricane season.*
- *DEF will meet with school board superintendents and their staff to discuss storm coordination, restoration prioritization, shelter locations and back-up generation availability.*
- *DEF will participate in many community hurricane and storm expos held by counties or federal or state agencies throughout our service territory and beyond, to inform the public and encourage appropriate storm preparation by residents and business.*
- *DEF has developed a partnership with the Council of Neighborhood Associations (CONA) in South Pinellas County that provides opportunities to communicate to more than 110 HOAs through articles in their monthly newsletters. We also meet with many other Home Owners' Associations (HOAs) and Property Owners' Associations (POAs) throughout the DEF service territory. We use these opportunities to inform the residents of storm preparation activities and provide information prior to storm season.*

DEF is working with the Pinellas County barrier island communities that have expressed a strong interest in undergrounding with the assistance of county funds for these infrastructure projects.

COLLABORATIVE RESEARCH (*Initiative 9*)

Project Planning Report: For each project identified by the Steering Committee, provide a report that includes the purpose, scope, objectives, research method, data inputs, expected costs and benefits, sources of funding, schedule, and findings to date.

Please see Attachment W - "PURC Report on Collaborative Research for Hurricane Hardening" dated February 2015.

Annual Progress Report: For each project previously identified by the Steering Committee for which ongoing research is being pursued but not completed, provide an annual report, including updates on all aspects of the Project Planning Report.

Please see Attachment W - "PURC Report on Collaborative Research for Hurricane Hardening" dated February 2015.

Project Completion Summary Report: For each concluded project identified by the Steering Committee, provide a report that includes an assessment of the success of the research project, as well as any proposed implementation plan for any results or findings for each utility. Describe the benefits expected or realized as a result of plan implementation on storm hardening for each utility.

Please see Attachment W - "PURC Report on Collaborative Research for Hurricane Hardening" dated February 2015.

Annual Report of the Collaborative Research Effort: Provide a report to include an overall assessment of the collaborative research program to date, as described in the Memorandum of Understanding (MOU) dated January 1, 2010, including its operational and financial viability and future planning of the organization. Identify any extension of the MOU contemplated or finalized by the Steering Committee.

Please see Attachment W - "PURC Report on Collaborative Research for Hurricane Hardening" dated February 2015.

Describe the projects promoted, costs incurred, and benefits achieved. A single joint filing can address all collaborative research. Utilities should also discuss any additional independent activities in which it is engaged, such as EPRI, private research, or through universities.

Please see Attachment W - "PURC Report on Collaborative Research for Hurricane Hardening dated February 2015. In addition to DEF's involvement with PURC, DEF is actively engaged as both participant and presenter in a variety of technical and professional organizations where hardening alternatives are reviewed and assessed. Examples include the Southeastern Electric Exchange (SEE), Edison Electric Institute (EEI), Institute of Electrical and Electronics Engineers (IEEE), Chartwell Hardening Teleconference, and Davies Consulting Asset Management Conference. DEF Standards engineers also assess new products on a continuous basis.

DISASTER PREPAREDNESS AND RECOVERY PLAN (*Initiative 10*)

Submit formal disaster preparedness plan annually by March 1st. Include disaster recovery training completed, pre-storm preparation and staging activities, post storm recovery plans, lessons learned, and plan modifications or changes.

Duke Energy has an established storm recovery plan that is reviewed and updated annually based on lessons learned from the previous storm season and organizational needs.

For Distribution - See Attachment X – "Distribution System Storm Operational Plan (DSSOP).

For Transmission – See Attachment Y – "Transmission Storm Plan".

VI. Other Storm Hardening Initiatives (OH/UG)

a. For each of the other ongoing storm hardening initiatives provide a detailed discussion describing the activity and costs incurred for 2014 and projected for 2015.

Please see DEF's Storm Hardening Plan – Attachment J. Also, please see response on page 39.

b. Overhead/Underground

i. Describe the process used by your company to identify the scope of storm hardening projects.
ii. Provide any quantified expected benefits.
iii. If benefit quantification is not practical or possible at this time, explain when or how the cost-effectiveness of the activity is assessed.

Please see DEF's Storm Hardening Plan – Attachment J. Also, please see response on page 39.

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Eight-Year Wood Pole Inspection Programs

Ten Initiatives

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ATTACHMENT A

DEF Transmission Outages - Major Events Excluded
Source of Data TOMS

For Reporting Year:2014

OUTAGE_ID	LOCATION	Date/Time	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
34740	SOUTH POLK 230KV (0498)	1/2/2014 4:56:09 PM	SUB - EQUIPMENT - LIGHTNING ARRESTER	RELAY - MISOPERATION -		0
34745	SEVEN SPRINGS 230KV (0225)	1/5/2014 1:32:02 AM	LINE - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - SETTING ERROR	378656.0	378656
34747	SOUTH POLK 230KV (0498)	1/6/2014 7:35:51 AM	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER		0
34767	MEADWDS SOUTH - TAFT (OUC) 230KV (MDWS)	1/10/2014 2:23:07 PM	RELAY - MISOPERATION -	RELAY - MISOPERATION -		0
34770	HAVANA - HINSON TEC 69KV RADIAL (HH-1)	1/11/2014 1:13:37 PM	LINE - TREE - NON-PREVENTABLE	LINE - EQUIPMENT - CONDUCTOR/STATIC	0.0	682986.6
34739	DENHAM - CABBAGE HILL (TECO) 69KV (TZ-1)	1/2/2014 1:40:02 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34787	OCCIDENTAL #1 115KV (0177)	1/14/2014 10:19:21 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34788	ZELLWOOD 69KV (0213)	1/11/2014 7:30:00 AM	SUB - EQUIPMENT - BREAKER/DIST - PROTECTION/CONTROL	RELAY - HUMAN ERROR - WIRING ERROR	129630.0	129630
34772	FT WHITE - JASPER 69KV (JF-1)	1/11/2014 2:30:18 PM	LINE - WEATHER -	- -		0
34774	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	1/11/2014 2:56:44 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34778	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	1/11/2014 3:14:59 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34782	OCCIDENTAL #1 115KV (0177)	1/12/2014 4:06:26 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34794	DRIFTON - PERRY 69KV (DP-1)	1/15/2014 11:53:54 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34802	AVON PARK PL - SOUTH POLK 230KV (AF-1)	1/17/2014 12:08:32 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
34814	INTERCESSION CITY PL - LAKE BRYAN CKT#2 230KV (WIC-1)	1/21/2014 8:02:28 AM	LINE - OPERATIONAL - EMERGENCY	- -		0
34829	OCCIDENTAL #1 115KV (0177)	1/25/2014 7:28:16 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34830	OCCIDENTAL #1 115KV (0177)	1/25/2014 9:19:58 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34833	CLEARWATER - HIGHLANDS 69KV (HCL-1)	1/26/2014 5:31:14 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
34838	BAYBORO 115KV (0010)	1/27/2014 8:53:33 PM	SUB - EQUIPMENT - TRANSFORMER - INSTR	SUB - EQUIPMENT - TRANSFORMER - INSTR		0
34842	DEBARY PL - ORANGE CITY 230KV (DDW-1)	1/29/2014 9:51:19 AM	RELAY - EQUIPMENT - RELAY PROBLEM	RELAY - EQUIPMENT - RELAY PROBLEM		0
34858	OCCIDENTAL #1 115KV (0177)	1/30/2014 4:56:27 PM	LINE - ANIMAL - OTHER	SUB - CUSTOMER - DISTRIBUTION		0
34850	JACKSON BLUFF - LIBERTY 69KV (JH-1)	1/30/2014 1:45:31 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34848	IDYLWILD - WILLISTON 69KV (SI-3)	1/29/2014 8:44:39 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34927	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	2/12/2014 7:42:16 AM	SUB - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34954	DELTONA EAST 115KV (0332)	2/11/2014 6:27:44 AM	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	62524.0	62524
34746	SOUTH POLK 230KV (0498)	1/6/2014 5:11:26 AM	SUB - EQUIPMENT - LIGHTNING ARRESTER	RELAY - MISOPERATION -		0
34881	BROOKRIDGE - FL CRUSHED STONE COGEN PL 115KV (BWX-2)	2/3/2014 5:04:52 AM	LINE - PUBLIC INTERFERENCE - VEHICLE	- -		0
34892	MONTVERDE 69KV (0300)	1/31/2014 6:17:34 PM	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	25704.0	25704
34896	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	2/5/2014 6:42:44 PM	LINE - CUSTOMER - MUNICIPALITY	LINE - CUSTOMER - MUNICIPALITY		0
34900	FIFTY-FIRST STREET 230KV (0012)	1/7/2014 2:11:50 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	79550.0	79550
34909	HOMELAND - MULBERRY 69KV (BH-2)	2/8/2014 6:02:02 PM	LINE - UNKNOWN -	- -		0
34910	BARCOLA 230KV (0199)	2/8/2014 6:02:07 PM	LINE - UNKNOWN - UNDER INVESTIGATION	RELAY - HUMAN ERROR - SETTING ERROR		0
34917	OCCIDENTAL #1 115KV (0177)	2/11/2014 7:22:51 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34919	PIEDMONT 230KV (0064)	2/11/2014 9:07:52 AM	SUB - ANIMAL - SQUIRREL	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL	674221.0	674221
34752	BAY HILL 69KV (0208)	1/8/2014 7:38:31 AM	SUB - HUMAN ERROR - WIRING	- -		0
34768	ODESSA - TARPON SPRINGS 69KV (TZ-2)	1/11/2014 1:33:53 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34773	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	1/11/2014 2:33:39 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34775	OCCIDENTAL #1 115KV (0177)	1/11/2014 3:11:10 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34781	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	1/11/2014 6:17:01 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34785	HAVANA - QUINCY 69KV (TQ-1)	1/13/2014 8:55:44 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34805	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	1/19/2014 11:28:58 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34824	OCCIDENTAL #1 115KV (0177)	1/24/2014 8:00:38 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34839	COLONIAL 69KV (0441)	1/24/2014 7:59:09 AM	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	191568.0	191568
34908	LITTLE PAYNE CREEK #1 69KV (0287)	2/8/2014 1:07:15 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34960	LITTLE PAYNE CREEK #1 69KV (0287)	2/14/2014 5:08:17 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34811	MANLEY ROAD (CARGILL) 115KV (0004)	1/20/2014 8:07:46 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34818	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	1/21/2014 12:03:36 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34846	ANCLOTE PL - EAST CLEARWATER 230KV (ANEC-1)	1/29/2014 3:10:14 PM	LINE - OPERATIONAL - EMERGENCY	LINE - EQUIPMENT - INSULATOR		0
34861	OCCIDENTAL #1 115KV (0177)	1/31/2014 6:18:03 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34872	BEVERLY HILLS - LECANTO 115KV (CSB-2)	2/2/2014 6:05:43 PM	LINE - EQUIPMENT - INSULATOR	- -		0
34776	IDYLWILD - PHIFER CEC 69KV RADIAL (IR-1)	1/11/2014 3:14:59 PM	LINE - WEATHER -	- -		0
34801	NORTH BARTOW - SOUTH ELOISE (TECO) 230KV (WLXT-2)	1/17/2014 7:45:38 AM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
34986	TANGERINE 115KV (0369)	1/14/2014 10:10:10 AM	LINE - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - OTHER	23436.0	23436
34993	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	2/21/2014 9:14:52 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

34991	FT WHITE - JASPER 69KV (JF-1)	2/20/2014 5:25:28 PM	LINE - EQUIPMENT - CONNECTOR	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE	0.0	48110.8
34997	DUNNELLON TOWN - INGLIS 69KV (IO-3)	2/21/2014 2:16:00 PM	LINE - LIGHTNING -	- -		0
34998	LITTLE PAYNE CREEK #1 69KV (0287)	2/22/2014 8:19:29 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34999	WINTER SPRINGS 230KV (0252)	2/22/2014 7:16:30 AM	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	78568.0	78568
35001	TALLAHASSEE 115KV (0092)	2/23/2014 7:15:44 AM	LINE - LIGHTNING -	- -		0
34889	OCCIDENTAL #1 115KV (0177)	2/4/2014 3:21:18 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34898	MANLEY ROAD (CARGILL) 115KV (0004)	2/6/2014 1:04:51 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34924	U.C.F. NORTH 69KV (0008)	2/6/2014 7:48:38 PM	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	14455.0	14455
34925	U.C.F. NORTH 69KV (0008)	2/6/2014 8:06:05 PM	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	16520.0	16520
34926	LITTLE PAYNE CREEK #1 69KV (0287)	2/12/2014 7:07:02 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34958	HIGGINS PL - LAKE TARPON 230KV (LTH-1)	2/14/2014 12:28:47 PM	LINE - OPERATIONAL - EMERGENCY	RELAY - EQUIPMENT - RELAY PROBLEM		0
34966	OCCIDENTAL #1 115KV (0177)	2/16/2014 6:06:15 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34779	OCCIDENTAL #1 115KV (0177)	1/11/2014 3:27:07 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35004	CARRABELLE - GUMBAY 69KV (GBC-1)	2/23/2014 10:09:12 AM	LINE - WEATHER - WIND	- -		0
35005	GA PACIFIC - WILCOX 69KV (WGP-1)	2/23/2014 11:15:57 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35008	AVON PARK NORTH 69KV (0210)	2/24/2014 2:06:00 AM	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER		0
35028	JASPER -HOMERVILLE (GA. PWR) 115KV (JW2)	2/26/2014 3:20:04 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35032	LAKE BRANCH 115KV (0475)	2/27/2014 12:21:58 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35039	HINES- WEST LAKE WALES (HWL-2)	3/2/2014 2:22:40 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
34821	MANLEY ROAD (CARGILL) 115KV (0004)	1/22/2014 6:13:07 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34978	LAKE WALES - WEST LAKE WALES CKT#2 69KV (WLL-1)	2/18/2014 8:29:09 AM	LINE - PUBLIC INTERFERENCE - OTHER	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
34989	FT WHITE - JASPER 69KV (JF-1)	2/20/2014 9:06:01 AM	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE	- -		0
34840	OCCIDENTAL #1 115KV (0177)	1/29/2014 3:46:21 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34841	FORT GREEN #6 69KV (0437)	1/29/2014 4:29:14 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34845	OCCIDENTAL #1 115KV (0177)	1/29/2014 2:57:30 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34890	SOUTH FORT MEADE 115KV (0360)	2/5/2014 3:38:15 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35054	OCCIDENTAL #1 115KV (0177)	3/6/2014 2:09:37 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35067	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	3/7/2014 2:16:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35109	OCCIDENTAL #1 115KV (0177)	3/12/2014 3:34:00 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34761	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	1/9/2014 9:08:40 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34832	OCCIDENTAL #1 115KV (0177)	1/25/2014 12:13:36 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34869	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	2/1/2014 8:35:33 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34992	HAVANA - HINSON TEC 69KV RADIAL (HH-1)	2/21/2014 7:57:20 AM	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0.0	182294
34743	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	1/3/2014 5:32:35 AM	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR	0.0	178937.9
35127	MIDWAY - POINCIANA 69KV (DLM-LMP-2)	3/14/2014 12:14:02 PM	LINE - ANIMAL - BIRD - DAMAGE	- -		0
35136	CHIEFLAND - INGLIS 69KV (IS-1)	3/15/2014 3:37:29 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35204	CRAWFORDVILLE 230KV (0147)	3/24/2014 10:02:02 AM	SUB - EQUIPMENT - TRANSFORMER - BUSHING	SUB - EQUIPMENT - TRANSFORMER - BUSHING	25438.0	25438
35208	BARBERVILLE - DELAND WEST 69KV (DWB-1)	3/24/2014 1:06:44 PM	LINE - OTHER - CONTACT OF LINES	LINE - EQUIPMENT - CONDUCTOR/STATIC	0.0	245740.6
35003	CARRABELLE - GUMBAY 69KV (GBC-1)	2/23/2014 10:04:08 AM	LINE - WEATHER -	- -		0
35016	CENTRAL FLA - DALLAS 230KV (CFO-2)	2/24/2014 12:44:00 PM	LINE - OPERATIONAL - EMERGENCY	- -		0
35017	SILVER SPRINGS 230KV (0034)	2/24/2014 11:56:00 AM	SUB - EQUIPMENT - BREAKER/TRANS - OTHER	LINE - OPERATIONAL - EMERGENCY		0
35021	LAKE WALES 69KV (0318)	2/18/2014 8:29:09 AM	LINE - PUBLIC INTERFERENCE - OTHER	SUB - EQUIPMENT - BREAKER/DIST - NON PREVENTABLE	116292.0	116292
35024	LAKE TARPON - PALM HARBOR 230KV (CC-LTL-1)	2/25/2014 10:57:02 PM	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
35163	SOUTH FORT MEADE 115KV (0360)	3/17/2014 11:00:19 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35164	FORT GREEN #11 69KV (0472)	3/17/2014 11:55:55 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35165	FORT GREEN #11 69KV (0472)	3/18/2014 1:16:09 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35168	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	3/18/2014 10:14:52 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35199	FORT GREEN #6 69KV (0437)	3/23/2014 3:13:39 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34804	OCCIDENTAL #1 115KV (0177)	1/18/2014 5:46:39 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35038	HINES - WEST LAKE WALES 230KV (HWLW-1)	3/2/2014 2:22:40 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
35048	OCCIDENTAL #1 115KV (0177)	3/5/2014 6:32:45 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35055	NORTH BARTOW - PEBBLEDALE (TECO) 230KV (WLXT-1)	3/6/2014 4:12:44 PM	LINE - NEIGHBORING UTILITY - OTHER	LINE - NEIGHBORING UTILITY - OTHER		0
34874	BROOKRIDGE - TWIN COUNTY RANCH 115KV - CLEARWATER (CRB-1)	2/3/2014 5:04:52 AM	LINE - PUBLIC INTERFERENCE - VEHICLE	- -		0
34968	OCCIDENTAL #1 115KV (0177)	2/16/2014 6:32:19 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35103	OCCIDENTAL #1 115KV (0177)	3/11/2014 8:12:51 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35171	OCCIDENTAL #1 115KV (0177)	3/18/2014 1:15:30 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35195	LITTLE PAYNE CREEK #1 69KV (0287)	3/22/2014 7:33:28 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

35193	SOUTH FORT MEADE 115KV (0360)	3/21/2014 9:16:27 AM	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
35197	FORT GREEN #4 69KV (0335)	3/23/2014 7:45:39 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34994	OLD TOWN TAP (CFEC) RADIAL 69KV (376160001)	2/21/2014 12:34:28 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35105	CONWAY - PINECASTLE 69KV (WR-4)	3/11/2014 3:01:46 PM	SUB - HUMAN ERROR - CONTRACTOR - CONSTRUCTION	SUB - HUMAN ERROR - CONTRACTOR - CONSTRUCTION	14028.0	14028
35122	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	3/13/2014 12:14:54 PM	LINE - CUSTOMER - MUNICIPALITY	- -		0
35140	JASPER -HOMERVILLE (GA. PWR) 115KV (JW2)	3/16/2014 10:28:03 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
35138	LITTLE PAYNE CREEK #1 69KV (0287)	3/16/2014 5:54:22 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35141	OCCIDENTAL #1 115KV (0177)	3/16/2014 1:47:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35142	OCCIDENTAL #1 115KV (0177)	3/16/2014 2:40:38 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35143	OCCIDENTAL #1 115KV (0177)	3/16/2014 3:03:13 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35145	OCCIDENTAL #1 115KV (0177)	3/16/2014 4:35:27 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35146	PORT ST JOE - CALLAWAY (GULF PWR) 230KV (PX-1)	3/16/2014 4:54:01 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35150	SOUTH FORT MEADE 115KV (0360)	3/17/2014 7:57:16 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34882	BROOKRIDGE - BROOKSVILLE WEST (BBW CKT) 115KV (BBW-1)	2/3/2014 5:05:03 AM	LINE - PUBLIC INTERFERENCE - VEHICLE	SUB - EQUIPMENT - BREAKER/TRANS - PROTECTION/CONTROL	0.0	447734
34907	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	2/8/2014 9:48:33 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
34963	LITTLE PAYNE CREEK #1 69KV (0287)	2/15/2014 6:55:56 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35101	CHIEFLAND - INGLIS 69KV (IS-1)	3/10/2014 6:31:28 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35174	LITTLE PAYNE CREEK #1 69KV (0287)	3/18/2014 4:53:21 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35194	EAST CLEARWATER - SAFETY HARBOR 115KV (HD-4)	3/22/2014 4:00:14 AM	LINE - PUBLIC INTERFERENCE - OTHER	LINE - PUBLIC INTERFERENCE - OTHER	410510.0	410510
35249	INTERCESSION CITY - LAKE BRYAN 69KV (ICBL-1)	3/29/2014 2:13:07 PM	LINE - LIGHTNING -	RELAY - EQUIPMENT - RECLOSING		0
35250	DUNDEE - MIDWAY 69KV (DLM-LMP-1)	3/29/2014 2:15:25 PM	LINE - WEATHER - TORNADO	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE	1161596.0	1161596
35427	JASPER -HOMERVILLE (GA. PWR) 115KV (JW2)	4/24/2014 6:10:55 AM	LINE - WEATHER - WIND	LINE - TREE - NON-PREVENTABLE		0
35328	AVON PARK PL - FT MEADE 230KV (AF2-1)	4/8/2014 4:41:22 PM	LINE - ANIMAL - OTHER	LINE - ANIMAL - OTHER		0
36154	CLEARWATER 69KV (0082)	6/28/2014 4:23:06 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PROTECTION/CONTROL	59552.0	59552
36563	FORT GREEN #6 69KV (0437)	8/24/2014 6:33:53 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36419	OCCIDENTAL SWIFT CREEK #1 - OCCIDENTAL METERING 115KV (JS-3)	8/11/2014 4:12:10 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	277091.0	277136
36594	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	8/29/2014 1:58:57 PM	LINE - LIGHTNING -	- -		0
36598	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	8/29/2014 2:05:01 PM	LINE - LIGHTNING -	- -		0
36653	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	9/3/2014 5:28:35 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36862	LAKE BRANCH 115KV (0475)	9/25/2014 10:34:15 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36980	SOUTH FORT MEADE 115KV (0360)	10/5/2014 10:52:00 PM	SUB - OPERATIONAL - EMERGENCY	SUB - EQUIPMENT - SWITCH		0
35426	LITTLE PAYNE CREEK #1 69KV (0287)	4/24/2014 3:15:23 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35799	LITTLE PAYNE CREEK #1 69KV (0287)	6/9/2014 11:16:59 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36731	CHAMPIONS GATE - DAVENPORT 69KV (ICLW-5)	9/12/2014 12:27:22 PM	LINE - LIGHTNING -	- -		0
37433	DINNER LAKE 69KV (0415)	11/26/2014 12:43:56 AM	RELAY - MISOPERATION -	RELAY - MISOPERATION -		0
37591	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	12/21/2014 11:34:14 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37603	FORT GREEN #6 69KV (0437)	12/25/2014 10:59:14 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35834	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/12/2014 6:56:17 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35849	BAYBORO - CENTRAL PLAZA 115KV (BCP-1)	6/12/2014 3:58:42 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	88828.0	88828
36876	GATEWAY - ULMERTON 115KV (HD-5)	9/27/2014 6:14:49 PM	LINE - LIGHTNING -	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL	15843.0	15843
36877	GATEWAY - 32ND ST 115KV (HD-6)	9/27/2014 6:14:51 PM	LINE - LIGHTNING -	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL		0
36879	ULMERTON 230KV (0126)	9/27/2014 6:14:49 PM	LINE - LIGHTNING -	- -		0
36945	LITTLE PAYNE CREEK #1 69KV (0287)	10/2/2014 2:18:22 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35745	LITTLE PAYNE CREEK #1 69KV (0287)	6/3/2014 8:40:01 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35465	HIGGINS PL - CURLEW 115KV (HTW-3)	4/29/2014 11:13:17 AM	SUB - OPERATIONAL - EMERGENCY	SUB - EQUIPMENT - TRANSFORMER - INSTR		0
35670	BROOKRIDGE - TWIN COUNTY RANCH 115KV - CLEARWATER (CRB-1)	5/25/2014 4:06:42 PM	LINE - EQUIPMENT - POLE FAILURE - PREVENTABLE	LINE - EQUIPMENT - POLE FAILURE - PREVENTABLE	0.0	0
35770	CROSS CITY - OLD TOWN NORTH SW STA 69KV (TC-2)	6/7/2014 1:26:08 AM	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	76156.0	76156

35807	MULBERRY - MULBERRY COGEN CKT#1A 69KV (BH-3)	6/10/2014 5:03:23 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35809	EUSTIS SOUTH - SORRENTO 69KV (SES-1)	6/10/2014 5:11:12 PM	LINE - WEATHER -	- -		0
35817	FORT GREEN #4 69KV (0335)	6/11/2014 2:54:13 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36253	FORT GREEN #6 69KV (0437)	7/22/2014 5:46:39 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36407	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	8/10/2014 3:29:40 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36528	WINDERMERE - WOODSMERE 230KV (WIW-1)	8/21/2014 10:49:36 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
36734	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/12/2014 6:23:42 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35355	WINDERMERE 230KV (0310)	3/17/2014 11:46:17 PM	SUB - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - OTHER	24768.0	24768
35719	BAY HILL 69KV (0208)	5/31/2014 12:59:08 AM	RELAY - HUMAN ERROR - OTHER	RELAY - HUMAN ERROR - OTHER	171156.0	171156
35788	LAKE BRANCH 115KV (0475)	6/9/2014 2:03:13 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35808	LITTLE PAYNE CREEK #1 69KV (0287)	6/10/2014 5:10:20 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35839	DALLAS AIRPORT - WILDWOOD 69KV (AND-2)	6/12/2014 12:27:19 PM	LINE - LIGHTNING -	- -		0
35995	BELLEAIR - CLEARWATER 69KV (LECW-1)	6/28/2014 4:23:10 AM	LINE - CUSTOMER - DISTRIBUTION	- -		0
36013	DRIFTON - HANSON 115KV (JQ-4)	6/30/2014 11:19:12 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36027	CYPRESSWOOD - DUNDEE 69KV (ICLW-1)	7/2/2014 8:42:21 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36161	BROOKSVILLE - BUSHNELL EAST 69KV (BCF-BW-1)	7/14/2014 3:21:31 PM	LINE - TREE - PREVENTABLE	LINE - TREE - PREVENTABLE	0.0	14991.5
36517	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/21/2014 7:37:05 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36523	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	8/21/2014 6:17:36 PM	LINE - LIGHTNING -	- -		0
36561	ZEPHYRHILLS NORTH - DADE CITY (TECO) 69KV (BZ-6)	8/24/2014 5:13:51 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36604	FLORIDA GAS TRANSMISSION EAST - WEWAHOOTEE 69KV (RW-3)	8/29/2014 7:05:43 PM	LINE - EQUIPMENT - GROUND/GUY	- -		0
36709	OCCIDENTAL #2 115KV (0187)	9/9/2014 1:00:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36889	FORT WHITE 230KV (0111)	9/29/2014 10:17:25 AM	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
37136	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	10/22/2014 8:09:46 AM	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	0.0	108514.6
37232	ARCHER 230KV (0098)	10/31/2014 9:55:50 AM	SUB - OPERATIONAL - EMERGENCY	SUB - EQUIPMENT - BREAKER/TRANS - OTHER	918.0	918
37422	CLARCONA - OCOEE 69KV (OCC-1)	11/25/2014 11:16:56 AM	LINE - LIGHTNING -	- -		0
37443	OCCIDENTAL #1 115KV (0177)	11/29/2014 2:02:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35251	HUNTERS CREEK - SHINGLE CREEK 69KV (SCH-1)	3/29/2014 3:03:47 PM	LINE - LIGHTNING -	- -		0
35252	CRYSTAL RIVER SOUTH - TWIN COUNTY RANCH 115KV (CRB-4)	3/29/2014 2:33:48 PM	LINE - WEATHER - MAJOR STORM	- -		0
35344	DEBARY PL - NORTH LONGWOOD 230KV (DL-1)	4/12/2014 1:33:01 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35494	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	5/1/2014 8:31:16 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35847	CENTRAL FLA - CLERMONT EAST - METROWEST (OUC) 230KV - HAINES CITY (CFW-4)	6/12/2014 2:57:37 PM	LINE - WEATHER - WIND	- -		0
36475	VANDOLAH - WAUCHULA 69KV (VW-1)	8/16/2014 12:00:47 PM	LINE - LIGHTNING -	- -		0
36413	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	8/11/2014 12:26:22 PM	LINE - LIGHTNING -	- -		0
36514	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	8/20/2014 6:09:43 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36625	FT WHITE - JASPER 69KV (JF-1)	8/31/2014 10:15:09 PM	LINE - LIGHTNING -	LINE - LIGHTNING -		0
36772	PORT RICHEY WEST 115KV (0164)	9/5/2014 7:23:32 PM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	73627.0	73627
37313	FERN PARK 69KV (0296)	11/5/2014 2:44:38 PM	SUB - EQUIPMENT - BREAKER	RELAY - HUMAN ERROR - SETTING ERROR	16464.0	16464
37580	DINNER LAKE 69KV (0415)	12/2/2014 10:23:07 AM	SUB - OPERATIONAL - EMERGENCY	- -		0
35363	OCCIDENTAL #1 115KV (0177)	4/15/2014 8:21:02 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36164	BROOKSVILLE - UNION HALL 69KV (BZ-1)	7/14/2014 4:07:10 PM	LINE - LIGHTNING -	- -		0
36482	PEACOCK 69KV (0461)	8/17/2014 12:25:19 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36544	ROSS PRAIRIE - SILVER SPRINGS 69KV (IO-4)	8/22/2014 4:48:04 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36599	CARRABELLE - CRAWFORDVILLE 69KV (JA-2)	8/29/2014 2:18:21 PM	LINE - LIGHTNING -	- -		0
36600	CYPRESSWOOD - HAINES CITY 69KV (ICLW-2)	8/29/2014 4:24:20 PM	LINE - LIGHTNING -	- -		0
36818	OCCIDENTAL #1 115KV (0177)	9/21/2014 1:14:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35361	HAVANA 115KV (0265)	4/15/2014 3:19:29 AM	LINE - TREE - NON-PREVENTABLE	- -		0
35877	FT WHITE - HIGH SPRINGS 69KV (FH-1)	6/15/2014 6:50:37 PM	LINE - PUBLIC INTERFERENCE - TREE	LINE - PUBLIC INTERFERENCE - TREE		0
36491	FT WHITE - HIGH SPRINGS 69KV (FH-1)	8/18/2014 12:13:22 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36538	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/22/2014 10:24:06 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37224	INTERCESSION CITY - DUNDEE 230KV CKT #1 (ICD-1)	10/30/2014 9:10:08 PM	LINE - ANIMAL - BIRD - EXCREMENT	- -		0
36887	OCCIDENTAL #1 115KV (0177)	9/29/2014 9:27:30 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35559	CENTRAL FLORIDA 500KV (0170)	5/12/2014 1:16:04 PM	RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP		0
35767	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/7/2014 12:25:23 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35769	OCCIDENTAL #1 115KV (0177)	6/7/2014 12:27:20 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

35845	REEDY LAKE - DISNEY WORLD NORTHWEST 69KV (CET-3)	6/12/2014 2:34:21 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36104	CROSS CITY - WILCOX 69KV (WCC-1)	7/10/2014 11:16:30 AM LINE - LIGHTNING -	- -		0
36113	CRYSTAL RIVER SOUTH - TWIN COUNTY RANCH 115KV (CRB-4)	7/10/2014 3:50:00 PM SUB - EQUIPMENT - BREAKER/TRANS - PROTECTION/CONTROL	SUB - EQUIPMENT - BREAKER/TRANS - PROTECTION/CONTROL	0.0	13487.5
36420	LITTLE PAYNE CREEK #1 69KV (0287)	8/11/2014 5:01:28 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36485	LITTLE PAYNE CREEK #1 69KV (0287)	8/17/2014 4:40:14 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36610	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	8/30/2014 5:42:38 PM LINE - ANIMAL - BIRD - DAMAGE	LINE - ANIMAL - BIRD - DAMAGE	0.0	87890
36621	FLORA MAR - SEVEN SPGS 115KV (SFM-1)	8/31/2014 4:26:22 PM LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
36624	CHIEFLAND - INGLIS 69KV (IS-1)	8/31/2014 8:48:17 PM LINE - LIGHTNING -	- -		0
36699	VINOY 115KV (0159)	8/11/2014 3:22:04 PM RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP	47020.0	47020
36718	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/10/2014 12:00:39 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37253	CABBAGE ISLAND 69KV (0306)	11/1/2014 10:23:18 AM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	11760.0	11760
37254	BAYVIEW 115KV (0050)	11/2/2014 8:41:14 AM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	6804.0	6804
37606	RIO PINAR PL - CURRY FORD 230KV (RX-2)	12/28/2014 10:19:37 AM LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
35425	LITTLE PAYNE CREEK #1 69KV (0287)	4/24/2014 2:36:09 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35780	HAMMOCK 115KV (0257)	6/8/2014 11:27:00 AM RELAY - HUMAN ERROR - OTHER	RELAY - HUMAN ERROR - OTHER	0.0	13
35785	CARRABELLE - GUMBAY 69KV (GBC-1)	6/8/2014 5:28:01 PM LINE - LIGHTNING -	- -		0
35796	CENTRAL FLA - CLERMONT EAST - METROWEST (OUC) 230KV - WILDWOOD (CFW-5)	6/9/2014 6:29:38 PM LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
35913	LAKE TARPON - SHELDON ROAD CKT#2 (TECO) 230KV (LTX2-1)	6/19/2014 6:27:33 AM LINE - UNKNOWN -	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
36243	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/21/2014 8:08:54 PM LINE - LIGHTNING -	- -		0
36608	HINES - WEST LAKE WALES 230KV (HWLW-1)	8/29/2014 8:56:05 PM LINE - LIGHTNING -	- -		0
37073	SOUTH POLK 230KV (0498)	10/14/2014 4:21:35 AM LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	0.0	6
37558	INTERCESSION CITY - LAKE BRYAN 69KV (ICBL-1)	12/15/2014 11:21:28 PM SUB - ANIMAL - RACCOON	- -		0
35256	OCCIDENTAL #1 115KV (0177)	3/30/2014 1:25:44 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35473	PLYMOUTH - ZELLWOOD 69KV (EP-4)	4/29/2014 6:05:30 PM LINE - LIGHTNING -	- -		0
36606	LAKE BRANCH 115KV (0475)	8/29/2014 8:33:52 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36614	SOUTH FORT MEADE 115KV (0360)	8/30/2014 6:51:16 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36630	SUWANNEE RIVER - PINE GROVE (GA PWR) 230KV (SX-1)	9/2/2014 12:19:00 AM LINE - LIGHTNING -	- -		0
36644	JASPER - PINE GROVE (GA PWR) 115KV (JX-1)	9/2/2014 6:30:36 PM LINE - LIGHTNING -	- -		0
36646	FORT GREEN SPRINGS 69KV (0439)	9/2/2014 8:09:37 PM LINE - ANIMAL - BIRD - DAMAGE	- -		0
37414	OCCIDENTAL #1 115KV (0177)	11/24/2014 9:20:00 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35287	LISBON TEMP 69KV (0027)	3/28/2014 7:36:51 PM SUB - ANIMAL - OTHER	SUB - EQUIPMENT - DISCONNECT	331796.0	331796
35837	EUSTIS 69KV (0313)	6/12/2014 8:20:19 AM SUB - EQUIPMENT - TRANSFORMER - WINDING	- -		0
35711	HANSON 115KV (0060)	5/29/2014 6:33:26 PM SUB - EQUIPMENT - BREAKER/TRANS - ARRESTOR	SUB - EQUIPMENT - BREAKER/TRANS - ARRESTOR	0.0	119572
35860	AVALON - REEDY LAKE 69KV (CET-2)	6/13/2014 11:23:36 AM LINE - LIGHTNING -	- -		0
35982	LITTLE PAYNE CREEK #1 69KV (0287)	6/26/2014 7:09:01 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36441	COLEMAN 69KV (0043)	6/24/2014 11:35:44 PM LINE - EQUIPMENT - OTHER	RELAY - EQUIPMENT - OTHER	63056.0	63056
37010	DENHAM 69KV (0118)	9/2/2014 1:02:08 AM LINE - CUSTOMER - DISTRIBUTION	RELAY - EQUIPMENT - RELAY PROBLEM	115392.0	115392
35365	DUNNELLON TOWN - RAINBOW LK EST SEC 69KV RADIAL (DR-1)	4/15/2014 11:16:10 AM LINE - LIGHTNING -	- -		0
35388	BROOKRIDGE - BROOKSVILLE WEST (BBW CKT) 115KV (BBW-1)	4/18/2014 3:13:41 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35499	LAKE BRANCH 115KV (0475)	5/1/2014 5:09:35 PM LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
35882	DEBARY PLANT 230KV (0246)	6/16/2014 2:36:11 PM RELAY - EQUIPMENT - SUDDEN PRESSURE RELAY FAILURE	- -		0
36448	CARRABELLE - GUMBAY 69KV (GBC-1)	8/14/2014 2:22:08 PM LINE - LIGHTNING -	- -		0
36478	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/16/2014 10:25:18 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37405	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	11/24/2014 7:46:43 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37413	OCCIDENTAL #1 115KV (0177)	11/24/2014 9:15:39 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35308	FORT GREEN #4 69KV (0335)	4/7/2014 3:01:09 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35406	BARTOW PLANT 230KV (0093)	4/21/2014 12:03:56 AM SUB - EQUIPMENT - TRANSFORMER - BUSHING	SUB - CUSTOMER - GENERATION		0
36134	OKAHUMPKA 69KV (0278)	7/11/2014 6:41:43 PM LINE - LIGHTNING -	- -		0
36207	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	7/17/2014 11:50:05 AM LINE - LIGHTNING -	- -		0
36344	CENTRAL PLAZA - MAXIMO 115KV (CPM-1)	8/3/2014 2:47:17 PM LINE - LIGHTNING -	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE	221292.0	221292
36345	CRAWFORDVILLE - JACKSON BLUFF 69KV (JA-3)	8/3/2014 2:56:41 PM LINE - LIGHTNING -	- -		0
36368	HIGHLANDS 69KV (0214)	7/9/2014 4:45:25 PM SUB - HUMAN ERROR - SWITCHING ERROR - TRANS	SUB - HUMAN ERROR - SWITCHING ERROR - TRANS	11541.0	11541
36453	VANDOLAH - WAUCHULA 69KV (VW-1)	8/14/2014 7:07:00 PM LINE - LIGHTNING -	- -		0
36371	SOUTH FORT MEADE 115KV (0360)	8/6/2014 6:33:00 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

36421	LITTLE PAYNE CREEK #1 69KV (0287)	8/11/2014 5:10:21 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36612	FLORA MAR - SEVEN SPGS 115KV (SFM-1)	8/30/2014 6:51:17 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36626	ELFERS - SEVEN SPGS 115KV (NORTH CKT) (SE-1)	9/1/2014 11:11:28 AM	LINE - EQUIPMENT - ARRESTER	LINE - EQUIPMENT - ARRESTER		0
36698	BROOKSVILLE - UNION HALL 69KV (BZ-1)	9/8/2014 3:32:13 PM	LINE - LIGHTNING -	- -		0
36767	OCCIDENTAL #1 115KV (0177)	9/16/2014 7:38:20 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36783	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/16/2014 9:29:11 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37215	NEW RIVER - HANDCART (TECO) 69KV (TZ-4)	10/29/2014 6:52:46 PM	SUB - OPERATIONAL - EMERGENCY	- -		0
37346	OCCIDENTAL #1 115KV (0177)	11/17/2014 12:18:14 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35351	OCCIDENTAL #1 115KV (0177)	4/13/2014 2:38:10 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35433	LITTLE PAYNE CREEK #1 69KV (0287)	4/25/2014 12:05:11 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35984	PIEDMONT - WELCH ROAD 230KV (PS-1)	6/26/2014 8:03:32 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36163	CANOE CREEK 230KV (0162)	7/12/2014 2:58:34 PM	LINE - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - INCORRECT SETTING APPLIED	39882.0	39882
36554	ROSS PRAIRIE - MARION OAKS SEC 69KV RADIAL (RPMX-1)	8/23/2014 6:57:34 PM	LINE - LIGHTNING -	- -		0
36585	LAKE WEIR - CENTRAL TOWER CEC 69KV RADIAL (LC-1)	8/28/2014 4:28:28 PM	LINE - CUSTOMER -	- -		0
36611	PORT RICHEY WEST - SEVEN SPRINGS 115KV (SPR-1)	8/30/2014 6:51:17 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	180094.0	180094
36613	ELFERS - SEVEN SPGS 115KV (NORTH CKT) (SE-1)	8/30/2014 6:51:17 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36911	VINOY 115KV (0159)	9/26/2014 7:27:08 PM	SUB - LIGHTNING -	SUB - EQUIPMENT - INSULATOR	597982.0	597982
36943	LARGO 230KV (0123)	10/2/2014 11:22:03 AM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37424	CAMP LAKE - CENTRAL FLA 230KV (CFW-1)	11/25/2014 2:15:04 PM	LINE - LIGHTNING -	- -		0
37429	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	11/25/2014 10:03:28 PM	LINE - LIGHTNING -	- -		0
35855	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	6/12/2014 7:20:51 PM	LINE - LIGHTNING -	- -		0
36034	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	7/3/2014 5:19:56 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36781	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/16/2014 6:40:12 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36855	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	9/24/2014 11:46:25 AM	LINE - HUMAN ERROR - OTHER	LINE - HUMAN ERROR - OTHER	0.0	21319.4
37086	CENTRAL FLA - LEESBURG (BL) 69KV (BL-1)	10/14/2014 5:58:02 PM	LINE - LIGHTNING -	- -		0
35831	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	6/11/2014 8:56:53 PM	LINE - WEATHER - MAJOR STORM	- -		0
35937	FROSTPROOF - LAKE WALES 69KV (AL-3)	6/21/2014 6:38:17 PM	LINE - LIGHTNING -	- -		0
35980	AVON PARK PL - DESOTO CITY 69KV (AD-1)	6/26/2014 10:09:15 AM	LINE - CUSTOMER - DISTRIBUTION	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE		0
36132	PEACOCK 69KV (0461)	7/11/2014 2:46:11 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36415	CRYSTAL RIVER PL - HOLDER CKT#1 230KV (CCF-4)	8/11/2014 12:30:57 PM	LINE - LIGHTNING -	- -		0
36446	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	8/14/2014 12:38:08 PM	LINE - LIGHTNING -	- -		0
36493	LITTLE PAYNE CREEK #1 69KV (0287)	8/18/2014 2:26:06 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36694	CENTRAL FLA - KATHLEEN 500KV - HAINES CITY (CFK-1)	9/7/2014 10:03:52 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
36912	PILSBURY - VINOY UG 115KV (UGVP-1)	9/30/2014 12:40:43 PM	RELAY - EQUIPMENT - SUDDEN PRESSURE RELAY FAILURE	RELAY - EQUIPMENT - SUDDEN PRESSURE RELAY FAILURE		0
36922	JASPER 115KV (0074)	7/3/2014 8:51:03 PM	SUB - WEATHER - WIND	LINE - EQUIPMENT - CONDUCTOR/STATIC	35875.0	35875
35231	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	3/26/2014 9:03:45 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35320	OCCIDENTAL #1 115KV (0177)	4/8/2014 7:34:40 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36021	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/2/2014 9:51:11 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36065	VANDOLAH - WAUCHULA 69KV (VW-1)	7/5/2014 3:00:12 PM	LINE - LIGHTNING -	- -		0
36214	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/18/2014 2:08:53 PM	SUB - CUSTOMER - GENERATION	SUB - CUSTOMER - INDUSTRIAL		0
36383	CLEARWATER 69KV (0082)	7/17/2014 3:06:04 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PROTECTION/CONTROL	81182.0	81182
36384	SUN N LAKES 69KV (0268)	8/1/2014 6:27:47 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	91834.0	91834
36468	BAYBORO 115KV (0010)	8/15/2014 4:04:12 PM	RELAY - EQUIPMENT - RELAY PROBLEM	RELAY - EQUIPMENT - RELAY PROBLEM		0
36500	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	8/19/2014 12:29:40 PM	LINE - LIGHTNING -	- -		0
36543	CHIEFLAND - INGLIS 69KV (IS-1)	8/22/2014 3:53:35 PM	LINE - WEATHER -	- -		0
36549	HUDSON 230KV (0273)	8/23/2014 5:02:56 PM	LINE - NEIGHBORING UTILITY - OTHER	- -		0
36551	ZEPHYRHILLS NORTH - DADE CITY (TECO) 69KV (BZ-6)	8/23/2014 5:26:16 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	0.0	7199
36691	MULBERRY - NORTHWEST (CITY OF BARTOW) 69KV (MSW-NWSW-1)	9/7/2014 7:44:52 PM	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
37005	DRIFTON 115KV (0095)	10/6/2014 2:24:30 PM	SUB - EQUIPMENT - BREAKER	SUB - EQUIPMENT - BREAKER	0.0	0
37075	CARRABELLE - GUMBAY 69KV (GBC-1)	10/14/2014 9:05:26 AM	LINE - LIGHTNING -	- -		0

37111	FORT GREEN #10 69KV (0463)	10/18/2014 4:16:12 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35332	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/9/2014 11:53:14 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35485	LAKE PLACID - LAKE PLACID NORTH 69KV (DLP-2)	4/30/2014 1:37:08 PM	LINE - LIGHTNING -	- -		0
35881	TURNER PL - ORANGE CITY 115KV (TO-2)	6/16/2014 2:39:57 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35934	HAVANA - HINSON TEC 69KV RADIAL (HH-1)	6/21/2014 4:00:52 PM	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0.0	365483.8
36129	INGLIS MINING 115KV (0395)	7/10/2014 6:38:56 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36220	SOUTH FORT MEADE 115KV (0360)	7/20/2014 2:36:21 AM	SUB - CUSTOMER - INDUSTRIAL	- -		0
36358	VANDOLAH - WAUCHULA 69KV (VW-1)	8/5/2014 1:49:09 PM	LINE - LIGHTNING -	- -		0
36278	LITTLE PAYNE CREEK #1 69KV (0287)	7/25/2014 6:37:25 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36474	LITTLE PAYNE CREEK #1 69KV (0287)	8/16/2014 11:37:21 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36479	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/17/2014 7:18:46 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36665	INTERCESSION CITY PLANT 230KV (0166)	7/22/2014 4:28:22 PM	SUB - EQUIPMENT - CCPD	RELAY - HUMAN ERROR - SETTING ERROR		0
36674	NORTH BARTOW - WEST LAKE WALES 69KV (BWL-2)	9/6/2014 4:10:12 PM	LINE - LIGHTNING -	- -		0
36678	BAY HILL - VINELAND 69KV (BHV-1)	9/6/2014 5:07:27 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	19305.0	19305
36706	BROOKRIDGE - TWIN COUNTY RANCH 115KV - CLEARWATER (CRB-1)	9/9/2014 1:29:49 PM	LINE - LIGHTNING -	- -		0
37076	CARRABELLE - GUMBAY 69KV (GBC-1)	10/14/2014 11:03:01 AM	LINE - LIGHTNING -	- -		0
37309	ULMERTON 230KV (0126)	11/2/2014 4:40:25 PM	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/TRANS - PROTECTION/CONTROL	7277.0	7277
37582	SKY LAKE 230KV (0212)	11/18/2014 9:40:00 AM	RELAY - HUMAN ERROR - SETTING ERROR	RELAY - HUMAN ERROR - SETTING ERROR	1808.0	1808
37607	PALM HARBOR 230KV (0079)	11/28/2014 7:09:14 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	38425.0	38425
37610	DINNER LAKE - PHILLIPS 69KV (PDL-1)	12/30/2014 7:55:30 AM	LINE - ANIMAL - BIRD - EXCREMENT	RELAY - HUMAN ERROR - SETTING ERROR		0
39351	LOCKHART 230KV (0385)	11/30/2014 8:05:10 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL		0
35391	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/19/2014 7:07:59 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35479	CARRABELLE - GUMBAY 69KV (GBC-1)	4/30/2014 9:07:45 AM	LINE - LIGHTNING -	- -		0
35671	BROOKRIDGE - BROOKSVILLE WEST (BBW CKT) 115KV (BBW-1)	5/25/2014 4:26:56 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	0.0	60763.9
35827	HOLOPAW - WEST LAKE WALES 230KV (WLXF-3)	6/11/2014 4:45:46 PM	LINE - LIGHTNING -	- -		0
35850	HOMELAND - MULBERRY 69KV (BH-2)	6/12/2014 5:14:05 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35854	SOUTH FORT MEADE 115KV (0360)	6/12/2014 6:19:07 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36011	HORSE CREEK 69KV (0006)	6/30/2014 4:11:55 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36012	ODESSA - TARPON SPRINGS 69KV (TZ-2)	6/30/2014 8:05:10 PM	LINE - LIGHTNING -	- -		0
36152	FT GREEN SPRINGS - VANDOLAH #2 CKT 69KV (VFGS-1)	7/13/2014 7:18:41 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY	0.0	9
36522	BARBERVILLE - DELAND WEST 69KV (DWB-1)	8/21/2014 6:20:19 PM	LINE - LIGHTNING -	- -		0
36548	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/23/2014 7:12:59 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36615	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/30/2014 9:10:10 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36627	ARCHER - WILLISTON 69KV (AW-1)	9/1/2014 4:04:02 PM	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
36688	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	9/7/2014 3:53:21 PM	LINE - LIGHTNING -	- -		0
36689	CAMP LAKE - CLERMONT 69KV (CLC-1)	9/7/2014 3:53:26 PM	LINE - LIGHTNING -	- -		0
36853	SOUTH FORT MEADE 115KV (0360)	9/23/2014 10:58:16 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37043	WINDERMERE - WOODSMERE 230KV (WIW-1)	10/9/2014 7:02:53 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37050	OCCIDENTAL #1 115KV (0177)	10/11/2014 2:24:48 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37383	DRIFTON 115KV (0095)	11/20/2014 6:07:24 PM	SUB - EQUIPMENT -	- -		0
35318	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/7/2014 7:28:16 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35438	DELAND 69KV (0301)	4/26/2014 12:35:22 AM	SUB - EQUIPMENT - BREAKER/TRANS - BUSHING	SUB - EQUIPMENT - BREAKER/TRANS - BUSHING	926079.0	926079
35474	LITTLE PAYNE CREEK #1 69KV (0287)	4/29/2014 8:17:01 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35863	AVON PARK PL - DESOTO CITY 69KV (AD-1)	6/13/2014 9:38:09 PM	LINE - LIGHTNING -	- -		0
35885	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	6/16/2014 4:35:49 PM	LINE - LIGHTNING -	- -		0
35998	SOUTH FORT MEADE 115KV (0360)	6/28/2014 1:56:43 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36046	CRYSTAL RIVER EAST - INGLIS CKT1 115KV (IT-CKT1)	7/3/2014 9:29:56 PM	LINE - WEATHER -	- -		0
36054	DENHAM 69KV (0118)	7/4/2014 6:06:28 PM	LINE - NEIGHBORING UTILITY - OTHER	LINE - NEIGHBORING UTILITY - OTHER		0
36058	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/5/2014 7:22:52 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36097	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/9/2014 7:20:26 PM	LINE - LIGHTNING -	- -		0
36127	TURNER PL - ORANGE CITY 115KV (TO-2)	7/11/2014 2:30:57 AM	LINE - WEATHER - WIND	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36128	DEBARY PL - NORTH LONGWOOD 230KV (DL-1)	7/11/2014 2:30:58 AM	LINE - WEATHER - WIND	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36730	DUNDEE - MIDWAY 69KV (DLM-LMP-1)	9/12/2014 11:57:30 AM	LINE - LIGHTNING -	LINE - EQUIPMENT - INSULATOR		0
37079	OCCIDENTAL #1 115KV (0177)	10/14/2014 1:53:25 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37411	ECON 230KV (0368)	11/12/2014 8:18:36 AM	SUB - ANIMAL - SQUIRREL	SUB - ANIMAL - SQUIRREL	105542.0	105542
37617	SEMINOLE - STARKEY ROAD 69KV (DLW-5)	10/31/2014 8:44:48 AM	RELAY - MISOPERATION -	- -		0

35360	OCCIDENTAL #1 115KV (0177)	4/14/2014 9:11:04 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35806	RIO PINAR PL - MAGNOLIA RANCH 69KV (RW-4)	6/10/2014 4:49:25 PM	LINE - LIGHTNING -	- -		0
35833	NEW RIVER - CABBAGE HILL (TECO) 69KV (TZ-3)	6/12/2014 5:26:47 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35844	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	6/12/2014 2:21:40 PM	LINE - LIGHTNING -	- -		0
36139	FORT GREEN #6 69KV (0437)	7/12/2014 12:22:23 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37401	OCCIDENTAL #1 115KV (0177)	11/23/2014 11:39:39 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37415	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	11/25/2014 1:08:47 AM	LINE - LIGHTNING -	- -		0
37431	FROSTPROOF - LAKE WALES 69KV (AL-3)	11/25/2014 11:01:21 PM	LINE - LIGHTNING -	- -		0
37444	CENTRAL FLA - KATHLEEN 500KV - HAINES CITY (CFK-1)	12/1/2014 12:09:56 AM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37445	BARTOW PL - NORTHEAST UG3 230KV (UGBN-3)	11/30/2014 11:51:25 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37446	BARTOW PL - NORTHEAST UG5 230KV (BNUG-5)	11/30/2014 11:51:25 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37564	FORT GREEN #10 69KV (0463)	12/16/2014 2:56:36 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37567	PILSBURY - VINOY UG 115KV (UGVP-1)	12/17/2014 7:25:12 AM	LINE - PLANNED - MAINTENANCE AND CONSTRUCTION	LINE - PLANNED - MAINTENANCE AND CONSTRUCTION		0
35254	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	3/29/2014 4:27:12 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35432	LITTLE PAYNE CREEK #1 69KV (0287)	4/25/2014 12:04:46 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35683	CROSS CITY - OLD TOWN NORTH SW STA 69KV (TC-2)	5/27/2014 9:29:40 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35890	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	6/16/2014 6:03:37 PM	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
36148	OCCIDENTAL #1 115KV (0177)	7/13/2014 5:06:28 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36498	HAVANA - HINSON TEC 69KV RADIAL (HH-1)	8/19/2014 10:58:38 AM	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0.0	207340.4
36556	OCCIDENTAL #1 115KV (0177)	8/23/2014 10:40:08 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36574	MYRTLE LAKE 230KV (0394)	8/26/2014 3:34:22 PM	SUB - HUMAN ERROR - SWITCHING ERROR - OTHER DEPT	SUB - HUMAN ERROR - SWITCHING ERROR - OTHER DEPT	463833.0	463833
37034	PORT RICHEY WEST - SEVEN SPRINGS 115KV (SPR-1)	10/9/2014 2:10:24 AM	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
37244	SPRING LAKE 230KV (0211)	10/7/2014 5:42:00 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	338204.0	338204
37303	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	11/11/2014 4:07:11 AM	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	0.0	92580.3
37396	SOUTH FORT MEADE 115KV (0360)	11/22/2014 11:38:56 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35416	LAKE TARPON - SHELDON ROAD CKT#2 (TECO) 230KV (LTX2-1)	4/23/2014 7:05:14 AM	RELAY - CUSTOMER - REA	RELAY - CUSTOMER - REA		0
35468	BARTOW PLANT 230KV (0093)	4/29/2014 12:42:16 PM	RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP		0
35816	ATWATER - US HYDRO WOODRUFF DAM 115KV (QX-2)	6/11/2014 2:48:00 AM	LINE - CUSTOMER -	- -		0
36070	MEADOW WOODS SOUTH - HUNTER CREEK 69KV (MSH-1)	7/6/2014 3:14:40 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36194	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	7/16/2014 9:51:14 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36199	AVON PARK NORTH - FROSTPROOF 69KV (AL-1)	7/16/2014 11:44:27 AM	LINE - LIGHTNING -	- -		0
36254	MANLEY ROAD (CARGILL) 115KV (0004)	7/23/2014 2:03:47 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36403	CARRABELLE - GUMBAY 69KV (GBC-1)	8/10/2014 11:14:01 AM	LINE - LIGHTNING -	- -		0
36490	OCCIDENTAL #1 115KV (0177)	8/18/2014 6:36:04 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36794	OCCIDENTAL #1 115KV (0177)	9/18/2014 3:06:08 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37347	LAKE BRANCH 115KV (0475)	11/17/2014 12:07:24 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35312	OCCIDENTAL #1 115KV (0177)	4/7/2014 11:26:26 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35504	DELAND EAST - DELAND (FPL) 115KV (DEX-1)	5/3/2014 8:05:00 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35775	MULBERRY 69KV (0424)	6/7/2014 1:12:12 PM	SUB - CUSTOMER - GENERATION	SUB - CUSTOMER - GENERATION		0
35861	CYPRESSWOOD - HAINES CITY 69KV (ICLW-2)	6/13/2014 5:33:31 PM	LINE - LIGHTNING -	- -		0
35867	MIDWAY - POINCIANA 69KV (DLM-LMP-2)	6/14/2014 2:21:25 PM	LINE - LIGHTNING -	- -		0
35868	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	6/14/2014 2:24:21 PM	LINE - LIGHTNING -	- -		0
36311	HEMPLE - LAKE LUNTZ 69KV (AH-2)	7/29/2014 4:57:31 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36313	FLORIDA GAS TRANSMISSION EAST 69KV (0527)	7/29/2014 5:45:08 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36488	LAKE BRANCH 115KV (0475)	8/18/2014 2:37:18 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36526	BARBERVILLE - DELAND WEST 69KV (DWB-1)	8/21/2014 6:37:48 PM	LINE - LIGHTNING -	- -		0
36725	OCCIDENTAL #1 115KV (0177)	9/11/2014 5:55:29 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36835	MAITLAND - SPRING LAKE 69KV (SLM-1)	9/22/2014 3:52:36 PM	LINE - LIGHTNING -	- -		0

36836	HOLDER - INVERNESS 69KV (HB-3)	9/22/2014 3:58:32 PM	LINE - LIGHTNING -	- -		0
36880	HUDSON 230KV (0273)	9/28/2014 5:06:56 PM	LINE - NEIGHBORING UTILITY - OTHER	- -		0
36881	ODESSA - TARPON SPRINGS 69KV (TZ-2)	9/28/2014 5:20:11 PM	LINE - LIGHTNING -	- -		0
37280	BROOKRIDGE - TWIN COUNTY RANCH 115KV - CLEARWATER (CRB-1)	11/9/2014 4:44:54 AM	LINE - EQUIPMENT - CONNECTOR	LINE - EQUIPMENT - CONNECTOR	0.0	126649
37426	LEESBURG - OKAHUMPKA 69KV (CLL-2)	11/25/2014 2:54:31 PM	LINE - LIGHTNING -	- -		0
35367	ANCLOTE PL - LARGO 230KV (ANL-1)	4/15/2014 12:21:20 PM	LINE - LIGHTNING -	- -		0
36190	BROOKRIDGE-HUDSON 230kV (CC-2)	7/15/2014 11:32:28 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
36257	BARBERVILLE - DELAND WEST 69KV (DWB-1)	7/23/2014 3:21:41 PM	RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP	0.0	52848.8
36480	DALLAS AIRPORT 69KV (0219)	8/17/2014 8:02:39 AM	SUB - CUSTOMER -	- -		0
36572	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	8/26/2014 12:26:53 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - OPERATIONAL - OTHER	0.0	3718.5
36733	PEACOCK 69KV (0461)	9/12/2014 1:17:56 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36824	OCCIDENTAL #1 115KV (0177)	9/22/2014 9:47:43 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36841	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	9/23/2014 12:47:07 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36874	UMATILLA (SEC) REA 69KV (6794)	9/27/2014 1:53:12 PM	LINE - LIGHTNING -	- -		0
36891	FORT GREEN #10 69KV (0463)	9/29/2014 10:43:24 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35393	BARTOW PL - NORTHEAST UG3 230KV (UGBN-3)	4/21/2014 1:08:35 AM	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATION	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATION		0
35394	BARTOW PL - NORTHEAST UG3 230KV (UGBN-3)	4/21/2014 1:08:45 AM	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATION	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATION		0
35395	BARTOW PL - NORTHEAST UG3 230KV (UGBN-3)	4/21/2014 1:08:57 AM	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATION	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATION		0
36002	INTERCESSION CITY PL - LAKE BRYAN CKT#1 230KV (ILB-1)	6/29/2014 2:19:32 AM	SUB - EQUIPMENT - CCPD	SUB - EQUIPMENT - CCPD		0
36121	SKY LAKE - TAFT 69KV (WR-8)	7/10/2014 5:54:17 PM	LINE - LIGHTNING -	- -		0
36130	LITTLE PAYNE CREEK #1 69KV (0287)	7/11/2014 8:48:46 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36215	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	7/18/2014 11:36:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36356	CENTRAL FLA - CLERMONT EAST - METROWEST (OUC) 230KV - WILDWOOD (CFW-5)	8/4/2014 6:08:25 PM	LINE - WEATHER -	RELAY - EQUIPMENT - OTHER		0
36456	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	8/14/2014 9:16:58 PM	LINE - LIGHTNING -	- -		0
36497	DUNDEE 230KV (0083)	8/19/2014 4:12:41 AM	SUB - EQUIPMENT - BREAKER/TRANS - BUSHING	SUB - EQUIPMENT - BREAKER/TRANS - BUSHING		0
36681	SOUTH FORT MEADE 115KV (0360)	9/7/2014 6:33:45 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36708	SUWANNEE RIVER - LIVE OAK (FP&L) 115KV (SF-1)	9/9/2014 1:48:23 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37083	LARGO - SEMINOLE 230KV (LSP-UL-1)	10/14/2014 4:36:06 PM	LINE - LIGHTNING -	- -		0
37325	PORT RICHEY WEST - SEVEN SPRINGS 115KV (SPR-1)	11/12/2014 5:01:43 PM	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER		0
37432	AVON PARK PL - WAUCHULA 69KV (APW-1)	11/26/2014 12:13:00 AM	LINE - LIGHTNING -	- -		0
35216	SOUTH FORT MEADE 115KV (0360)	3/25/2014 12:45:23 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35288	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/3/2014 2:14:59 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35497	LITTLE PAYNE CREEK #1 69KV (0287)	5/1/2014 2:48:33 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35859	ODESSA - TARPON SPRINGS 69KV (TZ-2)	6/13/2014 9:49:18 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35879	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	6/15/2014 8:52:05 PM	LINE - ANIMAL - BIRD - DAMAGE	- -		0
35967	VANDOLAH - CHARLOTTE (FPL) 230KV (VCX-1)	6/24/2014 11:15:28 PM	LINE - OPERATIONAL - OTHER	LINE - OPERATIONAL - OTHER		0
36075	FORT GREEN #4 69KV (0335)	7/6/2014 5:30:45 PM	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
36291	OCCIDENTAL #1 115KV (0177)	7/26/2014 4:06:48 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36277	FORT GREEN #11 69KV (0472)	7/24/2014 11:20:07 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36459	TAVARES SEC - DEER ISLAND SEC 69KV (TDX-1)	8/15/2014 5:59:19 AM	LINE - LIGHTNING -	- -		0
36462	EUSTIS SOUTH - SORRENTO 69KV (SES-1)	8/15/2014 6:26:16 AM	LINE - LIGHTNING -	- -		0
36477	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	8/16/2014 12:54:34 PM	LINE - LIGHTNING -	- -		0
37192	BAYBORO 115KV (0010)	10/23/2014 8:20:54 PM	RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP	10090.0	10090
37369	HIGGINS PLANT 230KV (0094)	11/19/2014 7:54:00 AM	SUB - OPERATIONAL - EMERGENCY	- -		0
37533	AVON PARK PL - SOUTH POLK 230KV (AF-1)	12/11/2014 5:20:26 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37583	BONNET CREEK 69KV (0244)	12/15/2014 11:22:00 PM	SUB - ANIMAL - RACCOON	SUB - ANIMAL - RACCOON		0
35907	KENNETH 115KV (0174)	6/7/2014 8:44:23 AM	LINE - CUSTOMER - DISTRIBUTION	RELAY - EQUIPMENT - RECLOSING	12320.0	12320
36119	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/10/2014 5:26:07 PM	LINE - LIGHTNING -	- -		0
36147	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	7/13/2014 4:16:32 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36449	ARCHER - WILLISTON 69KV (AW-1)	6/22/2014 1:48:00 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -	0.0	0
36545	FORT GREEN #6 69KV (0437)	8/22/2014 5:53:02 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36617	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	8/31/2014 7:59:52 AM	LINE - LIGHTNING -	- -		0
36776	CRYSTAL RIVER EAST - INGLIS CKT2 115KV (IT-CKT2)	9/16/2014 1:58:02 PM	LINE - LIGHTNING -	- -		0

37193	BAYBORO 115KV (0010)	10/23/2014 9:18:22 PM RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP	10090.0	10090
37402	OCCIDENTAL #1 115KV (0177)	11/23/2014 7:29:40 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37421	BAY HILL - VINELAND 69KV (BHV-1)	11/25/2014 9:47:56 AM LINE - LIGHTNING -	- -		0
37457	INVERNESS 115KV (0028)	11/7/2014 6:14:34 PM SUB - EQUIPMENT - BREAKER	LINE - EQUIPMENT - CONDUCTOR/STATIC	87220.0	87220
37549	BARTOW PLANT 230KV (0093)	12/14/2014 12:38:00 PM SUB - OPERATIONAL - EMERGENCY	SUB - CUSTOMER - GENERATION		0
35383	OCCIDENTAL #1 115KV (0177)	4/16/2014 8:55:57 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35449	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/28/2014 10:43:36 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35876	FORT GREEN #4 69KV (0335)	6/15/2014 6:39:16 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35947	IDYLWILD - WILLISTON 69KV (SI-3)	6/22/2014 5:47:42 PM LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - UNDER INVESTIGATION	0.0	6111.3
36162	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	7/14/2014 3:30:49 PM LINE - WEATHER -	- -		0
36428	LITTLE PAYNE CREEK #1 69KV (0287)	8/12/2014 7:29:49 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37608	SEVEN SPRINGS 230KV (0225)	12/25/2014 9:23:12 AM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	10011.0	10011
35319	OCCIDENTAL #1 115KV (0177)	4/7/2014 8:14:01 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35330	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/9/2014 9:40:27 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35366	TAYLOR AVE - WALSINGHAM 69KV (DL-LTW-1)	4/15/2014 12:19:20 PM LINE - WEATHER - MAJOR STORM	- -		0
36045	CRYSTAL RIVER EAST - INGLIS CKT2 115KV (IT-CKT2)	7/3/2014 9:29:56 PM LINE - WEATHER -	- -		0
36408	LITTLE PAYNE CREEK #1 69KV (0287)	8/10/2014 4:01:18 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36460	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	8/15/2014 6:02:25 AM LINE - LIGHTNING -	- -		0
36659	BROOKRIDGE 500KV (0338)	9/4/2014 6:19:24 AM SUB - EQUIPMENT - BREAKER/TRANS - BUSHING	SUB - EQUIPMENT - BREAKER/TRANS - BUSHING		0
36878	CROSSROADS - PASADENA UG 115KV (PXUG)	9/27/2014 6:14:49 PM LINE - LIGHTNING -	RELAY - EQUIPMENT - RELAY PROBLEM		0
36902	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/29/2014 2:39:45 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37530	SILVER SPRINGS 230KV (0034)	11/21/2014 4:58:12 PM SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	66619.0	66619
37538	SOUTH FORT MEADE 115KV (0360)	12/12/2014 9:01:06 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37609	FORT GREEN #11 69KV (0472)	12/29/2014 1:54:37 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35741	PALM HARBOR 230KV (0079)	5/12/2014 6:57:08 AM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	46410.0	46410
35742	NARCOOSSEE 69KV (0221)	5/13/2014 11:42:37 PM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	122031.0	122031
35871	LIBERTY 69KV (0466)	6/15/2014 8:00:45 AM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35873	MARTIN WEST - SILVER SPRINGS 69KV (MS-1)	6/15/2014 3:25:01 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36082	NARCOOSSEE 69KV (0221)	6/14/2014 2:33:00 PM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	36537.0	36537
36559	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/24/2014 3:24:15 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36442	LITTLE PAYNE CREEK #1 69KV (0287)	8/13/2014 5:10:58 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36586	ODESSA 69KV (0445)	7/25/2014 9:53:52 AM RELAY - OTHER - SYSTEM OPERATION	RELAY - OTHER - SYSTEM OPERATION	162778.0	162778
36669	BEVERLY HILLS - CITRUS HILLS 115KV LINE (BI-2)	9/5/2014 12:12:27 PM LINE - LIGHTNING -	- -		0
37166	NORALYN #1 69KV (0030)	10/27/2014 9:02:04 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37334	CRAWFORDVILLE - FLORIDA GAS TRANSMISSION 230KV (CP-1)	11/16/2014 7:51:48 PM SUB - EQUIPMENT - BREAKER	- -		0
37335	CRAWFORDVILLE - PORT ST JOE 230KV (CPS-1)	11/16/2014 7:51:19 PM SUB - EQUIPMENT - BREAKER	- -		0
37351	FT WHITE - JASPER 69KV (JF-1)	11/17/2014 3:16:04 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37611	DESOTO CITY - PHILLIPS PL (TECO) 69KV (AD-2)	12/30/2014 7:55:30 AM LINE - ANIMAL - BIRD - EXCREMENT	- -		0
35875	FT WHITE - HIGH SPRINGS 69KV (FH-1)	6/15/2014 6:43:54 PM LINE - PUBLIC INTERFERENCE - TREE	LINE - PUBLIC INTERFERENCE - TREE	0.0	265184.4
35942	CARRABELLE - GUMBAY 69KV (GBC-1)	6/22/2014 12:46:37 PM LINE - LIGHTNING -	- -		0
36074	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	7/6/2014 5:11:04 PM LINE - LIGHTNING -	- -		0
36090	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	7/9/2014 11:49:01 AM LINE - LIGHTNING -	- -		0
37283	LAKE BRANCH 115KV (0475)	11/9/2014 5:39:34 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37316	FORT GREEN #10 69KV (0463)	11/12/2014 4:49:03 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37581	BROOKER CREEK 115KV (0373)	11/25/2014 7:56:19 AM SUB - ANIMAL - SQUIRREL	SUB - EQUIPMENT - BREAKER		0
35720	SOUTH ELOISE (TECO) - WEST LAKE WALES 230KV (WLXT-3)	5/31/2014 1:39:20 AM LINE - UNKNOWN -	- -		0
36882	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	9/28/2014 6:15:44 PM LINE - LIGHTNING -	- -		0
36967	OCCIDENTAL #1 115KV (0177)	10/4/2014 4:59:27 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35698	GEORGIA PACIFIC 69KV (0178)	5/28/2014 3:58:55 PM LINE - LIGHTNING -	- -		0
35826	PAISLEY SEC) - ST JOHNS (SEC) 69KV (ED-4)	6/11/2014 4:31:47 PM LINE - LIGHTNING -	- -		0
36023	CRYSTAL RIVER PL - HOLDER CKT#1 230KV (CCF-4)	7/2/2014 4:24:12 PM LINE - LIGHTNING -	- -		0
36294	HORSE CREEK 69KV (0006)	7/27/2014 6:30:50 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36361	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	8/5/2014 3:50:04 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36628	OCCIDENTAL #1 115KV (0177)	9/1/2014 10:03:15 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

36999	CROSS CITY 69KV (0081)	8/19/2014 5:14:46 PM SUB - OTHER - EMERGENCY SHUTDOWN	SUB - EQUIPMENT - CIRCUIT SWITCHER - ELECTRICAL	1493.0	1493
37575	VINOY 115KV (0159)	12/17/2014 7:25:30 AM SUB - EQUIPMENT - BREAKER	SUB - EQUIPMENT - BREAKER	69877.0	69877
35274	LAKE BRANCH 115KV (0475)	4/1/2014 2:02:29 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35472	LITTLE PAYNE CREEK #1 69KV (0287)	4/29/2014 5:39:57 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35704	LITTLE PAYNE CREEK #1 69KV (0287)	5/29/2014 8:34:52 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36239	OCCIDENTAL #1 115KV (0177)	7/21/2014 4:51:22 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36354	LITTLE PAYNE CREEK #1 69KV (0287)	8/4/2014 5:47:35 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36447	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	8/14/2014 1:06:33 PM LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36465	SORRENTO - WELCH ROAD 230KV (PS-2)	8/14/2014 8:53:27 PM LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
36469	ALAFAYA - UCF 69KV (FTO-2)	8/15/2014 6:53:03 PM LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
36476	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/16/2014 12:39:30 PM LINE - LIGHTNING -	- -		0
36495	IDYLWILD - WILLISTON 69KV (SI-3)	8/18/2014 5:12:26 PM LINE - LIGHTNING -	- -		0
36553	ROSS PRAIRIE - MARION OAKS SEC 69KV RADIAL (RPMX-1)	8/23/2014 6:56:18 PM LINE - LIGHTNING -	- -		0
36555	FORT GREEN #6 69KV (0437)	8/23/2014 7:07:06 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35513	LITTLE PAYNE CREEK #1 69KV (0287)	5/4/2014 8:01:40 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35786	MANLEY ROAD (CARGILL) 115KV (0004)	6/8/2014 7:35:01 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35797	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/9/2014 8:09:10 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35814	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/10/2014 8:42:23 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35846	AVALON - CLERMONT EAST 69KV (CET-1)	6/12/2014 2:52:02 PM LINE - WEATHER - MAJOR STORM	- -		0
35870	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	6/14/2014 8:41:20 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36016	ULMERTON 230KV (0126)	7/1/2014 8:33:00 PM SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL		0
36030	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	7/3/2014 3:19:06 PM LINE - LIGHTNING -	- -		0
36031	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/3/2014 3:44:34 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36230	LAKE BRANCH 115KV (0475)	7/21/2014 9:55:00 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36440	FT WHITE - SUWANNEE AM CMT PL 115KV RADIAL (FWSAX-1)	8/13/2014 12:55:10 PM LINE - LIGHTNING -	- -		0
36602	CLEARWATER - HIGHLANDS 69KV (HCL-1)	8/29/2014 5:27:42 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
36800	BELLEAIR 69KV (0055)	9/13/2014 9:16:11 AM LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	51324.0	51324
36819	BUSHNELL EAST - COLEMAN 69KV (BCF-4)	9/21/2014 5:41:05 PM SUB - UNKNOWN -	- -		0
37150	SKY LAKE 230KV (0212)	10/13/2014 4:34:55 PM LINE - CUSTOMER - DISTRIBUTION	RELAY - EQUIPMENT - RECLOSING	92426.0	92426
35314	OCCIDENTAL #1 115KV (0177)	4/7/2014 1:40:19 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35718	MANLEY ROAD (CARGILL) 115KV (0004)	5/31/2014 12:04:56 AM LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
35762	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/6/2014 6:47:52 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35771	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/7/2014 1:25:20 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35999	CRYSTAL RIVER SOUTH 115KV - LECANTO (CSB-1)	6/28/2014 5:29:36 PM LINE - LIGHTNING -	- -		0
36160	HAINES CREEK - SORRENTO 230KV (CFS-2)	7/14/2014 1:54:10 PM LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
36295	OCCIDENTAL #1 115KV (0177)	7/27/2014 8:36:20 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36645	FT WHITE - PERRY 69KV (FP-1)	9/2/2014 6:54:09 PM LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	116262.0	942009.7
36843	AVON PARK PL - FT MEADE 230KV (AF2-1)	9/23/2014 6:33:01 AM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36847	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	9/23/2014 4:07:46 PM LINE - LIGHTNING -	- -		0
36871	CENTRAL FLA - ORANGE BLOSSOM 69KV (DLL-OCF-1)	9/26/2014 3:47:13 PM LINE - LIGHTNING -	- -		0
37030	CURLEW 115KV (0149)	10/1/2014 3:32:39 PM LINE - CUSTOMER - DISTRIBUTION	SUB - HUMAN ERROR - IMPROPER INSTALLATION	27936.0	27936
37051	OCCIDENTAL METERING - OCCIDENTAL COGEN 115KV (JS-2)	10/11/2014 6:00:41 AM LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37170	BAYBORO 115KV (0010)	10/23/2014 7:35:23 PM RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP	30270.0	30270
35496	CRAWFORDVILLE 230KV (0147)	4/7/2014 4:55:06 PM SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	RELAY - HUMAN ERROR - OTHER	54509.0	54509
35784	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	6/8/2014 4:27:23 PM LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	17776.0	57030
35858	OCCIDENTAL #1 115KV (0177)	6/13/2014 8:51:00 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36007	SOUTH FORT MEADE 115KV (0360)	6/29/2014 5:48:29 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36108	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	7/10/2014 1:21:43 PM LINE - LIGHTNING -	- -		0
36145	FORT GREEN #11 69KV (0472)	7/12/2014 6:47:45 PM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36290	NORTH LONGWOOD - WINTER SPRINGS 230KV (NR-2)	7/26/2014 9:38:00 AM LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
36540	TALLAHASSEE 115KV (0092)	8/22/2014 1:01:39 PM LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	0.0	657269.6
36926	ST. GEORGE ISLAND 69KV (0293)	8/5/2014 11:37:14 AM SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	94599.0	94599
36930	LEBANON 69KV (0141)	7/4/2014 10:05:33 PM SUB - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - SETTING ERROR	114374.0	114374
37243	OCCIDENTAL #1 115KV (0177)	11/3/2014 8:21:11 AM SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

37258	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	11/4/2014 2:14:32 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37382	SUWANNEE RIVER 230KV (0061)	11/20/2014 9:01:50 AM	SUB - EQUIPMENT - BREAKER	SUB - EQUIPMENT - CAPACITOR BANK	0.0	0
35223	NEW PORT RICHEY 115KV (0070)	3/24/2014 3:08:21 PM	SUB - ANIMAL - SQUIRREL	SUB - ANIMAL - SQUIRREL	114233.0	114233
35325	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	4/8/2014 12:13:59 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35345	DEBARY PL - NORTH LONGWOOD 230KV (DL-1)	4/12/2014 5:17:00 AM	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - EQUIPMENT - GROUND/GUY		0
35914	BARNUM CITY - WESTRIDGE 69KV (ICB-1)	6/19/2014 3:04:57 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	126895.0	126895
35962	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/24/2014 7:33:39 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36006	HOMELAND - MULBERRY 69KV (BH-2)	6/29/2014 5:11:57 PM	LINE - WEATHER -	- -		0
36135	LITTLE PAYNE CREEK #1 69KV (0287)	7/11/2014 10:19:34 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36144	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/12/2014 5:14:10 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36262	CELEBRATION 69KV (0414)	7/24/2014 5:29:19 AM	SUB - ANIMAL - RACCOON	SUB - ANIMAL - RACCOON	356310.0	356310
36601	APOPKA SOUTH - WOODSMERE 69KV (WP-2)	8/29/2014 4:30:12 PM	LINE - LIGHTNING -	- -		0
36914	HORSE CREEK 69KV (0006)	9/30/2014 10:13:58 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36915	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/30/2014 10:29:39 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36972	CRYSTAL RIVER PL - BRONSON 230KV - CREW88 (CF-1)	10/4/2014 9:11:00 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37044	WINDERMERE 230KV (0310)	10/9/2014 7:02:54 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37203	SEVEN SPRINGS 230KV (0225)	10/16/2014 6:13:12 PM	SUB - EQUIPMENT - BREAKER/DIST - TRIP COIL	SUB - EQUIPMENT - BREAKER/DIST - TRIP COIL	88839.0	88839
35390	BAY RIDGE - KELLY PK 69KV (BK-1)	4/18/2014 9:44:00 PM	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE	38250.0	38250
35738	OVIEDO 69KV (0303)	6/3/2014 5:19:03 AM	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER		0
35782	OCCIDENTAL #1 115KV (0177)	6/8/2014 1:59:11 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35810	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	6/10/2014 5:56:11 PM	LINE - LIGHTNING -	- -		0
35820	FT WHITE - NEWBERRY 230KV (CF-3)	6/11/2014 10:06:22 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35866	BAY HILL - VINELAND 69KV (BHV-1)	6/14/2014 1:26:28 PM	LINE - LIGHTNING -	- -		0
35869	HULL ROAD 69KV (0138)	6/14/2014 3:51:41 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35872	OCCIDENTAL #1 115KV (0177)	6/15/2014 3:16:21 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35921	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/20/2014 7:12:57 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36552	MARTIN WEST - REDDICK 69KV (SI-4)	8/23/2014 5:51:20 PM	LINE - LIGHTNING -	- -		0
36484	ATWATER - LIBERTY 115KV (ATL-1)	8/17/2014 4:37:21 PM	LINE - CUSTOMER -	- -		0
36521	AVON PARK PL - DESOTO CITY 69KV (AD-1)	8/21/2014 4:38:15 PM	LINE - LIGHTNING -	- -		0
36607	SOUTH FORT MEADE 115KV (0360)	8/29/2014 8:37:15 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36619	MONTVERDE - WINTER GARDEN 69KV (WCE-1)	8/31/2014 3:41:45 PM	LINE - LIGHTNING -	- -		0
36666	HULL ROAD 69KV (0138)	9/4/2014 3:31:24 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36801	WALSINGHAM 69KV (0071)	8/21/2014 12:37:43 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	105734.0	105734
36837	DELAND - DELAND WEST 69KV (ED-1)	9/22/2014 4:39:01 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36873	FORT GREEN #6 69KV (0437)	9/26/2014 5:28:23 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37091	INGLIS MINING 115KV (0395)	10/15/2014 12:56:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37092	FORT GREEN #10 69KV (0463)	10/15/2014 3:01:18 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37112	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	10/18/2014 6:30:11 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35305	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/6/2014 7:23:35 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35373	LAKE BRANCH 115KV (0475)	4/16/2014 1:51:50 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35413	HAINES CREEK - SORRENTO 230KV (CFS-2)	4/22/2014 4:14:00 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
35674	CLERMONT - CLERMONT EAST 69KV (CLC-2)	5/25/2014 7:18:54 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	115048.0	115048
35774	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/7/2014 2:20:45 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35825	HOLDER - INVERNESS 69KV (HB-3)	6/11/2014 3:28:59 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	0.0	462536
36667	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	9/5/2014 4:09:46 AM	LINE - ANIMAL - BIRD - DAMAGE	- -		0
36676	NORTH BARTOW - ORANGE SWITCHING STA 69KV (FMB-3)	9/6/2014 4:26:26 PM	LINE - LIGHTNING -	- -		0
36813	LAKE BRYAN 230KV (0206)	9/20/2014 6:30:17 AM	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER		0
36815	LAKE BRANCH 115KV (0475)	9/21/2014 5:39:12 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37032	OCCIDENTAL #1 115KV (0177)	10/8/2014 3:15:47 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37046	BUSHNELL EAST - CENTER HILL RADIAL 69KV (BW-1) (BW-1)	8/5/2014 2:43:59 PM	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM	48960.0	131281
37419	BAY HILL - VINELAND 69KV (BHV-1)	11/25/2014 9:44:53 AM	LINE - LIGHTNING -	- -		0
37420	LAKE BRYAN - LAKE CECILE (CITY OF KISSIMMEE) 69KV (LBX-1)	11/25/2014 9:45:44 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35218	SOUTH FORT MEADE 115KV (0360)	3/25/2014 4:24:50 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35725	MAITLAND - SPRING LAKE 69KV (SLM-1)	6/1/2014 1:54:39 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	21745.0	21745
35812	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	6/10/2014 7:06:59 PM	LINE - WEATHER - MAJOR STORM	- -		0
35822	OLD TOWN NORTH SW STA - WILCOX 69KV (376159701)	6/11/2014 12:12:11 PM	LINE - LIGHTNING -	- -		0

35823	KELLY PARK - ZELLWOOD 69KV (EP-3)	6/11/2014 2:24:14 PM	LINE - LIGHTNING -	- -		0
35824	DELTONA - DELTONA EAST 115KV (DED-1)	6/11/2014 3:08:50 PM	LINE - LIGHTNING -	- -		0
35828	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	6/11/2014 4:48:34 PM	LINE - LIGHTNING -	- -		0
35853	LAKE BRANCH 115KV (0475)	6/12/2014 6:19:03 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36005	HOMELAND - MULBERRY 69KV (BH-2)	6/29/2014 2:06:24 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36302	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/29/2014 12:17:34 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37168	SOPCHOPPY 69KV (0181)	10/5/2014 5:41:53 AM	SUB - EQUIPMENT - TRANSFORMER - OTHER	SUB - EQUIPMENT - TRANSFORMER - OTHER	252314.0	252314
37434	EATONVILLE - WINTER PARK 69KV (WO-3)	11/26/2014 1:47:32 AM	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
37512	FORT GREEN #6 69KV (0437)	12/8/2014 8:08:27 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37592	HAINES CREEK - LEESBURG EAST 69KV (LE-2)	12/22/2014 7:42:10 AM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	0.0	267
36466	EUSTIS SOUTH - SORRENTO 69KV (SES-1)	8/15/2014 6:54:05 AM	LINE - LIGHTNING -	- -		0
36467	CENTRAL FLORIDA -AMERICAN CEMENT (SEC) 230KV (CFBE-1)	8/15/2014 7:11:20 AM	LINE - LIGHTNING -	LINE - LIGHTNING -	0.0	1.2
36509	ARCHER - WILLISTON 69KV (AW-1)	8/20/2014 10:26:41 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36777	CRYSTAL RIVER EAST - INGLIS CKT1 115KV (IT-CKT1)	9/16/2014 2:02:13 PM	LINE - LIGHTNING -	- -		0
36775	CRYSTAL RIVER EAST - INGLIS CKT1 115KV (IT-CKT1)	9/16/2014 1:57:59 PM	LINE - LIGHTNING -	- -		0
36778	CRYSTAL RIVER EAST - INGLIS CKT2 115KV (IT-CKT2)	9/16/2014 2:02:13 PM	LINE - LIGHTNING -	- -		0
36998	DELAND 69KV (0301)	8/17/2014 2:00:59 PM	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	83504.0	83504
37107	FORT GREEN #10 69KV (0463)	10/18/2014 4:01:53 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36542	CRYSTAL RIVER SOUTH - TWIN COUNTY RANCH 115KV (CRB-4)	8/22/2014 3:45:46 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36749	OCCIDENTAL #1 115KV (0177)	9/14/2014 11:50:04 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36780	OCCIDENTAL #1 115KV (0177)	9/16/2014 6:24:45 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37145	LAKE BRANCH 115KV (0475)	10/23/2014 7:22:02 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35282	MANLEY ROAD (CARGILL) 115KV (0004)	4/1/2014 8:17:35 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35306	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	4/6/2014 8:35:41 AM	LINE - ANIMAL - OTHER	LINE - ANIMAL - OTHER	0.0	7743.1
36131	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	7/11/2014 6:58:36 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36364	FORT GREEN SPRINGS 69KV (0439)	8/6/2014 12:09:00 AM	LINE - EQUIPMENT - GROUND/GUY	- -		0
37228	SEMINOLE - OAKHURST 69KV (DLW-4)	10/31/2014 8:44:32 AM	SUB - ANIMAL - BIRD - DAMAGE	- -		0
37298	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	11/10/2014 7:47:00 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37418	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	11/25/2014 9:21:45 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37435	FT WHITE - PERRY 69KV (FP-1)	11/26/2014 7:10:59 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37439	CLERMONT EAST - MONTVERDE 69KV (CEM-1)	11/28/2014 1:15:26 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37616	40TH ST - NORTHEAST 230KV (NF-1)	12/30/2014 5:32:57 PM	LINE - OPERATIONAL - EMERGENCY	LINE - EQUIPMENT - INSULATOR		0
35369	CRAWFORDVILLE - ST MARKS 69KV (CS-1)	4/15/2014 1:32:56 PM	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	565923.0	713560.4
35583	LAKEWOOD 69KV (0416)	4/24/2014 12:54:00 PM	SUB - EQUIPMENT - TRANSFORMER - OTHER	SUB - EQUIPMENT - TRANSFORMER - OTHER	51803.0	51803
35743	PORT RICHEY WEST 115KV (0164)	5/19/2014 9:57:59 AM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	41678.0	41678
36455	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	8/14/2014 9:16:58 PM	LINE - LIGHTNING -	- -		0
36721	FORT GREEN #4 69KV (0335)	9/10/2014 7:36:04 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37171	OCCIDENTAL #1 115KV (0177)	10/27/2014 9:59:08 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37198	LAKE HELEN 115KV (0261)	8/21/2014 4:03:27 PM	SUB - OTHER - OVERLOAD	SUB - OTHER - OVERLOAD	177271.0	177271
37278	FORT GREEN #6 69KV (0437)	11/8/2014 7:14:17 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37428	WATERWAYS (SEC) REA 69KV (6034)	11/25/2014 5:52:18 PM	LINE - LIGHTNING -	- -	0.0	65145
37476	LAKE TARPON 500KV (0179)	12/4/2014 1:27:22 AM	SUB - EQUIPMENT - CT	SUB - EQUIPMENT - CT		0
35680	DENHAM - ODESSA 69KV (TZ-6)	5/26/2014 6:15:47 PM	LINE - WEATHER - MAJOR STORM	- -		0
35878	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	6/15/2014 6:36:23 PM	LINE - LIGHTNING -	- -		0
36305	DEBARY PL - LAKE EMMA 230KV (DWS-1)	7/29/2014 3:55:41 PM	LINE - LIGHTNING -	- -		0
36578	DRIFTON 115KV (0095)	8/27/2014 3:00:39 PM	RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP		0
36595	CARRABELLE - CRAWFORDVILLE 69KV (JA-2)	8/29/2014 2:11:39 PM	LINE - LIGHTNING -	- -		0
36603	RIO PINAR PL - MAGNOLIA RANCH 69KV (RW-4)	8/29/2014 6:01:44 PM	LINE - LIGHTNING -	- -		0
36779	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/16/2014 6:05:25 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37438	LAKE BRANCH 115KV (0475)	11/27/2014 11:21:03 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35512	HAINES CREEK - LEESBURG EAST 69KV (LE-2)	5/4/2014 1:46:41 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36150	AVALON - REEDY LAKE 69KV (CET-2)	7/13/2014 6:06:59 PM	LINE - LIGHTNING -	- -		0
36304	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/29/2014 3:01:50 PM	LINE - OPERATIONAL - EMERGENCY	LINE - HUMAN ERROR - IMPROPER INSTALLATION	23829.0	23829
36501	OCCIDENTAL #1 115KV (0177)	8/19/2014 2:59:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

36539	AVON PARK PL - AVON PARK NORTH 69KV (AL-2)	8/22/2014 12:06:49 PM	LINE - EQUIPMENT - GROUND/GUY	LINE - EQUIPMENT - GROUND/GUY		0
36675	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	9/6/2014 4:23:29 PM	LINE - LIGHTNING -	- -		0
36886	OCCIDENTAL #1 115KV (0177)	9/29/2014 8:03:34 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36903	AVALON - LAKE LUNTZ 69KV (AH-1)	9/29/2014 3:57:43 PM	LINE - LIGHTNING -	- -		0
36951	NORTH BARTOW - PEBBLEDALE (TECO) 230KV (WLXT-1)	10/3/2014 2:14:14 AM	LINE - NEIGHBORING UTILITY - OTHER	LINE - NEIGHBORING UTILITY - OTHER		0
37087	FORT GREEN #6 69KV (0437)	10/14/2014 8:19:43 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37281	FORT GREEN #11 69KV (0472)	11/9/2014 12:36:00 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37427	HAVANA - TALLAHASSEE 69KV (TQ-HH-1)	11/25/2014 3:22:00 PM	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0.0	143256.3
37594	HANSON 115KV (0060)	12/23/2014 7:01:36 AM	LINE - EQUIPMENT -	- -	0.0	70140
35498	LAKE BRANCH 115KV (0475)	5/1/2014 3:31:16 PM	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
35766	OCCIDENTAL #1 115KV (0177)	6/7/2014 12:23:07 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35768	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/7/2014 12:26:11 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35821	CRYSTAL RIVER SOUTH 115KV - LECANTO (CSB-1)	6/11/2014 11:40:19 AM	LINE - EQUIPMENT - CONDUCTOR/STATIC	RELAY - MISOPERATION -		0
35899	LITTLE PAYNE CREEK #1 69KV (0287)	6/17/2014 5:24:33 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35960	FLORIDA GAS TRANSMISSION EAST 69KV (0527)	6/24/2014 4:36:24 AM	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
36438	LAKE LUNTZ 69KV (0419)	7/22/2014 6:32:08 PM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	117700.0	117700
36461	EUSTIS SOUTH - TAVARES SEC 69KV (EST-1)	8/15/2014 6:26:57 AM	LINE - LIGHTNING -	- -		0
36496	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/18/2014 7:40:30 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37089	DELEON SPRINGS 115KV (0321)	8/25/2014 6:38:13 AM	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER	79783.0	79783
35763	OCCIDENTAL #1 115KV (0177)	6/6/2014 1:08:07 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36010	LITTLE PAYNE CREEK #1 69KV (0287)	6/30/2014 2:09:02 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37301	AVON PARK PL - WAUCHULA 69KV (APW-1)	11/10/2014 9:32:34 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37416	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	11/25/2014 4:25:48 AM	LINE - CUSTOMER -	- -		0
37430	LAKE BRANCH 115KV (0475)	11/25/2014 10:38:49 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37467	FORT GREEN #6 69KV (0437)	12/2/2014 12:09:40 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37490	MANLEY ROAD (CARGILL) 115KV (0004)	12/8/2014 1:47:00 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37545	OCCIDENTAL #1 115KV (0177)	12/12/2014 11:53:41 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35374	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	4/16/2014 6:35:03 AM	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
35389	HIGH SPRINGS - HULL ROAD 69KV (GH-1)	4/18/2014 5:15:31 PM	SUB - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35789	OCCIDENTAL #1 115KV (0177)	6/9/2014 6:42:22 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35856	FT MEADE - HOMELAND 69KV (FMB-1)	6/12/2014 7:55:53 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36103	CROSS CITY - WILCOX 69KV (WCC-1)	7/10/2014 11:08:57 AM	LINE - LIGHTNING -	- -		0
36592	CARRABELLE - CRAWFORDVILLE 69KV (JA-2)	8/29/2014 12:42:49 PM	LINE - LIGHTNING -	- -		0
36798	OCCIDENTAL #1 115KV (0177)	9/18/2014 11:24:53 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36845	FISHEATING CREEK - LAKE PLACID 69KV (ALP-2)	9/23/2014 10:14:16 AM	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER		0
37021	ALTAMONTE - SPRING LAKE 230KV (ASW-1)	10/7/2014 4:42:32 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	361156.0	361156
37084	CLEARWATER - HIGHLANDS 69KV (HCL-1)	10/14/2014 4:46:29 PM	LINE - LIGHTNING -	- -		0
35892	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/17/2014 1:06:55 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35959	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/23/2014 5:30:39 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36151	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	7/13/2014 7:18:41 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY	0.0	2248.8
36320	FT WHITE - PERRY 69KV (FP-1)	7/31/2014 3:12:12 AM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
36423	BROOKER CREEK 115KV (0373)	7/17/2014 12:54:50 AM	SUB - EQUIPMENT - BREAKER	SUB - EQUIPMENT - BREAKER	297738.0	297738
36812	FORT GREEN #10 69KV (0463)	9/19/2014 8:12:45 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36814	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	9/20/2014 7:46:48 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - OPERATIONAL - OTHER	0.0	13276.8
36927	LEBANON 69KV (0141)	7/3/2014 9:24:10 PM	SUB - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - SETTING ERROR	197457.0	197457
37031	STARKEY ROAD 69KV (0234)	8/18/2014 4:29:17 PM	SUB - EQUIPMENT - SWITCH	SUB - EQUIPMENT - SWITCH	66325.0	66325
37395	CLEARWATER - HIGHLANDS 69KV (HCL-1)	11/22/2014 4:47:51 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35709	AVON PARK PL - FT MEADE 230KV (AF2-1)	5/29/2014 4:47:15 PM	LINE - WEATHER - MAJOR STORM	LINE - WEATHER - MAJOR STORM		0
35851	MULBERRY - MULBERRY COGEN CKT#1A 69KV (BH-3)	6/12/2014 5:14:05 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36671	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	9/5/2014 3:49:28 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36492	CARRABELLE - CRAWFORDVILLE 69KV (JA-2)	8/18/2014 12:58:22 PM	LINE - LIGHTNING -	- -		0
36686	FOLEY 69KV (0247)	9/7/2014 12:40:33 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36833	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	9/22/2014 3:26:04 PM	LINE - LIGHTNING -	- -		0
36929	UMATILLA 69KV (0143)	7/22/2014 3:34:43 AM	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	78880.0	78880
36937	SOUTH FORT MEADE 115KV (0360)	10/1/2014 11:45:09 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

36977	LITTLE PAYNE CREEK #1 69KV (0287)	10/5/2014 9:44:00 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36982	MARTIN WEST - REDDICK 69KV (SI-4)	10/6/2014 7:30:30 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37110	FORT GREEN #10 69KV (0463)	10/18/2014 11:52:17 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35239	LOCKHART 230KV (0385)	3/16/2014 8:25:00 AM	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	65156.0	65156
35296	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	4/4/2014 8:19:00 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35354	WINDERMERE 230KV (0310)	3/13/2014 5:56:42 PM	SUB - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - OTHER	2772.0	2772
36339	NORTH BARTOW - WEST LAKE WALES 69KV (BWL-2)	8/2/2014 1:40:58 PM	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM	0.0	40
36362	FORT GREEN SPRINGS 69KV (0439)	8/5/2014 4:42:03 PM	LINE - EQUIPMENT - GROUND/GUY	- -		0
36363	FORT GREEN SPRINGS 69KV (0439)	8/5/2014 5:09:53 PM	LINE - EQUIPMENT - GROUND/GUY	- -		0
36661	ODESSA 69KV (0445)	6/30/2014 8:05:28 PM	RELAY - OTHER - SYSTEM OPERATION	RELAY - OTHER - SYSTEM OPERATION	3502.0	3502
36663	ODESSA 69KV (0445)	8/5/2014 11:54:11 PM	SUB - UNKNOWN - INVESTIGATION COMPLETE	SUB - UNKNOWN - INVESTIGATION COMPLETE	204851.0	204851
36754	NORTH BARTOW - PEBBLEDALE (TECO) 230KV (WLXT-1)	9/15/2014 12:32:00 PM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37590	HORSE CREEK 69KV (0006)	12/21/2014 10:31:02 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35315	HAVANA - TALLAHASSEE 69KV (TQ-HH-1)	4/7/2014 4:59:01 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36077	FORT GREEN #11 69KV (0472)	7/6/2014 7:52:36 PM	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
36255	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	7/23/2014 7:05:20 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36387	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	8/7/2014 4:59:36 PM	LINE - LIGHTNING -	- -		0
37004	EATONVILLE - SPRING LAKE 69KV (SLE-1)	9/22/2014 3:56:04 PM	SUB - WEATHER - MAJOR STORM	LINE - EQUIPMENT - CONDUCTOR/STATIC	65383.0	65383
35349	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	4/12/2014 5:08:44 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35364	LIBERTY 69KV (0466)	4/15/2014 9:30:17 AM	LINE - WEATHER -	- -		0
35927	DALLAS - SILVER SPRINGS 230KV (CFO-4)	6/20/2014 8:29:58 PM	LINE - UNKNOWN -	- -		0
36001	LITTLE PAYNE CREEK #1 69KV (0287)	6/28/2014 8:34:24 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36672	BOGGY MARSH - WESTRIDGE 69KV (ICB-2)	9/5/2014 4:00:30 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	344431.0	344431
36677	INTERCESSION CITY PL - CABBAGE ISLAND 69KV (ICP-1)	9/6/2014 4:42:09 PM	LINE - LIGHTNING -	- -		0
37103	OCCIDENTAL #1 115KV (0177)	10/17/2014 8:46:48 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37271	FERN PARK 69KV (0296)	10/28/2014 10:39:17 AM	SUB - EQUIPMENT - BREAKER	RELAY - HUMAN ERROR - SETTING ERROR	21005.0	21005
35852	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	6/12/2014 5:41:12 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36004	LAKE BRYAN - WINDERMERE 230KV CKT 2 (LBW-1)	6/29/2014 8:57:00 AM	LINE - PLANNED - EMERGENT	SUB - EQUIPMENT - CCPD		0
36025	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	7/2/2014 5:46:46 PM	LINE - LIGHTNING -	- -		0
36149	CYPRESSWOOD - HAINES CITY 69KV (ICLW-2)	7/13/2014 6:04:04 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36414	CRYSTAL RIVER PL - HOLDER CKT#2 230KV (CCF-5)	8/11/2014 12:30:57 PM	LINE - LIGHTNING -	LINE - HUMAN ERROR - OTHER		0
36416	PILSBURY - VINOY UG 115KV (UGVP-1)	8/11/2014 12:04:12 PM	SUB - OPERATIONAL - EMERGENCY	SUB - OPERATIONAL - EMERGENCY	27558.0	27558
36494	LITTLE PAYNE CREEK #1 69KV (0287)	8/18/2014 4:04:58 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36629	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	9/2/2014 12:19:24 AM	LINE - LIGHTNING -	- -		0
36640	PALM HARBOR - TARPON SPRINGS 69KV (ECTW-4)	9/2/2014 4:25:45 PM	LINE - LIGHTNING -	- -		0
36687	CYPRESSWOOD - HAINES CITY 69KV (ICLW-2)	9/7/2014 3:49:36 PM	LINE - LIGHTNING -	- -		0
36680	ALTAMONTE - DOUGLAS AVE 69KV (ASL-1)	9/7/2014 3:48:44 AM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
37009	CURLEW 115KV (0149)	8/12/2014 3:13:20 PM	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	16432.0	16432
37394	AVON PARK NORTH - FROSTPROOF 69KV (AL-1)	11/22/2014 11:52:47 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
35237	FORT GREEN #4 69KV (0335)	3/28/2014 7:36:05 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35525	CASSELBERRY - LAKE ALOMA 69KV (CLA-1)	5/6/2014 1:29:19 AM	SUB - ANIMAL - RACCOON	RELAY - HUMAN ERROR - SETTING ERROR	72712.0	72712
35887	NORTH BARTOW - ORANGE SWITCHING STA 69KV (FMB-3)	6/16/2014 5:32:03 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36141	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/12/2014 3:59:26 PM	LINE - LIGHTNING -	- -		0
36143	OCCIDENTAL #1 115KV (0177)	7/12/2014 4:43:17 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36366	CYPRESSWOOD 69KV (0267)	7/21/2014 6:22:56 PM	SUB - WEATHER - MAJOR STORM	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	139200.0	139200
36642	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/2/2014 6:16:13 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36872	HINES ENERGY COMPLEX PL - TIGER BAY 230KV (HETB-1)	9/26/2014 4:27:11 PM	LINE - LIGHTNING -	LINE - LIGHTNING -		0
36904	LAKE LOUISA SEC - CLERMONT EAST 69KV - WILDWOOD (CEB-4)	9/29/2014 4:08:41 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
37201	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	10/29/2014 7:36:52 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37338	DINNER LAKE - PHILLIPS 69KV (PDL-1)	11/17/2014 9:54:20 AM	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	35984.0	35984
35675	OCCIDENTAL #1 115KV (0177)	5/25/2014 9:14:20 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35996	SOUTH FORT MEADE 115KV (0360)	6/28/2014 6:51:13 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36018	FLORA MAR - SEVEN SPGS 115KV (SFM-1)	7/1/2014 9:23:00 PM	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	176124.0	176124

36026	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	7/2/2014 7:02:53 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36507	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/20/2014 7:24:25 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36525	BRONSON - NEWBERRY 230KV (CF-2)	8/21/2014 6:50:40 PM	LINE - LIGHTNING -	- -		0
35805	CENTRAL FLA - LAKE ELLA (SEC) 69KV (CFO-3)	6/10/2014 4:20:46 PM	LINE - ANIMAL - BIRD - DAMAGE	LINE - ANIMAL - BIRD - DAMAGE	0.0	0
35793	EAST ORANGE 69KV (0346)	5/29/2014 11:55:50 AM	SUB - EQUIPMENT - TRANSFORMER - WINDING	SUB - EQUIPMENT - TRANSFORMER - WINDING	112036.0	112036
35952	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/23/2014 1:31:33 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36142	HINES - WEST LAKE WALES 230KV (HWLW-1)	7/12/2014 4:07:13 PM	LINE - LIGHTNING -	- -		0
36524	PERRY - PERRY TREC 69KV RADIAL (PC-1)	8/21/2014 6:15:47 PM	LINE - LIGHTNING -	- -		0
36670	GEORGIA PACIFIC 69KV (0178)	9/5/2014 1:45:12 PM	LINE - LIGHTNING -	- -		0
36797	FORT GREEN #11 69KV (0472)	9/18/2014 10:41:07 AM	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
36960	OCCIDENTAL #1 115KV (0177)	10/3/2014 3:19:52 PM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
35368	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	4/15/2014 1:08:24 PM	LINE - WEATHER - WIND	- -		0
35370	EAST CLEARWATER - HIGHLANDS 69KV (ECTW-3)	4/15/2014 2:58:38 PM	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	505201.0	505201
35864	ZEPHYRHILLS NORTH - DADE CITY (TECO) 69KV (BZ-6)	6/14/2014 12:00:40 PM	LINE - WEATHER - MAJOR STORM	LINE - WEATHER - MAJOR STORM	0.0	3756
35974	ODESSA - TARPON SPRINGS 69KV (TZ-2)	6/25/2014 3:31:40 PM	SUB - EQUIPMENT - SWITCH	SUB - EQUIPMENT - SWITCH	741.0	741
36140	VANDOLAH 230KV (0284)	7/12/2014 2:48:55 PM	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
36707	FORTIETH STREET 230KV (0014)	8/20/2014 10:08:41 AM	SUB - EQUIPMENT - BREAKER/TRANS - OTHER	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	32370.0	32370
37077	CRAWFORDVILLE - PORT ST JOE 230KV (CPS-1)	10/14/2014 11:17:14 AM	LINE - LIGHTNING -	- -		0
37349	CIRCLE SQUARE 69KV (0354)	11/17/2014 1:18:25 PM	LINE - TREE -	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	43776.0	43776
36192	LITTLE PAYNE CREEK #1 69KV (0287)	7/16/2014 8:42:42 AM	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
36250	GIFFORD - INTERCESSION CITY 230KV (ICG)	7/22/2014 4:28:22 PM	SUB - EQUIPMENT - CCPD	SUB - EQUIPMENT - CCPD		0
37436	DRIFTON 115KV (0095)	11/26/2014 1:32:21 PM	SUB - PLANNED - MAINTENANCE AND CONSTRUCTION	SUB - EQUIPMENT - PT	0.0	0
37425	CENTRAL FLA - CLERMONT EAST - METROWEST (OUC) 230KV - WILDWOOD (CFW-5)	11/25/2014 2:15:04 PM	LINE - LIGHTNING -	- -		0
					14,458,643.00	**20,318,814.20**

ATTACHMENT B

DEF Transmission Outages -Major Events Only

For Reporting Year: **2014**

Source of Data TOMS

OUTAGE_ID	LOCATION	DATE/TIME	INITIATING CAUSE	SUSTAINED CAUSE	RETAIL_CMI	GRID_CMI

****There were no major events resulting in an exclusion in 2014***

ATTACHMENT C

Distribution
Exclusion Summary - 2014

	Cause Code Types		C	CMI	CI	Duration	L-Bar	N
	Reported Actual Data		1,697,844	174,464,753	2,521,003	6,317,593	120.1	52,610
	Exclusions:							
0-46,except 22	Severe Weather (Distribution)	(Tornados & Named Storms)		434,259	4,553	31,086	108.3	287
All > 67	Distribution (Non Severe Weather)			7,843	11,544	6,161	1.3	4,696
	Transmission (Severe Weather)			176,124	3,387	52	52.3	1
22,64	Transmission (Non Severe Weather)			14,311,464	325,674	19,733	86.9	227
22,64	Emergency Shutdowns (Severe Weather)	(DEF/Govt/Customer Decisions)		9,060	280	868	123.9	7
60,61	Emergency Shutdowns (Non Severe Weather	(DEF/Govt/Customer Decisions)		8,043,441	278,413	112,110	100.4	1,117
60,61	Prearranged (Severe Weather)			43,277	252	3,284	164.2	20
	Prearranged (Non Severe Weather)			6,950,147	54,440	720,936	135.6	5,316
	Adjusted Data		1,697,844	144,489,138	1,842,460	5,423,364	132.5	40,939

Summary of Severe Weather Dates 2014

a. Include in the discussion, the type of weather event, strength (wind speeds/surge-flood levels), locations affected, source of meteorological information, and the performance of overhead and underground systems.

Dates	Type of Weather Event	Strength (Wind Speeds/surge-flood levels)	Locations affected	Source of Metrological Information	Performance of Overhead and Underground Systems
July 1-2	Tropical Storm Arthur	35 to 70 mph	APOPKA	National Weather Service	See response to
			DELAND		Section (d) - pg. 10 of
			JAMESTOWN		Reliability Report
			LONGWOOD		
			INVERNESS		
			MONTICELLO		
			OCALA		
			BUENA VISTA		
			CLERMONT		
			HIGHLANDS		
			LAKE WALES		
			SE ORLANDO		
			WINTER GARDEN		
			CLEARWATER		
			SEVEN SPRINGS		
			ST. PETERSBURG		
			WALSINGHAM		
			ZEPHYRHILLS		

b. Describe the Company's efforts to avoid or minimize in terms of costs incurred and outage duration any similar events in the future.
(Example: Reference specific storm hardening activity.)

Item b: Please see response to Storm Hardening Facilities (I).

c. If the method of deriving the weather exclusion is different from the method used for 2013, please explain the changes and provide the CMI and CI for 2014 using the prior method.

c. The exclusion method used is the same since 2005.

d. (Appendix) Provide the 2014 service reliability data for each extreme weather outage event that is excluded from your Company's 2014 Annual Distribution Reliability Report pursuant to Rule 25-6.0455.

i. A Table

ii. Electronic File

iii. Overhead and Underground statistics & forensics. (C, CMI, CI, L-Bar, repair cost, etc.)

Dates	Overhead vs. Underground	C	CMI	CI	Duration	L-Bar	N
July 1 to 2	Overhead	1,697,844	578,171	7,737	25,434	108.7	234
	Underground		84,549	735	9,855	121.7	81

ATTACHMENT D

CAUSES OF OUTAGE EVENTS – ADJUSTED

Utility Name: Duke Energy Florida Years: **2010 to 2014**

	2014			2013			2012			2011			2010		
Cause (a)	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
1. Animals	5,020	75.4	64.7	5,967	73.0	62.9	6,637	71.0	58.6	7,686	70.0	58.7	5,910	66.1	54.4
2. Vegetation	9,816	137.0	85.4	9,143	140.7	86.9	7,667	137.7	82.8	9,826	162.0	94.5	9,081	132.7	84.8
3. Lightning	1,647	166.3	69.3	1,344	178.4	82.8	980	191.5	78.7	1,093	215.9	96.0	1,073	187.4	76.1
4. Other Weather	5,875	107.5	76.8	4,920	116.2	104.5	3,994	104.1	86.5	4,613	131.2	112.4	3,858	106.5	89.2
5. Vehicle	420	240.9	88.8	392	222.0	88.7	303	239.2	84.6	316	227.1	78.2	326	207.7	87.4
6. Defective Equipment	7,221	150.3	76.7	6,536	145.0	73.9	6,185	147.0	81.4	6,450	149.0	73.4	7,003	145.5	72.9
7. Unknown	2,867	81.5	65.6	3,333	83.6	71.4	2,909	80.1	56.4	3,429	81.0	63.5	4,595	79.2	60.1
All Other Causes	8,073	170.3	73.6	8,232	176.0	75.1	7,845	175.5	69.2	8,510	171.8	66.2	9,476	156.1	72.9
System Totals:	40,939	132.5	78.4	39,867	132.8	81.6	36,520	129.3	76.8	41,923	137.0	81.4	41,322	124.3	76.1

ATTACHMENT E

DUKE ENERGY

2015 PROGRAM BUDGET

CAPITAL													
	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Annual
SI-AUTOMATION	7,384	47,583	27,484	67,684	67,684	27,484	67,684	148,085	67,684	67,683	7,384	27,484	631,307
SI-CAP REPL-CAP	60,619	113,697	89,811	100,428	81,851	63,271	68,578	92,466	79,199	129,625	79,199	50,002	1,008,746
SI-CAPACITOR NEW-CAP	1,830	1,830	1,830	1,830	1,830	1,830	13,200	92,802	47,313	1,830	13,200	1,830	181,155
SI-DISC SWITCH-CAP	2,374	16,887	12,007	26,520	21,681	41,033	7,211	7,211	7,211	2,374	2,374	2,374	149,257
SI-FEEDER STAND-CAP	35,358	153,040	912,928	1,027,242	556,524	428,752	371,592	606,956	664,115	405,217	227,011	132,865	5,521,600
SI-NETWORK REPL-CAP	5,109	5,109	5,109	5,109	5,109	5,109	5,109	33,061	61,011	144,866	116,917	116,917	508,535
SI-NEW ABB RECL-CAP	9,244	9,244	52,707	139,638	139,638	9,244	9,244	226,569	226,564	9,244	9,244	9,244	849,824
SI-POLE REINF-CAP	37,153	37,153	37,153	37,153	37,153	37,153	37,153	37,153	37,153	37,153	37,153	34,461	443,144
SI-POLE REPL CLOSED	723,194	857,075	957,487	980,916	857,436	957,487	723,194	723,194	823,606	890,907	756,665	755,942	10,007,103
SI-POLE REPL OPEN	2,019,374	2,237,780	2,332,318	2,348,914	2,339,278	2,302,019	2,170,332	2,038,648	2,040,034	2,067,551	1,749,576	1,367,149	25,012,973
SI-SMALL WIRE UP-CAP	22,788	124,549	320,056	522,953	321,839	466,751	417,980	829,405	332,066	295,965	127,637	71,991	3,853,980
SI-STBPLRMVL	124,836	124,836	124,836	124,836	124,836	124,836	124,836	124,836	124,836	124,836	124,836	124,836	1,498,032
SI-STORM HARD-CAP	25,368	234,056	1,104,427	966,691	695,399	221,534	420,122	1,030,385	547,713	418,324	257,030	94,234	6,015,283
SI-SUBAQUEOUS CABLE	21,363	21,363	21,363	21,363	21,363	21,363	21,363	1,216,436	1,216,436	1,216,436	1,216,667	21,363	5,036,879
SI-TARGETRELIABILITY	5,546	23,958	165,097	244,877	152,812	60,759	5,546	66,916	30,091	79,169	85,308	146,696	1,066,775
SI-PADMOUNT REPL 1PH-CAP	382,061	317,021	312,953	386,109	414,577	280,436	280,434	288,548	394,247	321,083	186,953	44,688	3,609,110
SI-PADMOUNT REPL 3PH-CAP	22,555	22,555	22,555	22,555	301,174	248,102	314,439	354,246	287,905	420,582	274,640	141,964	2,433,272
SI-PADMOUNT 1PHMODEF	145,693	132,150	199,838	109,590	172,768	136,663	154,713	226,922	190,814	154,717	181,788	204,353	2,010,009
SI-PADMOUNT 3PHMODEF	79,118	180,953	137,308	93,674	166,408	268,229	297,330	384,576	224,588	210,047	224,590	166,405	2,433,226
SI-UG CABLE LG-CAP	243,584	96,496	86,983	417,836	96,229	24,750	266,033	79,227	21,190	436,428	103,291	40,851	1,912,898
SI-UG CABLE SM-CAP	1,073,340	940,864	750,259	1,443,272	934,111	698,423	777,370	537,415	618,458	784,924	737,247	2,052,721	11,348,404
SI-ELECTRONIC RECL-CAP	1,700	1,700	17,897	17,897	34,094	17,897	17,897	17,897	1,700	34,094	17,897	1,700	182,370
SI-HYDRAULIC RECLOSER REP	161,984	265,881	281,163	345,326	137,543	207,823	268,931	262,810	326,994	433,939	326,988	302,545	3,321,927
SI-UG CABLE TEST/REHAB	1,148,511	12,805	12,805	12,805	12,805	12,805	12,805	12,805	1,716,352	12,805	12,805	12,805	2,992,913
SI-UG SWITCHGEAR REPL	17,464	17,464	17,464	133,523	94,838	172,210	17,464	249,582	133,523	326,952	249,580	365,637	1,795,701
SI-VOLTAGE REGULATORS	9,530	16,561	13,045	27,106	30,620	27,104	2,501	20,074	6,016	65,619	20,075	2,501	240,752
SI-AUTO TRANS SWITCH-CAP	2,194	2,194	2,194	2,194	2,194	2,194	2,194	2,194	2,194	2,194	2,194	220,057	244,191
Sum:	6,389,274	6,014,804	8,019,077	9,628,041	7,821,794	6,865,261	6,875,255	9,710,419	10,229,013	9,094,564	7,148,249	6,513,615	94,309,366

O&M													
	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Sum:
ENV-ENVIRONMENTAL	104,359	85,260	110,362	128,213	134,667	138,141	134,667	134,667	134,667	134,667	134,667	134,667	1,509,004
SI-ATS INSPECTIONS	2,747	10,152	2,747	37,299	2,747	21,004	2,747	37,299	2,747	10,152	2,747	56,159	188,547
SI-AUTOMATION	17,021	19,054	12,955	19,054	14,988	19,054	14,988	19,054	19,054	23,119	94,276	10,921	283,538
SI-CAP INSPECT/MAINT-O&M	36,549	85,179	106,846	128,263	143,191	60,870	37,031	42,806	42,324	45,940	35,582	26,197	790,778
SI-FAULT INDICATOR	4,683	30,709	30,705	30,705	34,197	34,201	27,213	23,717	2,741	2,741	2,741	2,741	227,094
SI-FEEDER STAND-CAP	111,679	78,900	103,862	108,533	114,318	102,069	81,686	65,432	114,388	117,012	98,691	118,131	1,214,701
SI-FEEDER STAND-O&M	11,425	11,425	11,425	23,924	105,163	186,400	202,022	145,778	164,527	97,348	19,236	11,425	990,098
SI-IR SCAN INSP/MAINT-O&M	6,693	24,721	33,992	12,873	9,782	10,813	32,443	89,620	92,194	90,649	72,622	27,294	503,696
SI-NETWORK MAINT-O&M	25,084	32,089	34,892	34,892	34,892	36,293	36,293	34,892	34,892	36,293	36,293	34,892	411,697
SI-POLE INSPECT&TREAT-O&M	241,817	241,817	241,817	241,817	241,817	241,817	241,817	241,817	241,817	241,817	241,817	240,206	2,900,193
SI-RECLOSR MAINT-O&M	2,170	2,170	2,170	2,170	62,177	72,013	65,129	55,292	2,170	2,170	2,170	2,170	271,971
SI-SMALL WIRE UP-CAP	71,976	64,212	36,412	55,253	66,110	111,115	91,883	89,412	57,195	85,464	55,489	64,007	848,530
SI-STORM HARD-CAP	80,125	120,669	125,648	102,136	142,845	52,738	92,354	111,078	94,339	120,797	111,742	83,784	1,238,255
SI-SWITCHGEAR MAINT	1,895	1,895	1,895	1,895	10,508	12,225	1,895	34,608	34,608	34,608	34,608	34,608	205,248
SI-PADMOUNT1PHREMED-O&M	35,966	71,489	89,247	44,846	89,248	213,585	151,420	302,377	35,967	53,729	89,244	124,777	1,301,895
SI-PADMOUNT3PHREMED-O&M	16,837	47,140	62,312	31,987	47,144	122,948	138,099	244,186	31,968	1,676	92,616	16,833	853,746
SI-VOLTAGE REG INSP	2,539	2,539	37,115	34,808	35,597	2,539	2,539	2,539	35,962	35,194	36,747	7,279	235,397
SI-SUBAQUEOUS CABLE OM	2,824	43,905	43,905	43,905	2,824	43,905	2,824	2,824	2,824	2,824	2,824	2,824	198,212
Sum:	776,390	973,325	1,088,307	1,082,573	1,292,216	1,481,730	1,357,049	1,677,398	1,144,384	1,136,201	1,164,112	998,915	14,172,600

ATTACHMENT F

SYSTEM RELIABILITY INDICES – ADJUSTED

Utility Name: Duke Energy Florida Year: **2010 to 2014**

	2014					**2013**					**2012**					**2011**					**2010**				
District or Service Area (a)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)
North Coastal Region	159.3	101.4	1.57	10.0	3.47%	147.3	97.4	1.51	8.1	4.13%	135.7	91.5	1.48	8.8	3.46%	201.2	106.6	1.89	9.1	4.77%	145.1	88.1	1.65	8.5	4.33%
South Coastal Region	65.5	68.4	0.96	10.8	1.36%	71.2	68.7	1.04	9.9	0.38%	58.5	66.0	0.89	10.3	0.34%	70.3	71.5	0.98	12.7	0.38%	86.0	71.1	1.21	13.2	0.81%
North Central Region	83.8	75.5	1.11	10.8	1.07%	91.1	82.3	1.11	8.9	1.53%	79.3	80.7	0.98	9.6	0.82%	86.4	81.7	1.06	11.0	0.69%	101.4	81.4	1.25	11.4	1.21%
South Central Region	82.8	79.6	1.04	10.3	1.04%	88.2	90.6	0.97	7.8	0.80%	62.9	78.6	0.80	7.6	0.49%	60.7	72.8	0.83	8.5	0.43%	73.5	70.7	1.04	8.5	0.66%
System Averages	85.1	78.4	1.09	10.6	1.45%	89.1	81.6	1.09	8.9	1.19%	73.4	76.8	0.96	9.3	0.85%	86.9	81.4	1.07	10.8	0.98%	93.3	76.1	1.23	11.1	1.28%

ATTACHMENT G

2014 Summer Feeder Peaks

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	ALDERMAN	1	C5000	7.39
SOUTH COASTAL	ALDERMAN	1	C5001	5.32
SOUTH COASTAL	ALDERMAN	1	C5003	7.50
SOUTH COASTAL	ALDERMAN	2	C5008	8.40
SOUTH COASTAL	ALDERMAN	2	C5009	9.32
SOUTH COASTAL	ALDERMAN	2	C5013	7.96
SOUTH COASTAL	ALDERMAN	3	C5011	9.99
SOUTH COASTAL	ALDERMAN	3	C5012	10.28
SOUTH COASTAL	ALDERMAN	3	C5010	0.00
SOUTH COASTAL	ANCLOTE	7	C4208	10.73
SOUTH COASTAL	ANCLOTE	7	C4206	4.89
SOUTH COASTAL	ANCLOTE	7	C4207	10.21
SOUTH COASTAL	ANCLOTE	8	C4201	9.12
SOUTH COASTAL	ANCLOTE	8	C4202	7.31
SOUTH COASTAL	ANCLOTE	8	C4203	9.06
SOUTH COASTAL	ANCLOTE	8	C4204	11.06
SOUTH COASTAL	BAYBORO PLANT	1	X0010	3.30
SOUTH COASTAL	BAYBORO PLANT	1	X0012	0.00
SOUTH COASTAL	BAYBORO PLANT	1	X0015	8.00
SOUTH COASTAL	BAYBORO PLANT	1	X0017	6.00
SOUTH COASTAL	BAYBORO PLANT	1	X0019	9.70
SOUTH COASTAL	BAYBORO PLANT	1	X0020	6.20
SOUTH COASTAL	BAYBORO PLANT	2	X0013	3.20
SOUTH COASTAL	BAYBORO PLANT	2	X0014	0.00
SOUTH COASTAL	BAYBORO PLANT	2	X0016	9.00
SOUTH COASTAL	BAYBORO PLANT	2	X0018	5.70
SOUTH COASTAL	BAYBORO PLANT	2	X0021	10.00
SOUTH COASTAL	BAYBORO PLANT	2	X0009	7.64
SOUTH COASTAL	BAYVIEW	1	C0651	11.01
SOUTH COASTAL	BAYVIEW	1	C0652	8.88
SOUTH COASTAL	BAYVIEW	1	C0653	8.91
SOUTH COASTAL	BAYVIEW	1	C0654	10.74
SOUTH COASTAL	BAYVIEW	2	C0655	7.75
SOUTH COASTAL	BAYVIEW	2	C0656	9.18
SOUTH COASTAL	BAYVIEW	2	C0657	10.53
SOUTH COASTAL	BAYVIEW	2	C0658	6.01
SOUTH COASTAL	BAYWAY	2	X0096	8.41
SOUTH COASTAL	BAYWAY	2	X0097	10.81
SOUTH COASTAL	BAYWAY	2	X0098	0.00
SOUTH COASTAL	BAYWAY	2	X0099	10.61
SOUTH COASTAL	BAYWAY	2	X0100	2.98
SOUTH COASTAL	BELLEAIR	1	C1002	9.46
SOUTH COASTAL	BELLEAIR	1	C1003	8.96
SOUTH COASTAL	BELLEAIR	1	C1004	2.15
SOUTH COASTAL	BELLEAIR	1	J1001	7.91
SOUTH COASTAL	BELLEAIR	2	C1005	9.12
SOUTH COASTAL	BELLEAIR	2	C1006	0.00

SOUTH COASTAL	BELLEAIR	2	C1007	6.76
SOUTH COASTAL	BELLEAIR	2	C1008	11.21
SOUTH COASTAL	BROOKER CREEK	1	C5400	9.34
SOUTH COASTAL	BROOKER CREEK	1	C5401	3.51
SOUTH COASTAL	BROOKER CREEK	1	C5402	7.23
SOUTH COASTAL	BROOKER CREEK	2	C5404	4.01
SOUTH COASTAL	BROOKER CREEK	2	C5405	11.06
SOUTH COASTAL	BROOKER CREEK	2	C5406	11.26
SOUTH COASTAL	CENTRAL PLAZA	1	X0262	9.38
SOUTH COASTAL	CENTRAL PLAZA	1	X0266	1.50
SOUTH COASTAL	CENTRAL PLAZA	1	X0268	10.38
SOUTH COASTAL	CENTRAL PLAZA	2	X0263	1.03
SOUTH COASTAL	CENTRAL PLAZA	2	X0265	5.05
SOUTH COASTAL	CENTRAL PLAZA	2	X0267	10.29
SOUTH COASTAL	CLEARWATER	1	C0004	6.74
SOUTH COASTAL	CLEARWATER	1	C0005	11.03
SOUTH COASTAL	CLEARWATER	1	C0006	3.49
SOUTH COASTAL	CLEARWATER	1	C0007	5.20
SOUTH COASTAL	CLEARWATER	2	C0008	2.79
SOUTH COASTAL	CLEARWATER	2	C0009	2.40
SOUTH COASTAL	CLEARWATER	2	C0010	7.29
SOUTH COASTAL	CLEARWATER	2	C0011	7.88
SOUTH COASTAL	CLEARWATER	3	C0012	8.74
SOUTH COASTAL	CLEARWATER	3	C0013	4.49
SOUTH COASTAL	CLEARWATER	3	C0014	5.55
SOUTH COASTAL	CLEARWATER	3	C0015	5.98
SOUTH COASTAL	CLEARWATER	4	C0016	8.50
SOUTH COASTAL	CLEARWATER	4	C0017	9.11
SOUTH COASTAL	CLEARWATER	4	C0018	10.67
SOUTH COASTAL	CROSS BAYOU	1	J0142	11.83
SOUTH COASTAL	CROSS BAYOU	1	J0143	10.25
SOUTH COASTAL	CROSS BAYOU	1	J0144	2.70
SOUTH COASTAL	CROSS BAYOU	1	J0145	8.35
SOUTH COASTAL	CROSS BAYOU	2	J0146	8.69
SOUTH COASTAL	CROSS BAYOU	2	J0147	10.75
SOUTH COASTAL	CROSS BAYOU	2	J0148	7.34
SOUTH COASTAL	CROSS BAYOU	3	J0140	6.01
SOUTH COASTAL	CROSS BAYOU	3	J0141	11.73
SOUTH COASTAL	CROSS BAYOU	3	J0150	9.90
SOUTH COASTAL	CROSSROADS	1	X0132	8.61
SOUTH COASTAL	CROSSROADS	1	X0133	7.84
SOUTH COASTAL	CROSSROADS	1	X0134	7.68
SOUTH COASTAL	CROSSROADS	2	X0135	9.97
SOUTH COASTAL	CROSSROADS	2	X0136	2.46
SOUTH COASTAL	CROSSROADS	2	X0137	3.92
SOUTH COASTAL	CROSSROADS	2	X0138	6.26
SOUTH COASTAL	CURLEW	1	C4989	9.94
SOUTH COASTAL	CURLEW	1	C4990	9.09
SOUTH COASTAL	CURLEW	1	C4991	10.83
SOUTH COASTAL	CURLEW	2	C4976	6.69
SOUTH COASTAL	CURLEW	2	C4985	5.32
SOUTH COASTAL	CURLEW	2	C4986	11.18
SOUTH COASTAL	CURLEW	3	C4972	7.81
SOUTH COASTAL	CURLEW	3	C4973	8.43
SOUTH COASTAL	CURLEW	3	C4987	5.40

SOUTH COASTAL	CURLEW	3	C4988	9.05
SOUTH COASTAL	DENHAM	1	C0151	10.10
SOUTH COASTAL	DENHAM	1	C0152	11.40
SOUTH COASTAL	DENHAM	1	C0159	6.94
SOUTH COASTAL	DENHAM	2	C0153	9.80
SOUTH COASTAL	DENHAM	2	C0154	6.27
SOUTH COASTAL	DENHAM	2	C0155	8.51
SOUTH COASTAL	DENHAM	3	C0156	9.74
SOUTH COASTAL	DENHAM	3	C0157	10.37
SOUTH COASTAL	DENHAM	3	C0158	11.51
SOUTH COASTAL	DENHAM		C0159	6.94
SOUTH COASTAL	DISSTON	1	X0060	10.29
SOUTH COASTAL	DISSTON	1	X0061	4.17
SOUTH COASTAL	DISSTON	1	X0062	11.43
SOUTH COASTAL	DISSTON	1	X0063	10.12
SOUTH COASTAL	DISSTON	2	X0064	12.03
SOUTH COASTAL	DISSTON	2	X0065	2.62
SOUTH COASTAL	DISSTON	2	X0066	11.38
SOUTH COASTAL	DISSTON	2	X0067	8.74
SOUTH COASTAL	DUNEDIN	1	C0102	8.48
SOUTH COASTAL	DUNEDIN	1	C0103	8.44
SOUTH COASTAL	DUNEDIN	2	C0104	8.49
SOUTH COASTAL	DUNEDIN	2	C0106	6.10
SOUTH COASTAL	DUNEDIN	3	C0107	9.73
SOUTH COASTAL	DUNEDIN	3	C0108	7.69
SOUTH COASTAL	EAST CLEARWATER	1	C0900	10.06
SOUTH COASTAL	EAST CLEARWATER	1	C0901	6.31
SOUTH COASTAL	EAST CLEARWATER	1	C0902	9.87
SOUTH COASTAL	EAST CLEARWATER	1	C0903	6.62
SOUTH COASTAL	EAST CLEARWATER	2	C0904	9.84
SOUTH COASTAL	EAST CLEARWATER	2	C0905	7.55
SOUTH COASTAL	EAST CLEARWATER	2	C0906	10.29
SOUTH COASTAL	EAST CLEARWATER	2	C0907	10.26
SOUTH COASTAL	EAST CLEARWATER	3	C0908	7.72
SOUTH COASTAL	EAST CLEARWATER	3	C0909	8.09
SOUTH COASTAL	EAST CLEARWATER	3	C0910	8.83
SOUTH COASTAL	EAST CLEARWATER	3	C0911	8.30
SOUTH COASTAL	ELFERS	1	C0954	4.57
SOUTH COASTAL	ELFERS	1	C0955	9.19
SOUTH COASTAL	ELFERS	1	C0956	9.44
SOUTH COASTAL	ELFERS	1	C0957	8.64
SOUTH COASTAL	ELFERS	2	C0950	7.37
SOUTH COASTAL	ELFERS	2	C0951	6.56
SOUTH COASTAL	ELFERS	2	C0952	6.55
SOUTH COASTAL	ELFERS	2	C0953	6.34
SOUTH COASTAL	FIFTY FIRST STREET	1	X0104	5.72
SOUTH COASTAL	FIFTY FIRST STREET	1	X0106	3.98
SOUTH COASTAL	FIFTY FIRST STREET	1	X0108	6.28
SOUTH COASTAL	FIFTY FIRST STREET	1	X0102	12.19
SOUTH COASTAL	FIFTY FIRST STREET	2	X0101	6.10
SOUTH COASTAL	FIFTY FIRST STREET	2	X0103	7.61
SOUTH COASTAL	FIFTY FIRST STREET	2	X0105	7.25
SOUTH COASTAL	FIFTY FIRST STREET	2	X0107	7.39
SOUTH COASTAL	FLORA-MAR	1	C4000	7.89
SOUTH COASTAL	FLORA-MAR	1	C4001	8.50

SOUTH COASTAL	FLORA-MAR	1	C4002	9.38
SOUTH COASTAL	FLORA-MAR	1	C4003	9.26
SOUTH COASTAL	FLORA-MAR	2	C4006	9.42
SOUTH COASTAL	FLORA-MAR	2	C4007	8.22
SOUTH COASTAL	FLORA-MAR	2	C4008	6.72
SOUTH COASTAL	FLORA-MAR	2	C4009	8.13
SOUTH COASTAL	FORTIETH STREET	1	X0081	4.85
SOUTH COASTAL	FORTIETH STREET	1	X0082	8.74
SOUTH COASTAL	FORTIETH STREET	2	X0083	6.28
SOUTH COASTAL	FORTIETH STREET	2	X0084	7.78
SOUTH COASTAL	FORTIETH STREET	2	X0085	6.07
SOUTH COASTAL	G E PINELLAS	1	J0231	0.00
SOUTH COASTAL	G E PINELLAS	2	J0234	4.90
SOUTH COASTAL	G E PINELLAS	2	J0235	0.00
SOUTH COASTAL	GATEWAY	1	X0111	12.00
SOUTH COASTAL	GATEWAY	1	X0112	7.78
SOUTH COASTAL	GATEWAY	1	X0113	8.70
SOUTH COASTAL	GATEWAY	1	X0114	3.40
SOUTH COASTAL	GATEWAY	2	X0118	10.22
SOUTH COASTAL	GATEWAY	2	X0119	8.27
SOUTH COASTAL	GATEWAY	2	X0120	7.61
SOUTH COASTAL	GATEWAY	3	X0121	8.79
SOUTH COASTAL	GATEWAY	3	X0123	7.11
SOUTH COASTAL	GATEWAY	3	X0125	6.46
SOUTH COASTAL	HIGHLANDS	1	C2805	8.47
SOUTH COASTAL	HIGHLANDS	1	C2806	11.03
SOUTH COASTAL	HIGHLANDS	1	C2807	10.50
SOUTH COASTAL	HIGHLANDS	2	C2802	8.01
SOUTH COASTAL	HIGHLANDS	2	C2803	5.78
SOUTH COASTAL	HIGHLANDS	2	C2804	6.76
SOUTH COASTAL	KENNETH	1	X0050	10.60
SOUTH COASTAL	KENNETH	1	X0051	4.90
SOUTH COASTAL	KENNETH	1	X0052	0.00
SOUTH COASTAL	KENNETH	1	X0053	10.80
SOUTH COASTAL	KENNETH	2	X0054	0.00
SOUTH COASTAL	KENNETH	2	X0055	6.10
SOUTH COASTAL	KENNETH	2	X0056	11.70
SOUTH COASTAL	KENNETH	2	X0057	10.40
SOUTH COASTAL	LAND-O-LAKES	1	C0140	11.33
SOUTH COASTAL	LAND-O-LAKES	1	C0141	6.96
SOUTH COASTAL	LAND-O-LAKES	1	C0142	0.00
SOUTH COASTAL	LAND-O-LAKES	1	C0143	12.41
SOUTH COASTAL	LARGO	1	J0402	8.53
SOUTH COASTAL	LARGO	1	J0403	8.34
SOUTH COASTAL	LARGO	1	J0404	7.80
SOUTH COASTAL	LARGO	1	J0405	6.26
SOUTH COASTAL	LARGO	2	J0406	8.58
SOUTH COASTAL	LARGO	2	J0407	10.84
SOUTH COASTAL	LARGO	2	J0408	5.19
SOUTH COASTAL	LARGO	2	J0409	6.56
SOUTH COASTAL	MAXIMO	1	X0143	10.45
SOUTH COASTAL	MAXIMO	1	X0144	0.94
SOUTH COASTAL	MAXIMO	1	X0146	6.85
SOUTH COASTAL	MAXIMO	1	X0147	10.20
SOUTH COASTAL	MAXIMO	2	X0149	10.17

SOUTH COASTAL	MAXIMO	2	X0150	8.51
SOUTH COASTAL	MAXIMO	2	X0151	10.92
SOUTH COASTAL	MAXIMO	2	X0152	0.32
SOUTH COASTAL	MAXIMO	3	X0140	9.08
SOUTH COASTAL	MAXIMO	3	X0141	8.05
SOUTH COASTAL	MAXIMO	3	X0142	8.97
SOUTH COASTAL	NEW PORT RICHEY	1	C0441	7.20
SOUTH COASTAL	NEW PORT RICHEY	1	C0442	6.23
SOUTH COASTAL	NEW PORT RICHEY	2	C0443	9.88
SOUTH COASTAL	NEW PORT RICHEY	2	C0444	6.72
SOUTH COASTAL	NORTHEAST	1	X0282	6.30
SOUTH COASTAL	NORTHEAST	1	X0283	5.04
SOUTH COASTAL	NORTHEAST	1	X0284	11.54
SOUTH COASTAL	NORTHEAST	1	X0285	8.39
SOUTH COASTAL	NORTHEAST	1	X0286	8.50
SOUTH COASTAL	NORTHEAST	2	X0287	10.50
SOUTH COASTAL	NORTHEAST	2	X0288	7.75
SOUTH COASTAL	NORTHEAST	2	X0289	9.35
SOUTH COASTAL	NORTHEAST	2	X0290	6.79
SOUTH COASTAL	NORTHEAST	2	X0291	3.63
SOUTH COASTAL	OAKHURST	1	J0221	8.17
SOUTH COASTAL	OAKHURST	1	J0228	9.81
SOUTH COASTAL	OAKHURST	1	J0229	6.94
SOUTH COASTAL	OAKHURST	2	J0226	9.66
SOUTH COASTAL	OAKHURST	2	J0227	9.21
SOUTH COASTAL	OAKHURST	3	J0223	8.32
SOUTH COASTAL	OAKHURST	3	J0224	9.31
SOUTH COASTAL	ODESSA	2	C4320	12.01
SOUTH COASTAL	ODESSA	2	C4323	8.45
SOUTH COASTAL	ODESSA	1	C4329	6.28
SOUTH COASTAL	ODESSA	1	C4322	10.48
SOUTH COASTAL	OLDSMAR	1	C0603	0.00
SOUTH COASTAL	OLDSMAR	2	C0604	1.20
SOUTH COASTAL	PALM HARBOR	1	C0752	11.12
SOUTH COASTAL	PALM HARBOR	1	C0753	7.65
SOUTH COASTAL	PALM HARBOR	2	C0755	11.76
SOUTH COASTAL	PALM HARBOR	2	C0756	7.38
SOUTH COASTAL	PALM HARBOR	2	C0757	9.90
SOUTH COASTAL	PASADENA	1	X0216	5.28
SOUTH COASTAL	PASADENA	1	X0217	4.17
SOUTH COASTAL	PASADENA	1	X0219	8.71
SOUTH COASTAL	PASADENA	1	X0220	6.00
SOUTH COASTAL	PASADENA	2	X0211	9.24
SOUTH COASTAL	PASADENA	2	X0212	5.60
SOUTH COASTAL	PASADENA	2	X0213	5.88
SOUTH COASTAL	PASADENA	2	X0214	8.90
SOUTH COASTAL	PASADENA	2	X0215	3.29
SOUTH COASTAL	PILSBURY	1	X0252	11.38
SOUTH COASTAL	PILSBURY	1	X0253	10.39
SOUTH COASTAL	PILSBURY	1	X0254	9.87
SOUTH COASTAL	PILSBURY	1	X0255	8.68
SOUTH COASTAL	PILSBURY	2	X0256	10.14
SOUTH COASTAL	PILSBURY	2	X0257	11.09
SOUTH COASTAL	PILSBURY	2	X0258	9.09
SOUTH COASTAL	PILSBURY	2	X0259	12.01

SOUTH COASTAL	PINELLAS WELL FIELD	1	C801	1.20
SOUTH COASTAL	PINELLAS WELL FIELD	1	C802	0.00
SOUTH COASTAL	PORT RICHEY WEST	1	C0205	4.86
SOUTH COASTAL	PORT RICHEY WEST	1	C0206	10.93
SOUTH COASTAL	PORT RICHEY WEST	1	C0207	6.68
SOUTH COASTAL	PORT RICHEY WEST	2	C0202	8.72
SOUTH COASTAL	PORT RICHEY WEST	2	C0203	7.61
SOUTH COASTAL	PORT RICHEY WEST	3	C0208	6.66
SOUTH COASTAL	PORT RICHEY WEST	3	C0209	9.99
SOUTH COASTAL	PORT RICHEY WEST	3	C0210	8.07
SOUTH COASTAL	SAFETY HARBOR	1	C3518	6.18
SOUTH COASTAL	SAFETY HARBOR	1	C3525	8.93
SOUTH COASTAL	SAFETY HARBOR	1	C3527	9.80
SOUTH COASTAL	SAFETY HARBOR	1	C3528	7.69
SOUTH COASTAL	SAFETY HARBOR	2	C3521	8.77
SOUTH COASTAL	SAFETY HARBOR	2	C3523	7.28
SOUTH COASTAL	SAFETY HARBOR	2	C3524	7.64
SOUTH COASTAL	SEMINOLE	1	J0892	9.81
SOUTH COASTAL	SEMINOLE	1	J0893	6.04
SOUTH COASTAL	SEMINOLE	1	J0894	11.21
SOUTH COASTAL	SEMINOLE	1	J0895	10.17
SOUTH COASTAL	SEMINOLE	2	J0889	9.53
SOUTH COASTAL	SEMINOLE	2	J0890	9.20
SOUTH COASTAL	SEMINOLE	2	J0891	3.72
SOUTH COASTAL	SEMINOLE	2	J888	5.40
SOUTH COASTAL	SEVEN SPRINGS	4	C4500	6.82
SOUTH COASTAL	SEVEN SPRINGS	4	C4501	9.08
SOUTH COASTAL	SEVEN SPRINGS	4	C4510	6.61
SOUTH COASTAL	SEVEN SPRINGS	5	C4507	7.07
SOUTH COASTAL	SEVEN SPRINGS	5	C4508	12.23
SOUTH COASTAL	SEVEN SPRINGS	5	C4509	8.14
SOUTH COASTAL	SEVEN SPRINGS	6	C4502	7.53
SOUTH COASTAL	SEVEN SPRINGS	6	C4512	7.73
SOUTH COASTAL	SIXTEENTH STREET	1	X0031	10.21
SOUTH COASTAL	SIXTEENTH STREET	1	X0033	3.77
SOUTH COASTAL	SIXTEENTH STREET	1	X0035	3.89
SOUTH COASTAL	SIXTEENTH STREET	1	X0043	4.62
SOUTH COASTAL	SIXTEENTH STREET	1	X0045	9.17
SOUTH COASTAL	SIXTEENTH STREET	2	X0032	0.03
SOUTH COASTAL	SIXTEENTH STREET	2	X0034	10.92
SOUTH COASTAL	SIXTEENTH STREET	2	X0036	6.26
SOUTH COASTAL	SIXTEENTH STREET	2	X0042	7.04
SOUTH COASTAL	SIXTEENTH STREET	2	X0046	7.33
SOUTH COASTAL	STARKEY ROAD	1	J0112	7.36
SOUTH COASTAL	STARKEY ROAD	1	J0113	6.49
SOUTH COASTAL	STARKEY ROAD	1	J0114	7.42
SOUTH COASTAL	STARKEY ROAD	2	J0115	7.95
SOUTH COASTAL	STARKEY ROAD	2	J0116	10.50
SOUTH COASTAL	STARKEY ROAD	2	J0117	11.64
SOUTH COASTAL	STARKEY ROAD	2	J0118	8.92
SOUTH COASTAL	TARPON SPRINGS	1	C0301	6.35
SOUTH COASTAL	TARPON SPRINGS	1	C0302	8.34
SOUTH COASTAL	TARPON SPRINGS	1	C0303	8.45
SOUTH COASTAL	TARPON SPRINGS	1	C0304	9.69
SOUTH COASTAL	TARPON SPRINGS	2	C0305	9.50

SOUTH COASTAL	TARPON SPRINGS	2	C0306	6.41
SOUTH COASTAL	TARPON SPRINGS	2	C0307	9.82
SOUTH COASTAL	TARPON SPRINGS	2	C0308	8.73
SOUTH COASTAL	TAYLOR AVENUE	1	J2905	8.90
SOUTH COASTAL	TAYLOR AVENUE	1	J2906	5.29
SOUTH COASTAL	TAYLOR AVENUE	1	J2907	10.34
SOUTH COASTAL	TAYLOR AVENUE	2	J2902	0.67
SOUTH COASTAL	TAYLOR AVENUE	2	J2903	9.08
SOUTH COASTAL	TAYLOR AVENUE	2	J2904	8.96
SOUTH COASTAL	THIRTY SECOND STREET	1	X0022	9.41
SOUTH COASTAL	THIRTY SECOND STREET	1	X0023	4.87
SOUTH COASTAL	THIRTY SECOND STREET	1	X0024	12.39
SOUTH COASTAL	THIRTY SECOND STREET	1	X0025	8.34
SOUTH COASTAL	THIRTY SECOND STREET	2	X0026	7.42
SOUTH COASTAL	THIRTY SECOND STREET	2	X0027	9.97
SOUTH COASTAL	THIRTY SECOND STREET	2	X0028	8.39
SOUTH COASTAL	TRI-CITY	2	J5034	8.38
SOUTH COASTAL	TRI-CITY	2	J5036	4.13
SOUTH COASTAL	TRI-CITY	2	J5038	7.68
SOUTH COASTAL	TRI-CITY	3	J5030	7.18
SOUTH COASTAL	TRI-CITY	3	J5032	9.81
SOUTH COASTAL	TRI-CITY	3	J5040	7.72
SOUTH COASTAL	ULMERTON	1	J0240	8.66
SOUTH COASTAL	ULMERTON	1	J0241	8.64
SOUTH COASTAL	ULMERTON	1	J0242	6.06
SOUTH COASTAL	ULMERTON	1	J0243	9.80
SOUTH COASTAL	ULMERTON	2	J0244	7.90
SOUTH COASTAL	ULMERTON	2	J0245	9.57
SOUTH COASTAL	ULMERTON	2	J0246	4.69
SOUTH COASTAL	ULMERTON	2	J0247	8.08
SOUTH COASTAL	ULMERTON WEST	1	J0680	5.65
SOUTH COASTAL	ULMERTON WEST	1	J0682	9.99
SOUTH COASTAL	ULMERTON WEST	1	J0684	8.49
SOUTH COASTAL	ULMERTON WEST	2	J0689	4.57
SOUTH COASTAL	ULMERTON WEST	2	J0690	8.40
SOUTH COASTAL	ULMERTON WEST	2	J0691	8.25
SOUTH COASTAL	ULMERTON WEST	2	J0692	7.07
SOUTH COASTAL	VINOY	1	X0076	4.40
SOUTH COASTAL	VINOY	1	X0077	6.70
SOUTH COASTAL	VINOY	1	X0078	10.93
SOUTH COASTAL	VINOY	1	X0079	2.30
SOUTH COASTAL	VINOY	1	X0080	3.38
SOUTH COASTAL	VINOY	1	X0070	11.15
SOUTH COASTAL	VINOY	2	X0071	13.00
SOUTH COASTAL	VINOY	2	X0072	10.40
SOUTH COASTAL	VINOY	2	X0073	3.00
SOUTH COASTAL	VINOY	2	X0074	2.40
SOUTH COASTAL	VINOY	2	X0075	1.40
SOUTH COASTAL	WALSINGHAM	1	J0555	7.06
SOUTH COASTAL	WALSINGHAM	1	J0556	8.94
SOUTH COASTAL	WALSINGHAM	1	J0557	10.49
SOUTH COASTAL	WALSINGHAM	1	J0558	8.13
SOUTH COASTAL	WALSINGHAM	2	J0551	11.91
SOUTH COASTAL	WALSINGHAM	2	J0552	9.14
SOUTH COASTAL	WALSINGHAM	2	J0553	11.98

SOUTH COASTAL	WALSINGHAM	2	J0554	10.42
SOUTH COASTAL	ZEPHYRHILLS	1	C0854	4.76
SOUTH COASTAL	ZEPHYRHILLS	1	C0855	10.80
SOUTH COASTAL	ZEPHYRHILLS	1	C0856	8.40
SOUTH COASTAL	ZEPHYRHILLS	1	C0857	3.85
SOUTH COASTAL	ZEPHYRHILLS	2	C0851	9.37
SOUTH COASTAL	ZEPHYRHILLS	2	C0852	7.33
SOUTH COASTAL	ZEPHYRHILLS	2	C0853	4.15
SOUTH COASTAL	ZEPHYRHILLS NORTH	1	C0342	8.10
SOUTH COASTAL	ZEPHYRHILLS NORTH	1	C0343	12.04
SOUTH COASTAL	ZEPHYRHILLS NORTH	1	C0344	6.40
SOUTH COASTAL	ZEPHYRHILLS NORTH	2	C0340	3.07
SOUTH COASTAL	ZEPHYRHILLS NORTH	2	C0341	7.40
SOUTH COASTAL	ZEPHYRHILLS NORTH	2	C0345	3.50
SOUTH CENTRAL	ARBUCKLE CREEK	1	K1361	0.03
SOUTH CENTRAL	AVALON	1	AVAL001	0.00
SOUTH CENTRAL	AVON PARK NORTH	1	K0893	6.80
SOUTH CENTRAL	AVON PARK NORTH	1	K0894	5.16
SOUTH CENTRAL	AVON PARK NORTH	2	K0891	5.62
SOUTH CENTRAL	AVON PARK NORTH	2	K0892	2.10
SOUTH CENTRAL	AVON PARK PLANT	4	K0118	5.16
SOUTH CENTRAL	AVON PARK PLANT	4	K0119	5.39
SOUTH CENTRAL	AVON PARK PLANT	5	K0116	4.48
SOUTH CENTRAL	AVON PARK PLANT	5	K0117	5.08
SOUTH CENTRAL	BABSON PARK	1	K1195	3.56
SOUTH CENTRAL	BABSON PARK	1	K1196	3.83
SOUTH CENTRAL	BALBOA	1	BALB001	0.00
SOUTH CENTRAL	BARNUM CITY	1	K1501	6.06
SOUTH CENTRAL	BARNUM CITY	1	K3360	10.57
SOUTH CENTRAL	BARNUM CITY	1	K3364	1.94
SOUTH CENTRAL	BARNUM CITY	2	K1503	9.10
SOUTH CENTRAL	BARNUM CITY	2	K3362	8.66
SOUTH CENTRAL	BAY HILL	1	K72	7.48
SOUTH CENTRAL	BAY HILL	1	K73	11.34
SOUTH CENTRAL	BAY HILL	1	K74	8.45
SOUTH CENTRAL	BAY HILL	2	K75	8.28
SOUTH CENTRAL	BAY HILL	2	K76	8.66
SOUTH CENTRAL	BAY HILL	2	K77	3.29
SOUTH CENTRAL	BAY HILL	3	K67	6.02
SOUTH CENTRAL	BAY HILL	3	K68	10.00
SOUTH CENTRAL	BAY HILL	3	K79	9.69
SOUTH CENTRAL	BOGGY MARSH	1	K958	7.65
SOUTH CENTRAL	BOGGY MARSH	1	K959	6.72
SOUTH CENTRAL	BOGGY MARSH	1	K964	7.51
SOUTH CENTRAL	BOGGY MARSH	2	K957	6.72
SOUTH CENTRAL	BOGGY MARSH	2	K960	7.80
SOUTH CENTRAL	BOGGY MARSH	2	K961	9.70
SOUTH CENTRAL	BOGGY MARSH	1	K964	7.51
SOUTH CENTRAL	BONNET CREEK	1	K973	3.53
SOUTH CENTRAL	BONNET CREEK	1	K974	2.79
SOUTH CENTRAL	BONNET CREEK	1	K975	7.12
SOUTH CENTRAL	BONNET CREEK	1	K976	6.37
SOUTH CENTRAL	BONNET CREEK	2	K1230	2.64
SOUTH CENTRAL	BONNET CREEK	2	K1231	8.34
SOUTH CENTRAL	BONNET CREEK	2	K1232	6.98

SOUTH CENTRAL	BONNET CREEK	2	K1234	4.82
SOUTH CENTRAL	BOWEN	1	BOWE001	0.00
SOUTH CENTRAL	CABBAGE ISLAND	2	K1614	8.08
SOUTH CENTRAL	CABBAGE ISLAND	2	K1616	6.57
SOUTH CENTRAL	CABBAGE ISLAND	2	K1618	4.30
SOUTH CENTRAL	CABBAGE ISLAND	3	K1613	5.02
SOUTH CENTRAL	CABBAGE ISLAND	3	K1615	1.98
SOUTH CENTRAL	CANOE CREEK	1	W0105	3.70
SOUTH CENTRAL	CELEBRATION	2	K2701	7.70
SOUTH CENTRAL	CELEBRATION	2	K2704	2.73
SOUTH CENTRAL	CELEBRATION	3	K2703	6.88
SOUTH CENTRAL	CELEBRATION	3	K2706	10.68
SOUTH CENTRAL	CENTRAL PARK	1	K0495	3.62
SOUTH CENTRAL	CENTRAL PARK	1	W0493	9.22
SOUTH CENTRAL	CENTRAL PARK	1	W0494	5.44
SOUTH CENTRAL	CENTRAL PARK	2	W0496	5.83
SOUTH CENTRAL	CENTRAL PARK	2	W0497	10.92
SOUTH CENTRAL	CENTRAL PARK	2	W0498	6.42
SOUTH CENTRAL	CENTRAL PARK	2	K499	10.60
SOUTH CENTRAL	CENTRAL PARK	3	K800	11.24
SOUTH CENTRAL	CENTRAL PARK	3	W0500	8.56
SOUTH CENTRAL	CENTRAL PARK	3	W0501	3.25
SOUTH CENTRAL	CHAMPIONS GATE	1	K1762	11.39
SOUTH CENTRAL	CHAMPIONS GATE	1	K1764	5.44
SOUTH CENTRAL	CHAMPIONS GATE	2	K1761	1.30
SOUTH CENTRAL	CHAMPIONS GATE	2	K1763	7.39
SOUTH CENTRAL	CITRUSVILLE	1	K0035	4.38
SOUTH CENTRAL	CITRUSVILLE	1	K0061	8.54
SOUTH CENTRAL	CITRUSVILLE	1	K0062	6.69
SOUTH CENTRAL	CLARCONA	1	M0337	8.97
SOUTH CENTRAL	CLARCONA	1	M0343	12.12
SOUTH CENTRAL	CLARCONA	2	M0339	2.79
SOUTH CENTRAL	CLARCONA	2	M0340	5.89
SOUTH CENTRAL	CLARCONA	2	M0345	8.81
SOUTH CENTRAL	CLARCONA	2	M0346	12.06
SOUTH CENTRAL	CLARCONA	3	M0342	2.42
SOUTH CENTRAL	CLARCONA	3	M0348	9.30
SOUTH CENTRAL	CLARCONA	3	M0351	0.63
SOUTH CENTRAL	CLERMONT	1	K601	10.83
SOUTH CENTRAL	CLERMONT	1	K602	7.70
SOUTH CENTRAL	CLERMONT	1	K603	9.28
SOUTH CENTRAL	CLERMONT	2	K605	6.60
SOUTH CENTRAL	CLERMONT	2	K606	8.98
SOUTH CENTRAL	CLERMONT	2	K607	7.44
SOUTH CENTRAL	COLONIAL	1	K2476	10.30
SOUTH CENTRAL	COLONIAL	1	K2477	6.20
SOUTH CENTRAL	CONWAY	1	W0407	6.91
SOUTH CENTRAL	CONWAY	1	W0408	9.57
SOUTH CENTRAL	CONWAY	2	W0404	9.67
SOUTH CENTRAL	CONWAY	2	W0405	10.12
SOUTH CENTRAL	COUNTRY OAKS	1	K1443	4.24
SOUTH CENTRAL	COUNTRY OAKS	1	K1446	2.07
SOUTH CENTRAL	COUNTRY OAKS	2	K1445	0.00
SOUTH CENTRAL	COUNTRY OAKS	2	K1447	8.87
SOUTH CENTRAL	CROOKED LAKE	1	K1772	8.41

SOUTH CENTRAL	CROWN POINT	1	K278	7.20
SOUTH CENTRAL	CROWN POINT	1	K279	5.24
SOUTH CENTRAL	CURRY FORD	2	W596	11.10
SOUTH CENTRAL	CURRY FORD	2	W598	8.40
SOUTH CENTRAL	CYPRESSWOOD	1	K0317	3.75
SOUTH CENTRAL	CYPRESSWOOD	1	K0563	4.82
SOUTH CENTRAL	CYPRESSWOOD	2	K0561	3.24
SOUTH CENTRAL	CYPRESSWOOD	2	K0562	8.78
SOUTH CENTRAL	DAVENPORT	1	K0007	3.37
SOUTH CENTRAL	DAVENPORT	1	K0008	4.94
SOUTH CENTRAL	DAVENPORT	1	K0009	6.19
SOUTH CENTRAL	DESOTO CITY	1	K3220	5.41
SOUTH CENTRAL	DESOTO CITY	1	K3221	1.00
SOUTH CENTRAL	DESOTO CITY	2	K3222	1.80
SOUTH CENTRAL	DINNER LAKE	1	K1690	6.93
SOUTH CENTRAL	DINNER LAKE	1	K1691	7.81
SOUTH CENTRAL	DINNER LAKE	2	K1684	1.74
SOUTH CENTRAL	DINNER LAKE	2	K1685	6.84
SOUTH CENTRAL	DINNER LAKE	2	K1686	0.00
SOUTH CENTRAL	DINNER LAKE	2	K1687	2.22
SOUTH CENTRAL	DINNER LAKE	2	K1688	4.13
SOUTH CENTRAL	DINNER LAKE	2	K1689	5.10
SOUTH CENTRAL	DUNDEE	2	K3244	7.71
SOUTH CENTRAL	DUNDEE	2	K3245	6.57
SOUTH CENTRAL	DUNDEE	2	K3246	1.79
SOUTH CENTRAL	EAST LAKE WALES	1	K1032	4.05
SOUTH CENTRAL	EAST LAKE WALES	1	K1030	5.47
SOUTH CENTRAL	EAST LAKE WALES	2	K1031	12.94
SOUTH CENTRAL	FISHEATING CREEK	1	K1560	7.64
SOUTH CENTRAL	FORT MEADE	3	K0170	0.01
SOUTH CENTRAL	FORT MEADE	3	K0171	3.29
SOUTH CENTRAL	FOUR CORNERS	1	K1404	8.69
SOUTH CENTRAL	FOUR CORNERS	1	K1407	7.06
SOUTH CENTRAL	FOUR CORNERS	2	K1406	6.80
SOUTH CENTRAL	FOUR CORNERS	2	K1409	4.36
SOUTH CENTRAL	FOUR CORNERS	2	K1412	0.00
SOUTH CENTRAL	FOUR CORNERS	3	K1414	5.05
SOUTH CENTRAL	FOUR CORNERS	3	K1416	7.88
SOUTH CENTRAL	FOUR CORNERS	3	K1411	7.37
SOUTH CENTRAL	FROSTPROOF	1	K0100	4.50
SOUTH CENTRAL	FROSTPROOF	1	K0101	4.72
SOUTH CENTRAL	FROSTPROOF	1	K0102	5.01
SOUTH CENTRAL	FROSTPROOF	2	K0103	1.72
SOUTH CENTRAL	FROSTPROOF	2	K0104	4.57
SOUTH CENTRAL	GROVELAND	1	K673	4.95
SOUTH CENTRAL	GROVELAND	1	K674	8.10
SOUTH CENTRAL	GROVELAND	2	K675	6.71
SOUTH CENTRAL	HAINES CITY	1	K0018	10.64
SOUTH CENTRAL	HAINES CITY	1	K0019	4.99
SOUTH CENTRAL	HAINES CITY	1	K0021	8.75
SOUTH CENTRAL	HAINES CITY	1	K0022	6.99
SOUTH CENTRAL	HAINES CITY	2	K0016	9.52
SOUTH CENTRAL	HAINES CITY	2	K0017	8.55
SOUTH CENTRAL	HAINES CITY	2	K0020	6.22
SOUTH CENTRAL	HEMPLE	1	K2255	10.39

SOUTH CENTRAL	HEMPLE	1	K2250	10.51
SOUTH CENTRAL	HEMPLE	2	K2244	6.82
SOUTH CENTRAL	HEMPLE	2	K2247	9.35
SOUTH CENTRAL	HEMPLE	2	K2252	2.50
SOUTH CENTRAL	HEMPLE	3	K2246	6.60
SOUTH CENTRAL	HEMPLE	3	K2249	5.38
SOUTH CENTRAL	HEMPLE	3	K2253	7.83
SOUTH CENTRAL	HOLOPAW	1	W0630	4.30
SOUTH CENTRAL	HOLOPAW	2	W0629	10.00
SOUTH CENTRAL	HOWEY	1	K564	4.31
SOUTH CENTRAL	HOWEY	1	K565	3.00
SOUTH CENTRAL	HUNTERS CREEK	1	K51	8.48
SOUTH CENTRAL	HUNTERS CREEK	1	K40	11.27
SOUTH CENTRAL	HUNTERS CREEK	2	K42	10.85
SOUTH CENTRAL	HUNTERS CREEK	2	K43	9.87
SOUTH CENTRAL	HUNTERS CREEK	2	K46	0.00
SOUTH CENTRAL	HUNTERS CREEK	3	K45	10.50
SOUTH CENTRAL	HUNTERS CREEK	3	K48	6.89
SOUTH CENTRAL	HUNTERS CREEK	3	K49	6.40
SOUTH CENTRAL	INTERCESSION CITY	1	K0966	7.74
SOUTH CENTRAL	INTERCESSION CITY	1	K0967	7.80
SOUTH CENTRAL	INTERNATIONAL DRIVE	3	K4815	7.00
SOUTH CENTRAL	INTERNATIONAL DRIVE	3	K4818	7.40
SOUTH CENTRAL	INTERNATIONAL DRIVE	2	K4817	6.30
SOUTH CENTRAL	INTERNATIONAL DRIVE	2	K4820	5.23
SOUTH CENTRAL	ISLEWORTH	2	K779	8.75
SOUTH CENTRAL	ISLEWORTH	2	K784	12.55
SOUTH CENTRAL	ISLEWORTH	2	K792	3.95
SOUTH CENTRAL	ISLEWORTH	3	K781	9.56
SOUTH CENTRAL	ISLEWORTH	3	K782	5.58
SOUTH CENTRAL	ISLEWORTH	3	K789	7.95
SOUTH CENTRAL	LAKE BRYAN	1	K240	1.62
SOUTH CENTRAL	LAKE BRYAN	1	K242	3.19
SOUTH CENTRAL	LAKE BRYAN	2	K244	9.01
SOUTH CENTRAL	LAKE BRYAN	2	K238	11.19
SOUTH CENTRAL	LAKE BRYAN	2	K239	3.99
SOUTH CENTRAL	LAKE BRYAN	3	K230	8.98
SOUTH CENTRAL	LAKE BRYAN	3	K231	6.45
SOUTH CENTRAL	LAKE BRYAN	3	K232	8.34
SOUTH CENTRAL	LAKE LUNTZ	1	K3282	9.54
SOUTH CENTRAL	LAKE LUNTZ	1	K3284	13.07
SOUTH CENTRAL	LAKE LUNTZ	1	K3287	3.87
SOUTH CENTRAL	LAKE LUNTZ	2	K3283	11.47
SOUTH CENTRAL	LAKE LUNTZ	2	K3285	11.29
SOUTH CENTRAL	LAKE MARION	1	K1286	9.18
SOUTH CENTRAL	LAKE MARION	1	K1288	5.20
SOUTH CENTRAL	LAKE MARION	2	K1287	9.47
SOUTH CENTRAL	LAKE OF THE HILLS	1	K1884	8.40
SOUTH CENTRAL	LAKE OF THE HILLS	1	K1885	5.83
SOUTH CENTRAL	LAKE PLACID	1	K0757	3.22
SOUTH CENTRAL	LAKE PLACID	1	K0758	4.85
SOUTH CENTRAL	LAKE PLACID	2	K1066	7.54
SOUTH CENTRAL	LAKE PLACID	2	K1320	5.26
SOUTH CENTRAL	LAKE PLACID NORTH	1	K0024	3.79
SOUTH CENTRAL	LAKE PLACID NORTH	2	K0027	2.06

SOUTH CENTRAL	LAKE WALES	1	K0053	5.13
SOUTH CENTRAL	LAKE WALES	1	K0054	7.92
SOUTH CENTRAL	LAKE WALES	1	K0055	7.15
SOUTH CENTRAL	LAKE WALES	2	K0056	2.69
SOUTH CENTRAL	LAKE WALES	2	K0057	4.27
SOUTH CENTRAL	LAKE WALES	2	K0058	7.12
SOUTH CENTRAL	LAKE WILSON	1	K881	6.05
SOUTH CENTRAL	LAKE WILSON	1	K882	7.56
SOUTH CENTRAL	LAKE WILSON	2	K883	9.65
SOUTH CENTRAL	LAKE WILSON	2	K884	7.64
SOUTH CENTRAL	LAKEWOOD	1	K1693	6.50
SOUTH CENTRAL	LAKEWOOD	1	K1694	4.68
SOUTH CENTRAL	LAKEWOOD	1	K1695	6.04
SOUTH CENTRAL	LAKEWOOD	2	K1705	5.63
SOUTH CENTRAL	LAKEWOOD	2	K1706	7.38
SOUTH CENTRAL	LEISURE LAKES	1	K1415	5.76
SOUTH CENTRAL	MAGNOLIA RANCH	2	W0502	8.30
SOUTH CENTRAL	MAGNOLIA RANCH	2	W0503	5.60
SOUTH CENTRAL	MAGNOLIA RANCH	1	W0504	8.70
SOUTH CENTRAL	MAGNOLIA RANCH	1	W0505	0.00
SOUTH CENTRAL	MARLEY ROAD	1	K0120	0.00
SOUTH CENTRAL	MEADOW WOODS EAST	1	K1060	10.75
SOUTH CENTRAL	MEADOW WOODS EAST	1	K1061	7.90
SOUTH CENTRAL	MEADOW WOODS SOUTH	1	K1783	9.20
SOUTH CENTRAL	MEADOW WOODS SOUTH	1	K1789	5.59
SOUTH CENTRAL	MEADOW WOODS SOUTH	2	K1775	6.30
SOUTH CENTRAL	MEADOW WOODS SOUTH	2	K1778	8.55
SOUTH CENTRAL	MEADOW WOODS SOUTH	2	K1781	11.18
SOUTH CENTRAL	MEADOW WOODS SOUTH	3	K1777	7.26
SOUTH CENTRAL	MEADOW WOODS SOUTH	3	K1780	5.70
SOUTH CENTRAL	MIDWAY	1	K1472	10.46
SOUTH CENTRAL	MIDWAY	1	K1473	9.72
SOUTH CENTRAL	MIDWAY	1	K1475	10.22
SOUTH CENTRAL	MINNEOLA	1	K949	0.00
SOUTH CENTRAL	MINNEOLA	2	K945	7.54
SOUTH CENTRAL	MINNEOLA	2	K946	10.72
SOUTH CENTRAL	MINNEOLA	2	K948	0.00
SOUTH CENTRAL	MONTVERDE	1	K4834	5.04
SOUTH CENTRAL	MONTVERDE	1	K4837	6.98
SOUTH CENTRAL	MONTVERDE	1	K4831	6.58
SOUTH CENTRAL	MONTVERDE	1	K4841	8.95
SOUTH CENTRAL	MONTVERDE	2	K4833	5.54
SOUTH CENTRAL	MONTVERDE	2	K4836	7.96
SOUTH CENTRAL	MONTVERDE	2	K4840	10.00
SOUTH CENTRAL	MONTVERDE	2	K4845	5.74
SOUTH CENTRAL	NARCOOSSEE	1	W0212	12.50
SOUTH CENTRAL	NARCOOSSEE	1	W0213	9.20
SOUTH CENTRAL	NARCOOSSEE	1	W0214	6.50
SOUTH CENTRAL	NARCOOSSEE	2	W0215	9.60
SOUTH CENTRAL	NARCOOSSEE	2	W0217	9.20
SOUTH CENTRAL	NARCOOSSEE	3	W0219	10.10
SOUTH CENTRAL	NARCOOSSEE	3	W0220	8.70
SOUTH CENTRAL	NORTHRIDGE	1	K1822	7.70
SOUTH CENTRAL	NORTHRIDGE	1	K1825	3.56
SOUTH CENTRAL	OCOEE	1	M1090	9.90

SOUTH CENTRAL	OCOEE	1	M1091	5.84
SOUTH CENTRAL	OCOEE	1	M1092	9.40
SOUTH CENTRAL	OCOEE	2	M1094	8.02
SOUTH CENTRAL	OCOEE	2	M1095	5.83
SOUTH CENTRAL	OCOEE	2	M1096	9.94
SOUTH CENTRAL	OCOEE	3	M1086	3.83
SOUTH CENTRAL	OCOEE	3	M1087	7.07
SOUTH CENTRAL	OCOEE	3	M1088	9.80
SOUTH CENTRAL	OKAHUMPKA	1	K284	5.70
SOUTH CENTRAL	OKAHUMPKA	2	K285	6.40
SOUTH CENTRAL	OKAHUMPKA	2	K286	1.70
SOUTH CENTRAL	ORANGEWOOD	1	K217	3.71
SOUTH CENTRAL	ORANGEWOOD	1	K220	2.80
SOUTH CENTRAL	ORANGEWOOD	1	K221	5.16
SOUTH CENTRAL	ORANGEWOOD	1	K222	10.23
SOUTH CENTRAL	ORANGEWOOD	1	K223	3.86
SOUTH CENTRAL	ORANGEWOOD	1	K224	3.95
SOUTH CENTRAL	ORANGEWOOD	2	K218	4.32
SOUTH CENTRAL	ORANGEWOOD	2	K225	4.05
SOUTH CENTRAL	ORANGEWOOD	2	K226	7.29
SOUTH CENTRAL	ORANGEWOOD	2	K227	3.60
SOUTH CENTRAL	ORANGEWOOD	2	K228	7.93
SOUTH CENTRAL	ORANGEWOOD	2	K229	3.06
SOUTH CENTRAL	PEMBROKE	1	K3205	0.06
SOUTH CENTRAL	PINECASTLE	1	W0391	2.94
SOUTH CENTRAL	PINECASTLE	1	W0392	10.29
SOUTH CENTRAL	PINECASTLE	2	K0396	7.78
SOUTH CENTRAL	PINECASTLE	2	W0394	0.00
SOUTH CENTRAL	PINECASTLE	2	W0395	10.39
SOUTH CENTRAL	POINCIANA	1	K1236	10.29
SOUTH CENTRAL	POINCIANA	1	K1237	3.26
SOUTH CENTRAL	POINCIANA	1	K1558	9.62
SOUTH CENTRAL	POINCIANA	2	K1508	10.09
SOUTH CENTRAL	POINCIANA	2	K1509	9.76
SOUTH CENTRAL	POINCIANA	2	K1556	9.65
SOUTH CENTRAL	POINCIANA	2	K1561	10.62
SOUTH CENTRAL	POINCIANA NORTH	3	K629	6.23
SOUTH CENTRAL	POINCIANA NORTH	3	K631	9.12
SOUTH CENTRAL	REEDY LAKE	1	K1104	7.66
SOUTH CENTRAL	REEDY LAKE	1	K1110	7.83
SOUTH CENTRAL	REEDY LAKE	2	K1102	1.71
SOUTH CENTRAL	REEDY LAKE	2	K1108	0.00
SOUTH CENTRAL	RIO PINAR	1	W0968	9.30
SOUTH CENTRAL	RIO PINAR	1	W0969	6.40
SOUTH CENTRAL	RIO PINAR	1	W0970	12.00
SOUTH CENTRAL	RIO PINAR	1	W0975	8.50
SOUTH CENTRAL	RIO PINAR	4	W0971	5.00
SOUTH CENTRAL	RIO PINAR	4	W0972	11.30
SOUTH CENTRAL	RIO PINAR	4	W0973	9.00
SOUTH CENTRAL	RIO PINAR	4	W0974	9.50
SOUTH CENTRAL	SAND LAKE	1	K920	2.41
SOUTH CENTRAL	SAND LAKE	1	K925	4.20
SOUTH CENTRAL	SAND LAKE	1	K926	4.32
SOUTH CENTRAL	SAND LAKE	1	K931	2.56
SOUTH CENTRAL	SAND LAKE	1	K932	3.68

SOUTH CENTRAL	SAND LAKE	2	K922	4.60
SOUTH CENTRAL	SAND LAKE	2	K923	2.11
SOUTH CENTRAL	SAND LAKE	2	K928	4.94
SOUTH CENTRAL	SAND LAKE	2	K929	6.32
SOUTH CENTRAL	SAND LAKE	2	K934	7.19
SOUTH CENTRAL	SAND MOUNTAIN	1	K3201	0.41
SOUTH CENTRAL	SEBRING EAST	1	K0541	2.83
SOUTH CENTRAL	SEBRING EAST	1	K0542	5.98
SOUTH CENTRAL	SHINGLE CREEK	1	K857	11.32
SOUTH CENTRAL	SHINGLE CREEK	1	K860	7.73
SOUTH CENTRAL	SHINGLE CREEK	1	K861	5.63
SOUTH CENTRAL	SHINGLE CREEK	1	K864	0.00
SOUTH CENTRAL	SHINGLE CREEK	2	K855	8.34
SOUTH CENTRAL	SHINGLE CREEK	2	K858	7.13
SOUTH CENTRAL	SHINGLE CREEK	2	K863	9.21
SOUTH CENTRAL	SHINGLE CREEK	3	K868	7.99
SOUTH CENTRAL	SKY LAKE	1	W0362	6.36
SOUTH CENTRAL	SKY LAKE	1	W0363	10.74
SOUTH CENTRAL	SKY LAKE	1	W0364	7.50
SOUTH CENTRAL	SKY LAKE	2	W0365	8.91
SOUTH CENTRAL	SKY LAKE	2	W0366	5.96
SOUTH CENTRAL	SKY LAKE	3	W0367	9.30
SOUTH CENTRAL	SKY LAKE	3	W0368	6.79
SOUTH CENTRAL	SKY LAKE	3	W0369	8.99
SOUTH CENTRAL	SOUTH BARTOW	1	K0154	0.00
SOUTH CENTRAL	SUN'N LAKES	1	K1300	7.20
SOUTH CENTRAL	SUN'N LAKES	1	K1296	8.94
SOUTH CENTRAL	SUN'N LAKES	1	K1297	7.40
SOUTH CENTRAL	SUN'N LAKES	2	K1136	5.60
SOUTH CENTRAL	SUN'N LAKES	2	K1137	3.31
SOUTH CENTRAL	SUN'N LAKES	3	K1135	3.94
SOUTH CENTRAL	TAFT	1	K1026	8.60
SOUTH CENTRAL	TAFT	1	K1027	5.81
SOUTH CENTRAL	TAFT	1	K1028	6.54
SOUTH CENTRAL	TAFT	2	K1023	2.44
SOUTH CENTRAL	TAFT	2	K1024	5.65
SOUTH CENTRAL	TAFT	2	K1025	10.19
SOUTH CENTRAL	TAFT INDUSTRIAL	1	K3432	0.00
SOUTH CENTRAL	TAUNTON ROAD	1	K1081	5.09
SOUTH CENTRAL	TAUNTON ROAD	1	K1083	3.13
SOUTH CENTRAL	VINELAND	1	K901	5.28
SOUTH CENTRAL	VINELAND	1	K907	5.20
SOUTH CENTRAL	VINELAND	1	K913	6.52
SOUTH CENTRAL	VINELAND	2	K903	11.68
SOUTH CENTRAL	VINELAND	2	K909	3.52
SOUTH CENTRAL	VINELAND	2	K904	10.59
SOUTH CENTRAL	VINELAND	2	K910	7.80
SOUTH CENTRAL	VINELAND	3	K906	9.09
SOUTH CENTRAL	VINELAND	3	K915	7.04
SOUTH CENTRAL	VINELAND	3	K912	9.21
SOUTH CENTRAL	WAUCHULA	1	K0245	4.00
SOUTH CENTRAL	WAUCHULA	2	K0246	5.26
SOUTH CENTRAL	WEST DAVENPORT	1	K1523	6.30
SOUTH CENTRAL	WEST DAVENPORT	1	K1524	4.89
SOUTH CENTRAL	WEST DAVENPORT	2	K1521	9.44

SOUTH CENTRAL	WEST DAVENPORT	2	K1526	6.87
SOUTH CENTRAL	WEST LAKE WALES	2	K0866	4.15
SOUTH CENTRAL	WESTRIDGE	1	K0420	8.28
SOUTH CENTRAL	WESTRIDGE	1	K0425	6.07
SOUTH CENTRAL	WESTRIDGE	2	K0421	8.56
SOUTH CENTRAL	WESTRIDGE	2	K0426	6.91
SOUTH CENTRAL	WESTRIDGE	2	K0428	4.52
SOUTH CENTRAL	WEWAHOOTEE	1	W1197	2.30
SOUTH CENTRAL	WEWAHOOTEE	1	W1198	2.20
SOUTH CENTRAL	WINDERMERE	1	K303	8.31
SOUTH CENTRAL	WINDERMERE	1	K304	7.06
SOUTH CENTRAL	WINDERMERE	3	K302	8.59
SOUTH CENTRAL	WINTER GARDEN	1	K204	9.65
SOUTH CENTRAL	WINTER GARDEN	1	K205	9.71
SOUTH CENTRAL	WINTER GARDEN	1	K206	10.02
SOUTH CENTRAL	WINTER GARDEN	1	K207	9.45
SOUTH CENTRAL	WINTER GARDEN	2	K201	11.73
SOUTH CENTRAL	WINTER GARDEN	2	K202	7.96
SOUTH CENTRAL	WINTER GARDEN	2	K203	7.60
SOUTH CENTRAL	WOODSMERE	3	M0252	5.81
SOUTH CENTRAL	WOODSMERE	3	M0253	4.07
SOUTH CENTRAL	WOODSMERE	3	M0254	5.00
SOUTH CENTRAL	WOODSMERE	4	M0255	6.47
SOUTH CENTRAL	WOODSMERE	4	M0256	8.13
SOUTH CENTRAL	WORLD GATEWAY	1	K187	7.05
SOUTH CENTRAL	WORLD GATEWAY	1	K189	8.34
NORTH COASTAL	ADAMS	1	A0199	5.50
NORTH COASTAL	ADAMS	1	A0200	3.90
NORTH COASTAL	ALACHUA	1	A0143	1.40
NORTH COASTAL	ALACHUA	1	A0144	3.00
NORTH COASTAL	APALACHICOLA	1	N58	5.20
NORTH COASTAL	APALACHICOLA	1	N59	6.30
NORTH COASTAL	ARCHER	1	A0195	1.50
NORTH COASTAL	ARCHER	2	A0196	5.20
NORTH COASTAL	BEACON HILL	1	N516	6.90
NORTH COASTAL	BEACON HILL	2	N515	2.00
NORTH COASTAL	BEACON HILL	2	N527	4.70
NORTH COASTAL	BELLEVIEW	1	A0001	8.60
NORTH COASTAL	BELLEVIEW	1	A0003	10.10
NORTH COASTAL	BELLEVIEW	2	A0002	9.90
NORTH COASTAL	BELLEVIEW	2	A0004	6.70
NORTH COASTAL	BELLEVIEW	2	A0006	10.20
NORTH COASTAL	BEVERLY HILLS	1	A0074	7.00
NORTH COASTAL	BEVERLY HILLS	1	A0075	7.30
NORTH COASTAL	BEVERLY HILLS	2	A0072	5.70
NORTH COASTAL	BEVERLY HILLS	2	A0073	6.70
NORTH COASTAL	BROOKSVILLE	2	A0097	5.40
NORTH COASTAL	BROOKSVILLE	2	A0098	5.30
NORTH COASTAL	BROOKSVILLE	3	A0095	6.10
NORTH COASTAL	BROOKSVILLE	3	A0096	8.60
NORTH COASTAL	BEVILLE CORNER	1	A0561	1.90
NORTH COASTAL	BEVILLE CORNER	1	A0562	3.80
NORTH COASTAL	BUSHNELL EAST	1	A170	6.70
NORTH COASTAL	CARRABELLE	1	N42	2.20
NORTH COASTAL	CARRABELLE	1	N43	6.10

NORTH COASTAL	CARRABELLE BEACH	1	N48	2.30
NORTH COASTAL	CIRCLE SQUARE	1	A0251	6.10
NORTH COASTAL	CIRCLE SQUARE	1	A0253	4.40
NORTH COASTAL	CIRCLE SQUARE	2	A0250	5.70
NORTH COASTAL	CITRUS HILLS	2	A0282	7.30
NORTH COASTAL	CITRUS HILLS	2	A0284	8.20
NORTH COASTAL	CITRUS HILLS	2	A0286	0.00
NORTH COASTAL	CITRUS HILLS	3	A0283	4.90
NORTH COASTAL	CITRUS HILLS	3	A0285	6.50
NORTH COASTAL	COLEMAN	1	A0105	2.20
NORTH COASTAL	COLEMAN	1	A0106	5.70
NORTH COASTAL	COLEMAN	2	A0107	5.00
NORTH COASTAL	CRAWFORDVILLE	3	N35	6.10
NORTH COASTAL	CRAWFORDVILLE	3	N36	5.10
NORTH COASTAL	CROSS CITY	1	A0118	4.50
NORTH COASTAL	CROSS CITY	1	A0119	9.00
NORTH COASTAL	CROSS CITY INDUSTRIAL	1	A0046	4.20
NORTH COASTAL	CRYSTAL RIVER NORTH	1	A0161	6.70
NORTH COASTAL	CRYSTAL RIVER NORTH	1	A0162	7.50
NORTH COASTAL	CRYSTAL RIVER PLANT	11	A0300	0.00
NORTH COASTAL	CRYSTAL RIVER SOUTH	1	A0158	0.00
NORTH COASTAL	CRYSTAL RIVER SOUTH	1	A0159	5.20
NORTH COASTAL	DUNNELLON TOWN	1	A0070	7.80
NORTH COASTAL	DUNNELLON TOWN	2	A0068	7.00
NORTH COASTAL	DUNNELLON TOWN	2	A0069	8.40
NORTH COASTAL	EAGLES NEST	1	A0228	6.30
NORTH COASTAL	EAGLES NEST	2	A0224	5.40
NORTH COASTAL	EAST POINT	1	N230	2.50
NORTH COASTAL	EAST POINT	1	N231	4.50
NORTH COASTAL	FLORAL CITY	1	A0087	3.00
NORTH COASTAL	FLORAL CITY	1	A0088	2.80
NORTH COASTAL	FOLEY	1	N18	0.00
NORTH COASTAL	FOLEY	2	N19	0.00
NORTH COASTAL	FOLEY	2	N20	0.00
NORTH COASTAL	FORT WHITE	2	A0020	3.80
NORTH COASTAL	GAINESVILLE	2	A1539	0.00
NORTH COASTAL	GAINESVILLE	2	A1540	0.00
NORTH COASTAL	GEORGIA PACIFIC	1	A0045	5.70
NORTH COASTAL	HERNANDO AIRPORT	1	A0430	9.20
NORTH COASTAL	HERNANDO AIRPORT	1	A0431	7.00
NORTH COASTAL	HIGH SPRINGS	1	A0015	9.30
NORTH COASTAL	HIGH SPRINGS	2	A0016	5.70
NORTH COASTAL	HOLDER	1	A0047	5.70
NORTH COASTAL	HOLDER	1	A0049	4.20
NORTH COASTAL	HOLDER	2	A0048	7.20
NORTH COASTAL	HOMOSASSA	3	A0271	7.60
NORTH COASTAL	HOMOSASSA	3	A0272	6.00
NORTH COASTAL	HULL ROAD	1	A0404	0.00
NORTH COASTAL	HULL ROAD	2	A0405	0.00
NORTH COASTAL	HULL ROAD	2	A0406	0.00
NORTH COASTAL	INDIAN PASS	1	N556	8.90
NORTH COASTAL	INGLIS	2	A0078	6.30
NORTH COASTAL	INVERNESS	1	A0081	6.30
NORTH COASTAL	INVERNESS	1	A0082	7.50
NORTH COASTAL	INVERNESS	1	A0083	8.00

NORTH COASTAL	INVERNESS	2	A0084	8.40
NORTH COASTAL	INVERNESS	2	A0085	10.40
NORTH COASTAL	JASPER	2	N191	4.70
NORTH COASTAL	JASPER	2	N192	4.60
NORTH COASTAL	JENNINGS	1	N195	2.40
NORTH COASTAL	LADY LAKE	1	A0243	7.60
NORTH COASTAL	LADY LAKE	1	A0246	9.00
NORTH COASTAL	LADY LAKE	2	A0244	5.00
NORTH COASTAL	LADY LAKE	2	A0245	6.50
NORTH COASTAL	LAKE WEIR	1	A0061	5.00
NORTH COASTAL	LAKE WEIR	2	A0064	7.80
NORTH COASTAL	LEBANON	1	A0132	5.90
NORTH COASTAL	LURAVILLE	1	A0192	4.50
NORTH COASTAL	MADISON	1	N3	6.90
NORTH COASTAL	MADISON	1	N4	3.30
NORTH COASTAL	MADISON	2	N1	4.50
NORTH COASTAL	MADISON	2	N2	5.80
NORTH COASTAL	MARICAMP	1	A0333	9.20
NORTH COASTAL	MARICAMP	1	A0335	6.70
NORTH COASTAL	MARICAMP	2	A0334	8.40
NORTH COASTAL	MARICAMP	2	A0336	7.80
NORTH COASTAL	MARTIN	1	A0038	10.20
NORTH COASTAL	MARTIN	1	A0039	5.90
NORTH COASTAL	MCINTOSH	1	A0050	3.50
NORTH COASTAL	MCINTOSH	2	A0051	5.10
NORTH COASTAL	MONTICELLO	1	N66	3.60
NORTH COASTAL	MONTICELLO	1	N67	6.00
NORTH COASTAL	MONTICELLO	2	N68	2.40
NORTH COASTAL	MONTICELLO	2	N69	6.00
NORTH COASTAL	NEWBERRY	1	A0094	8.30
NORTH COASTAL	OBRIEN	1	A0379	4.60
NORTH COASTAL	OCHLOCKONEE	1	N38	4.20
NORTH COASTAL	OCHLOCKONEE	2	N37	4.80
NORTH COASTAL	ORANGE BLOSSOM	1	A0392	5.90
NORTH COASTAL	ORANGE BLOSSOM	1	A0310	8.30
NORTH COASTAL	ORANGE BLOSSOM	1	A0389	6.10
NORTH COASTAL	ORANGE BLOSSOM	2	A0309	5.40
NORTH COASTAL	ORANGE BLOSSOM	2	A0388	6.40
NORTH COASTAL	ORANGE BLOSSOM	2	A0394	7.30
NORTH COASTAL	PERRY	1	N7	5.60
NORTH COASTAL	PERRY	1	N8	2.30
NORTH COASTAL	PERRY	2	N10	7.00
NORTH COASTAL	PERRY	2	N9	5.90
NORTH COASTAL	PERRY NORTH	1	N14	7.40
NORTH COASTAL	PERRY NORTH	1	N15	9.10
NORTH COASTAL	PINE RIDGE	1	A0422	7.50
NORTH COASTAL	PINE RIDGE	1	A0423	7.20
NORTH COASTAL	PINE RIDGE	1	A0425	5.20
NORTH COASTAL	PORT ST. JOE	2	N52	3.80
NORTH COASTAL	PORT ST. JOE	2	N53	4.90
NORTH COASTAL	PORT ST. JOE	2	N54	4.40
NORTH COASTAL	PORT ST. JOE	2	N55	0.20
NORTH COASTAL	PORT ST. JOE INDUSTRIAL	1	N201	2.80
NORTH COASTAL	PORT ST. JOE INDUSTRIAL	1	N202	2.20
NORTH COASTAL	PORT ST. JOE INDUSTRIAL	1	N203	1.00

NORTH COASTAL	RAINBOW SPRINGS	1	A0368	5.30
NORTH COASTAL	RAINBOW SPRINGS	2	A0369	3.90
NORTH COASTAL	REDDICK	1	A0036	5.30
NORTH COASTAL	REDDICK	2	A0034	4.90
NORTH COASTAL	REDDICK	2	A0035	5.40
NORTH COASTAL	ROSS PRARIE	3	A0112	4.90
NORTH COASTAL	SANTOS	1	A0230	6.20
NORTH COASTAL	SANTOS	1	A0233	3.80
NORTH COASTAL	SANTOS	2	A0231	8.30
NORTH COASTAL	SEMINOLE ASPHALT	1	N27	0.00
NORTH COASTAL	SILVER SPRINGS	3	A0153	9.50
NORTH COASTAL	SILVER SPRINGS	3	A0154	6.40
NORTH COASTAL	SILVER SPRINGS SHORES	1	A0129	8.50
NORTH COASTAL	SILVER SPRINGS SHORES	1	A0130	5.50
NORTH COASTAL	SILVER SPRINGS SHORES	2	A0128	5.50
NORTH COASTAL	SILVER SPRINGS SHORES	2	A0131	10.80
NORTH COASTAL	SOPCHOPPY	1	N327	4.20
NORTH COASTAL	ST. GEORGE ISLAND	1	N233	8.10
NORTH COASTAL	ST. GEORGE ISLAND	1	N234	3.90
NORTH COASTAL	ST. MARKS	1	N331	0.00
NORTH COASTAL	ST. MARKS	1	N332	0.00
NORTH COASTAL	ST. MARKS WEST	1	N332	0.00
NORTH COASTAL	ST. MARKS WEST	2	N331	0.00
NORTH COASTAL	ST. MARKS WEST	2	N336	3.30
NORTH COASTAL	SUWANNEE RIVER PLANT	4	N323	5.70
NORTH COASTAL	SUWANNEE RIVER PLANT	5	N0324	4.00
NORTH COASTAL	SUWANNEE RIVER PLANT	5	N325	5.50
NORTH COASTAL	TANGERINE	3	A0262	10.20
NORTH COASTAL	TANGERINE	3	A0263	4.90
NORTH COASTAL	TANGERINE	3	A0264	4.40
NORTH COASTAL	TRENTON	1	A0090	6.00
NORTH COASTAL	TRENTON	1	A0091	2.00
NORTH COASTAL	TROPIC TERRACE	1	A0212	6.80
NORTH COASTAL	TROPIC TERRACE	2	A0207	6.00
NORTH COASTAL	TROPIC TERRACE	2	A0208	3.00
NORTH COASTAL	TWIN COUNTY RANCH	1	A0216	4.80
NORTH COASTAL	TWIN COUNTY RANCH	1	A0221	4.90
NORTH COASTAL	TWIN COUNTY RANCH	2	A0218	5.50
NORTH COASTAL	TWIN COUNTY RANCH	2	A0219	3.70
NORTH COASTAL	UNIVERSITY OF FLORIDA	1	A0027	0.00
NORTH COASTAL	UNIVERSITY OF FLORIDA	1	A0958	0.00
NORTH COASTAL	UNIVERSITY OF FLORIDA	1	A0959	0.00
NORTH COASTAL	UNIVERSITY OF FLORIDA	2	A0956	0.00
NORTH COASTAL	UNIVERSITY OF FLORIDA	2	A0957	0.00
NORTH COASTAL	UNIVERSITY OF FLORIDA	3	A0026	0.00
NORTH COASTAL	UNIVERSITY OF FLORIDA	3	A0028	0.00
NORTH COASTAL	WAUKEENAH	1	N64	2.40
NORTH COASTAL	WAUKEENAH	1	N65	2.10
NORTH COASTAL	WEIRSDALE	1	A0321	7.20
NORTH COASTAL	WEIRSDALE	2	A0322	5.70
NORTH COASTAL	WHITE SPRINGS	2	N375	2.70
NORTH COASTAL	WILDWOOD CITY	1	A0395	8.40
NORTH COASTAL	WILDWOOD CITY	1	A0396	6.70
NORTH COASTAL	WILLISTON	1	A0124	5.30
NORTH COASTAL	WILLISTON	2	A0125	8.60

NORTH COASTAL	ZUBER	1	A0202	9.50
NORTH COASTAL	ZUBER	2	A0204	6.80
NORTH COASTAL	ZUBER	2	A0205	7.60
NORTH CENTRAL	ALAFAYA	2	W0289	9.21
NORTH CENTRAL	ALAFAYA	2	W0290	8.10
NORTH CENTRAL	ALAFAYA	3	W0297	9.41
NORTH CENTRAL	ALAFAYA	3	W0298	9.92
NORTH CENTRAL	ALTAMONTE	1	M0571	5.36
NORTH CENTRAL	ALTAMONTE	1	M0572	9.30
NORTH CENTRAL	ALTAMONTE	1	M0573	3.07
NORTH CENTRAL	ALTAMONTE	1	M0574	5.46
NORTH CENTRAL	ALTAMONTE	2	M0575	6.20
NORTH CENTRAL	ALTAMONTE	2	M0576	7.98
NORTH CENTRAL	ALTAMONTE	2	M0578	11.00
NORTH CENTRAL	ALTAMONTE	2	M0579	9.49
NORTH CENTRAL	APOPKA SOUTH	1	M0723	7.70
NORTH CENTRAL	APOPKA SOUTH	1	M0724	4.70
NORTH CENTRAL	APOPKA SOUTH	2	M0725	9.60
NORTH CENTRAL	APOPKA SOUTH	2	M0726	6.40
NORTH CENTRAL	APOPKA SOUTH	2	M0727	4.90
NORTH CENTRAL	APOPKA SOUTH	3	M0720	8.80
NORTH CENTRAL	APOPKA SOUTH	3	M0721	9.40
NORTH CENTRAL	BARBERVILLE	1	W0901	0.00
NORTH CENTRAL	BARBERVILLE	1	W0902	6.90
NORTH CENTRAL	BARBERVILLE	2	W0903	1.90
NORTH CENTRAL	BARBERVILLE	2	W0904	4.30
NORTH CENTRAL	BAY RIDGE	1	M0447	7.80
NORTH CENTRAL	BAY RIDGE	1	M0453	7.10
NORTH CENTRAL	BAY RIDGE	2	M0445	3.40
NORTH CENTRAL	BAY RIDGE	2	M0451	7.90
NORTH CENTRAL	BITHLO	1	W0951	9.82
NORTH CENTRAL	BITHLO	1	W0952	4.50
NORTH CENTRAL	BITHLO	1	W0953	8.88
NORTH CENTRAL	BITHLO	2	W0954	8.35
NORTH CENTRAL	BITHLO	2	W0955	9.10
NORTH CENTRAL	BITHLO	2	W0956	8.50
NORTH CENTRAL	CASSADAGA	2	W0523	7.00
NORTH CENTRAL	CASSADAGA	2	W0524	7.70
NORTH CENTRAL	CASSADAGA	2	W0525	0.00
NORTH CENTRAL	CASSADAGA	3	W0515	9.50
NORTH CENTRAL	CASSADAGA	3	W0516	7.30
NORTH CENTRAL	CASSADAGA	3	W0517	5.00
NORTH CENTRAL	CASSELBERRY	1	W0017	6.58
NORTH CENTRAL	CASSELBERRY	1	W0018	4.86
NORTH CENTRAL	CASSELBERRY	1	W0019	8.60
NORTH CENTRAL	CASSELBERRY	1	W0020	9.82
NORTH CENTRAL	CASSELBERRY	2	W0021	4.96
NORTH CENTRAL	CASSELBERRY	2	W0022	9.92
NORTH CENTRAL	CASSELBERRY	2	W0025	5.67
NORTH CENTRAL	CASSELBERRY	2	W0026	9.92
NORTH CENTRAL	CASSELBERRY	3	W0027	10.53
NORTH CENTRAL	CASSELBERRY	3	W0028	4.73
NORTH CENTRAL	CASSELBERRY	3	W0029	5.06
NORTH CENTRAL	DELAND	1	W0803	7.40
NORTH CENTRAL	DELAND	1	W0804	6.20

NORTH CENTRAL	DELAND	1	W0805	6.70
NORTH CENTRAL	DELAND	2	W0806	7.60
NORTH CENTRAL	DELAND	2	W0807	7.10
NORTH CENTRAL	DELAND	2	W0808	6.60
NORTH CENTRAL	DELAND	3	W0809	9.10
NORTH CENTRAL	DELAND EAST	1	W1108	8.10
NORTH CENTRAL	DELAND EAST	1	W1109	5.10
NORTH CENTRAL	DELAND EAST	1	W1110	8.80
NORTH CENTRAL	DELAND EAST	2	W1105	6.10
NORTH CENTRAL	DELAND EAST	2	W1106	5.60
NORTH CENTRAL	DELAND EAST	2	W1107	7.80
NORTH CENTRAL	DELAND EAST	3	W1102	7.00
NORTH CENTRAL	DELAND EAST	3	W1103	7.00
NORTH CENTRAL	DELAND EAST	3	W1104	7.40
NORTH CENTRAL	DELEON SPRINGS	1	W0032	7.60
NORTH CENTRAL	DELEON SPRINGS	1	W0034	4.90
NORTH CENTRAL	DELTONA	1	W4555	9.90
NORTH CENTRAL	DELTONA	1	W4561	9.20
NORTH CENTRAL	DELTONA	1	W4567	7.20
NORTH CENTRAL	DELTONA	2	W4558	7.60
NORTH CENTRAL	DELTONA	2	W4559	0.00
NORTH CENTRAL	DELTONA	2	W4564	10.00
NORTH CENTRAL	DELTONA	2	W4565	6.20
NORTH CENTRAL	DELTONA	3	W4553	7.70
NORTH CENTRAL	DELTONA	3	W4556	8.20
NORTH CENTRAL	DELTONA	3	W4562	9.40
NORTH CENTRAL	DELTONA	3	W4550	9.20
NORTH CENTRAL	DELTONA EAST	2	W0123	7.30
NORTH CENTRAL	DELTONA EAST	2	W0132	7.40
NORTH CENTRAL	DELTONA EAST	2	W0126	4.90
NORTH CENTRAL	DELTONA EAST	3	W0121	6.90
NORTH CENTRAL	DELTONA EAST	3	W0124	8.60
NORTH CENTRAL	DELTONA EAST	3	W0130	8.30
NORTH CENTRAL	DOUGLAS AVENUE	1	M1704	5.40
NORTH CENTRAL	DOUGLAS AVENUE	1	M1707	5.90
NORTH CENTRAL	DOUGLAS AVENUE	1	M1710	0.00
NORTH CENTRAL	DOUGLAS AVENUE	2	M1706	6.50
NORTH CENTRAL	DOUGLAS AVENUE	2	M1709	6.80
NORTH CENTRAL	DOUGLAS AVENUE	2	M1712	7.10
NORTH CENTRAL	EAST ORANGE	1	W0273	3.64
NORTH CENTRAL	EAST ORANGE	1	W0276	2.94
NORTH CENTRAL	EAST ORANGE	1	W0279	0.00
NORTH CENTRAL	EAST ORANGE	2	W0250	10.83
NORTH CENTRAL	EAST ORANGE	2	W0253	10.30
NORTH CENTRAL	EAST ORANGE	2	W0265	8.80
NORTH CENTRAL	EAST ORANGE	2	W0271	8.10
NORTH CENTRAL	EAST ORANGE	3	W0252	6.20
NORTH CENTRAL	EAST ORANGE	3	W0255	6.58
NORTH CENTRAL	EAST ORANGE	3	W0274	10.65
NORTH CENTRAL	EAST ORANGE	3	W0281	11.54
NORTH CENTRAL	EATONVILLE	1	M1131	5.10
NORTH CENTRAL	EATONVILLE	1	M1132	10.25
NORTH CENTRAL	EATONVILLE	1	M1133	5.10
NORTH CENTRAL	EATONVILLE	2	M1135	10.61
NORTH CENTRAL	EATONVILLE	2	M1136	6.57

NORTH CENTRAL	EATONVILLE	2	M1137	7.48
NORTH CENTRAL	EATONVILLE	3	M1138	6.41
NORTH CENTRAL	EATONVILLE	3	M1139	10.31
NORTH CENTRAL	ECON	1	W0320	9.21
NORTH CENTRAL	ECON	1	W0326	9.51
NORTH CENTRAL	ECON	1	W0329	9.82
NORTH CENTRAL	ECON	2	W0318	5.57
NORTH CENTRAL	ECON	2	W0321	8.10
NORTH CENTRAL	ECON	2	W0324	8.50
NORTH CENTRAL	ECON	2	W0327	11.74
NORTH CENTRAL	EUSTIS	1	M0502	0.00
NORTH CENTRAL	EUSTIS	1	M0503	6.00
NORTH CENTRAL	EUSTIS	1	M0504	9.60
NORTH CENTRAL	EUSTIS	2	M0499	6.30
NORTH CENTRAL	EUSTIS	2	M0500	4.90
NORTH CENTRAL	EUSTIS	2	M0501	4.10
NORTH CENTRAL	EUSTIS SOUTH	1	M1057	9.90
NORTH CENTRAL	EUSTIS SOUTH	1	M1058	9.40
NORTH CENTRAL	EUSTIS SOUTH	1	M1059	6.20
NORTH CENTRAL	EUSTIS SOUTH	2	M1054	5.30
NORTH CENTRAL	EUSTIS SOUTH	2	M1055	8.50
NORTH CENTRAL	EUSTIS SOUTH	2	M1056	9.90
NORTH CENTRAL	FERN PARK	1	M0907	6.56
NORTH CENTRAL	FERN PARK	1	M0908	5.15
NORTH CENTRAL	FERN PARK	1	M0909	5.56
NORTH CENTRAL	KELLER ROAD	1	M0001	10.40
NORTH CENTRAL	KELLER ROAD	1	M0003	10.10
NORTH CENTRAL	KELLER ROAD	2	M0002	4.72
NORTH CENTRAL	KELLER ROAD	2	M0004	7.88
NORTH CENTRAL	KELLY PARK	2	M0821	4.70
NORTH CENTRAL	KELLY PARK	2	M0822	4.50
NORTH CENTRAL	LAKE ALOMA	1	W0151	6.27
NORTH CENTRAL	LAKE ALOMA	1	W0153	7.78
NORTH CENTRAL	LAKE ALOMA	2	W0158	3.80
NORTH CENTRAL	LAKE ALOMA	2	W0161	9.80
NORTH CENTRAL	LAKE EMMA	1	M0425	2.53
NORTH CENTRAL	LAKE EMMA	1	M0426	7.57
NORTH CENTRAL	LAKE EMMA	1	M0427	4.04
NORTH CENTRAL	LAKE EMMA	1	M0428	8.10
NORTH CENTRAL	LAKE EMMA	2	M0421	7.38
NORTH CENTRAL	LAKE EMMA	2	M0422	8.59
NORTH CENTRAL	LAKE EMMA	2	M0423	3.94
NORTH CENTRAL	LAKE EMMA	2	M0424	4.80
NORTH CENTRAL	LAKE HELEN	1	W1700	6.80
NORTH CENTRAL	LAKE HELEN	1	W1703	0.00
NORTH CENTRAL	LAKE HELEN	2	W1701	10.10
NORTH CENTRAL	LAKE HELEN	2	W1704	7.20
NORTH CENTRAL	LISBON	1	M1518	5.80
NORTH CENTRAL	LISBON	1	M1520	5.70
NORTH CENTRAL	LISBON	2	M1517	7.60
NORTH CENTRAL	LISBON	2	M1519	6.60
NORTH CENTRAL	LOCKHART	1	M0400	10.60
NORTH CENTRAL	LOCKHART	1	M0406	8.20
NORTH CENTRAL	LOCKHART	1	M0412	9.80
NORTH CENTRAL	LOCKHART	2	M0402	10.00

NORTH CENTRAL	LOCKHART	2	M0408	4.30
NORTH CENTRAL	LOCKHART	2	M0414	5.60
NORTH CENTRAL	LOCKHART	3	M0417	8.50
NORTH CENTRAL	LOCKWOOD	1	W0480	8.75
NORTH CENTRAL	LOCKWOOD	1	W0481	8.00
NORTH CENTRAL	LOCKWOOD	1	W0482	8.40
NORTH CENTRAL	LONGWOOD	1	M0142	10.39
NORTH CENTRAL	LONGWOOD	1	M0143	6.97
NORTH CENTRAL	LONGWOOD	2	M0144	7.88
NORTH CENTRAL	LONGWOOD	2	M0145	7.68
NORTH CENTRAL	MAITLAND	1	M0081	6.97
NORTH CENTRAL	MAITLAND	1	M0082	8.69
NORTH CENTRAL	MAITLAND	1	M0084	3.54
NORTH CENTRAL	MAITLAND	2	M0085	5.76
NORTH CENTRAL	MAITLAND	2	W0086	5.26
NORTH CENTRAL	MAITLAND	2	W0087	9.90
NORTH CENTRAL	MAITLAND	3	M0080	9.60
NORTH CENTRAL	MAITLAND	3	W0079	8.69
NORTH CENTRAL	MYRTLE LAKE	2	M0648	8.69
NORTH CENTRAL	MYRTLE LAKE	2	M0649	8.99
NORTH CENTRAL	MYRTLE LAKE	2	M0650	6.47
NORTH CENTRAL	MYRTLE LAKE	2	M0651	7.88
NORTH CENTRAL	MYRTLE LAKE	3	M0657	8.59
NORTH CENTRAL	MYRTLE LAKE	3	M0658	11.72
NORTH CENTRAL	MYRTLE LAKE	3	M0659	8.69
NORTH CENTRAL	NORTH LONGWOOD	6	M1749	9.49
NORTH CENTRAL	NORTH LONGWOOD	6	M1755	6.47
NORTH CENTRAL	NORTH LONGWOOD	6	M1758	6.06
NORTH CENTRAL	NORTH LONGWOOD	6	M1761	11.42
NORTH CENTRAL	NORTH LONGWOOD	7	M1751	10.11
NORTH CENTRAL	NORTH LONGWOOD	7	M1757	6.86
NORTH CENTRAL	NORTH LONGWOOD	7	M1760	5.86
NORTH CENTRAL	NORTH LONGWOOD	7	M1763	9.09
NORTH CENTRAL	ORANGE CITY	2	W0372	9.80
NORTH CENTRAL	ORANGE CITY	2	W0378	4.30
NORTH CENTRAL	ORANGE CITY	3	W0370	9.60
NORTH CENTRAL	ORANGE CITY	3	W0376	8.90
NORTH CENTRAL	ORANGE CITY	3	W0382	6.70
NORTH CENTRAL	OVIEDO	1	W0171	6.88
NORTH CENTRAL	OVIEDO	1	W0172	9.40
NORTH CENTRAL	OVIEDO	2	W0174	9.11
NORTH CENTRAL	OVIEDO	2	W0175	5.57
NORTH CENTRAL	OVIEDO	3	W0176	13.26
NORTH CENTRAL	OVIEDO	3	W0181	6.07
NORTH CENTRAL	PIEDMONT	1	M0475	8.20
NORTH CENTRAL	PIEDMONT	1	M0476	5.40
NORTH CENTRAL	PIEDMONT	1	M0477	8.70
NORTH CENTRAL	PIEDMONT	1	M0478	9.80
NORTH CENTRAL	PIEDMONT	2	M0471	8.90
NORTH CENTRAL	PIEDMONT	2	M0472	7.60
NORTH CENTRAL	PIEDMONT	2	M0473	10.30
NORTH CENTRAL	PIEDMONT	2	M0474	9.40
NORTH CENTRAL	PLYMOUTH	1	M0702	0.50
NORTH CENTRAL	PLYMOUTH	1	M0704	9.20
NORTH CENTRAL	PLYMOUTH	2	M0706	2.10

NORTH CENTRAL	PLYMOUTH	2	M0707	5.10
NORTH CENTRAL	SPRING LAKE	1	M0666	5.60
NORTH CENTRAL	SPRING LAKE	1	M0667	7.16
NORTH CENTRAL	SPRING LAKE	1	M0668	10.45
NORTH CENTRAL	SPRING LAKE	2	M0662	6.77
NORTH CENTRAL	SPRING LAKE	2	M0663	6.74
NORTH CENTRAL	SPRING LAKE	2	M0664	9.10
NORTH CENTRAL	SPRING LAKE	3	M0669	7.07
NORTH CENTRAL	SPRING LAKE	3	M0670	6.77
NORTH CENTRAL	SUNFLOWER	1	W0469	8.21
NORTH CENTRAL	SUNFLOWER	1	W0470	8.64
NORTH CENTRAL	SUNFLOWER	1	W0471	8.20
NORTH CENTRAL	SUNFLOWER	2	W0472	8.91
NORTH CENTRAL	SUNFLOWER	2	W0473	9.82
NORTH CENTRAL	SUNFLOWER	2	W0474	9.68
NORTH CENTRAL	TAVARES EAST	1	M0580	0.00
NORTH CENTRAL	TAVARES EAST	1	M0581	0.00
NORTH CENTRAL	TURNER PLANT	8	W0761	7.30
NORTH CENTRAL	TURNER PLANT	8	W0762	6.40
NORTH CENTRAL	TURNER PLANT	10	W0763	6.40
NORTH CENTRAL	TURNER PLANT	10	W0764	5.40
NORTH CENTRAL	UCF	1	W1012	8.50
NORTH CENTRAL	UCF	1	W1013	6.78
NORTH CENTRAL	UCF	1	W1014	9.72
NORTH CENTRAL	UCF	2	W1015	8.00
NORTH CENTRAL	UCF	2	W1016	9.11
NORTH CENTRAL	UCF	2	W1017	9.21
NORTH CENTRAL	UCF	2	W1018	8.20
NORTH CENTRAL	UCF NORTH	1	W0942	2.63
NORTH CENTRAL	UCF NORTH	1	W0980	8.80
NORTH CENTRAL	UCF NORTH	1	W0983	12.02
NORTH CENTRAL	UCF NORTH	1	W0989	0.61
NORTH CENTRAL	UCF NORTH	2	W0940	3.24
NORTH CENTRAL	UCF NORTH	2	W0981	8.10
NORTH CENTRAL	UCF NORTH	2	W0982	9.85
NORTH CENTRAL	UCF NORTH	2	W0988	11.13
NORTH CENTRAL	UMATILLA	1	M4407	8.40
NORTH CENTRAL	UMATILLA	1	M4408	5.10
NORTH CENTRAL	UMATILLA	2	M4405	5.20
NORTH CENTRAL	WEKIVA	1	M0101	6.80
NORTH CENTRAL	WEKIVA	1	M0106	6.50
NORTH CENTRAL	WEKIVA	1	M0107	6.40
NORTH CENTRAL	WEKIVA	1	M0112	6.00
NORTH CENTRAL	WEKIVA	1	M0115	4.80
NORTH CENTRAL	WEKIVA	2	M0103	6.10
NORTH CENTRAL	WEKIVA	2	M0104	5.80
NORTH CENTRAL	WEKIVA	2	M0109	5.30
NORTH CENTRAL	WEKIVA	2	M0110	8.30
NORTH CENTRAL	WEKIVA	2	M0113	5.80
NORTH CENTRAL	WELCH ROAD	1	M0542	8.80
NORTH CENTRAL	WELCH ROAD	1	M0543	5.30
NORTH CENTRAL	WELCH ROAD	1	M0550	8.60
NORTH CENTRAL	WELCH ROAD	1	M0552	6.00
NORTH CENTRAL	WELCH ROAD	3	M0545	9.90
NORTH CENTRAL	WELCH ROAD	3	M0548	6.80

NORTH CENTRAL	WELCH ROAD	3	M0554	7.90
NORTH CENTRAL	WEST CHAPMAN	2	W0705	4.60
NORTH CENTRAL	WEST CHAPMAN	2	W0702	5.36
NORTH CENTRAL	WEST CHAPMAN	3	W0700	8.40
NORTH CENTRAL	WEST CHAPMAN	3	W0708	8.91
NORTH CENTRAL	WEST CHAPMAN	3	W0703	6.58
NORTH CENTRAL	WINTER PARK	4	W0014	2.63
NORTH CENTRAL	WINTER PARK	4	W0015	7.18
NORTH CENTRAL	WINTER PARK	4	W0016	5.76
NORTH CENTRAL	WINTER PARK EAST	1	W0924	9.51
NORTH CENTRAL	WINTER PARK EAST	1	W0925	10.83
NORTH CENTRAL	WINTER PARK EAST	1	W0926	10.22
NORTH CENTRAL	WINTER PARK EAST	1	W0927	7.99
NORTH CENTRAL	WINTER PARK EAST	3	W0928	8.91
NORTH CENTRAL	WINTER PARK EAST	3	W0929	9.30
NORTH CENTRAL	WINTER PARK EAST	3	W0930	5.67
NORTH CENTRAL	WINTER PARK EAST	3	W0931	10.02
NORTH CENTRAL	WINTER SPRINGS	1	W0192	9.56
NORTH CENTRAL	WINTER SPRINGS	1	W0194	7.84
NORTH CENTRAL	WINTER SPRINGS	2	W0195	9.20
NORTH CENTRAL	WINTER SPRINGS	2	W0196	8.91
NORTH CENTRAL	WINTER SPRINGS	3	W0187	9.21
NORTH CENTRAL	WINTER SPRINGS	3	W0188	9.30
NORTH CENTRAL	WINTER SPRINGS	3	W0189	8.00
NORTH CENTRAL	ZELLWOOD	1	M0031	6.30
NORTH CENTRAL	ZELLWOOD	1	M0032	8.70
NORTH CENTRAL	ZELLWOOD	2	M0033	7.00
NORTH CENTRAL	ZELLWOOD	2	M0034	7.00

ATTACHMENT H

Received Jan 1 to Dec 31, 2014

97 Complaints

DEF logged as Power Quality & Reliability

Date Received	PSC Complaint #	DEF Category	PSC Ruling	PSC Closure Code
2/27/2014	1140114E	Equipment/Facilities Issues	Non Infraction	GI-15 OUTAGES
4/16/2014	1144830E	Equipment/Facilities Issues	Non Infraction	GI-17 SAFETY ISSUES
6/13/2014	1149860E	Outages - Delay in Restoring Service	Infraction	ES-27 DID NOT PROVIDE FULL AND ACCURATE REPORT
10/15/2014	1162778E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
11/10/2014	1165198E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
12/2/2014	1167099E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
1/9/2014	1135351E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
1/14/2014	1135838E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
1/21/2014	1136652E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
2/25/2014	1139384E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
3/3/2014	1140301E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
3/18/2014	1141820E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
4/15/2014	1144790E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/2/2014	1146366E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/5/2014	1146517E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/5/2014	1146515E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/5/2014	1146510E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/14/2014	1147355E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/14/2014	1147352E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/27/2014	1148194E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/29/2014	1148474E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/10/2014	1149610E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/12/2014	1149845E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/12/2014	1149843E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/16/2014	1150080E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/24/2014	1150873E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/16/2014	1152968E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/18/2014	1153247E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/21/2014	1153335E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/23/2014	1153673E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/11/2014	1155375E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/15/2014	1156046E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/18/2014	1156136E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/22/2014	1156714E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/25/2014	1156917E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/27/2014	1157252E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/28/2014	1157420E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/4/2014	1158148E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/11/2014	1159113E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/12/2014	1159226E	Outages - Frequent	Non Infraction	GI-15 OUTAGES

9/12/2014	1159224E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/24/2014	1160639E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/25/2014	1160803E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/26/2014	1160868E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/29/2014	1161008E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/13/2014	1162508E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/15/2014	1162889E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/24/2014	1163843E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/29/2014	1164212E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/31/2014	1164520E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
11/17/2014	1165950E	Outages - Frequent	Non Infraction	GI-17 SAFETY ISSUES
11/17/2014	1165964E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
11/17/2014	1165809E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
11/26/2014	1166801E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/30/2014	1151292E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/30/2014	1151293E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/7/2014	1151921E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/20/2014	1163213E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
1/13/2014	1135679E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
5/5/2014	1146391E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
5/7/2014	1146159E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
6/10/2014	1149444E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
8/18/2014	1156144E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
8/22/2014	1156715E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
8/25/2014	1156881E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
8/28/2014	1157416E	Outages - Momentary	Non Infraction	GI-11 REPAIR SERVICE
9/12/2014	1159244E	Outages - Momentary	Non Infraction	GI-11 REPAIR SERVICE
9/22/2014	1160271E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
10/17/2014	1163169E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
10/20/2014	1163205E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
10/23/2014	1163743E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
11/14/2014	1165698E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
12/8/2014	1167845E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
9/5/2014	1158475E	Outages - Planned	Non Infraction	GI-15 OUTAGES
2/10/2014	1138508E	Street Lights/Area Lights-Repair	Non Infraction	GI-15 OUTAGES
3/3/2014	1140377E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
6/30/2014	1151422E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
10/7/2014	1161969E	Street Lights/Area Lights-Repair	Non Infraction	GI-15 OUTAGES
11/10/2014	1165183E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
1/3/2014	1134823E	Tree Trimming	Non Infraction	GI-30 QUALITY OF SERVICE
7/24/2014	1153798E	Tree Trimming	Non Infraction	GI-30 QUALITY OF SERVICE

8/25/2014	1156943E	Tree Trimming	Non Infraction	GI-17 SAFETY ISSUES
10/14/2014	1162748E	Tree Trimming	Non Infraction	GI-15 OUTAGES
7/30/2014	1154347E	Voltage Issues	Non Infraction	GI-15 OUTAGES
8/29/2014	1157616E	Equipment/Facilities Issues	Non Infraction	GI-99 OTHER
9/29/2014	1161085E	Equipment/Facilities Issues	Non Infraction	GI-25 IMPROPER BILLING
12/16/2014	1169036E	Equipment/Facilities Issues		
12/12/2014	1168713E	Outages - Delay in Restoring Service		
9/11/2014	1159175E	Outages - Frequent		
12/29/2014	1169763E	Street Lights/Area Lights-Repair		
12/30/2014	1169952E	Street Lights/Area Lights-Repair		
2/18/2014	1139134E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
3/26/2014	1142882E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
7/9/2014	1152257E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
9/24/2014	1160618E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
10/21/2014	1163466E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
12/11/2014	1168597E	Voltage Issues		

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130 Complaints

PSC Service Reliability Only Closure Codes

Date Received	PSC Complaint #	DEF Category	PSC Closure Code
2/27/2014	1140114E	Equipment/Facilities Issues	GI-15 OUTAGES
4/16/2014	1144830E	Equipment/Facilities Issues	GI-17 SAFETY ISSUES
6/13/2014	1149860E	Outages - Delay in Restoring Se	ES-27 DID NOT PROVIDE FULL AND ACCURATE REPORT
10/15/2014	1162778E	Outages - Delay in Restoring Se	GI-15 OUTAGES
11/10/2014	1165198E	Outages - Delay in Restoring Se	GI-15 OUTAGES
12/2/2014	1167099E	Outages - Delay in Restoring Se	GI-15 OUTAGES
1/9/2014	1135351E	Outages - Frequent	GI-15 OUTAGES
1/14/2014	1135838E	Outages - Frequent	GI-15 OUTAGES
1/21/2014	1136652E	Outages - Frequent	GI-15 OUTAGES
2/25/2014	1139384E	Outages - Frequent	GI-15 OUTAGES
3/3/2014	1140301E	Outages - Frequent	GI-15 OUTAGES
3/18/2014	1141820E	Outages - Frequent	GI-15 OUTAGES
4/15/2014	1144790E	Outages - Frequent	GI-15 OUTAGES
5/2/2014	1146366E	Outages - Frequent	GI-15 OUTAGES
5/5/2014	1146510E	Outages - Frequent	GI-15 OUTAGES
5/5/2014	1146517E	Outages - Frequent	GI-15 OUTAGES
5/5/2014	1146515E	Outages - Frequent	GI-15 OUTAGES
5/14/2014	1147355E	Outages - Frequent	GI-15 OUTAGES
5/14/2014	1147352E	Outages - Frequent	GI-15 OUTAGES
5/27/2014	1148194E	Outages - Frequent	GI-15 OUTAGES
5/29/2014	1148474E	Outages - Frequent	GI-15 OUTAGES
6/10/2014	1149610E	Outages - Frequent	GI-15 OUTAGES
6/12/2014	1149845E	Outages - Frequent	GI-15 OUTAGES
6/12/2014	1149843E	Outages - Frequent	GI-15 OUTAGES
6/16/2014	1150080E	Outages - Frequent	GI-15 OUTAGES
6/24/2014	1150873E	Outages - Frequent	GI-15 OUTAGES
7/16/2014	1152968E	Outages - Frequent	GI-15 OUTAGES
7/18/2014	1153247E	Outages - Frequent	GI-15 OUTAGES
7/21/2014	1153335E	Outages - Frequent	GI-15 OUTAGES
7/23/2014	1153673E	Outages - Frequent	GI-15 OUTAGES
8/11/2014	1155375E	Outages - Frequent	GI-15 OUTAGES
8/15/2014	1156046E	Outages - Frequent	GI-15 OUTAGES
8/18/2014	1156136E	Outages - Frequent	GI-15 OUTAGES
8/22/2014	1156714E	Outages - Frequent	GI-15 OUTAGES
8/25/2014	1156917E	Outages - Frequent	GI-15 OUTAGES
8/27/2014	1157252E	Outages - Frequent	GI-15 OUTAGES
8/28/2014	1157420E	Outages - Frequent	GI-15 OUTAGES
9/4/2014	1158148E	Outages - Frequent	GI-15 OUTAGES
9/11/2014	1159113E	Outages - Frequent	GI-15 OUTAGES
9/12/2014	1159226E	Outages - Frequent	GI-15 OUTAGES

9/12/2014	1159224E	Outages - Frequent	GI-15 OUTAGES
9/24/2014	1160639E	Outages - Frequent	GI-15 OUTAGES
9/25/2014	1160803E	Outages - Frequent	GI-15 OUTAGES
9/26/2014	1160868E	Outages - Frequent	GI-15 OUTAGES
9/29/2014	1161008E	Outages - Frequent	GI-15 OUTAGES
10/13/2014	1162508E	Outages - Frequent	GI-15 OUTAGES
10/15/2014	1162889E	Outages - Frequent	GI-15 OUTAGES
10/24/2014	1163843E	Outages - Frequent	GI-15 OUTAGES
10/29/2014	1164212E	Outages - Frequent	GI-15 OUTAGES
10/31/2014	1164520E	Outages - Frequent	GI-15 OUTAGES
11/17/2014	1165964E	Outages - Frequent	GI-15 OUTAGES
11/17/2014	1165809E	Outages - Frequent	GI-15 OUTAGES
11/26/2014	1166801E	Outages - Frequent	GI-15 OUTAGES
11/17/2014	1165950E	Outages - Frequent	GI-17 SAFETY ISSUES
6/30/2014	1151292E	Outages - Frequent	GI-15 OUTAGES
6/30/2014	1151293E	Outages - Frequent	GI-15 OUTAGES
7/7/2014	1151921E	Outages - Frequent	GI-15 OUTAGES
10/20/2014	1163213E	Outages - Frequent	GI-15 OUTAGES
8/28/2014	1157416E	Outages - Momentary	GI-11 REPAIR SERVICE
9/12/2014	1159244E	Outages - Momentary	GI-11 REPAIR SERVICE
1/13/2014	1135679E	Outages - Momentary	GI-15 OUTAGES
5/5/2014	1146391E	Outages - Momentary	GI-15 OUTAGES
5/7/2014	1146159E	Outages - Momentary	GI-15 OUTAGES
6/10/2014	1149444E	Outages - Momentary	GI-15 OUTAGES
8/18/2014	1156144E	Outages - Momentary	GI-15 OUTAGES
8/22/2014	1156715E	Outages - Momentary	GI-15 OUTAGES
8/25/2014	1156881E	Outages - Momentary	GI-15 OUTAGES
9/22/2014	1160271E	Outages - Momentary	GI-15 OUTAGES
10/17/2014	1163169E	Outages - Momentary	GI-15 OUTAGES
10/20/2014	1163205E	Outages - Momentary	GI-15 OUTAGES
10/23/2014	1163743E	Outages - Momentary	GI-15 OUTAGES
11/14/2014	1165698E	Outages - Momentary	GI-15 OUTAGES
12/8/2014	1167845E	Outages - Momentary	GI-15 OUTAGES
9/5/2014	1158475E	Outages - Planned	GI-15 OUTAGES
3/3/2014	1140377E	Street Lights/Area Lights-Repai	GI-11 REPAIR SERVICE
6/30/2014	1151422E	Street Lights/Area Lights-Repai	GI-11 REPAIR SERVICE
11/10/2014	1165183E	Street Lights/Area Lights-Repai	GI-11 REPAIR SERVICE
2/10/2014	1138508E	Street Lights/Area Lights-Repai	GI-15 OUTAGES
10/7/2014	1161969E	Street Lights/Area Lights-Repai	GI-15 OUTAGES
10/14/2014	1162748E	Tree Trimming	GI-15 OUTAGES
8/25/2014	1156943E	Tree Trimming	GI-17 SAFETY ISSUES

1/3/2014	1134823E	Tree Trimming	GI-30 QUALITY OF SERVICE
7/24/2014	1153798E	Tree Trimming	GI-30 QUALITY OF SERVICE
7/30/2014	1154347E	Voltage Issues	GI-15 OUTAGES
7/14/2014	1152618E	Adjustment/Backbilling Issues	ES-14 SERVICE IMPROPERLY DISCONNECTED
9/12/2014	1159249E	Adjustment/Backbilling Issues	ES-14 SERVICE IMPROPERLY DISCONNECTED
8/13/2014	1155735E	Adjustment/Backbilling Issues	GI-28 IMPROPER DISCONNECT
3/10/2014	1140968E	Adjustment/Backbilling Issues	GI-29 DELAY IN CONNECTION
8/8/2014	1155280E	Charge-Off Issues	GI-28 IMPROPER DISCONNECT
6/18/2014	1150229E	CIA Charges	GI-30 QUALITY OF SERVICE
1/9/2014	1135347E	Claims	ES-14 SERVICE IMPROPERLY DISCONNECTED
5/30/2014	1148687E	Claims	GI-15 OUTAGES
8/6/2014	1155037E	Claims	GI-15 OUTAGES
9/4/2014	1158192E	Claims	GI-15 OUTAGES
9/10/2014	1158970E	Claims	GI-15 OUTAGES
10/6/2014	1161766E	Customer Privacy	GI-29 DELAY IN CONNECTION
10/8/2014	1162113E	Damage to Customer's Property	GI-30 QUALITY OF SERVICE
1/2/2014	1134576E	Deposit Issues	GI-28 IMPROPER DISCONNECT
8/26/2014	1157200E	Deposit Issues	GI-28 IMPROPER DISCONNECT
4/23/2014	1145476E	Deposit Issues	GI-30 QUALITY OF SERVICE
11/18/2014	1166083E	Didn't Receive Accurate Inform	GI-15 OUTAGES
4/7/2014	1143797E	Employee Lacked Professionali	GI-15 OUTAGES
10/22/2014	1163605E	High Bill	GI-28 IMPROPER DISCONNECT
4/30/2014	1146114E	Improper/No Delinquent Notic	GI-28 IMPROPER DISCONNECT
5/7/2014	1146663E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
8/12/2014	1155585E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
8/14/2014	1155893E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
8/27/2014	1157390E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
9/29/2014	1161017E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
10/1/2014	1161494E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
10/10/2014	1162444E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT

10/23/2014	1163755E	Non-Pay Disconnects	GI-28 IMPROPER DISCONNECT
6/27/2014	1151228E	Non-Pay Disconnects	GI-29 DELAY IN CONNECTION
3/7/2014	1140832E	Non-Pay Disconnects	GI-30 QUALITY OF SERVICE
6/5/2014	1149165E	Payment Options Issue	GI-30 QUALITY OF SERVICE
9/4/2014	1158264E	Paystation Issues	GI-30 QUALITY OF SERVICE
10/10/2014	1162394E	Revenue Protection Investigati	GI-28 IMPROPER DISCONNECT
5/2/2014	1146372E	Revenue Protection Investigati	GI-29 DELAY IN CONNECTION
4/16/2014	1144847E	Right-of-Way/Easement Issues	GI-30 QUALITY OF SERVICE
7/2/2014	1151739E	Service Charge Dispute	GI-28 IMPROPER DISCONNECT
9/4/2014	1158133E	Service Delays	GI-11 REPAIR SERVICE
3/26/2014	1142710E	Service Delays	GI-29 DELAY IN CONNECTION
9/15/2014	1159376E	Service Delays	GI-29 DELAY IN CONNECTION
10/20/2014	1163201E	Service Delays	GI-29 DELAY IN CONNECTION
6/25/2014	1151028E	Service Delays-New Constructi	GI-29 DELAY IN CONNECTION
7/3/2014	1151817E	Service Delays-New Constructi	GI-29 DELAY IN CONNECTION
9/22/2014	1160328E	Service Delays-New Constructi	GI-29 DELAY IN CONNECTION
10/22/2014	1163540E	Service Delays-New Constructi	GI-29 DELAY IN CONNECTION
8/25/2014	1157006E	Wait Time/Service Level	GI-30 QUALITY OF SERVICE
10/21/2014	1163419E	Wait Time/Service Level	GI-30 QUALITY OF SERVICE

ATTACHMENT I

Storm Hardening Projects - 2013 - 2015 Plan

Op Center	Project Name	Sub Category	Status	Region
Buena Vista	Old Harbor Rd Sky Lake South	Back Lot to Front Lot Conversion	Completed Jan 2015	South Central
Southeast Orlando	Meadow Woods Village 10	Back Lot to Front Lot Conversion	Completed Mar 2014	South Central
Winter Garden	Malcom Rd. reconductor/reroute	Back Lot to Front Lot Conversion	Completed Dec 2014	South Central
Monticello	Alligator Point Extreme Wind Phase 2 of 4	Alternative NESC Construction Standard	Completed Jan 2014	North Coastal
Apopka	M451 to M453 feeder tie - Phase 1 of 2	Feeder Tie	Completed June 2014	North Central
Apopka	Apopka Blvd Feeder Tie	Feeder Tie	Planned May 2015 completion	North Central
Buena Vista	Reams Feeder Tie K1110 to K789	Feeder Tie	Planned Nov 2015 completion	South Central
Buena Vista	Loop UG feeder radial-Celebration	Feeder Tie	Completed Dec 2013	South Central
Clermont	Minneola Feeder Tie - Phase 1 of 2	Feeder Tie	Completed Sept 2014	South Central
Deland	Deltona East W0124 Feeder Tie	Feeder Tie	Planned April 2015 completion	North Central
Deland	Lake Helen W1701 Feeder Tie	Feeder Tie	Planned March 2015 completion	North Central
Seven Springs	Land O'Lakes - Denham Feeder Tie - Phase 1 of 3	Feeder Tie	Planned May 2015 completion	South Coastal
Winter Garden	Orlavista	Feeder Tie	Completed Dec 2014	South Central
Deland	SR 17-92 and Benson Junction	OH to UG Conversion	Completed Sept 2014	North Central
Apopka	Earlwood Av. Reconductor	Small Wire Upgrade	Planned Feb 2015 completion	North Central
Apopka	Chandler Rd. & Kelly Park Reconductor	Small Wire Upgrade	Completed Feb 2014	North Central
Apopka	Woodward Ave./Eustis	Small Wire Upgrade	Completed Jan 2015	North Central
Apopka	Reconductor Plymouth M707 feeder exit from 2/0 Cu to 795 AAC	Small Wire Upgrade	Planned March 2015 completion	North Central
Apopka	Reconductor Plymouth M707 feeder from 1/0 Al to 795 AAC(tie to M32)	Small Wire Upgrade	Planned Feb 2015 completion	North Central
Buena Vista	Cassino Ave Back_lot	Small Wire Upgrade	Completed Jan 2015	South Central
Clearwater	Highlands C2807 reconductor-Weak Link	Small Wire Upgrade	Planned May 2015 completion	South Coastal
Clermont	Change conductor size from 336 to 795 between switch K5330622 and K2227	Small Wire Upgrade	Planned March 2015 completion	South Central
Deland	Mercers Fernery Rd.	Small Wire Upgrade	Completed Oct 2014	North Central
Deland	Pensilvania Ave	Small Wire Upgrade	Completed Jan 2015	North Central
Inverness	Lebanon A132 - Us 19 South	Small Wire Upgrade	Completed Aug 2014	North Coastal
Lake Wales	Hunt Brothers Rd. Reconductor	Small Wire Upgrade	Completed Feb 2014	South Central
Longwood	N. Ranger Blvd Reconductor	Small Wire Upgrade	Cancelled - elected not to rebuild line in back-lot area that is inaccessible	North Central
Southeast Orlando	Reconductor Hickory Tree Rd, Holopaw - Phase 1 of 4	Small Wire Upgrade	Completed Sept 2014	South Central
Southeast Orlando	Reconductor US-192 Holopaw (Phase 3)	Small Wire Upgrade	Completed Feb 2014	South Central
Southeast Orlando	Reconductor 2/0 Cu OH with 795 AAC Daetwyler Dr., Winona Dr	Small Wire Upgrade	Completed Dec 2014	South Central
Walsingham	Reconductor 4/0 Cu on Bay Pines Blvd with 795 AAC	Small Wire Upgrade	Completed Dec 2014	South Coastal
Winter Garden	Sabrina Drive Back_lot	Small Wire Upgrade	Completed May 2014	South Central
Winter Garden	Pine Street Windermere	Small Wire Upgrade	Planned Aug 2015 completion	South Central

ATTACHMENT J

DUKE ENERGY®
FLORIDA

Storm Hardening Plan
2013 – 2015

May 1, 2013

FPSC Rule 25-6.0342, F.A.C.

I. Introduction:

Rule 25-6.0342, Florida Administrative Code, requires investor-owned electric utilities in Florida to file a Storm Hardening Plan with the Florida Public Service Commission ("FPSC") on or before May 7, 2007 and every three years thereafter as a matter of course. Rule 25-6.0342 specifies what must be included in utility storm hardening plans, and Duke Energy Florida, Inc. ("DEF") has tracked those rule provisions in its Storm Hardening Plan below:

25-6.0342(3): *Each utility storm hardening plan shall contain a detailed description of the construction standards, policies, and procedures employed to enhance the reliability of overhead and underground electrical transmission and distribution facilities.*

DEF's construction standards, policies, practices, and procedures related to storm hardening issues are listed below and are attached hereto as **Attachment A**:

Distribution OH Construction Manual

i. Cover page
   1. *Addresses NESC adherence standards.*

ii. General Overhead section
   1. *Discusses company policy on extreme wind.*
   2. *Details Florida's extreme wind contour lines.*
   3. *Discusses the use of the Pole Foreman program.*

iii. Poles, Guys and Anchors Section
   1. *Discusses DEF's standard pole strengths, sizes, and limitations.*

iv. Primary Construction section
   1. *Discusses corporate practices for primary line construction.*

v. Coastal and Contaminated area section
   1. *Discusses corporate practices for primary line construction in coastal areas.*

Distribution UG Construction Manual

vi. Cover page
   1. *Addresses NESC adherence standards.*

vii. Underground General Section
   1. *Discusses location of UG facilities in accessible locations.*

viii. OH-UG Transition section
   1. *Discusses corporate practices for primary framing on dip poles.*

ix. Trenching and Conduit section
   1. *Discusses corporate practices for trenching and use of conduit on primary UG circuits.*

x. Flooding and Storm Surge Requirements
   1. *Discusses corporate procedures for the installation of UG equipment in areas targeted for storm surge hardening.*

Distribution Engineering Manual

xi. Overhead Design guide section
   1. *Addresses line location in accessible location.*
   2. *Addresses NESC compliance.*
   3. *Discusses Pole Foreman program.*

xii. Underground Design guide section
   1. *Addresses line location in accessible location.*
   2. *Addresses NESC compliance.*

Transmission - Extreme Wind Loading Design Criteria Guideline for Overhead Transmission Line Structures

xiii. Standards Position Statement
   1. *Addresses NESC compliance.*
   2. *Addresses American Society of Civil Engineer's Manual 74 (ACSE 74).*
   3. *Discusses transmission line importance for reliability.*
   4. *Details Florida's extreme wind contour lines.*

Transmission - Line Engineering Design Philosophy

xiv. Overhead Line Design philosophy

1. *Addresses NESC compliance.*
2. *Addresses insulator loading criteria.*
3. *Addresses guy / anchor capacity ratings.*
4. *Addresses design load cases.*
5. *Addresses extreme wind guidelines.*
6. *Addresses structural guidelines.*

Joint Use – Pole Attachment Guidelines and Clearances

xv. Pole Attachment Guidelines

1. *Addresses Pole Attachment and Overlash Procedures.*
2. *Addresses Joint Use Construction.*
3. *Addresses Guys and Anchors.*

xvi. Joint Use Clearances

1. *Addresses Line Clearances.*
2. *Addresses Joint Use Clearances.*

In addition to the standards, practices, policies, and procedures identified above, DEF's Wood Pole Inspection Plan, Vegetation Management Plan, and legacy Ongoing Storm Preparedness Plan all contain standards, practices, policies, and procedures that address system reliability and issues related to extreme weather events. These plans are included herewith as **Attachment B.**

25-6.0342(3)(a): *Each filing shall, at a minimum, address the extent to which the utility's storm hardening plan complies, at a minimum, with the National Electric Safety Code that is applicable pursuant to subsection 25-6.0345(2), F.A.C.*

All standards, practices, policies, and procedures in the manuals and plans listed above are based on accepted industry practices designed to meet or exceed the requirements of the National Electric Safety Code (NESC). These standards, practices, policies, and procedures are followed on all new construction and all rebuilding and relocations of existing facilities.

25-6.0342(3)(b): *Each filing shall, at a minimum, address the extent to which the utility's storm hardening plan adopts the extreme wind loading standards specified by Figure 250-2(d) of the 2007 edition of the NESC for new construction, major planned work, and critical infrastructure.*

New Construction:

With respect to new construction for transmission poles, DEF's transmission department is building all new construction with either steel or concrete pole material. Virtually all new transmission structures exceed a height of sixty feet above ground and therefore will be constructed using the NESC Extreme Wind Loading criteria.

DEF's design standards can be summarized as: 1) quality construction in adherence with current NESC requirements 2) well defined and consistently executed maintenance plans, and 3) prudent end-of-life equipment replacement programs. When these elements are coupled with a sound and practiced emergency response plan, construction grades as defined by the NESC provide the best balance between cost and performance.

DEF has extensive experience with the performance of Grade C and Grade B construction standards as defined by the NESC. That experience, which includes several hurricane seasons and other severe weather events, indicates that properly constructed and maintained distribution lines meeting all provisions of the NESC perform satisfactorily and provide a prudent and responsible balance between cost and performance.

DEF has not adopted extreme wind standards for all new distribution construction because of the following reasons:

1. Section 250C of the 2012 version of the NESC does not call for the extreme wind design standard for distribution poles which are less than sixty feet in height. Based on the fact that DEF's distribution poles are less than sixty feet, the extreme wind standard outlined in figure 250-2(d) does not apply.

2. All credible research, which includes extensive studies by the NESC rules committee, demonstrates that applying extreme winds standards would not benefit distribution poles. See Exhibit 4 filed in Docket No. 060172-EU, August 31, 2006 Workshop.
3. Utility experience from around the country further indicates that electrical distribution structures less than sixty feet in height are damaged in extreme wind events by trees, tree limbs, and other flying debris. Thus, applying the extreme wind standard to distribution poles would result in large increases in cost and design complexity without a commensurate benefit.
4. DEF's experience was consistent with that of the other utilities around the nation who found that vegetation and flying debris were the main causes of distribution pole damage, a condition that the extreme wind standard will not address. In 2004, approximately 96% of DEF's pole failures were attributable to flying debris and/or super extreme wind events such as tornadoes and micro-bursts.

Major planned work:

Consistent with NESC Rule 250C, DEF will use the extreme wind standard for all major planned transmission work, including expansions, rebuilds, and relocations of existing facilities. For the reasons discussed in the new construction section above, DEF has not adopted the extreme wind standard for major planned distribution work, including expansions, rebuilds, or relocations of existing facilities.

Critical infrastructure:

With respect to transmission, virtually all new transmission structures exceed a height of sixty feet above ground and therefore are constructed using the NESC extreme wind loading criteria. Accordingly, DEF will use the extreme wind standard for all major planned transmission work, including expansions, rebuilds, and relocations of existing facilities, irrespective of whether they can be classified as "critical" or "major."

DEF, for the reasons discussed in the new construction section above, has not adopted the extreme wind standard for any of its distribution level critical infrastructure. Placing distribution poles constructed to extreme wind standards around facilities such as hospitals and police stations in DEF's service territory would unnecessarily increase costs and restoration time if those poles are knocked down by falling trees or flying debris such as roofs or signs. DEF's current level of construction, around critical facilities and around all other facilities, has performed well during weather events and any pole failures due solely to wind impact were caused by "super extreme" wind events such as tornados and "micro bursts," conditions that would have caused and did cause extreme wind construction to fail as well.

While no current data or research supports the application of the extreme wind standard to distribution pole construction, DEF continues to analyze the extreme wind standard by using its prioritization model for implementation purposes in selected locations throughout DEF's service territory. Since the submittal of the 2007 Storm Hardening plan, DEF constructed several pilot projects using the extreme winds standards. To date, there has not been a significant weather event that allowed DEF to assess the performance of these projects. In conjunction with wind measuring devices, DEF will study the performance of the extreme wind standard at these various sites when a weather event allows for such analysis. From this process, DEF expects to continue to learn and adjust its extreme weather strategy based on information that it will collect and gather from other utilities in Florida and throughout the nation as new standards and applications are applied and tested.

<u>25-6.0342(3)(c)</u>: *Each filing shall, at a minimum, address the extent to which the utility's storm hardening plan is designed to mitigate damage to underground and supporting overhead transmission and distribution facilities due to flooding and storm surges.*

Based on DEF's experience in the 2004 and 2005 hurricane seasons, along with the experiences of other utilities in Florida reported to the FPSC after those seasons, DEF has concluded that underground applications may not be best suited for all areas. DEF has identified areas in its service territory where current underground equipment should be replaced with overhead due to the fact that those areas are subject to frequent and prolonged flooding resulting in damage from water intrusion on underground equipment. Thus, one of DEF's most effective tools in its hardening arsenal is to identify areas where underground equipment should and should not be used.

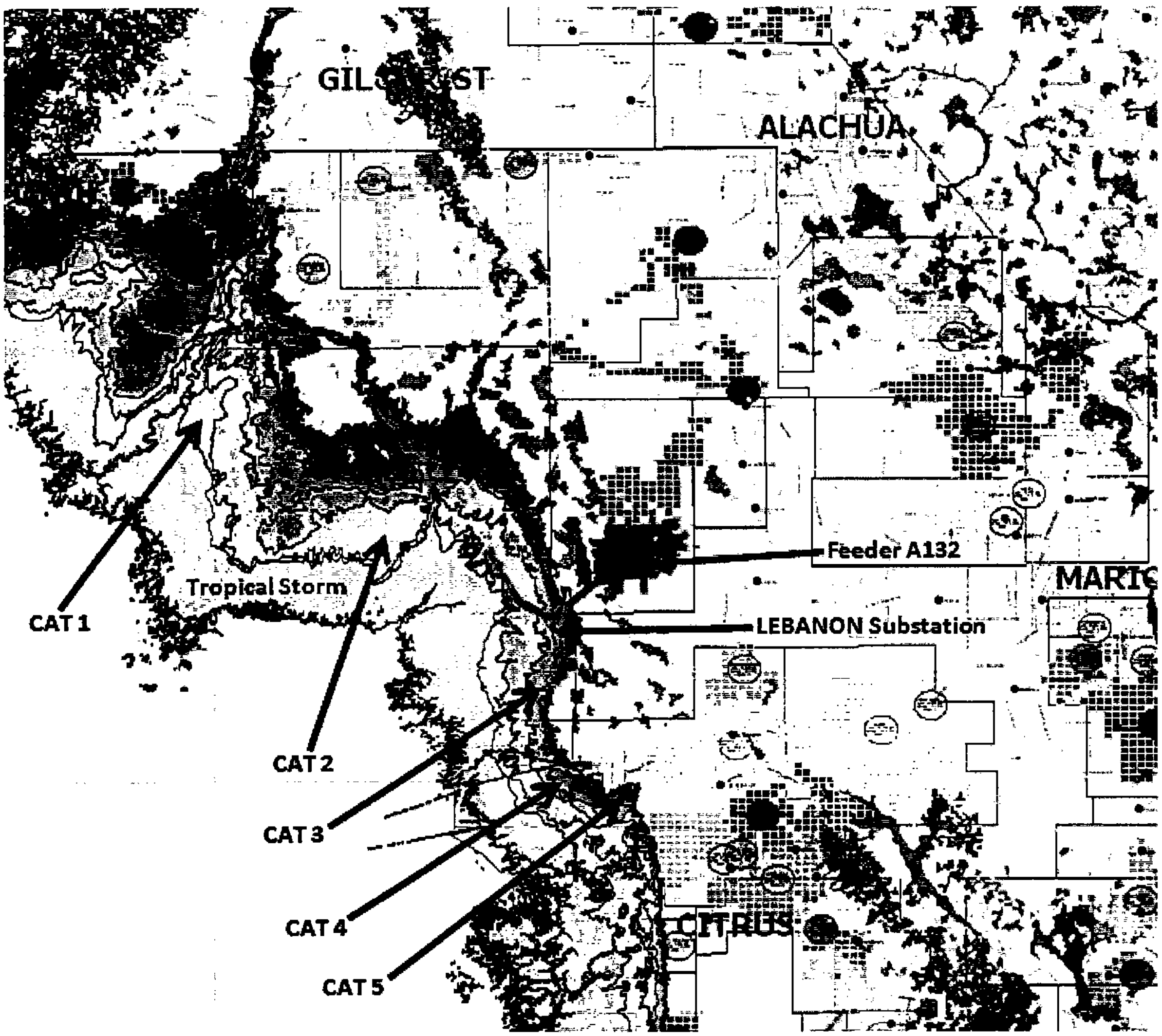
In areas where underground equipment may be exposed to minor storm surge and/or shorter term water intrusion, DEF has used its prioritization model (discussed in detail below) to identify areas where certain mitigation projects will be put into place to test whether flood mitigation techniques and devices can be used to protect equipment such as switchgears, padmounted transformers and pedestals. In these selected project sites, DEF will test:

- Stainless steel equipment;
- Submersible connectors;
- Raised mounting boxes;
- Cold shrink sealing tubes; and
- Submersible secondary blocks.

Throughout the year after a significant weather event, DEF will monitor these installations to collect and analyze data to determine how this equipment performs relative to DEF's current design with respect to outage prevention, reduced maintenance, and reduced restoration times. From this process, DEF will continue to learn and will adapt its flood and storm surge strategies based on information that it will collect and based on the information gathered by other utilities in Florida and throughout the nation as new standards and applications are applied and tested.

St. George Island in Franklin County was one of the areas where DEF used its submersible underground strategy to retrofit its existing facilities using the submersible standards listed above. St George Island is a good example of an area that would be susceptible to surges during a severe storm. The project was completed in 2007 and subsequent construction has conformed to the design standard for areas susceptible to storm surge.

DEF also utilizes Geo Media software to determine the optimum location for submersible underground facilities. The flood zones were provided by the state and overlaid onto DEF's land base computer system along with other facilities. This method allows DEF to visually determine which geographic areas would most benefit from submersible facilities. See example below.



In addition to the actions discussed above, during major storm events, substations that are in the forecast strike zone will have sandbags placed in strategic areas to attempt to eliminate water intrusion into control houses. In the event of water intrusion causing extensive damage requiring prolonged repair, DEF will employ mobile substations to affected areas, where possible, in order to restore power.

25-6.0342(3)(d): *Each filing shall, at a minimum, address the extent to which the utility's storm hardening plan provides for the placement of new and replacement distribution facilities so as to facilitate safe and efficient access for installation and maintenance pursuant to Rule 25-6.0341, F.A.C.*

DEF will continue to use front lot construction for all new distribution facilities and all replacement distribution facilities unless a specific operational, safety, or other site-specific reason exists for not using such construction at a given location. See Distribution Engineering Manual, Section xv(1).

25-6.0342(4): *Each utility storm hardening plan shall explain the systematic approach the utility will follow to achieve the desired objectives of enhancing reliability and reducing restoration costs and outage times associated with extreme weather events.*

As part of its systematic approach to storm hardening for the 2007-2009 Storm Hardening plan, DEF engaged industry expert Davies Consulting ("DCI") in developing a comprehensive prioritization model that has helped DEF identify potential hardening projects, procedures, and strategies. DCI has worked with a number of utilities nationally to evaluate their power delivery system major storm preparedness. They have also evaluated options for infrastructure hardening to improve performance and reliability not only day-to-day, but also during major storms. Collaborating with DCI, DEF created an evaluation framework for various hardening options and prioritization of potential alternatives. Since 2007, the model has been improved and enhanced to better reflect the changes in DEF's overall storm hardening strategy. The structure of the model was adjusted to use more consistent scoring criteria to evaluate the pilot projects. New software technology such as Geomedia was incorporated into the model. As more data becomes available, DEF will continue to adjust its prioritization model as appropriate.

Using the same evaluation framework for the 2013-2015 Storm Hardening plan, DEF prioritized its proposed projects based on various components that will be discussed in more details below.

Under the foregoing components of the evaluation framework, the prioritization model is set up to analyze the following hardening alternatives for DEF:

- OH-to-UG Conversions
  - Taking existing overhead (OH) electric lines and facilities and placing them underground (UG) via the use of specialized UG equipment and materials. The primary purpose of this hardening activity is to attempt to eliminate tree and debris related outages in the area of exposure. When applied to crossings on major highways, this hardening activity can also mitigate potential interference with first responders and other emergency response personnel caused by fallen lines.
- Small Wire Upgrade
  - The conversion of an existing overhead line currently with either #4 AL or #6 Cu conductor to a thicker gauge conductor of 1/0 or greater. The primary purpose of this hardening activity is to attempt to utilize stronger conductor that may be better able to resist breakage from falling tree branches and debris.
- Backlot to Frontlot Conversion
  - Taking an existing overhead line located in the rear of a customer's property and relocating it to the front of the customers property. This involves the removal of the existing line in the rear of the property and construction of a new line in the front of the property along with re-routing service drops to individual customer meters. The primary purpose of this hardening activity is to minimize the number of tree exposures to the line to prevent outages and to expedite the restoration process by allowing faster access in the event an outage occurs.
- Submersible UG
  - Taking an existing UG line and equipment and hardening it to withstand a storm surge via the use of the current DEF storm surge

standards. This involves the use of specialized stainless steel equipment and submersible connections. The primary purpose of this hardening activity is to attempt to minimize the damage caused by a storm surge to the equipment and thus expedite the restoration after the storm surge has receded.

- Alternative NESC Construction Standards
  - Building OH line and equipment segments to the extreme wind standard as shown in the NESC extreme wind contour lines of figure 250-2(d). This will be done via the use of the current extreme wind standards which call for the use of the industry accepted Pole Foreman program to calculate the necessary changes. Typical changes include shorter span lengths and higher class (stronger) poles. The primary purpose of this hardening activity is to attempt to reduce the damage caused by elevated winds during a major storm. Locations have been chosen to provide contrasting performance data between open coastal and inland heavily treed environments.

- Feeder ties
  - Tying radial feeders together to provide switching capabilities to reduce outage duration. This hardening alternative will mitigate long outages that would have otherwise occurred as a result of the inability to transfer load/customers to an alternate source.

Although the concept of storm hardening is generally thought of as outage prevention, it is inevitable that outages will still occur during a severe storm as a result of vegetation and flying debris. Feeder ties will help mitigate the duration of such outages. Tying multiple feeders together will give DEF the ability to minimize duration by serving customers from an alternate source while repairs are being made on the affected segment. Based on DEF's experience in the 2004 -2005 hurricane seasons as well as more recent tropical storms, feeder ties are crucial for a distribution system as it provides the opportunity to maximize the number of customers restored in the shortest timeframe possible. Regardless of what caused the outage during a severe storm, a radial feeder will be out for as long as it takes to make the necessary repairs. On the other hand, a feeder tie would allow DEF to restore as many customers as possible, thereby minimizing the number of customers that are without power for the length of the repair.

The development of the prioritization model begins with compiling a list of desired projects submitted by engineers and field personnel most familiar with the specific region. Each project is then evaluated based on the following criteria:

- Major Storm Outage Reduction Impact
  - Determines the potential benefits that the project provides during a major storm based on reduced damages or the ability to restore power more rapidly.
- Community Storm Impact
  - Evaluates the potential benefits that the proposed project will have on a community's ability to cope with damage.
- Third Party Impact
  - Captures complexities of proposed projects in terms of coordination with third parties such as telecommunication, Cable TV, permitting, easements, costs, etc.
- Overall Reliability
  - Captures the overall potential reliability benefits that the project provides on a day to day basis in terms of reduced customer interruptions and outage duration.
- Financial Cost
  - Provides the financial value of the proposed project based on cost per customer and cost per foot of newly installed wire/cable.

The prioritization model is set up to address the following hardening project questions:

- How many customers are served from the upstream protective device?
- What will be the impact of this project on the restoration time during a major storm?
- At what level of hurricane will the area served by this feeder flood due to

storm surges?

- What is the tree density in the area served by this feeder or section?
- What level of tree damage will this project mitigate during a major storm?
- How many critical infrastructure components (lift stations, shelters, hospitals, police, etc…) does this project address?
- How valuable will the project be perceived by the community?
- What are the major obstacles/risks for completing the project? i.e. easements, permits, etc.
- What type of investment is required by joint users (telecoms and cable) to complete this project?
- What is the 3-year average number of CEMI4 customers on this feeder?
- What is the 3-year average number of CMI on this feeder?
- What is the change in the annual CAIDI that this project will result in (on the feeder or section)?
- Will this project reduce the number of momentary customer interruptions on this section?
- What is the 3-year average number of CELID CI on this feeder?
- What is the construction Cost per customer

Each answer to the questions listed above is assigned a numerical value and subsequently weighted to produce an overall rating for each specific hardening project. The prioritization model is based on a structured methodology for evaluating the benefits associated with various hardening options. The model allows for the ranking of the overall list of projects. It enables DEF to strategically determine the order in which these projects are constructed, based on their order of ranking.

DEF is using the prioritization model to ensure a systematic and analytical approach to deploying storm hardening options within its service territory. For proven hardening options that DEF is already using as part of its construction standards and policies, the prioritization model will help DEF best locate and prioritize areas within its system where those options should be used. For unproven or experimental hardening options, such as the extreme wind standard for distribution pole construction, DEF is using its prioritization model to identify areas within its service territory where analytical data collection projects can be used to evaluate the performance and results of such hardening options. Examples of specific projects that took place between 2007 and 2012 are discussed later in this document.

25-6.0342(4)(a): *A description of the facilities affected, including technical design specifications, construction standards, and construction methodologies employed.*

All of DEF's facilities are affected to some degree by the standards, policies, procedures, practices, and applications discussed throughout this document. Specific facilities are also addressed herein in detail (i.e. upgrading all transmission poles to concrete and steel, using front lot construction for all new distribution lines where possible). Technical design specifications, construction standards, and construction methodologies are specifically discussed at pages 1 through 3 of this plan and are included in **Attachments A** and **B**.

25-6.0342(4)(b): *The communities and areas within the utility's service area where the electric infrastructure improvements are to be made.*

As discussed above, all of DEF's facilities are affected to some degree by the standards, policies, procedures, practices, and applications discussed throughout this document. As a result, all areas of DEF's service territory are impacted by DEF's storm hardening efforts. Based on DEF's recent storm experience and/or through the prioritization model a number of projects were identified, please see **Attachment D** for the Distribution Projects completed between 2007 and 2012.

Distribution:

The list below is a sampling of the proposed 2013 – 2015 Storm Hardening projects

Op Center	Project Name	Sub Category
Buena Vista	Old Harbor Rd Sky Lake South	Back Lot to Front Lot Conversion
Southeast Orlando	Meadow Woods Village 10	Back Lot to Front Lot Conversion
Winter Garden	Malcom Rd. reconductor/reroute	Back Lot to Front Lot Conversion
Monticello	Alligator Point Extreme Wind Phase 2 of 4	Alternative NESC Construction Standard
Apopka	M451 to M453 feeder tie - Phase 1 of 2	Feeder Tie
Apopka	Apopka Blvd Feeder Tie	Feeder Tie
Buena Vista	Reams Feeder Tie K1110 to K789	Feeder Tie
Buena Vista	Loop ug feeder radial-Celebration	Feeder Tie
Clermont	Minneola Feeder Tie - Phase 1 of 2	Feeder Tie
Deland	Deltona East W0124 feeder tie	Feeder Tie
Deland	Lake Helem W1701 feeder tie	Feeder Tie
Seven Springs	Land O'Lakes-Denham Feeder Tie - Phase 1 of 3	Feeder Tie
Winter Garden	Orlavista	Feeder Tie
Deland	SR 17-92 and Benson Junction	OH to UG Conversion
Apopka	Earlwood AV. reconductor	Small Wire Upgrade
Apopka	Chandler Rd. & Kelly Park reconductor	Small Wire Upgrade
Apopka	Woodward Ave./Eustis	Small Wire Upgrade
Apopka	Reconductor Plymouth M707 feeder exit from 2/0 Cu to 795 AAC	Small Wire Upgrade
Apopka	Reconductor Plymouth M707 feeder from 1/0 Al to 795 AAC(tie to M32)	Small Wire Upgrade

Buena Vista	Cassino Ave Back_lot	Small Wire Upgrade
Clearwater	Highlands C2807 reconductor-Weak Link	Small Wire Upgrade
Clermont	Change conductor size from 336 to 795 between switch K5330622 and K2227	Small Wire Upgrade
Deland	Mercers Fernery Rd.	Small Wire Upgrade
Deland	Pensilvania Ave.	Small Wire Upgrade
Inverness	Lebanon A132 - US 19 South	Small Wire Upgrade
Lake Wales	Hunt Brothers Rd. Reconductor	Small Wire Upgrade
Longwood	N. Ranger Blvd. reconductor	Small Wire Upgrade
Southeast Orlando	Reconductor Hickory Tree Rd, Holopaw - Phase 1 of 4	Small Wire Upgrade
Southeast Orlando	Reconductor US-192 Holopaw (Phase 3)	Small Wire Upgrade
Southeast Orlando	Reconductor 2/0 Cu OH with 795 AAC Daetwyler Dr., Winona Dr.	Small Wire Upgrade
Walsingham	Reconductor 4/0 Cu on Bay Pines Blvd with 795 AAC	Small Wire Upgrade
Winter Garden	Sabrina Drive Back_lot	Small Wire Upgrade
Winter Garden	Pine Street Windermere	Small Wire Upgrade

With regard to system hardening projects in general, DEF's approach is to consider the unique circumstances of each potential location considered for hardening by taking into account variables such as:

- operating history and environment;
- community impact and customer input;
- exposure to storm surge and flooding;
- equipment condition;
- historical and forecast storm experience; and
- potential impacts on third parties;

This surgical approach leads to the best solution for each discrete segment of the delivery system.

For example, Pasadena Feeder X220 was selected as a storm hardening candidate for 2009. X220 is a mainly an overhead feeder along Pasadena Avenue running from the substation south to the Palms of Pasadena Hospital. Engineering was initiated, and pole foreman was used for pole size selection and pole spacing. It was calculated that a 100 foot spacing and pole classes H1, 0, 1, and 2 would be required to meet the extreme wind loading criteria. Class H poles are normally transmission poles, and have a large ground or butt circumference. The general distribution guidelines for pole spacing are between 175 to 220 feet.

The Town of Pasadena was contacted by our Public Affairs Department, given the project scope information, and was made aware of the positive impacts of the project. The city was adamantly opposed to the storm hardening of X220 due to the larger class poles, closer pole spacing, and the perceived overall aesthetic impact. Due to the overwhelming negative reaction of the town, this project was cancelled. On the other hand, the San Blass Extreme wind project in Monticello was well received by the community. The project was discussed with the County Manager and the County Commissioner for the District. This project was also discussed with a local civic club where many of the members were residents in the project area. This project was completed in 2009. This is a real life example of why "one size does not fit all" when it comes to storm hardening.

In areas like Gulf Boulevard and other coastal communities in Pinellas County, local governments have worked with DEF to identify areas where overhead facilities have been or will be placed underground, and this option will help to mitigate storm outages caused by vegetation and flying debris. DEF is also working in these areas to evaluate upgrading portions of those facilities to the surge-resistant design discussed above. Again, these hardening options may work well in these communities, but may not be ideal or desirable in others.

<u>Transmission</u>:

The Transmission Department is employing a system-based approach to changing out wood poles to either concrete or steel poles based upon the inspection cycle and condition of pole. These projects are identified during the transmission pole inspection cycles. Specific new, rebuilt or relocated projects that are planned over the next three years are listed below:

NORTH FLORIDA AREA	Project Type	County	Third Party Impact
Alachua to GE Alachua (GH-2, 4.37mi) 69kV Line Rebuild	Rebuild	Alachua	Likely
Nobleton Tap - Floral City Tap 69 kV line rebuild	Rebuild	Citrus	Possible
Carrabelle Bch Tap to Eastpoint (14.14mi) 69kV Line Rebuild	Rebuild	Franklin	Unlikely
Carrabelle to Carrabelle Bch Tap (1.7mi) 69kV Line Rebuild	Rebuild	Franklin	Unlikely
QX 115kV 10.85 mile rebuild (Atwater - Quincy (QX-1))	Rebuild	Gadsden	Unlikely
Rebuild 115kV JQ-12 Line Havana to Brdfrdvll W 10.53 miles	Rebuild	Gadsden	Likely
Jackson Bluff to Brickyard Tap	Rebuild	Hamilton	Unlikely
Rebuild Existing Jasper-Wrights Chapel 115kV Tie (9.59 mi)	Rebuild	Hamilton	Possible
Liberty-Jackson Bluff 69KV Line Rebld w/design for fut 115KV	Rebuild	Leon	Possible
JQ 1.7 West Lake-Burnham Tap 115 kV rebuild; 1.53 mi	Rebuild	Madison	Unlikely
SI 69kV 4 mile Line Rebuild - Williston to Williston (CFEC)	Rebuild	Marion	Likely
Proctor Tap to Cara Tap 69 kV Line Rebuild	Rebuild	Marion	Unlikely
MS-128 TO MS-135 MARION NW 35TH-49TH ST/ NW 27TH AV TO US441	Rebuild	Marion	Likely

Pinecastle - Sky Lake (WR-7) - 69 kV Rebuild 2.34 miles PCSL	Rebuild	Orange	Possible
Narcoossee to Rio Pinar (WR) - 69 kV Line Rebuild	Rebuild	Orange	Possible
Windermere-Bay Hill (WT) - 69 kV Rebuild 3.66 miles	Rebuild	Orange	Possible
Lake Bryan to Vineland (LV) - 69 kV Line Rebuild	Rebuild	Orange	Possible
Plymouth South Sub - Relocation of PP, WP & EP Lines	Rebuild	Orange	Likely
NR-71 to NR-72 253F ORANGE SR408/SR 417 INTERCHANGE IMPROV	Rebuild	Orange	Possible
CFCX 69kV dedicated line to SECO Continental Sub	rebuild	Sumter	Likely
JF-3 Ft White - Live Oak 69kV rebuild, 25.45 miles	Rebuild	Suwannee	Unlikely
Boyd Tap to Scanlon Tap (DP-3) 69kV rebuild, 8.0 mi	Rebuild	Taylor	Likely
Eridu Tap to Scanlon Tap (DP-2) 69kV rebuild, 5.24 mi	Rebuild	Taylor	Likely
Drifton to Eridu Tap (DP-1) 69kV rebuild, 13.48 mi	Rebuild	Taylor	Likely
PC line; Rebuild Line-Replace 132 Wood Poles w/ Steel[PRG]	Rebuild	Taylor	Possible
Deland West - DeLeon Springs 115kV & DWB Rebuild	Rebuild	Volusia	Likely
GUF Alachua Archer Rd frm SW16th -SW13th City of Gainesville	Governmental	Alachua	Likely
CLT & CC CITRUS 405270-3-52-01 SR589 SUNCOAST PKWY II-SECT 1	Governmental	Citrus	Possible
CSB-93 405270-4-52-01 Citrus Suncoast Pkwy II N.Card-CR486	Governmental	Citrus	Possible

HCR-12 115kV; 405822-2-52-01; SR 55 (US 19) from N of West Green Acres St to N of West Jump Ct; Road Widening, Improvements & Drainage	Governmental	Citrus	Unlikely
069kV CEB Hooks and Grand Sanitary Sewer	Governmental	Lake	Unlikely
OLR-69kV-CR. 470 widening Lake Co. PWDED	Governmental	Lake	Possible
LC ## 238395-5-52-01 Lake SR500 Lake Ella to Avenida Central	Governmental	Lake	Unlikely
LE - Transfer LE to Dbl Ckr on CFS Strs	Governmental	Lake	Likely
DR-90 to DR-98 238720-1-52-01 Marion SR40; SR45/US41 to CR328	Governmental	Marion	Unlikely
DR-36 to DR-94 238648-1 Marion SR45	Governmental	Marion	Unlikely
MS-128 TO MS-135 MARION NW 35TH-49TH ST/ NW 27TH AV TO US441	Governmental	Marion	Unlikely
410674-3-52-01;SR 40 East of CR 314 to east of CR 314A;	Governmental	Marion	Possible
242484-6-52-01 Orange SR-400 Ext-Maitland over Keller Rd	Governmental	Orange	Possible
NR-69_CIP 5029_ORANGE_VALENCIA COLLEGE LANE WIDE & IMPROVE.	Governmental	Orange	Possible
WO 69kV Underground Relocation on Fairbanks Avenue	Governmental	Orange	Yes
NR-71 & -72 230kV 253F; SR 417/SR 408 Interchange Improvements	Governmental	Orange	Possible
SLE 69kV relocation for Kennedy Blvd widening (Orange Cnty)	Governmental	Orange	Likely

SLM 69kV relocations for Kennedy Blvd widening (Orange Cnty)	Governmental	Orange	Likely
SLM 69kV relocations for Kennedy Blvd widening (Orange Cnty)	Governmental	Orange	Possible
WO 69kV relocation for Kennedy Blvd widening (Orange Cnty)	Governmental	Orange	Likely
WO 69kV relocation for Kennedy Blvd widening (Orange Cnty)	Governmental	Orange	Possible
69kV EP 431081 Wekiva Pkwy from US 441 to Ponkan	Governmental	Orange	Unlikely
69kV BK 431081 Wekiva Pkwy at the Y interchange	Governmental	Orange	Unlikely
230kV PS-94 431081 Wekiva Pkwy at the Y interchange	Governmental	Orange	Yes
69kV EP 431081 Wekiva Pkwy at US441 and SR 46	Governmental	Orange	Unlikely
WR and RW 69kV Relocation for Econ Trail	Governmental	Orange	Likely
FPID 242484-5-32-01 WO 69kV Relocation for I-4 Widening	Governmental	Orange	Possible
FTO FTO-141 415030-1-38-01 SEMINOLE CO. SR426/CR419 WIDENING	Governmental	Seminole	Unlikely
ASL-58 FPID#242592-3-32-01 SEMINOLE STATE ROAD 400 (I-4)	Governmental	Seminole	Possible
ASW-17,18,19 242592-2-52-01 Seminole Cnty SR400 / I-4	Governmental	Seminole	Unlikely
WEWC-WF 417545-1-52-01, SEMINOLE, SR417 BRIDGE MOD @ SR426	Governmental	Seminole	Unlikely
WF 69kV & WEWC 69kV CIP 001981-01; Dean Road widening;	Governmental	Seminole	Possible

NLA-23 to NLA-29 69kV 412994-3-52-01 CSXT Comm Rail Longwood	Governmental	Seminole	Yes
ASL-58 FPID#242592-3-32-01 SEMINOLE STATE ROAD 400 (I-4)	Governmental	Seminole	Unlikely
230kV DA, DL & DWS 431081 Wekiva Pkwy at I-4 and SR 46/SR 417	Governmental	Seminole	Unlikely
WA 69 kV Relocation- SR15/600 Interchange @ SR436- #404418-1	Governmental	Seminole	Unlikely
BCF 69kV_CR-468 Four lane curb and Gutter expansion	Governmental	Sumter	Likely
CRCF,CCF,IT,CLT,CC CITRUS 405270-5-52-01 SNCST PKWY II-SCT 3	Governmental	Sumter	Possible
BCF 69kV_CR-468 Four lane curb and Gutter expansion	Governmental	Sumter	Possible
DWB,410251-1-52-01, Volusia Co, SR 15/US 17	Governmental	Volusia	Possible

SOUTH FLORIDA AREA	Project Type	County	Third Party Impact
HCR-12 115kV SR- 55 CITRUS.405822-2-52-01	Rebuild	Citrus	Possible
FV124-128 230kv 5mi Relocation for CF Industries	Rebuild	Hardee	Likely
Brooksville West-Weeki Wachee Switch - 115 kV line rebuild	Rebuild	Hernando	Possible
Avon Park-SunNLakes 69 kv Rebuild, 4.82 miles	Rebuild	Highlands	Likely
Desoto City to Desoto City Tap 69 kV Line Rebuild	Rebuild	Highlands	Possible

Dinner Lake-Phillips Tap (PDL-2) - Rebuild 69 kV, 2.77 miles	Rebuild	Highlands	Possible
Denham to Morgan Rd Line #1	Rebuild	Pasco	Possible
BZ-384 TO BZ-386 C-3216.30 Pasco Clinton Ave road improve	Rebuild	Pasco	Possible
NP-4 thru NP-8 FIN: 256931-2-52-01 Gandy to 4th St	Rebuild	Pinellas	Possible
Land O Lakes - Denham line reroute to Morgan Road substation	Rebuild	Pinellas	Possible
Denham - Tampa Downs line reroute to Morgan Road substation	Rebuild	Pinellas	Possible
Oakhurst - Seminole - Rebuild 69kV Line	Rebuild	Pinellas	Possible
BNUG 115 kV_Norteast Sub FIN:256931-2-52-01 Gandy to 4th St	Rebuild	Pinellas	Unlikely
ICB 69kV 8.25 mi rebuild (I. City to Barnum City)	Rebuild	Polk	No
WLLW 69kV 4.52 mile rebuild (West Lk Wales-LkWales #1)	Rebuild	Polk	Possible
Avon Park-Avon Park North 69 kV Rebuild, 3.69 mi	Rebuild	Polk	Possible
Lake Wales-Crooked Lake Tap 69 kV Line Rebuild 1.03 mi	Rebuild	Polk	Possible
ICB-188 TO ICB-236 197534-2-52-01 POLK SR-25 (US27)	Rebuild	Polk	Possible
ICB & BMF Polk-US27 Barry Rd. to Lake Cnty 197534-4-52-01	Rebuild	Polk	Possible
HT-39, -40 & -42; 405822-3-52-01 SR 55 from Jump Ct to W Fort Island Trail (SR 44)	Governmental	Citrus	Unlikely
CLT-175 TO CLT-178_257298-6-52-01_HERNANDO_CR578	Governmental	Hernando	Unlikely

ALP, 605-610, 431383-1-52-01, HIGHLANDS, STATE ROAD # 25	Governmental	Highlands	Possible
WLB, WLB-2, ORANGE CO, GRANDNATIONAL OVERPASS	Governmental	Orange	Possible
WR and RW 69kV Relocation for Econ Trail	Governmental	Orange	Possible
TMS 69kV Relocation Taft-Vineland Rd from SOBT to Orange Ave	Governmental	Orange	Possible
SCP Relo-Bee Line Exp of John Young Bridge 406090-1-52-01	Governmental	Orange	Possible
69kV TMS-89 & -90 412994; Sunrail Phase II, Meadow Woods Park and Ride Station	Governmental	Orange	Yes
ZNR 44, 57, 58 CIP 6360 Pasco Co Zephyrhills Bypass West Gap	Governmental	Pasco	Likely
416561-2-52-01; SR 54 from eo CR 577 to eo CR 579 (Morris Bridge Rd)	Governmental	Pasco	Likely
BZ-384 TO BZ-386 C-3216.30 Pasco Clinton Ave road improve	Governmental	Pasco	Yes
418325-1,2-52-01; SR 54 from US 19 to Gunn; CR 1 from SR 54 to Embassy Blvd-Ridge Rd; Ridge Rd from US 19 to Broad St	Governmental	Pasco	Highly Unlikely
NP-4 thru NP-8 FIN: 256931-2-52-01 Gandy to 4th St	Governmental	Pinellas	Unlikely
LSP LSP-12 922252 PINELLAS CO. STARKEY ROAD	Governmental	Pinellas	Unlikely
LSP-71-74 PID921321 PINELLAS TRAIL 97TH WAY	Governmental	Pinellas	Unlikely
413622-2-52-01 - CR-296 (118TH AVE.)	Governmental	Pinellas	Unlikely

LSP15-17 PID2182 PINELLAS STARKY RD-BRYAN DAIRY RD IMPROV.	Governmental	Pinellas	Unlikely
BNUG 115 kV_Nortease Sub FIN:256931-2-52-01 Gandy to 4th St	Governmental	Pinellas	Unlikely
CPM-24 TO CPM-25_12043-112_PINELLAS_CITY OF ST.PETE, ADA	Governmental	Pinellas	Unlikely
ICB-188 TO ICB-236 197534-2-52-01 POLK SR-25 (US27)	Governmental	Polk	Likely
ICB & BMF Polk-US27 Barry Rd. to Lake Cnty 197534-4-52-01	Governmental	Polk	Likely
115kV DC-59 to -60 CIP 4904; Rhode Island Ave, From Veterans Memorial Parkway to Normandy Blvd	Governmental	Volusia	Unlikely

<u>25-6.0342(4)(c)</u>: *The extent to which the electric infrastructure improvements involve joint use facilities on which third-party attachments exist.*

In the description of specific hardening projects above, DEF has provided information as to whether the projects involve joint use facilities on which third-party attachments exist. Since 2009, all joint use poles changed out in support of Rule 25-6.0342(6) are scheduled within the company FMDR system. Communication carriers are notified at the time of the pole change out that transfers are needed. This process is in line with the other company pole maintenance programs and the cost to the communication carriers is minimized. By the end of 2013 auditing cycle, DEF will have completed the required inspection of every joint use pole in the DEF system. The 8 year inspection cycle will continue in 2014 starting with poles last inspected in 2007.

<u>25-6.0342(4)(d)</u>: *An estimate of the costs and benefits to the utility of making the electric infrastructure improvements, including the effect on reducing storm restoration costs and customer outages.*

With respect to system-wide storm and extreme weather applications identified in

Attachment B, DEF has provided any available cost/benefit information within the documents in **Attachment B**. Additionally, please see the following chart for money that DEF has spent in 2010, 2011 and 2012 on storm hardening and maintenance:

Duke Energy Florida Storm Hardening and Maintenance Costs

Description	2010 Actual	2011 Actual	2012 Actuals
Vegetation Management (Distribution & Transmission)	$36,059,080	$27,509,602	$31,564,612
Joint Use Pole Inspection Audit	$493,833	$479,684	$537,528
Transmission Pole Inspections	$2,502,186	$3,242,329	$3,927,081
Other Transmission Inspections and Maintenance	$12,771,234	$14,163,748	$15,723,729
Transmission Hardening Projects	$107,070,806	$81,794,465	$90,771,847
Distribution Pole Inspections & Treatments	$2,650,416	$2,328,407	$2,559,172
Distribution Hardening Projects	$23,597,698	$21,833,971	$34,183,578
Total	**$185,145,253**	**$151,352,206**	**$179,267,547**

25-6.0342(4)(e): *An estimate of the costs and benefits, obtained pursuant to Rule 25-6.0342(6), to third-party attachers affected by the electric infrastructure improvements, including the effect on reducing storm restoration costs and customer outages realized by the third-party attachers.*

With respect to system-wide storm and extreme weather applications identified in **Attachments A** and **B**, DEF believes that any entity jointly attached to DEF's equipment would enjoy any benefit that DEF would enjoy from that same application, and DEF has provided any available cost/benefit information within the documents in those attachments.

25-6.0342(5): *Each utility shall maintain written safety, reliability, pole loading capacity, and engineering standards and procedures for attachments by others.*

Please see **Attachment A** and **Attachment C**.

25-6.0342(5): *The attachment standards and procedures shall meet or exceed the NESC so as to assure that third-party facilities do not impair electric safety, adequacy, or pole reliability; do not exceed pole loading capacity; and are constructed, installed, maintained, and operated in accordance with generally accepted engineering practices for the utility's service territory.*

All third-party joint use attachments on DEF's distribution and transmission poles are engineered and designed to meet or exceed current NESC clearance and wind loading standards. New attachment requests are field inspected before and after attachments to assure company construction standards are being met. All entities proposing to attach joint use attachments to DEF's distribution and transmission poles are given a copy of the company-prepared "Joint Use Attachment Guidelines." Attached hereto as **Attachment C**. These guidelines are a comprehensive collection of information spelling out the company's joint use process, construction standards, timelines, financial responsibilities, and key company contacts responsible for the completing permit requests. All newly proposed joint use attachments are field checked and designed using generally accepted engineering practices to assure the new attachments do not overload the pole or impact safety or reliability of the electric or other attachments. Additionally, annual and full-system audits are performed as detailed in DEF's annual March 1 comprehensive reliability report. For details on this activity, please see **Attachment B**.

25-6.0342(6): *Each utility shall seek input from and attempt in good faith to accommodate concerns raised by other entities with existing agreements to share the use of its electric facilities.*

Since 2009, DEF has continued to communicate with the telecommunications carriers regarding the pole loading project. DEF has diligently cut cost for carriers by suggesting make ready solutions for over loaded pole conditions that do not include pole change outs. Additional guying and attachment rearrangement solutions have saved the communications carriers thousands of dollars annually. DEF continues to answer any questions and address concerns expressed verbally by joint attachers. DEF has taken all input received into consideration in the development and finalization of this storm hardening plan.

DUKE ENERGY
FLORIDA

2013 Storm Hardening Plan Attachment List

Attachment A:

1. Distribution Overhead Construction Manual
2. Distribution Underground Construction Manual
3. Distribution Engineering Manual
4. Transmission Extreme Winds Loading Design Criteria Guideline for Overhead Transmission Line Structures
5. Transmission Line Engineering Design Philosophy
6. Joint Use – Pole Attachment Guidelines and Clearances

Attachment B:

1. Ongoing Storm Preparedness Plan
2. Pole Inspection Plan
3. Vegetation Plan (included in Ongoing Storm Preparedness Plan)
4. 2012 PSC Reliability Report; pages 40-43, 45-47, 48-63

Attachment C:

1. Joint Use Pole Guidelines

Attachment D:

1. Completed Distribution Storm Hardening Projects 2007 through 2012

ATTACHMENT K

Comprehensive Wood Pole Inspection Plan

Purpose and Intent of the Plan:

To implement and update a wood pole inspection program that complies with FPSC Order No. PSC-06-0144-PAA-EI issued February 27, 2006 (the "Plan"). The Plan[1] concerns inspection of wooden transmission and distribution poles, as well as pole inspections for strength requirements related to pole attachments. The Plan is based on the requirements of the National Electric Safety Code ("NESC") and an average eight-year inspection cycle. The Plan provides a detailed program for gathering pole-specific data, pole inspection enforcement, co-located pole inspection, and estimated program funding. This Plan also sets forth pole inspection standards utilized by Duke Energy Florida ("DEF") that meet or exceed the requirements of the NESC.

The Plan includes the following specific sub-plans:

- Transmission Wood Pole Inspection Plan ("Transmission Plan").
- Distribution Wood Pole Inspection Plan ("Distribution Plan").
- Joint Use Wood Pole Inspection Plan ("Joint Use Plan").

These three inspection sub-plans are outlined and described below. All of these sub-plans will be evaluated on an ongoing basis to address trends, external factors beyond the Company's control (such as storms and other weather events), and cost effectiveness.

1) Transmission Wood Pole Inspection Plan

A. Introduction

Ground-line inspection and treatment programs detect and treat decay and mechanical damage of in-service wood poles. DEF's Transmission Department accomplishes this by identifying poles that are 8 years of age or older and treating these poles as necessary in order to extend their useful life. As required, DEF also assesses poles and structures for incremental attachments that may create additional loads. Poles that can no longer maintain the safety margins required by the NESC (ANSI C2-2002) will be remediated. These inspections result in one of four or a combination of the following actions: (1) No action required; (2) Application of treatment; (3) Repaired; (4) Replaced.

B. General Plan Provisions

(i). Pole Inspection Selection Criteria

1 The 2012 Comprehensive Wood Pole Inspection Plan was provided to the Commission by DEF's predecessor, Progress Energy Florida, Inc. ("PEF") per Order No. PSC-06-0144-PAA-EI. DEF confirms there are no substantive changes to the Plan.

Transmission performs ground patrols to inspect transmission system line assets to allow for the planning, scheduling, and prioritization of corrective and preventative maintenance work. These patrols assess the overall condition of the assets including insulators, connections, grounding, and signs, as well as an assessment of pole integrity. These patrols are be done on a three-year cycle and the assessment data and reports generated from these patrols are used to plan the ground-line inspections set forth in Section 1B(ii) below. The ground patrol inspections categorize wood poles into four conditions or states (State 2-5). DEF conducts ground-line inspections of State 2 and 3 poles. State 3 poles are given priority for ground-line inspection scheduling. DEF replaces State 4 and 5 poles. DEF no longer utilizes the State 1 category.

In performing inspection and patrols, the following Transmission Line Wood Poles Inspection State Categories shall apply:

State 2 : Meeting all of the criteria listed below:

• No woodpecker holes or woodpecker holes have been repaired.
• A pole that has been cut and capped.
• Checks/cracks show no decay or insect damage.
• Ground-line inspected/treated with no data in the remarks field of the report and no noted reduction in effective pole diameter.
• Hammer test indicates a hard pole.
• No pole top deflection noted.

State 3 : Meeting one or more of the criteria listed below:

• Checks/cracks show decay or insect damage, or the presence of minimal shell cracking.
• Ground-line inspected/treated with decay noted in the remarks field of the report and a noted reduction in effective pole diameter.
• Hammer test indicates a minimal amount of ground-line decay.
• Pole has been repaired (e.g., C-truss).
• Poles with a wood bayonet or a pole that needs to be cut and capped.
• Pole can be partially hollow but with no less than 3 – 4 inches of shell thickness and cannot be caved during a hammer test.
• Pole top deflection is less than 3 feet.

State 4 : Meeting one or more of the criteria listed below and should be scheduled to be replaced:

• Woodpecker holes which have deep cavities and are not repairable.
• Checks/cracks show significant decay or insect damage, or the presence of substantial shell cracking.
• Decay in the pole top is extensive such that the pole cannot be cut and capped nor is the pole top section a candidate for a bayonet.
• Ground-line inspected/treated and identified as rejected/restorable or rejected/non-restorable.

• When hammer tested, ground-line decay pockets are found and are greater than 5 inches wide and 2 inches deep.
• Pole is hollow with less than 3 – 4 inches of shell thickness extending over more than one-quarter of the pole circumference, determined by hammer test and/or a screw driver.
• Pole top deflection is between 3 to 5 feet.

State 5 : Meeting one or more of the criteria listed below. (This pole should be scheduled to be replaced as soon as possible):

• Woodpecker holes which have deep cavities and are not repairable, severely affecting the integrity of the pole.
• Ground-line inspection indicates the pole as "priority."
• When hammer tested, ground-line decay pockets are found and are greater than 8 inches wide by 3 inches deep.
• Pole is hollow with less than 2 inches of shell thickness extending over more than one-third of the pole circumference.
• Pole deflection exceeds 5 feet.

(ii). Ground-Line Inspections

Ground-line inspections of wood transmission poles are conducted by qualified pole inspectors on an average 8-year cycle. This results in, on average, approximately 12.5% of the remaining population of wood poles receiving this type of inspection on an annual basis. Treatment and inspection work shall be done or supervised by a foreman with a minimum of six months experience and shall be certified as being qualified for this work.

For poles without an existing inspection hole, the pole will be bored at a 45 degree angle below the ground line to a depth that extends past the center of the pole. For previously inspected poles, the original ground-line inspection plug shall be bored out and the depth of the inspection hole measured to ensure that the pole has been bored to the required depth. Treatment application plug(s) will be bored out and the depth of these holes measured to ensure compliance. Hammer marks should be evident to show that the pole has been adequately sounded.

All work done, materials used, and materials disposed of shall be in compliance and accordance with all local, municipal, county, state, and federal laws and regulations applicable to said work. Preservatives used shall conform to the minimum requirements as set forth in this Transmission Plan.

The inspection method used is a sound and bore inspection that will include the following components:

- Above Ground Observations - Visual inspection of the exterior condition of the pole and visual inspection of components hanging from the pole.

- Sound with Hammer – The exterior of the pole is tested with a hammer and the inspector listens for "hollowness" of the pole.
- Bore at Ground Line – The pole is bored at a 45 degree angle below the ground line. This inspection method helps to determine internal decay at the base as well as measure the amount of "good wood" left on the interior of the pole.
- Excavate to 18 inches (Full Ground Line Inspection) – The soil is removed 18 inches below ground line. Decay pockets are identified and bored to determine the extent of decay.
- Removal of Surface Decay – Identified areas of decay are removed down to "good wood" using a sharp pick.
- Assessment of Remaining Strength – All data collected from the inspection will be used to determine effective circumference and remaining strength of the pole. In evaluating pole conditions, deductions shall be made from the original ground line circumference of a pole to account for hollow heart, internal decay pockets, and removal of external decay. The measured effective critical circumference shall be at the point of greatest decay removal in the vicinity of the ground line taking into account the above applicable deductions. A pole circumference calculator shall be used to determine the measured effective critical circumference. To remain in service "as-is," the pole shall meet minimum NESC strength requirements. The measured effective critical circumference will be compared to the minimum acceptable circumference for the applicable class pole listed in the latest version of ANSI 05.1-1992, American National Standard for Wood Poles and NESC-C2-1990(1). Poles below the minimum acceptable circumference shall be rejected and will be marked in the field for replacement as either a State 4 or State 5 pole.
- Where excavation at the ground line cannot be achieved due to concrete or similar barriers, pole integrity will be assessed using a drilling resistance measuring device. These devices are now available on the market and are able to accurately detect voids and decay in poles at and below the ground where excavation is not possible.

(iii) Structural Integrity Evaluation

As part of the visual inspection of the poles, the inspector will note and record the type and location of non-native utility pole attachments to the pole or structure. This information will be used by the Joint Use Department to perform a loading analysis on certain poles or structures, where necessary, as more fully described in the Joint Use section of this Plan. In such cases, the loading information obtained from this analysis will be used along with the strength determined in the ground-line inspection. If the loads exceed: a) the strength of the structure when new and b) the strength of the existing structure exceeds the strength required at replacement, according to the NESC, the structure will either be braced to the required strength or will be replaced with a pole of sufficient strength. Specific information on this process in contained in the Joint Use section of this Plan.

(iv). Records and Reporting

A pole inspection report will be filed with the Division of Economic Regulation by March 1st of each year. The report shall contain the following information:

1) A description of the methods used for structural analysis and pole inspection.

2) A description of the selection criteria that was used to determine which poles would be inspected.

3) A summary report of the inspection data including the following:

   a. Total number of wood poles in Company inventory.
   b. Number of pole inspections planned.
   c. Number of poles inspected.
   d. Number of poles failing inspection.
   e. Pole failure rate (%) of poles inspected.
   f. Number of poles designated for replacement.
   g. Total number of poles replaced.
   h. Number of poles requiring minor follow-up.
   i. Number of poles overloaded.
   j. Methods of inspection used.
   k. Number of pole inspections planned for next annual inspection cycle.
   l. Total number of poles inspected (cumulative) in the 8-year cycle to date.
   m. Percentage of poles inspected (cumulative) in the 8-year cycle to date.

4) A pole inspection report that contains the following detailed information:

   a. Transmission circuit name.
   b. Pole identification number.
   c. Inspection results.
   d. Remediation recommendation.
   e. Status of remediation.

C. <u>Program Cost and Funding</u>

- DEF continues to meet the obligations set forth in Order No. PCS-06-0144-PAA-EI. The number of poles inspected per year will start at approximately 3,800 poles, but may vary from year to year depending on previous years' accomplishments.

DEF is currently on track to meet the 8-year cycle requirements. The number of poles inspected may vary year to year depending on the previous year's accomplishments with the intent to complete inspections in the required timeframe. The estimated figures in the chart below are "best estimates," given information and facts known at this time and are subject to change or modification.

<u>Wood Pole Program Cost Estimates</u>

Annual Unit & Cost Estimate		
Cycle		
Years per cycle	8	
Poles inspected per year	3,800	On average; may vary year to year
Assumed poles replaced*	5%	Current future projections
O&M Cost		
GL Inspection & Treatment	$250,000	On average; may vary year to year
Capital Cost		
Pole & Insulator Replacements	$6,000,000	On average; may vary year to year
Hurricane Hardening	$7,000,000	On average; may vary year to year

* Assumption is made that approximately 5% of the poles inspected will be identified for replacement.

2) Distribution Wood Pole Inspection Plan

A. Introduction

In accordance with FPSC Order No. PSC-06-0144-PAA-EI, DEF's Distribution Department inspects Company-owned wood poles on an average 8-year cycle. These inspections determine the extent of pole decay and any associated loss of strength. The information gathered from these inspections is used to determine pole replacements and to effectuate the extension of pole life through treatment and reinforcement. Additionally, information collected from the wood pole inspections is used to populate regulatory reporting requirements, provide data for loading analyses, identify other equipment maintenance issues, and used to track the results of the inspection program over time.

B. General Plan Provisions

(i). Ground-line Inspection Purpose

- The ground-line inspection process is the industry standard for determining the existing condition of wood pole assets. This inspection helps to determine extent of decay and the remaining strength of a pole. Ground-line inspections also provide insight into the remaining life of a wood pole.

- The ground-line inspection is performed at the base of the pole because the base is the location of the largest "bending moment," as well as the area subject to the most fungal decay and insect attack. Assessing the condition of the pole at the base is the most efficient way to effectively treat and restore a wood pole.

(ii). Pole Inspection Process

When a wood distribution pole, other than a CCA pole, is inspected, the tasks listed below will be performed. For a CCA type wood distribution pole less than 16 years of age, the inspection will consist of a visual above ground inspection and sounding with hammer, both procedures are described below. For CCA poles 16 years of age and greater, all inspection methods described below are used. Boring at Ground Line is also performed on type CCA poles when decay is present.

- Above Ground Observations - Visual inspection of the exterior condition of the pole and visual inspection of components hanging from the pole.
- Partial Excavation – The soil is removed around the base of the pole and the pole is inspected for signs of decay.
- Sound with Hammer – The exterior of the pole is tested with a hammer and the inspector listens for “hollowness” of the pole.
- Bore at Ground Line – The pole is bored at a 45 degree angle below the ground line. This inspection method helps to determine internal decay at the base as well as measure the amount of “good wood” left on the interior of the pole.
- Excavate to 18 Inches (Full Ground Line Inspection) – If significant decay is found during the full excavation, the soil is removed 18 inches below ground line. Decay pockets are identified and bored to determine the extent of decay.
- Removal of Surface Decay – Identified areas of decay are removed down to “good wood” using a sharp pick.
- Prioritization of rejected poles – rejected poles shall be assessed on their overall condition and then prioritized accordingly. Generally these poles will then be replaced in order of priority, from highest to lowest.
- For poles where obstructions, such as concrete encasement, make full excavation impractical DEF will utilize the best economical inspection process in accordance with Order No. PSC-08-0644-PAA-EI issued October 6, 2008.

(iii) Data Collection

All data collected through the inspection process will be submitted to DEF’s Distribution Department in electronic format by inspection personnel. This data will be used to determine effective circumference and remaining strength of the pole. In evaluating pole conditions, deductions shall be made from the original ground line circumference of a pole to account for hollow heart, internal decay pockets, and removal of external decay. The measured effective critical circumference shall be at the point of greatest decay removal in the vicinity of the ground line taking into account the above applicable deductions. A pole circumference calculator shall be used to determine the measured effective critical circumference. To remain in service “as-is,” the pole shall meet minimum NESC strength requirements. The measured effective critical circumference will be compared to the applicable minimum acceptable circumference listed in the most current versions of ANSI 05.1-1992, American National Standard for Wood Poles, and NESC-C2-1990(1). Poles below the minimum acceptable circumference shall be rejected and will be marked in the field for replacement.

(iv). Structural Integrity Evaluation

- See Joint Use Pole Inspection Plan, section B, paragraph (i).

(v). Records and Reporting

A pole inspection report will be filed with the Division of Economic Regulation by March 1st of each year. The report shall contain the following information:

1) A description of the methods used for structural analysis and pole inspection.

2) A description of the selection criteria that was used to determine which poles would be inspected.

3) A summary report of the inspection data including the following:

a. Total number of wood poles in Company inventory.
b. Number of pole inspections planned.
c. Number of poles inspected.
d. Number of poles failing inspection.
e. Pole failure rate (%) of poles inspected.
f. Number of poles designated for replacement.
g. Total number of poles replaced.
h. Number of poles requiring minor follow-up.
i. Number of poles overloaded.
j. Methods of inspection used.
k. Number of pole inspections planned for next annual inspection cycle.
l. Total number of poles inspected (cumulative) in the 8-year cycle to date.
m. Percentage of poles inspected (cumulative) in the 8-year cycle to date.

4) A pole inspection report that contains the following detailed information:

a. Distribution circuit name.
b. Pole identification number.
c. Inspection results.
d. Remediation recommendation.
e. Status of remediation.

C. Program Cost and Funding

(i). Poles Program Cost Estimates

DEF continues to successfully meet the obligations set forth in Order No. PSC-06-0144-PAA-EI and continues to inspect poles based on the 8-year cycle as mandated by the FPSC. The number of poles inspected per year is expected to be approximately 96,000 poles, but may vary from year to year depending on previous years' accomplishments with the intent to complete inspections in the required timeframe. Funding requirements to meet all aspects of this program will be adjusted from year to year, as well. DEF is currently on track to meet the 8-year cycle requirements.

The estimated figures in the charts below are "best estimates," given information and facts known at this time and are subject to change or modification.

Annual Unit Estimate *							
Years per Cycle	# of Wood Poles to be inspected per year	Non-CCA Replacements	CCA Replacements	Non-CCA Bracing	CCA Bracing	Non-CCA Treatments	CCA Treatments
8	96,000	4,340	120	770	30	17,300	8,300

* *Assumption is made that approximately 2% of the non-CCA poles inspected will be identified for replacement.*

Annual Cost Estimate							
Years per Cycle	O&M Costs		Capital		O&M Total	Capital Total	Program Total Cost
	Inspections (S&B + Excavation)	Treatments (add'l to inspection)	Replacements	Braces			
8	$2,800,000	$470,000	$9,900,000	$450,000	$3,270,000	$10,350,000	$13,620,000

3) Joint Use Pole Inspection Plan

A. Introduction

DEF currently has approximately 784,000 joint use attachments on distribution poles and approximately 8,300 joint use attachments on transmission poles. On average, DEF receives approximately 10,000 new attachment requests per year. All new attachment requests are reviewed in the field to assure the new attachments meet NESC and company clearance and structural guidelines. The information provided below outlines DEF's attachment permitting process and how DEF intends to gather structural information on certain existing joint use poles over an average 8-year inspection cycle to meet the obligations set forth in Order No. PCS-06-0144-PAA-EI.

B. General Plan Provisions

(i). Structural Analysis for a Distribution Pole New Joint Use Attachment

When the Joint Use Department receives a request to attach a new communication line to a distribution pole, the following is done to ensure that NESC clearance and loading requirements are met before permitting the new attachment:

- Each pole is field inspected, and the attachment heights of all electric and communication cables and equipment are collected. The pole number, pole size and class (type) are noted as well as span lengths of cables and wires on all sides of the pole.
- For each group of poles in a tangent line, the pole that has the most visible loading, line angle and longest or uneven span length is selected to be modeled for wind loading analysis.
- The selected pole's information is loaded into a software program called "SPIDA CALC" from IJUS. The pole information is analyzed and modeled under the NESC Light District settings of 9psf, no ice, 30° F, at 60 MPH winds to determine current loading percentages.
- If that one pole fails, the next worst case pole in that group of tangent poles is analyzed as well.
- Each pole is analyzed to determine existing pole loading and the proposed loading with the new attachment.
- If the existing analysis determines the pole is overloaded, a work order is issued to replace the pole with a larger class pole. If the pole fails only when the new attachment is considered, a work order estimate is made and presented to the communication company wishing to attach.
- The results of the analysis and the new attachment are entered into the FRAME system.

(ii). Structural Analysis for a Transmission Pole New Joint Use Attachment

When the Joint Use Department receives a request to attach a new communication line to a transmission pole with distribution underbuild, the following will be done to ensure that NESC clearance and loading requirements are met before permitting the new attachment:

- Each pole is field inspected, and the attachment heights of all electric and communication cables and equipment are collected. The pole number, pole size and class (type) are noted as well as span lengths of cables and wires on all sides of the pole.
- All pole information including structural plan and profiles are sent to the engineering company, Enercon in Longwood, Florida, to be modeled in PLS-CADD/LITE and PLS-POLE for structural analysis.
- Enercon engineers determine the worst case structures in a tangent line and request the structural drawings and attachment information on those selected poles. Typically, transmission poles with line angle and uneven span lengths are the poles considered for wind loading analysis.
- The selected pole information is loaded into the PLS-CADD and PLS-POLE software. Depending on the pole location per the NESC wind charts, one of the following load cases is run. **NESC Light District:** 9psf, no ice, 30° F, 60mph; **NESC Extreme:** 3 sec gust for the specific county, no ice, 60° F (Ex: Orange County is 110 mph); or **DEF Extreme** at 36psf, 75° F, wind chart mph
- If that one pole fails, the next worst case pole in that group of tangent poles is analyzed as well.

- Each pole is analyzed to determine existing pole loading and the proposed loading with the new attachment.
- If the existing analysis determines the pole is overloaded, a work order is issued to replace the pole with a larger class pole. If the pole fails only when the new attachment is considered, a work order estimate is made and presented to the communication company wishing to attach.
- The results of the analysis and the new attachment are entered into the FRAME system.

(iii). <u>Analysis of Existing Joint Use Attachments On Distribution Poles</u>

There are approximately 784,000 joint use attachments on approximately 515,000 distribution poles in the DEF system. All distribution poles with joint use attachments will be inspected on an average 8-year audit cycle to determine existing structural analysis for wind loading. These audits will start at the sub-station where the feeder originates. For each group of poles in a tangent line, the pole that has the most visible loading, line angle, and longest or uneven span length will be selected to be modeled for wind loading analysis. Each pole modeled will be field inspected. The attachment heights of all electric and communication cables and equipment will be collected. The pole age, pole type, pole number, pole size / class, span lengths of cables and wires, and the size of all cables and wires on all sides of the pole will be collected.

The selected pole's information will then be loaded into a software program called "SPIDA CALC" from IJUS. The pole information will be analyzed and modeled under the NESC Light District settings of 9psf, no ice, 30° F, at 60 MPH winds to determine current loading percentages. If that one pole fails, the next worst case pole in that group of tangent poles will be analyzed as well. Each pole analyzed will determine the existing pole loading of all electric and communication attachments on that pole. If the existing analysis determines the pole is overloaded, a work order will be issued to replace the pole with a larger class pole. Should the original pole analyzed meet the NESC loading requirements, all similar poles in that tangent line of poles will be noted as structurally sound and entered into the database as "PASSED" structural analysis. The results of the analysis and all communication attachments will be entered into the FRAMME system. Reporting from the GIS database will indicate the date and results of the analysis. Poles rated at 100% or lower will be designated as "PASSED." Poles that are analyzed and determined to be more than 100% loaded will be designated as "FAILED," and scheduled to be changed out. Once the pole is changed out, the GIS database will be updated to reflect the date the new pole was installed with the new loading analysis indicated.

(iv). <u>Analysis of Existing Joint Use Attachments On Transmission Poles</u>

There are approximately 8,300 joint use attachments on approximately 2,800 transmission poles in the DEF system. All transmission poles with joint use attachments will be inspected on an average 8-year audit cycle to determine existing structural analysis for wind loading. Audits will start at the sub-station where the feeder originates. All pole information (pole size, class, type, age, pole number, cable, wire, equipment attachment heights, span lengths) including structural plan and profiles will be sent to the engineering company, Enercon in Longwood Florida, to be modeled in PLS-CADD/LITE and PLS-POLE for structural analysis. Enercon engineers will determine the worst case structures in a tangent line and request the structural drawings and attachment information on those selected poles. Typically, transmission poles with line angle and uneven span lengths are the poles considered for wind loading analysis.

The selected pole information will be loaded into the PLS-CADD and PLS-POLE software. Depending on the pole location per the NESC wind charts, one of the following load cases is run. **NESC Light District:** 9psf, no ice, 30° F, 60mph; **NESC Extreme:** 3 sec gust for the specific county, no ice, 60° F (Ex: Orange County is 110 mph); or **DEF Extreme** at 36psf, 75° F, wind chart mph. If that one transmission pole fails, the next worst case pole in that group of tangent poles will be analyzed as well. Each transmission pole analyzed will determine the existing pole loading of all electric and communication attachments on that pole. If the existing analysis determines the transmission pole is overloaded, a work order will be issued to replace the pole with a larger class pole. Should the original pole analyzed meet the NESC loading requirements, all similar poles in that tangent line of poles will be noted as structurally sound and entered into the database as “PASSED” structural analysis.

The results of the analysis and all communication attachments will be entered into the GIS database. Reporting from the GIS database will indicate the date and results of the analysis. Transmission poles rated at 100% or lower will be designated as “PASSED.” Transmission poles that are analyzed and determined to be more than 100% loaded will be designated as “FAILED,” and scheduled to be changed out. Once the transmission pole is changed out, the GIS database will be updated to reflect the date the new pole was installed with the new loading analysis indicated.

(v). <u>Records and Reporting</u>

A pole inspection report will be filed with the Division of Economic Regulation by March 1st of each year. The report shall contain the following information:

1) A description of the methods used for structural analysis and pole inspection.

2) A description of the selection criteria that was used to determine which poles would be inspected.

3) A summary report of the inspection data including the following:

   a. Number of poles inspected.
   b. Number of poles not requiring remediation.
   c. Number of poles requiring remedial action.
   d. Number of pole requiring minor follow up.
   e. Number of poles requiring a change in inspection cycle.
   f. Number of poles that were overloaded.
   g. Number of inspections planned.

C. **Program Cost and Funding**

(i). Pole Analysis Funding

As stated above, there are currently approximately 784,000 joint use attachments on approximately 515,000 distribution poles and approximately 8,300 joint use attachments on approximately 2,800 transmission poles. DEF will analyze the "worst case" poles in a tangent line of similar poles as deemed appropriate during field inspections.

In order to meet the obligations set forth in Order No. PCS-06-0144-PAA-EI, DEF requires incremental funding annually to successfully gather data and enter it into the required reporting format. See calculation that follows. The estimated figures in these charts are "best estimates," given information and facts known at this time and are subject to change or modification.

Annual Unit & Cost Estimate									
Distribution poles with joint use	Annual inspected (8-yr cycle)	10% of Distribution poles analyzed	1% of Distribution poles replaced	Transmission poles with joint use	Annual inspected (8-yr cycle)	30% of Transmission poles analyzed	10% of Transmission poles replaced	Total cost to analyze poles (O&M)	Total cost to replace poles (capital)
515,000	63,750	6,375	191	2,800	338	101	10	$607,183	$505,600

ATTACHMENT L

Major Conversions Historical Data

		WRs Completed													
		All Years	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
No. of WRs		348	-	3	6	9	57	10	42	42	40	43	26	51	19
Manhour Estimate		180,983	-	1,582	6,214	2,732	16,655	2,517	41,151	27,719	25,415	37,511	10,558	7,711	1,218
Manhours Charged		169,196	-	45	2,098	2,185	10,057	2,528	41,167	27,994	25,527	38,080	10,571	7,720	1,223
No. of Units (Ft)		378,582	-	6,852	16,196	7,124	85,920	4,961	74,467	48,197	52,807	55,108	11,121	14,117	1,712
No. of Units (Miles)		72	-	1.30	3.07	1.35	16.27	0.94	14.10	9.13	10.00	10.44	2.11	2.67	0.32
Estimated Cost		20,342,656	-	225,660	1,135,639	363,620	2,079,768	391,373	$ 4,824,690	$ 3,734,020	$ 2,934,875	$ 2,686,765	$ 882,087	$ 914,825	$ 169,334
CIAC		15,791,170	-	230,187	649,801	662,461	2,376,753	462,338	$ 2,681,567	$ 3,866,787	$ 2,045,350	$ 1,649,664	$ 710,797	$ 377,393	$ 78,071
No of WRs with CIAC Paid (in STORMS/WMIS)	59%	205	-	3	6	7	18	9	31	29	27	23	17	24	11
Est. Cost of those WRs with no CIAC Paid	31%	6,277,457	-	-	-	$ 17,845	$ 954,068	$ 30,904	$ 1,172,514	$ 1,363,212	$ 717,415	$ 1,467,711	$ 165,739	$ 336,120	$ 51,929
Est Cost of those WRs with CIAC Paid	69%	14,065,199	-	225,660	1,135,639	$ 345,775	$ 1,125,700	$ 360,469	$ 3,652,176	$ 2,370,808	$ 2,217,460	$ 1,219,054	$ 716,348	$ 578,705	$ 117,405
CIAC Ratio of those with CIAC Paid		112%	0%	102%	57%	192%	211%	128%	73%	163%	92%	135%	99%	65%	66%
CIAC Ratio Overall		78%	0%	102%	57%	182%	114%	118%	56%	104%	70%	61%	81%	41%	46%
Based on Units >50															
No of WRs with >50 Units	59%	205	0	2	6	6	36	9	30	32	32	23	13	14	2
Est Cost of WRs with >50 units	88%	$ 17,998,140	$ -	$ 224,134	$ 1,135,639	$ 344,147	$ 1,809,600	$ 380,285	$ 4,390,458	$ 3,177,390	$ 2,895,514	$ 2,563,259	$ 627,324	$ 400,182	$ 50,208
Manhours Est of WRs with >50 Units	94%	158,311	-	1,575	6,214	2,592	14,737	2,452	37,109	22,737	24,383	35,633	6,703	3,936	241
No of Units (Ft) for WRs with >50 Units	100%	378,432	-	6,852	16,196	7,122	85,913	4,959	74,440	48,194	52,775	55,068	11,115	14,094	1,704
No of Units (Miles) for WRs with >50 Units		71.67	-	1.30	3.07	1.35	16.27	0.94	14.10	9.13	10.00	10.43	2.11	2.67	0.32
Cost per manhour of WRs with >50 Units		$ 113.69	$ -	$ 142.34	$ 182.77	$ 132.79	$ 122.79	$ 155.09	$ 118.31	$ 139.75	$ 118.75	$ 71.93	$ 93.59	$ 101.67	$ 208.33
Cost per manhour of All WRs		$ 120.23	$ -	$ 4,981.47	$ 541.19	$ 166.42	$ 206.80	$ 154.82	$ 117.20	$ 133.39	$ 114.97	$ 70.56	$ 83.44	$ 118.50	$ 138.46
Cost per Unit (Ft) of WRs with >50 Units		$ 47.56	$ -	$ 32.71	$ 70.12	$ 48.32	$ 21.06	$ 76.69	$ 58.98	$ 65.93	$ 54.87	$ 46.55	$ 56.44	$ 28.39	$ 29.46
Cost per Unit (Ft) of All WRs		$ 53.73	$ -	$ 32.93	$ 70.12	$ 51.04	$ 24.21	$ 78.89	$ 64.79	$ 77.47	$ 55.58	$ 48.75	$ 79.32	$ 64.80	$ 98.91
Cost per Unit (Mile) of WRs with >50 Units		$ 251,116	$ -	$ 172,713	$ 370,226	$ 255,139	$ 111,214	$ 404,901	$ 311,413	$ 348,106	$ 289,689	$ 245,769	$ 298,000	$ 149,919	$ 155,574
Cost per Unit (Mile) of All WRs		$ 283,715	$ -	$ 173,889	$ 370,226	$ 269,500	$ 127,807	$ 416,539	$ 342,089	$ 409,063	$ 293,449	$ 257,424	$ 418,795	$ 342,160	$ 522,245
Manhour per Unit (Ft) of WRs with >50 Units		0.42	0.00	0.23	0.38	0.36	0.17	0.49	0.50	0.47	0.46	0.65	0.60	0.28	0.14
Manhour per Unit (Ft) of All WRs		0.45	0.00	0.01	0.13	0.31	0.12	0.51	0.55	0.58	0.48	0.69	0.95	0.55	0.71
Manhour per Unit (Mile) of WRs with >50 Units		2,209	-	1,213	2,026	1,921	906	2,611	2,632	2,491	2,439	3,417	3,184	1,475	747
Manhour per Unit (Mile) of All WRs		2,360	-	35	684	1,619	618	2,691	2,919	3,067	2,552	3,649	5,019	2,887	3,772

Note: Data is from STORMS/WMIS and only those WRs that are completed.

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
No. of Units (Miles)	0.32	2.67	2.11	10.43	10.00	9.13	14.10	0.94	16.27	1.35	3.07	1.30	-
Estimated Cost	$ 169,334	$ 914,825	$ 882,087	$ 2,686,765	$ 2,934,875	$ 3,734,020	$ 4,824,690	$ 391,373	$ 2,079,768	$ 363,620	$ 1,135,639	$ 225,660	$ -
Cost per Unit (Ft) of WRs with >50 Units	$ 29.46	$ 28.39	$ 56.44	$ 46.55	$ 54.87	$ 65.93	$ 58.98	$ 76.69	$ 21.06	$ 48.32	$ 70.12	$ 32.71	$ -

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ATTACHMENT M

Document title

Transmission Line Material Condition Assessment Procedure; Ground Patrols

Document number

MNT-TRMX-00053

Applies to: Transmission Operations and Planning Department – Carolinas and Florida

Keywords: maintenance; transmission – maintenance line

1.0 Purpose

The material condition of the transmission line structures must be periodically assessed to ensure the assets are in optimum condition. The primary goal of the line assessment is to inspect transmission line structures and associated hardware on a routine basis with the purpose of finding and documenting any required material repairs or replacements. A secondary goal is to periodically inspect the general condition of the right-of-way including emergency type danger trees, ditches, access locations, and encroachments.

2.0 Determining Risk

The State Code represents a components present condition and ranges from a State 1 to State 5. The ground patrol requires the state of all the line components, including switches, poles, crossarms, conductors, etc., to be collected by means of computer software and uploaded into Cascade. This information is then integrated with the known criticality of the line. This determines the risk of the line to the Department. Unacceptable risks have high probabilities of degrading service to customers, negatively impacting reliability, or incurring increased O&M or capital costs to the company.

3.0 Terms and Definitions

3.1 **Ground Patrol:** The ground patrol is a detailed assessment of a line's structures, crossarms, insulators, guys, anchors, static wires, and conductors. The ground patrol also includes an assessment of the overall condition of the right-of-way, including access, ditches, encroachments, and the recording of vegetation issues whose clearance to conductor warrant review by the Area Transmission Forester including dead, diseased, dying, leaning or uprooted trees.

3.2 **Climbing Inspections:** A key component of the ground patrol is evaluating the condition of insulators & wood crossarms. These components cannot always be properly evaluated from the ground, even with binoculars. Therefore, when the condition of components up the structure appears suspect, poles & towers should be climbed or assessed with a bucket. This may expose line deficiencies that may be more widespread, such as penciled porcelain insulators on multiple structures.

3.3 High Risk Areas: These are defined as areas adjacent to industrial areas, plants with caustic type emissions, or the ocean or salt spray. The responsibility of recognizing these areas is left to the line crew as the material condition is indicative that the line structure is indeed in such an area.

3.4 Patrol versus Repairs: Repairs to poles during a patrol should be limited. Generally, found deficiencies should have work orders written and later scheduled for completion based on prioritization. This methodology insures all lines receive an appropriate amount of inspection and the most critical of work is completed first.

4.0 Roles and Responsibilities

4.1 Line Technician: The Line Technician is tasked with completing the line assessment. Specific responsibilities include:

4.1.1 Utilize the guidance contained in this document to accurately classify and assess the condition of transmission line components.

4.1.2 Write work orders for all O&M and capital work.

4.1.3 Utilize Cascade to assess the condition of all line equipment including selecting appropriate component state codes when repairs or replacements are necessary.

4.1.4 Immediately communicate any imminent vegetation threats to the transmission line to the Area Transmission Forester & the Line Maintenance Supervisor by means of a cell phone call, as per the TVM Program: Imminent Threat Communication Procedure (MNT-TRMX-00192). At a minimum, that communication should include the line name/code, span information, and relevant information about the threatening vegetation.

Vegetation concerns not deemed to be imminent danger to the transmission lines should be reported to the Area Transmission Forester either by phone or E-mail in a timely manner.

4.2 Line Supervisor: The Line Supervisor is tasked with providing oversight and planning for the assessment process. Specific responsibilities include:

4.2.1 Provide input to the prioritization of when lines are patrolled.

4.2.2 Ensure Ground Patrol Assessments are conducted at intervals identified in the Transmission Line Equipment Maintenance Schedules Procedure (MNT-TRMX-00051), to be completed within 125% of the due date.

4.2.3 Ensure supplemental Assessments are conducted for pending construction projects or in reaction to significant line operations.

4.2.4 Ensure poles and towers are properly inspected & climbed.

4.2.5 Ensure all O&M and capital work orders are written to the data management tool in a timely manner.

4.2.6 Ensure the Ground Patrol Job Plan is completed within 30 days of a Ground Patrol and is forwarded to the responsible individuals.

4.2.7 Ensure vegetation threats to the transmission lines are communicated in a timely manner to the Area Transmission Forester.

5.0 Precautions and Limitations

Ground patrol assessments will be conducted in accordance with all applicable Company safety rules, OSHA regulations, work practices, & federal, state, and local regulations.

6.0 Material and Special Equipment

Image stabilizer type binoculars are required for assessing structure hardware, particularly the underside of porcelain insulators or the end fittings on polymer insulators. Binoculars are needed to inspect for signs of hardware, insulator, conductor, or ground wire connection corrosion. A thorough inspection of all structures is expected.

7.0 Inspection and Climbing Requirements

In certain situations, a climbing inspection is to be performed in addition to the ground patrol. During the climbing patrol, all insulators, pole attachments, hardware, and connections are to be inspected. Crews are to document which structures are climbed so different structures are inspected during subsequent patrols.

Poles with distribution underbuild cannot be climbed. These locations should be noted and should be followed up later with a more detailed helicopter assessment or by utilizing a bucket in cases where crossarm or insulator integrity is suspicious.

7.1 Lattice Tower Lines shall have a detailed climbing inspection performed on at least every 15th tower, more often if any component deterioration is found.

7.2 Wood Pole Lines do **not** require a detailed climbing unless the line is located in a High Risk Area or if component deterioration is found.

7.3 Concrete and Steel Pole Lines do **not** require a detailed climbing inspection unless the line is located in a High Risk Area or if component deterioration is found.

7.4 Structures located adjacent to or in an industrial area or plant with caustic type emissions are required to have a detailed climbing inspection performed on **all** potentially affected structures.

7.5 Lines located adjacent to or in an area with known salt contamination and constructed with porcelain insulators are to have a detailed climbing inspection performed on every 5th structure, more often if component deterioration is found.

8.0 Simplified Component Assessment Definitions

8.1 **STATE 1** components are new or less than 10 years old & are in excellent condition.

8.2 **STATE 2** components are greater than 10 years old but are in excellent condition.

8.3 **STATE 3** has some maintenance issues, primarily consisting of non-critical repair needs, or the component is in otherwise good condition.

8.4 **STATE 4** components are in need of replacement.

8.5 **STATE 5** components require IMMEDIATE attention.

9.0 Critical/Major System Components & State Codes

9.1 Transmission Wood Poles

9.1.1 **State 1** is described as meeting the criteria listed below:

- A wood pole up to 10 years of age & in excellent condition.

9.1.2 **State 2** is described as meeting all of the criteria listed below:

- Hammer indicates a hard pole with no soft spots or decay from the pole groundline to 6 feet
- Hammer cannot cave the pole, i.e. head of hammer embedded in pole
- No woodpecker holes or woodpecker holes have been repaired
- Pole checks may be present but with no evidence of decay, insect damage, or shell cracking
- If available, recent contracted pole inspection company inspection report shows no reduction in effective pole diameter
- No longitudinal pole top deflection present, i.e. pole is straight

9.1.3 **State 3** is described as meeting ANY of the criteria listed below:

- Hammer reveals minimal amount of groundline decay or insect damage confined to small pockets extending no more than 2 inches into the pole
- Hammer up the pole reveals minor shell cracking or soft wood, indicated by sound or caving
- Woodpecker holes are present but are not located in critical pole locations and do not contain nesting cavities
- Pole checks show evidence of decay, insect damage, or shell cracking
- Pole has been cut and capped, C-trussed, or has a wood bayonet
- Pole has a deteriorated pole cap
- Contracted pole inspection company inspection report includes a reduction in effective pole diameter

- Screwdriver probes indicate the center of pole to be partially hollow with at least 4 inches of shell thickness remaining in all directions
- Longitudinal pole top deflection between 2 - 3 feet
- Pole has Cellon treatment

9.1.4 **State 4** is described as meeting ANY of the criteria listed below and should be planned & scheduled to be replaced:

- Hammer reveals significant groundline decay pockets that are greater than 6 inches wide and 3 inches deep
- Hammer reveals significant shell cracking or soft wood, indicated by sound or caving of the wood
- Woodpecker holes are deep and may include nesting cavities, are located in critical areas, or are not repairable
- Pole checks reveal significant evidence of decay, insect damage, or shell cracking extending deep into the pole, as indicated by caving the pole, sawdust, or sound
- Pole top decay is extensive such that the pole cannot be cut and capped
- Contracted pole inspection company inspection report rejects the pole
- Pole is hollow with less than 4 inches of shell thickness extending over more than one-quarter of the pole circumference
- Longitudinal pole top deflection is between 3 to 5 feet

State 4 Pole w/ Internal Decay

State 4 Woodpecker Holes

Note: Critical woodpecker hole locations include holes in the vicinity of the crossarm, plankarm, crossbrace, guy, or insulator connections to the pole. (The holes in the above photograph are in critical locations).

9.1.5 **State 5** is described as meeting one or more of the criteria listed below. This pole should be scheduled to be replaced as soon as possible:

- Hammer reveals decay extending to the center of the pole
- Woodpecker holes are extensive, severely affecting the pole integrity
- Contracted pole inspection company report indicates the pole as "priority"
- Pole is hollow with less than 2 inches of shell thickness extending over more than one-quarter of the pole circumference
- Longitudinal pole deflection exceeds 5 feet

State 5 Internal Decay

State 5 Internal Decay


State 5 Shell Crack


State 5 Pole Shell Crack


State 5 WoodPecker Holes (with large internal cavity)


State 5 Groundline Pole Decay

9.2 Transmission Line Crossarms, Plankarms, Crossbraces, & Kneebraces

9.2.1 **State 1** is described as meeting the criteria listed below:

- Crossarms, Crossbraces, or Kneebraces are steel

9.2.2 **State 2** is described as meeting all of the criteria listed below:

- Wood; when hammer tested, member is hard
- No Woodpecker holes or rot present
- Galvanized or painted steel members have minimal rust
- There is no loose hardware

9.2.3 **State 4** is described as meeting one or more of the criteria listed below and should be scheduled to be restored or replaced:

- When hammer tested, member can be caved
- Separation exists between laminates sections of crossbraces
- Member has wide (> 1 inch) cracks that can hold water
- Woodpecker holes are present
- There is missing hardware

9.2.3 **State 5** is described as needing immediate attention

9.3 Transmission Line Lattice Towers, Steel & Concrete Poles

9.3.1 **State 1** is described as meeting all of the criteria listed below:

- Poles or Towers are new, less than 10 years old
- No visible signs of deterioration

9.3.2 **State 2** is described as meeting all of the criteria listed below:

- Galvanized or painted steel pole or towers have minimal surface rust
- No pack-out on tower bracing at member connections to tower legs
- Groundline treatment on steel pole or tower is totally intact & has not deteriorated
- Grout on top of concrete pole is intact
- Concrete surface may have hairline cracks, but less than 1/8 inch wide

9.3.3 **State 3** is described as meeting one or more of the criteria listed below:

- Galvanized or painted steel pole or towers have rust and needs painting
- Weathering steel poles or tower members exhibit minimal pitting
- Aluminum towers exhibit minimal surface deterioration.
- Light pack-out on tower bracing at member connections to tower legs
- Groundline treatment on steel pole or tower is cracked, or peeled, but rusting has not yet occurred
- Grout on top of concrete pole is cracked
- Concrete surface may have hairline cracks, but less than 1/8 inch wide

9.3.4 **State 4** is described as meeting one or more of the criteria listed below:

- Galvanized or painted steel pole or towers have deep rust, needs cleaning, priming, & painting
- Weathering steel poles or towers exhibit heavy pack-out including deformed or missing members or bolts
- Aluminum towers exhibit deformed or missing members or bolts
- Concrete poles has rust stains originating from inside the crack from the reinforcing steel or cracks more that ¼ inch wide

9.3.5 **State 5** is described as needing immediate attention

9.4 Transmission Line Porcelain Insulators

9.4.1 **State 1** has no visible signs of deterioration, cracking, chipping, or pin rust

9.4.2 **State 3** is described as meeting one or more of the criteria listed below:

- Displays initial signs of pin rust but without noticeable loss of material or swelling of the pin base
- Up to two individual insulator units within a string with cracked or broken skirts at 69/115 kV, or up to three at 230/500 kV
- Any individual insulator unit within a string with signs of electrical flashing
- Insulator units with bird contamination

Typical State 3 "Ball & Socket" Insulator

9.4.3 **State 4** is described as meeting one or more of the criteria listed below and should be replaced:

- These insulators have advanced pin rust with noticeable loss of material and/or swelling of the pin base
- Three or more individual insulator units within a string with cracked or broken skirts at 69/115 kV, or four or more for 230/500 kV
- Three of more individual insulator units within a string with signs of electrical flashing
- Insulator fails a dielectric test

Typical State 4 "Ball & Socket" Insulators

9.4.4 **State 5** is described as needing immediate attention

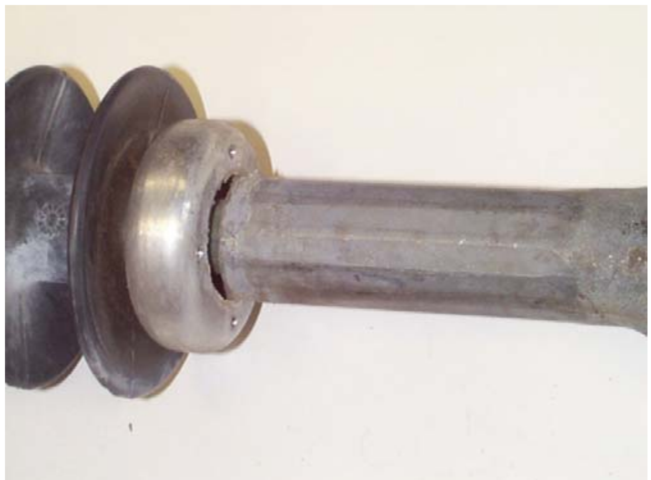
9.5 Transmission Line Polymer Insulators

9.5.1 **State 1** has no visible signs of deterioration

9.5.2 **State 3** has moderate amounts of chalking

9.5.3 **State 4** is described as meeting one or more of the criteria listed below and should be replaced:

- Has an exposed fiberglass rod
- Has open splits or gaps in the rubber housing
- Displays signs of electrical tracking or leaking interface compound
- Has missing corona rings (230 kV)



Exposed Fiberglass Rod (Ohio Brass)

Split Housing (Ohio Brass)

9.5.4 **State 5** is described as needing immediate attention

9.6 Transmission Line Conductors

9.6.1 **State 2** conductor has no visible wear

9.6.2 **State 3** is described as meeting one or more of the criteria listed below and should be repaired:

- Minor core rusting or corrosion
- Minor “Birdcage” of any conductor
- Conductor aluminum strands are unraveled
- Ohm-stick” conductor splice resistance readings indicating a recommended recheck in one year

9.6.3 **State 4** is described as needing immediate attention and meets one or more of the criteria listed below and should be repaired or replaced:

- Conductor steel core has severe corrosion.
- Conductor shot through the steel strands.
- “Ohm-stick” conductor splice resistance readings indicating a recommendation to immediately replace

9.6.4 **State 5** is described as needing immediate attention

9.7 Transmission Line Overhead Ground Wires (Statics, OHGW, OHG, OPGW)

9.7.1 **State 2** static has no visible wear

9.7.2 **State 3** is described as meeting one or more of the criteria listed below:

- Static has minor rusting, corrosion, or visible pitting
- Mechanical static splices present
- Statics including 5/16”, 3#6, & 7#10
- “Ohm-stick” conductor splice resistance readings indicating a recommended recheck in one year

9.7.3 **State 4** is described as meeting one or more of the criteria listed below and should be repaired or replaced:

- Any broken strands
- “Ohm-stick” conductor splice resistance readings indicating a recommendation to immediately replace.
- Static is severely rusted and or has become brittle. This condition can also be supported with lab testing of static samples.

9.7.4 **State 5** is described as needing immediate attention

9.8 Transmission Line Anchors and Guy Wires

9.8.1 **State 2** anchors & guys have no visible wear

- Guy Grips & anchor heads are all above groundline
- Guys are tight.

9.8.2 **State 3** is described as meeting one or more of the criteria listed below:

- Guys have been damaged
- Guy Grips & anchor heads are at or below groundline
- Grade modifications have exposed the top portion of the anchor
- Guys are loose and can be swayed

9.8.3 **State 5** is described as needing immediate attention

9.9 Transmission Line Switches

9.9.1 **State 1** is described as meeting all of the criteria listed below:

- The switch is new or less than 10 years old & is in excellent condition.
- All preventative maintenance is completed within 125% of the established due date
- No know material defects
- Infrared readings are normal

9.9.2 **State 2** is described as meeting all of the criteria listed below:

- The switch is greater than 10 years old & is in excellent condition
- All preventative maintenance is completed within 125% of the established due date
- No know material defects
- Infrared readings are normal

9.9.3 **State 3** is described as meeting one or more of the criteria listed below:

- Preventative maintenance activities are overdue by more than 125% of the established completion date
- Switch has a history of mechanical issues that have required attention on several occasions
- Switch is mounted on a wood pole structure
- Infrared readings slightly above normal

9.9.4 **State 4** is described as meeting one or more of the criteria listed below:

- Preventative maintenance activities are overdue by more than 150% of the established completion date.
- Switch has mechanical issues that require attention whenever it is operated
- Infrared readings are high and require adjustment of blade/jaw interface or replacement

9.9.5 **State 5** is described as needing immediate attention, or:

- Infrared readings indicate immediate action is required
- The switch is tagged out of service with the ECC due to mechanical or operational problems
- Interrupter has lost dielectric strength, i.e. no vacuum or gas is present.

9.10 Transmission Minor Components

9.10.1 **Aerial Markers**; Inspect for faded, partially detached, or missing markers.

9.10.2 **Arrestors;** Inspect for loose hardware, detached jumpers, cracks, signs of being burned, or with high infrared readings.

9.10.3 **Bird Contamination;** Inspect for bird droppings on crossarms, the ground, and stains on porcelain insulator strings. Significant activity may warrant the installation of protective bird guards.

9.10.4 **Conductor Splices;** Inspect for rusted strands or a discharge of the conductive grease at the splice ends. The color will normally be black. Elevated infrared readings will indicate if the splice is in a critical state. The "Ohmstick" is an effective means of evaluating a splices' integrity.

9.10.5 **Connections;** Inspect for bent, cracked, or missing hardware, and loose or missing bolts.

9.10.6 **Dampers;** Inspect for bent, cracked, or missing nuts. Look for signs of being broken loose and sliding away from the insulator.

9.10.7 **Encroachments;** Inspect for buildings, deer stands, ditches, fences, and elevation changes including ditches affecting access and mounds.

9.10.8 **Grounding;** Inspect for broken or deteriorated pole grounds and for unattached flying taps or bonding straps to the overhead ground wire.

9.10.9 **Guy Strain Insulators;** Inspect coatings for cracking and chipping as they protect the fiberglass insulator rod from ultraviolet radiation. Inspect end fittings for deterioration. Insulators with significantly frayed glass or splintering should be replaced.

9.10.10 **Line Traps;** Inspect for bent, cracked, or missing hardware.

9.10.11 **Pole Bands;** Inspect for broken thru bolts and pulled out lag screws, particularly on conductor deadends.

9.10.12 **ROW Condition;** Inspect for burn or dirt piles, trees that may affect the reliability of the line, vines, and any change in grade due to earthmoving activities.

9.10.13 **U-bolts used on steel crossarms;** Inspect for loose hardware. Particular attention should be given to rusting nuts and washers on 5/8” diameter weathering U-bolts.

9.10.14 **Warning Signs;** Inspect for faded, detached or missing signs. Insure signs used for helicopter patrols are present at all crossings.

10.0 References

10.1 Ground Patrol Assessments shall be followed in accordance with the Transmission Maintenance Program Policy (MNT-TRMX-00000).

10.2 Ground Patrol Assessments will be conducted at intervals identified in the Transmission Line Equipment Maintenance Schedules Procedure (MNT-TRMX-00051).

ATTACHMENT N

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Florida PSC Hurricane Preparedness Workshop
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Our hurricane restoration **operational plan** functioned well in 2004 and 2005. We continue to review it annually in an effort to make improvements. All lessons learned from past major storms and mid-level storms, annual drills, and other utility experiences have been incorporated into our written response plan and our 2014 hurricane drill.

Storm Restoration Organization

The annual storm plan review and update process for the 2014 season will be completed by June 1st.. Our system hurricane drill is scheduled for the week of April 21st. The objective will be to test employees ability to perform storm roles, exercise process and procedure and validate leadership's decision making ability.

Duke Energy Florida will complete a series of drills and exercises over the months of April and May.

In 2013, a key area of focus was to drive efficiencies into our storm processes, so that we can ensure maximum daylight hours productivity. Daylight efficiencies translate into to greater restoration productivity and a reduction in the time our customers are out of power.

We have also taken steps to ensure that critical restoration material and fuel are ready and available from multiple sources. Inventory levels of critical materials are increased over and above normal stock levels in preparation for the upcoming storm season. We have negotiated retainer contracts with fuel vendors to ensure fuel needs are met.

Following a major storm, our goal is to restore service to as many customers as quickly and safely as possible – starting with the transmission system and working through the distribution system – and resources are allocated with that objective in mind. We give first priority to facilities needed to ensure public health and safety (hospitals) as well as critical public infrastructures (water and sewer facilities). A coordinated review between Duke Energy and local municipalities are completed annually, as part of our hurricane preparation plan.

Duke Energy works simultaneously with first responders at the local level – police, fire, public works, and emergency management – to clear debris and address urgent public safety needs, such as downed power lines.

External Line and tree trimming resources are critical components of a successful restoration effort. Duke Energy has Line and Vegetation resources from 6 other states that can be engaged day 1 ahead of mutual assistance resources being secured. We have taken steps to ensure mutual assistance resources are ready and available through arrangements with contractors and relationships with other utilities through regional mutual assistance organizations like the Edison Electric Institute and the Southeastern Electric Exchange.

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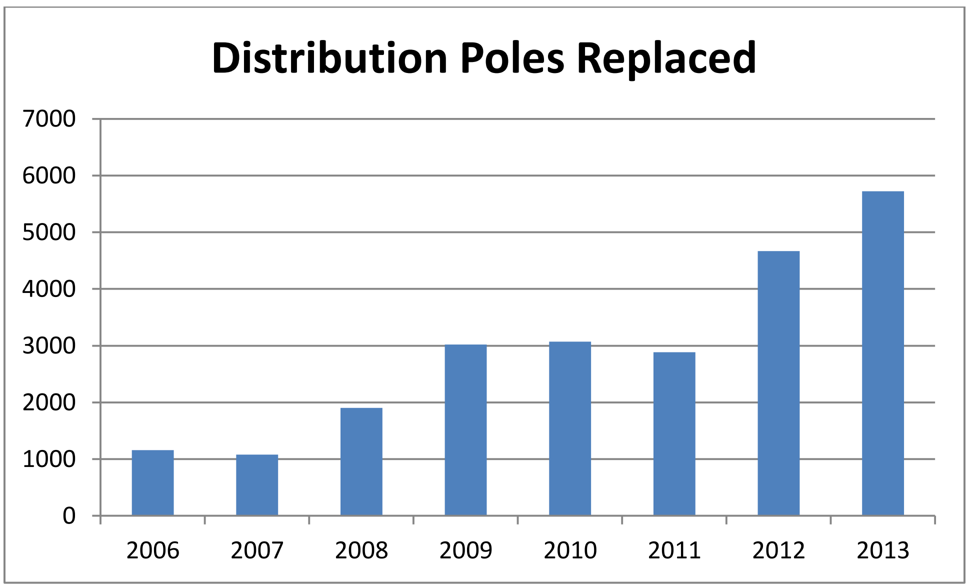
Distribution System
Distribution system inspection, maintenance, and replacement work is the cornerstone of Duke Energy's overall annual resource plan. Manpower and material needs are identified in the prior year to ensure work is prioritized, constructed efficiently, and completed on schedule.

The wood pole plant is on a firm 8 year cycle for inspections and maintenance and is in compliance with the Commission's storm preparedness initiative. Inspections are targeted and prioritized. In 2013, 97,071 distribution poles were inspected, 45,277 were treated to prevent decay, and 5,722 replaced.

DEF currently has 789,870 wood distribution poles and has replaced 23,507 since 2006.

Distribution Pole Replacement:



Other 2013 system maintenance activities included over 1,363 padmount transformer replacements, 98,089 circuit feet of hardening pilot projects.

- 23 Load Growth Improvement projects were completed in 2013.
  - Increased our total distribution substation capacity by 166 MVA.
  - The projects completed in 2013 include new substation at Deleon Springs, substation capacity increases at Bithlo, Crawfordville, Odessa and Santos; new feeders at Alderman, Holder, Lake Luntz, Orange City and Vineland plus a number of re-conductor and load balancing/switching projects on the distribution system.

- 20 Storm Hardening projects were completed in 2013
  - Represents 105,574 circuit feet of upgrades.

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- 34 Small Wire upgrade projects were completed in 2013
  - Represents 145,617 circuit feet upgraded.

- Over the next 3 years, 29 load growth projects for new substations, capacity upgrades and feeder additions have been identified for the next three years. We are actively identifying additional projects based on distribution system load studies via our annual peer review process.

Duke Energy Florida performs trimming on Distribution Feeder backbones on a three year weighted average cycle and Distribution Laterals on a five year weighted average cycle balancing this goal against overall system reliability, customer impact, and cost effectiveness. Our 2014 Vegetation Management program is on schedule to meet feeder and lateral maintenance cycle commitments.

Between April 1 and May 15 storm hardening patrols will be completed on all Distribution Feeders. All priority trimming and pruning will be completed by June 1, 2014. In addition to these programs we have completed reactive mid-cycle pruning thus far in 2014 on over 6,900 trim locations and over 825 removals thru early March.

DEF has fully implemented the Public Service Commission's 10-Point preparedness plan:

- The planned audits of joint use attachments were completed in 2009. In 2011, Duke Energy completed a full inventory of all joint use attachments. The completed inventory now details each company on every pole in the system. In 2012, DEF completed the analysis of the Joint Use Audit results from 2011. DEF notified the attaching companies of any specific violations that DEF has identified within the 3 feet of DEF's pole facilities.
- In 2011, Duke Energy successfully implemented its new work management system. The current GIS system, implemented in 2008, is used in conjunction with the new work management system. In 2012, DEF Facilities Management Data Repository (FMDR) program, we added a new interface to automatically synchronize facilities between FMDR and the GIS system.
- A formal storm hardening forensic analysis process has been developed. The process will be implemented as needed during the 2014 storm season. Post-storm forensic data collection teams are identified and in place for the upcoming 2014 storm season.
- We continue our engagement with the academic community by sponsoring work through University of Florida's Public Utility Research Center. As part of this effort, we worked with the University staff and other utilities to assimilate state-wide weather station data into the forensics process and standardize the data that is collected during the forensic patrols.

In May of 2013, Duke Energy filed our 3 year (2013 – 2015) Storm Hardening Plan

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Transmission System
Transmission system readiness begins with structure inspections and system maintenance.

In 2013,
- 225 transmissions circuit inspections were completed
- In excess of 14,064 wood pole structures were inspected
- In excess of 1,347 replaced with steel or concrete in accordance with NESC extreme wind design.

The vast majority of our transmission system is comprised of wood poles which we have been systematically replacing via maintenance upgrades, DOT relocations, and line rebuilds.

DEF currently has 28,322 wood Transmission structures.
- 700 wood pole structures are scheduled to be replaced in 2014
- Since 2006 we have replaced 13,493 wood structures with steel or concrete.

Duke Energy Transmission vegetation clearance requirements for the TVM program have been established. These clearances comply with the all NERC program vegetation clearance requirements.

Duke Energy Transmission will continue to identify critical infrastructure improvements to meet NERC and other accepted industry practices. Also, DEF now has a fully redundant backup Energy Control Center (ECC) that became operational in 2013. This critical facility has all the functionality of the main Control Center in St. Petersburg, but is located in a location that is not prone to storm surge. Although contingency plans currently exist, this redundant facility will further strengthen DEF's major storm response plan.

13 Transmission projects were completed 2013

35 Transmission Projects planned 2014 – 2016

The Duke Energy Transmission Vegetation Management

In 2013,
- 1,021 miles of right of way were cleared.
- 994 miles of herbicide application
- 1,276 "danger trees" removed
- 36,688 tree removals
- 21,903 trees trimmed

The projects for 2014 are on schedule and we plan to clear 824 miles of right of way including all work identified by aerial and ground inspections.

Transmission is on target for meeting the goals outlined in the approved storm hardening plan.

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The PSC 10-Point storm preparedness plan and Storm Hardening rule have been implemented including enhanced GIS capability, post-storm forensic data collection, PSC initiated inspection cycles, and most notably, the hardening of transmission structures continues through wood pole replacement with concrete or steel assets.

Local Government Coordination
Duke Energy Florida (DEF) remains prepared for a strong storm and has resources and materials planned to respond. In addition to our resources in Florida, we now have access to resources throughout the Duke Energy multi-state organization, providing us important extra resources to draw upon. All of Duke Energy's jurisdictions are prepared to provide assistance.

DEF provides local governments with resource and restoration information before, during and after storm events to assist their local emergency response. Our program is operational year-round with more than 50 employees assigned to local government for emergency planning and response.

As part of our annual pre-hurricane season preparation, we work with EOC staff on state-wide and county levels to identify and prioritize critical infrastructure. EOC priorities will be factored into DEF's tactical restoration plan.

By placing DEF representatives inside many County EOC's and sharing information, we are able to more easily incorporate local government restoration priorities into our overall and on-going plan.

Duke Energy Representative attended EMI training last week in Maryland comprised of 70 representatives from various governmental agencies in Citrus County. During the training several instructors expressed importance of a good working relationship with the private sector, specifically the power company. Directors for Public Works and Building Division, both directors were very interested in continuing our discussions regarding our mutual preparedness and response plans for a major event.

During storms, electronic outage maps and estimated restoration times made available on DEF's external website have proved invaluable to cities and counties. In addition, detailed outage information down to the square-mile level is developed and provided via secure websites to the EOCs in multiple formats including data that can be imported into County GIS systems. Additionally, we have increased our capacity to provide the detailed outage data to EOCs during mid-level storms. DEF EOC Reps are the single point of contact for the county EOCs working closely with the DEF Community Relations Manager, who provides overall communications and coordination with cities and counties. EOC Reps will work with EOC staff to establish priorities during storms for restoration and provide regular restoration updates.

A new Road Clearing Program has been established to provide dedicated resources to assist counties in the early stage of storm restoration with road clearing and "Make it Safe' activities. This program will improve response to county priorities, reduce customer outage time and increase productivity during daylight hours.

We manage tree placement for Distribution and Transmission through our "Know Where You Grow" outreach program.

Public Expos – As in 2012 and 2013, DEF will communicate with customers and government leaders by:

- Advertising in newspaper inserts and storm preparedness publications

- Participating in radio and television storm discussion broadcasts
- Posting website information
- Conducting its own storm education meetings and forums

In addition to our resources in Florida, we now have access to resources throughout the Duke Energy multi-state organization.

Concerns, Vulnerabilities
No system, no matter how hardened, can withstand a catastrophic hurricane without damage and extensive service interruptions.

- Multiple hurricane events have the potential to greatly dilute emergency response resources.
- Hurricanes with significant storm surge impacting our low lying coastal areas may cause large scale mandatory coastal evacuations.
- Severe (category 4, 5) hurricanes.

Polar Vortex and Winter Storms Lessons Learned
Earlier this year, Duke Energy Florida deployed to North and South Carolina to provide restoration support in response to multiple winter storms. Similar to Superstorm Sandy, our own events and drills, we performed a lessons learned review.

During the deployment several lessons were identified:

- Effective damage assessment to determine the impact to facilities is essential following a significant weather event.

- Providing GPS coordinates for restoration facilities to off-system restoration resources to enter into navigation devices, smart phones and tablets can eliminate address related confusion and reduce restoration times.

- Identifying hotels during peace time to lodge restoration resources in close proximity to both heavily impacted areas or staging sites can increase restoration reduces travel time and directly increases restoration performance.

Conclusion:
Duke Energy has earned the EEI emergency-response award 5 times (for storms within the company's service area) and the assistance award 3 times (for support of other utilities' restoration efforts, most recently Superstorm Sandy).

We believe our system will continue to perform well, especially in light of the initiatives implemented since the PSC began its ongoing storm hardening efforts.

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Duke Energy's organization and T&D systems are prepared for the 2014 hurricane season.

Updated Duke Energy storm plans, extensive communication strategies, employees trained to perform storm roles and drills/exercises over the next few months will ensure our readiness for the 2014 hurricane season.

Florida PSC 2014 Hurricane Season Preparation

Duke Energy

March 26, 2014

DUKE ENERGY®

Hurricane Preparedness

Storm Restoration Organization

- Storm Plan Continuous Improvement
- Annual Pre-Season Storm Drill
- Internal Resources
- External Resources
- Introducing ICS into Storm Organization

SAFETYFirst

▷ PERSONAL ACCOUNTABILITY
▷ ACTIVE CARING
▷ HAZARD RECOGNITION

DUKE ENERGY®

Distribution System

- Pole & Structure Inspections
- System Maintenance
- Vegetation Management
- 10-Point Ongoing Storm Preparedness Plan
- Storm Hardening Rule

Transmission System

- Pole & Structure Inspections
- System Maintenance
- Vegetation Management
- 10-Point Ongoing Storm Preparedness Plan

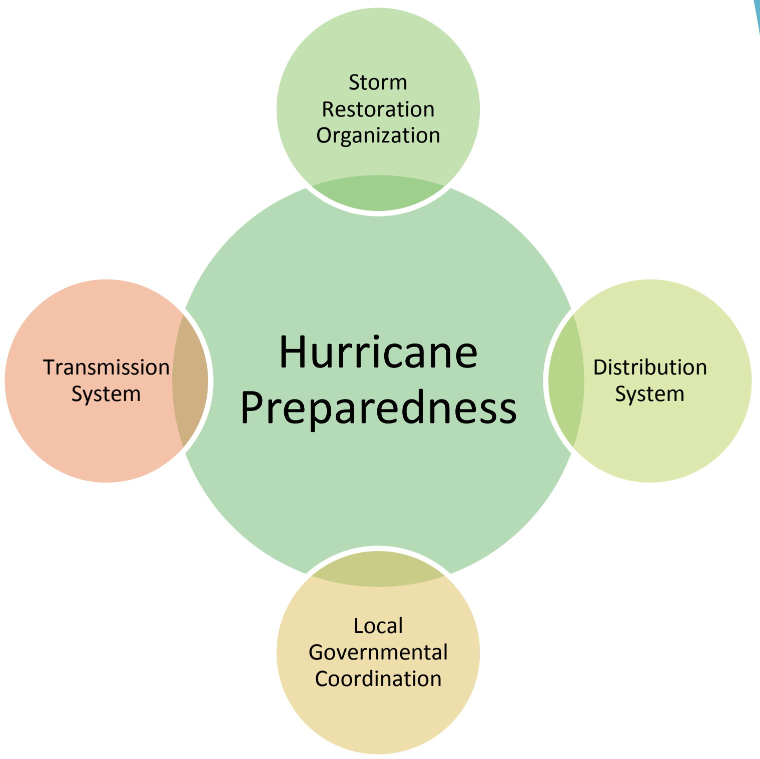
Local Governmental Coordination

- Cross Functional Coordination Team
- Structured Information Sharing Before, During and After Hurricane
- Electronic Outage Data to EOCs
- Public Communications and Outreach
- "Know Where You Grow" Tree Program

DUKE ENERGY

Hurricane Season Preparation Conclusion

- T & D Systems Maintained & Checked
- Storm Organizations prepared and Drilled
- Internal and External Resources Secured or Committed
- Response Plan Tested and Continuously Improved



ATTACHMENT O

Matthew R. Bernier
Senior Counsel
Duke Energy Florida, Inc.

February 27, 2015

<u>VIA ELECTRONIC MAIL</u>

Mr. Tom Ballinger, Director
Division of Engineering
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: *2014 Annual Wood Pole Inspection Report; Undocketed*

Dear Mr. Ballinger:

Pursuant to Order Nos. PSC-06-0144-PAA-EI and PSC-07-0918-PAA-PU, enclosed is Duke Energy Florida, Inc.'s ("DEF") Annual Wood Pole Inspection Report for CY 2014. This information is also contained in DEF's 2014 Annual Service Reliability Report dated February 27, 2015.

Thank you for your assistance in this matter. Please feel free to call me at (850) 521-1428 should you have any questions concerning this filing.

Respectfully,

<u>s/Matthew R. Bernier</u>
Matthew R. Bernier
Senior Counsel
Matthew.Bernier@duke-energy.com

MRB/mw
Enclosures

DUKE ENERGY FLORIDA'S
2014 ANNUAL WOOD POLE INSPECTION REPORT

I. In Order No. PSC-06-0144-PAA-EI, the Commission stated that on an annual basis, investor-owned electric utilities shall file wood pole inspection reports containing the following information:

- A review of the methods the company used to determine NESC compliance for strength and structural integrity of the wood poles included in the previous year's annual inspections, taking into account pole loadings, where required;
- An explanation of the inspected poles selection criteria, including, among other things, geographic location and the rationale for including each such selection criterion; and
- Summary data and results of the company's previous year's wood pole inspections, addressing the strength, structural integrity, and loading requirements of the NESC.

In compliance with Order No. PSC-06-0144-PAA-EI, Duke Energy Florida ("DEF") submits the following information for calendar year 2014:

METHODS USED

Please see Attachment A – Column J. For a more detailed explanation of the methods used, please refer to DEF's[1] Wood Pole Inspection Plan filed on April 2, 2012.

SELECTION CRITERIA

See comments on Attachment A.

SUMMARY DATA AND RESULTS

Please see Attachment A.

[1] DEF's 2012 Wood Pole Inspection Plan was filed in the name of DEF's predecessor, Progress Energy Florida, Inc. ("PEF"). All references herein to Progress Energy Florida, Inc. or PEF should be understood to refer to DEF.

II. In addition, Order No. PSC-07-0918-PAA-PU issued November 14, 2007, requires all investor-owned utilities ("IOUs") to report the following additional information in their respective annual wood pole inspection reports:

- The number of poles failing inspection and designated for replacement,
- The number of replacements made to date,
- The plan for replacement of the remaining poles that failed inspection,
- The projected number of poles to be inspected in the next annual inspection cycle, and
- The cumulative number and percentage of poles inspected in the eight-year cycle.

All of this information is included in Attachment A.

CCA POLE SAMPLING REPORT

Pursuant to Order No. PSC-08-0615-PAA-EI issued September 23, 2008, in Docket No. 080219-EI, the Commission approved deviations from the sounding and boring excavation requirements of Order No. 06-0144-PAA-EI with regard to CCA wood poles less than 16 years old. On Pages 3 and 4 of Order No. PSC-08-0615-PAA-EI, it states:

> *"ORDERED that, consistent with the deviation granted to Gulf Power Company in Order No. PSC-07-0078-PAA-EU, Progress Energy Florida, Inc. Florida Power & Light Company, and Tampa Electric Company shall be required to sound and selectively bore all CCA poles under the age of 16 years, but shall not be required to perform full excavation on these poles. It is further*
>
> *ORDERED that Progress Energy Florida, Inc., Florida Power & Light Company, and Tampa Electric Company shall also be required to perform full excavation sampling to validate their inspection method. It is further*
>
> *ORDERED that the results of the utilities' sampling shall be filed in their annual distribution reliability reports."*

2012 CCA POLE SAMPLING RESULTS

Please see Attachment B.

Duke Energy Florida (Distribution)
Annual Wood Pole Inspection Report
(Reporting Year 2014)

a	b	c	d	e	f	g	h	i	j	k	l	m
Total # of Wooden Poles in the Company Inventory	# of Pole Inspections Planned this Annual Inspection	# of Poles Inspected this Annual Inspection	# of Poles Failing Inspection this Annual Inspection	Pole Failure Rate (%) this Annual Inspection	# of Poles Designated for Replacement this Annual Inspection	Total # of Poles Replaced this Annual Inspection	# of Poles Requiring Minor Follow-up this Annual Inspection	# of Poles Overloaded this Annual Inspection	Method(s) V = Visual E = Excavation P= Prod S = Sound B= Bore	# of Pole Inspections Planned for Next Annual Inspection Cycle	Total # of Poles Inspected (Cumulative) in the 8-Year Cycle To Date	% of Poles Inspected (Cumulative) in the 8-Year Cycle To Date
763,079	96,000	26,058 c1 82,417 c 2	3,974 c 1 10,499 c 2	15.2% c 1 12.7% c 2	14,224	5597	1219 c1 2708 c2	N/A	V, E, S, B, P	96,000 c2	763,079 c1 82,855 c2	100% c1 11% c2
If b - c > 0, provide explanation												
If d - g > 0, provide explanation	Poles are prioritized for replacement with the worst priority poles replaced first. In addition, where possible poles are re-enforced to restore the pole to better than original strength.											
Description of selection criteria for inspections	Poles for inspection in 2014 were selected to complete the 1st cycle of inspections. Poles for the 2nd cycle were chosen based on geographic location.											

c1- refers to cycle 1, first 8 year inspection cycle beginning April 2006 to 2014.
c2- refers to cycle 2, the 2nd, eight year inspection cycle.

Duke Energy Florida (Transmission)
Annual Wood Pole Inspection Report
(Reporting Year 2014)

a	b	c	d	e	f	g	h	i	j	k	l	m
Total # of Wooden Poles in the Company Inventory	# of Pole Inspections Planned this Annual Inspection	# of Poles Inspected this Annual Inspection	# of Poles Failing Inspection this Annual Inspection	Pole Failure Rate (%) this Annual Inspection	# of Poles Designated for Replacement this Annual Inspection	Total # of Poles Replaced this annual Inspection	# of Poles Requiring Minor Follow-up this Annual Inspection	# of Poles Overloaded this Annual Inspection	Methods(s) V=Visual E=Excavation P= Prod S=Sound B=Bore R=Resistograph	# of Poles Inspections Planned for Next Annual Inspection Cycle	Total # of Poles Inspected (cumulative in the 8-Year Cycle to Date	% of Poles Inspected (Cumulative) in the 8-Year Cycle to Date
25,370 Wood Poles	4,891	4,891	1,567	32.04%	1,486	2,028	1,447	0	V&P=3,134 S&B= 1,757 Total= 4,891	7,500	Inspected 07 = 12,287 Inspected 08 = 10,520 Inspected 09 = 4,585 Inspected 10 = 5,375 Inspected 11=11,687 Inspected 12=13,914 Inspected 13=14,999 Insptected 14=4,891 Total = 78,258	100.00%
If b - c > 0, Provide Explaination												
If d - g > 0, provide explanation	Inspections were completed thru the year. Some poles found to be defective in 2014 were replaced in 2014 while others will be prioritized and worked into schedule for 2015.											
Description of Selection Criteria for Inspections	DEF Transmission Inspects transmission lines with wood poles on a 3 year cycle. DEF also inspects Transmission lines with Steel or Concrete Poles and Lattice Towers on a 5 year cycle. Inspection criteria is included in Document MNT-TRMX-00051 contained in DEF's Annual Service Reliability Report.											

Attachment B

Duke Energy Florida
CCA Pole Sampling Results (Less than 16 Years of Age)
(Reporting Year 2014)

a	b	c	d	e	f	g	h	i	j	k	l	m
Total # of CCA Poles Less than 16 Years of Age in the Company Inventory	Total # of Pole Inspections Planned this Annual Inspection	# of CCA Poles Less than 16 years of age Inspected this Annual Inspection	# of CCA Poles Less than 16 years of age sampled this Annual Inspection	# of CCA Poles Less than 16 Years of Age Failing Inspection this Annual Inspection	CCA Poles Less than 16 Years of Age Failure Rate (%) this Annual Inspection	# of CCA Poles Less than 16 Years of Age Designated for Replacement this Annual Inspection	Total # of Poles Replaced this Annual Inspection	# of CCA Poles Less than 16 Years of Age Requiring Minor Follow-up this Annual Inspection	# of Poles Overloaded this Annual Inspection	Method(s) V = Visual E = Excavation P= Prod S = Sound B= Bore	# of Pole Inspections Planned for Next Annual Inspection Cycle	Total # of Poles Inspected (Cumulative) in the 8-Year Cycle To Date
64,006	96,000	22,092	3173	45	.2%	45	N/A	434	N/A	V, E, S, B, P	N/A	N/A

If b - c > 0, provide explanation	
If d - g > 0, provide explanation	
Description of selection criteria for inspections	CCA poles to experience full inspection are randomly selected to represent a quantity of 1% or more of the total CCA poles less than 16 years of age in the inspection zone.

ATTACHMENT P

On A CD

ATTACHMENT Q

On A CD

ATTACHMENT R

AUTHORIZED COPY

Document title: TVM: Duke Energy's FAC-003 Vegetation Management Program Document	Document number: GDLP-MNT-TRM-00018
	Revision No.: 000
Keywords: vegetation management; transmission; North American Electric Reliability Corporation (NERC); FAC-003; imminent threat; annual work plan; outage reporting	Applies to: Transmission Vegetation Management: DEC, DEF, DEI, DEK, DEO and DEP

DUKE ENERGY.

Duke Energy's FAC-003 Vegetation Management Program Document

Duke Energy Proprietary Business Information – Not for external distribution

Table of Contents

Duke Energy Proprietary Business Information – Not for external distribution

1.0 Introduction

Duke Energy's (DE) FAC-003 Vegetation Management Program Document defines how the enterprise addresses the latest version of the North American Electric Reliability Corporation (NERC) Standard FAC-003. DE Transmission Vegetation Management (TVM) employs an Integrated Vegetation Management Program (IVMP) and a defense-in-depth strategy that combines various components to manage vegetation on the electric transmission utility right of way (ROW) and minimize encroachments from vegetation located adjacent to the ROW. Through the use of different integrated methods, the optimum results of improved reliability, increased safety, and greater access can be achieved. Maintaining ROWs, in accordance with ANSI, OSHA and other applicable safety requirements/laws as well as Duke Energy specifications, guidelines, and established procedures, prevents the risk of vegetation-related outages that could lead to Cascading.

2.0 Applicability

This FAC-003 Document applies to DE's transmission and generation lines operated at 200kV or higher and to each overhead line operated below 200kV identified as an element of an Interconnection Reliability Operating Limit (IROL) as designated under NERC Standard FAC-014 by the Planning Coordinator based upon the known Planning Horizon.

2.1 Applicable Overhead Transmission Lines (located outside the fenced area of a switchyard, station or substation and any portion of the span of the transmission line that is crossing the substation fence):

2.1.1 DE's Transmission Planning provides facility information to TVM anytime major changes are made to the System.

2.1.2 DE's Transmission Planning and the Compliance Group notifies TVM when a Planning Horizon IROL is identified and/or added to the System.

2.2 Applicable Overhead Generation Lines (that extend greater than one mile beyond the fenced area, or do not have a clear line of sight, of or between the generating station switchyard to the point of interconnection with the Transmission Owner's facility):

2.2.1 DE's Generation Operations requests TVM to maintain those lines determined to be applicable to FAC-003.

2.2.2 TVM maintains those lines in accordance with this FAC-003 VM Program Document and the applicable associated Regional Documents.

3.0 Purpose and Program Scope

3.1 Purpose

The purpose of this document is to facilitate compliance with the NERC Reliability Standard FAC-003 and to serve as a general guide for TVM personnel engaged in supervision of vegetation management activities. This document will be reviewed annually and updated as necessary if / when a revision to the Vegetation Standard occurs or circumstances warrant.

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3.2 Program Scope

The visual inspection and appropriate maintenance of transmission line ROWs comprise the FAC-003 Vegetation Management Program. Inspections are performed to monitor vegetation growth and encroachments as well as ROW contractor effectiveness. All work performed by our designated contractors, shall be performed in accordance with ANSI, OSHA and other applicable safety requirements, laws and DE guidelines (Legal and Safety Requirements). Periodic quality assessments will be made by qualified personnel to assure legal and safety requirements are being met. The Regional TVM Manager will maintain the Regional processes, procedures and documentation to ensure that vegetation impacting the transmission system is properly maintained. Vegetation Governance will maintain this FAC-003 VM Program Document as well as other associated System TVM documents.

4.0 Integrated Vegetation Management Program (IVMP)

The IVMP program encompasses environmental stewardship and utilizes various ROW management tools— mechanical, herbicide, and/or manual floor maintenance, tree removal/trimming, and danger/hazard tree cutting. Herbicide use keeps vegetation from posing a threat to the transmission lines and equipment while promoting a transmission ROW compatible ecosystem within the ROW corridor. The IVMP applies to two areas of maintenance: 1) inside ROW corridors and 2) outside ROW corridors.

4.1 Right-of-Way (ROW)

The corridor of land under a transmission line(s) needed to operate the line(s). The width of the corridor is established by engineering or construction standards as documented in either construction documents, pre-2007 vegetation maintenance records, or by the blowout standard in effect when the line was built. The ROW width in no case exceeds the applicable Transmission Owner's or applicable Generator Owner's legal rights but may be less based on the aforementioned criteria.

4.2 Vegetation Inside ROW Corridors

Inside ROW corridors, in general, DE manages vegetation in a manner so as to establish growth of species that will not exceed a height at maturity that will encroach into the Minimum Vegetation Clearance Distance (MVCD).

4.2.1 No Maintenance Areas (Leave Area)

In some ROW corridors (typically in mountainous terrain), line heights are such that matured "tall-growing" species will not threaten the operation of transmission lines, apparatus or equipment, and thus is not dangerous or detrimental to safe and reliable electric service. These sections of lines are integrated into the inspection processes.

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4.3 Vegetation Outside the ROW Corridors

Maintenance outside the ROW corridor typically encompasses the felling of danger and/or hazard trees. A danger tree is any tree outside of the ROW tall enough to endanger DE facilities. A hazard tree is a tree that is dead, dying, diseased, leaning, or damaged either on or off the right of way that endangers DE facilities. The felling of hazard or danger trees can be triggered by our inspection processes.

5.0 Vegetation Control Methods

5.1 ROW Herbicides

The preferred method of vegetation control of brush on transmission ROWs is through the use of herbicides. Where herbicides cannot be applied on a case by case basis, ROWs will be mowed or hand-cut. DE will use herbicides where it is the safe and environmentally sound option in order to eliminate undesirable woody species from the rights of way while promoting lower growing vegetation that does not create a hazard to transmission lines and apparatus.

5.2 ROW Mowing

Use of mechanical equipment – e.g., rotary mowers, Kershaw, Hydro-Ax, etc., to reclaim all of the wooded sections of the ROW, where possible, to the width as determined by the ROW definition in 4.1 above.

5.3 ROW Hand Cutting

All of the wooded sections of the ROW that cannot be reclaimed with mechanical equipment are to be hand cut to the width as determined by the ROW definition in 4.1 above.

5.4 Tree Felling/Trimming

All trees requiring felling/trimming shall be managed to prevent encroachment into the MVCD.

5.5 Side-trimming

Trees within and along the edge of the ROW will be selected for felling, and trees outside of the ROW with growth potential into the ROW will be side-trimmed at a minimum (some may require felling if side-trimming is not adequate) to meet clearance requirements. These trees or limbs, due to their height and location, have the potential to make contact with, or be in close proximity to, the conductor due to reasonably expected conductor movement (i.e. conductor blowout).

6.0 Preventing Encroachments into the Minimum Vegetation Clearance Distance (R1 & R2)

Manage vegetation to prevent encroachment into the MVCD for applicable lines that are (R1) or are not (R2) an element of an IROL.

6.1 DE maintains a list of applicable lines subject to R1 and R2. If lines are elements of an IROL, the lines/circuits are noted as to R1 or R2 applicability in that list. If no lines are an element of an IROL, Transmission Planning personnel will provide a letter of attestation, and all FAC-003 applicable lines/circuits will be subject to Requirement 2.

6.2 DE conducts an annual vegetation inspection of its applicable lines. Real-time, observed encroachments into the MVCD during the inspection are reported to the TVM Specialist or Regional TVM Manager. Appropriate information reported by the Inspector is documented and reported to the TVM Specialist or Regional TVM Manager who in turn, reports to the applicable Transmission Energy Control Center and Regulatory Compliance.

6.2.1 The documentation of Type 1 encroachments will be maintained for compliance purposes.

6.2.2 A letter of attestation will be provided if no real time observations of MVCD encroachments absent a sustained outage (Type 1) occur during an audit period.

6.3 DE maintains records of sustained outages from all causes including those applicable to FAC-003 for R1 and R2 (fall-ins from inside the ROW, blowing together of lines and vegetation inside the ROW, and vegetation growth into the MVCD). DE attests that these records are an accurate classification of all FAC-003 sanctioned outages.

6.4 MVCD Definition and Table 2

MVCD is the calculated minimum distance stated in feet to prevent flashover between conductors and vegetation for various altitudes and operating voltages. The MVCD will be maintained under all rated electrical operating conditions. The following is Table 2 from FAC 003-Minimum Vegetation Clearance Distances (MVCD) for Alternating Current Voltages (feet).

6.4

FAC-003 — TABLE 2 — Minimum Vegetation Clearance Distances (MVCD)[7] For Alternating Current Voltages (feet)

(AC) Nominal System Voltage (KV)	(AC) Maximum System Voltage (kV)[8]	MVCD (feet) Over sea level up to 500 ft	MVCD (feet) Over 500 ft up to 1000 ft	MVCD feet Over 1000 ft up to 2000 ft	MVCD feet Over 2000 ft up to 3000 ft	MVCD feet Over 3000 ft up to 4000 ft	MVCD feet Over 4000 ft up to 5000 ft	MVCD feet Over 5000 ft up to 6000 ft	MVCD feet Over 6000 ft up to 7000 ft	MVCD feet Over 7000 ft up to 8000 ft	MVCD feet Over 8000 ft up to 9000 ft	MVCD feet Over 9000 ft up to 10000 ft	MVCD feet Over 10000 ft up to 11000 ft
765	800	8.2ft	8.33ft	8.61ft	8.89ft	9.17ft	9.45ft	9.73ft	10.01ft	10.29ft	10.57ft	10.85ft	11.13ft
500	550	5.15ft	5.25ft	5.45ft	5.66ft	5.86ft	6.07ft	6.28ft	6.49ft	6.7ft	6.92ft	7.13ft	7.35ft
345	362	3.19ft	3.26ft	3.39ft	3.53ft	3.67ft	3.82ft	3.97ft	4.12ft	4.27ft	4.43ft	4.58ft	4.74ft
287	302	3.88ft	3.96ft	4.12ft	4.29ft	4.45ft	4.62ft	4.79ft	4.97ft	5.14ft	5.32ft	5.50ft	5.68ft
230	242	3.03ft	3.09ft	3.22ft	3.36ft	3.49ft	3.63ft	3.78ft	3.92ft	4.07ft	4.22ft	4.37ft	4.53ft
161*	169	2.05ft	2.09ft	2.19ft	2.28ft	2.38ft	2.48ft	2.58ft	2.69ft	2.8ft	2.91ft	3.03ft	3.14ft
138*	145	1.74ft	1.78ft	1.86ft	1.94ft	2.03ft	2.12ft	2.21ft	2.3ft	2.4ft	2.49ft	2.59ft	2.7ft
115*	121	1.44ft	1.47ft	1.54ft	1.61ft	1.68ft	1.75ft	1.83ft	1.91ft	1.99ft	2.07ft	2.16ft	2.25ft
88*	100	1.18ft	1.21ft	1.26ft	1.32ft	1.38ft	1.44ft	1.5ft	1.57ft	1.64ft	1.71ft	1.78ft	1.86ft
69*	72	0.84ft	0.86ft	0.90ft	0.94ft	0.99ft	1.03ft	1.08ft	1.13ft	1.18ft	1.23ft	1.28ft	1.34ft

* Such lines are applicable to this standard only if PC has determined such per FAC-014 (refer to the Applicability Section above)

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7.0 Documented Maintenance Strategies (R3)

DE has documented maintenance strategies and procedures to prevent vegetation encroachment into the MVCD of its applicable lines. Strategies and procedures account for the movement of applicable line conductors under their rating and all rated electrical conditions while considering the interrelationships between vegetation growth rates, control methods, and previous maintenance activities.

The following clearance considerations ensure that vegetation encroachment into the MVCD do not occur.

7.1 Floor Growth (vertical)

The following criteria for vertical clearances is to be considered in the planning and execution of all TVM work:

7.1.1 The maximum operating sag of the conductor is to be used as the reference point for TVM work for vegetation clearances.

7.1.1.1 If the actual maximum sag ground clearances are not known, the line design ground clearance for the specific voltage is to be used.
7.1.1.2 The appropriate MVCD vegetation to conductor clearance in Table 2 of this document.
7.1.1.3 Any other site specific factors, including but not limited to indigenous vegetation, easement/permit.

7.2 Side Growth (horizontal)

To ensure side growth and conductor movement impacts are limited, the TVM program will ensure vegetation side growth clearance based on the following criteria:

7.2.1 The TVM Program, to address side growth, will be based on reasonable conductor movement (i.e. conductor blowout) with 4.1 psf wind loading or less which is equivalent to approximately 40 mph winds (i.e., sub-tropical storm winds or fresh gale winds) and in no case is greater than the following:

7.2.1.1 The applicable NESC design criteria for conductor blowout used for the line
7.2.1.2 The edge of the defined Right of Way
7.2.1.3 For cases where side growth cannot be managed to meet the above criteria, corrective action measures to achieve sufficient clearances will be developed.

7.3 Each Region maintains records of vegetation control methods and inspections as well as a record of the annual work plan as executed including changes.

8.0 Imminent Threat Communications (R4)

Notify, without intentional time delay, the control center holding switching authority for the associated applicable line once a confirmed vegetation condition exists that is likely to cause a Fault at any moment in accordance with TVM Program Imminent Threat Communication practices and procedures.

8.1 During the course of TVM work and inspections, any vegetation situation or condition that is observed and deemed to present an imminent threat to the Transmission System shall be reported without intentional time delay. Once vegetation is confirmed to be an actual viable imminent threat to the transmission system, DE (TVM) personnel or Field Line/Substation Operations (after consultation with TVM personnel), notify the control center, without intentional time delay.

8.2 Other DE employees, or contractors, may contact Field Operations or TVM Personnel with potential imminent threats prior to confirmation by TVM Personnel. Once the threat is confirmed, without intentional delay, the threat shall be addressed.

8.3 TVM completes and retains documentation for Imminent Threat notification to the applicable control center and actions taken.

9.0 Corrective Action Plan (Mitigation) (R5)

When constrained from performing vegetation work on an applicable line that may lead to a vegetation encroachment into the MVCD prior to implementation of the next Annual Work Plan, corrective action shall be taken to ensure continued vegetation management to prevent encroachments.

9.1 In situations where DE cannot exercise its legal rights or is prevented from performing work that may lead to encroachment prior to the next scheduled maintenance on that circuit, contractors will contact their designated VM Specialist. The VM Specialist will then take the appropriate actions to resolve the issue or implement any corrective action.

9.2 If the hazard is considered an imminent threat, the VM Specialist will initiate the Imminent Threat Process.

9.3 In cases where DE cannot obtain clearance distances due to limited legal rights, the VM Specialist will develop a documented corrective action plan.

10.0 Inspections (R6)

Perform an inspection of 100% of applicable transmission lines at least once per calendar year and with no more than 18 calendar months between inspections on the same ROW to ensure no encroachments occur into the MVCD.

10.1 All transmission circuits (100%) subject to FAC-003 shall be completely inspected at least once a year. The inspection interval should not exceed eighteen months from the last inspection.

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10.2 The timing and number of inspections is flexible and may adjusted based on changing conditions.

10.3 DE tracks and maintains inspection documentation as evidence that 100% of its inspections are completed.

11.0 Annual Work Plan (R7)

DE will complete 100% of its annual work plan of applicable lines to ensure no vegetation encroachments occur within the MVCD. Modifications to the work plan in response to changing conditions or to findings from vegetation inspections may be made (provided they do allow for encroachment of vegetation into the MVCD) and must be documented.

11.1 An annual work plan will be maintained for each area. The plan will be developed using previous work completion dates, inspection data, existing vegetation conditions, and based on anticipated growth rates. Components in the annual work plan may include but are not limited to inspection, herbicide, and maintenance activities.

11.2 DE tracks and maintains its annual work plan documentation by circuit, corridor or other unit of measure as evidence that 100% of the work is completed. Changes to the annual plan shall be documented.

12.0 Transmission Vegetation Outage Reporting

On a periodic basis, as defined by the Region Reliability Organization, DE will report any outage that meets the criteria defined in FAC-003.

A Sustained Outage is to be categorized as one of the following:

o Category 1A — Grow-ins: Sustained Outages caused by vegetation growing into applicable lines, that are identified as an element of an
IROL or Major WECC Transfer Path, by vegetation inside and/or outside of the ROW;

o Category 1B — Grow-ins: Sustained Outages caused by vegetation growing into applicable lines, but are not identified as an element of an IROL or Major WECC Transfer Path, by vegetation inside and/or outside of the ROW;

o Category 2A— Fall-ins: Sustained Outages caused by vegetation falling into applicable lines that are identified as an element of an IROL or Major WECC Transfer Path, from within the ROW;

o Category 2B— Fall-ins: Sustained Outages caused by vegetation falling into applicable lines, but are not identified as an element of an IROL or Major WECC Transfer Path, from within the ROW;

o Category 3 — Fall-ins: Sustained Outages caused by vegetation falling into applicable lines from outside the ROW;

o Category 4A— Blowing together: Sustained Outages caused by vegetation and applicable lines that are identified as an element of an IROL or Major WECC Transfer Path, blowing together from within the ROW.

o Category 4B— Blowing together: Sustained Outages caused by vegetation and applicable lines, but are not identified as an element of an IROL or Major WECC Transfer Path, blowing together from within the ROW.

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13.0 FAC-003 Vegetation Management Program Document Revision Tracker

Date	Description of Change	Revision by:
06/02/2014	Approval of FAC-003 VM Program Document, REV 0 effective July 1, 2014.	Cathy Hope, Ron Adams, and Jeff Racey
09/14/2014	REV 0 entered into Document Control	Cathy Hope, Ron Adams, and Jeff Racey
01/14/2015	REV 1 Clarifications and changes: 1.0 Introduction 6.2.1 Type 1 Encroachment Documentation 6.2.2 Attestation in Absence of Type 1 Encroachments 7.1 Floor Growth 7.1.1 Maximum Operating Sag 7.2 Side Growth 7.2.1 Conductor Movement/Blowout 8.0 Referenced Imminent Threat Procedure Document 8.2 Confirmation of Potential Imminent Threat 9.3 Documented Corrective Action Plan	Cathy Hope, Ron Adams, and Jeff Racey

The following members of the DE Vegetation Management Team have reviewed and approved this FAC-003 Vegetation Management Program Document:

Catherine Hope – Director, Transmission Vegetation Management

Catherine Hope Date Approved: January 14, 2015

Ron A. Adams – Director, Vegetation Management Governance

Ron A. Adams Date Approved: January 14, 2015

Jeffrey H. Racey - System Transmission Forester, Vegetation Management Governance

Jeffrey H. Racey Date Approved: January 14, 2015

Document title:	Document number:
TVM: FAC-003 Transmission Vegetation Management Regional Program Document - DEF	GDLP-MNT-TRM-00013
	Revision No.: 000
Keywords: transmission vegetation management; herbicide; maintenance; transmission – maintenance - line	Applies to: Transmission Vegetation Management – DEF

1.0 Introduction

Duke Energy Florida (DEF) Transmission Vegetation Programs are governed by GDLP-MNT-TRM-00018 (TVM: Duke Energy's FAC-003 Vegetation Management Program Document). This region specific document is intended to document the regional differences or variations specific to the region(s).

2.0 Preventing Encroachments into the Minimum Vegetation Clearance Distance (R1 & R2)

As per Section 6.0 in GDLP-MNT-TRM-00018 (TVM: Duke Energy's FAC-003 Vegetation Management Program Document), DEF manages vegetation to prevent encroachment into the MVCD for applicable lines that are or are not an element of an IROL with the following region specific variations.

2.1 DEF maintains records of sustained outages from all causes including those applicable to FAC-003 for R1 and R2 (fall-ins from inside the ROW, blowing together of lines and vegetation inside the ROW, and vegetation growth into the MVCD).

2.1.1 The outage record documentation of Type 2-4 encroachments will be maintained for compliance purposes.

2.1.2 A letter of attestation will be provided if no MVCD encroachments (Type 2-4) occur during an audit period.

2.1.3 DEF Vegetation Management personnel are involved in the investigation and documentation of vegetation-related sustained outages to ensure accurate classification of all vegetation-related outages on FAC-003 applicable lines.

3.0 Inspections (R6)

As per Section 10.0 in TVM: Duke Energy's FAC-003 Vegetation Management Program Document, GDLP-MNT-TRM-00018, DEF performs an inspection of 100% of applicable transmission lines subject to FAC-003 at least once per calendar year.

The general guidelines for TVM Aerial Patrol Inspections, reactive work completion and frequencies that impact Right of Way are defined in procedure GDLP-MNT-TRM-00019 (TVM Program: Aerial Patrol Inspection Guidelines).

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When multiple aerial patrols are planned for a calendar year, they will be scheduled across the growing season to ensure that growth issues are detected.

4.0 Annual Work Plan Completion (R7)

DEF completes 100% of the annual work plan for FAC-003 applicable lines to ensure no vegetation encroachments occur within the MVCD on applicable lines, in accordance with Duke Energy general and technical specifications.

Modifications to the annual work plan in response to changing conditions or to findings from vegetation inspections may be made when necessary, provided that those changes do not allow encroachment of vegetation into the MVCD. Any changes to the annual work plan are documented in the annual work plan tracking tool (e.g., spreadsheets, work management software, etc.).

DEF Transmission Vegetation Management contractors' complete timesheets and production data sheets for all assigned work. The Vegetation Management Specialist reviews contractor production documentation/invoicing and uses observations from field/site visits and/or patrols to validate completion of work. When completed work has been confirmed, the Vegetation Management Specialist updates the annual work plan tracking tool (e.g., spreadsheets, work management software, etc.) and documents the completed status on a VM Line/Task Completion Form.

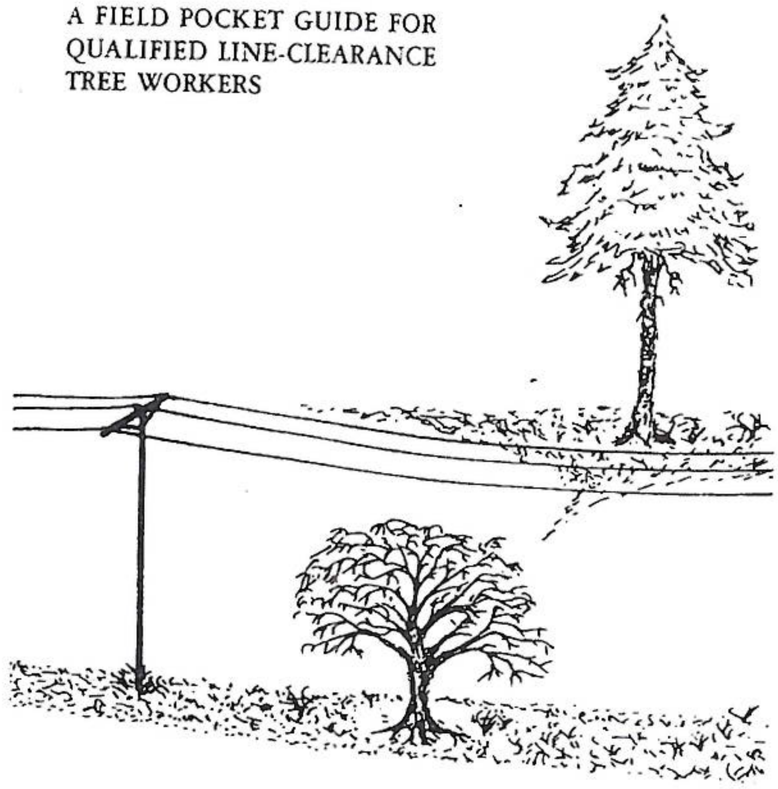
DEF maintains and tracks annual work plan documentation in a spreadsheet or work management system by circuit mileages as evidence that 100% of the work is completed.

The Area Foresters document completion of planned work for each circuit using a VM Line/Task Completion documentation process.

ATTACHMENT S

PRUNING TREES
NEAR ELECTRIC UTILITY LINES

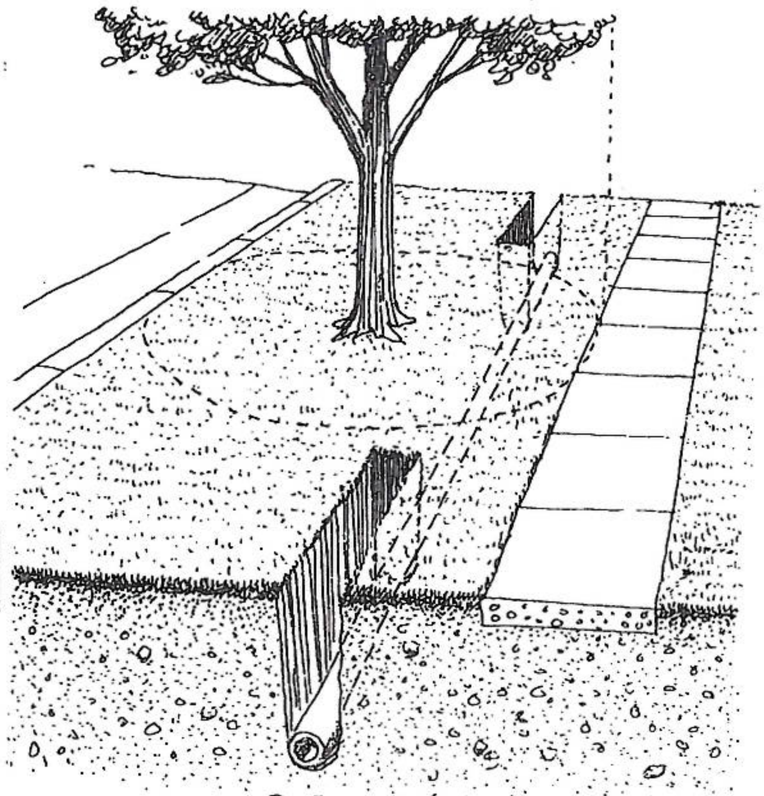
A FIELD POCKET GUIDE FOR
QUALIFIED LINE-CLEARANCE
TREE WORKERS



DR. ALEX L. SHIGO

Trenching & Tunneling Near Trees

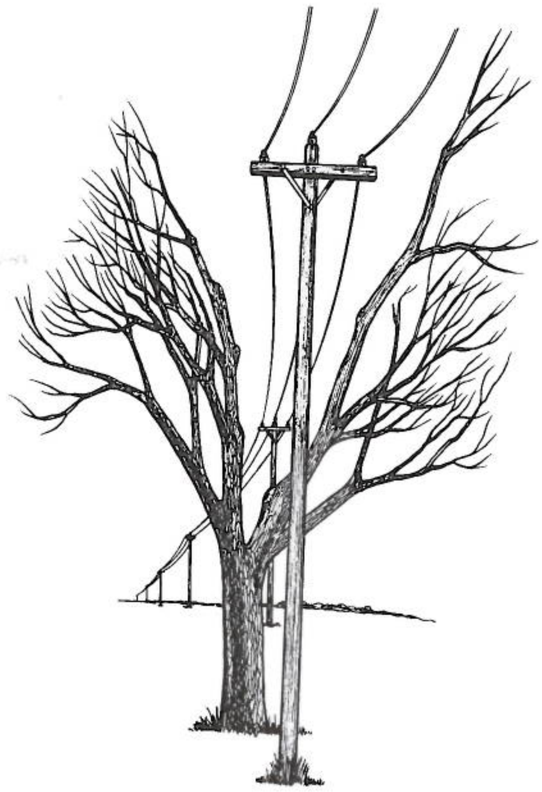
A Field Pocket Guide For Qualified Utility Workers



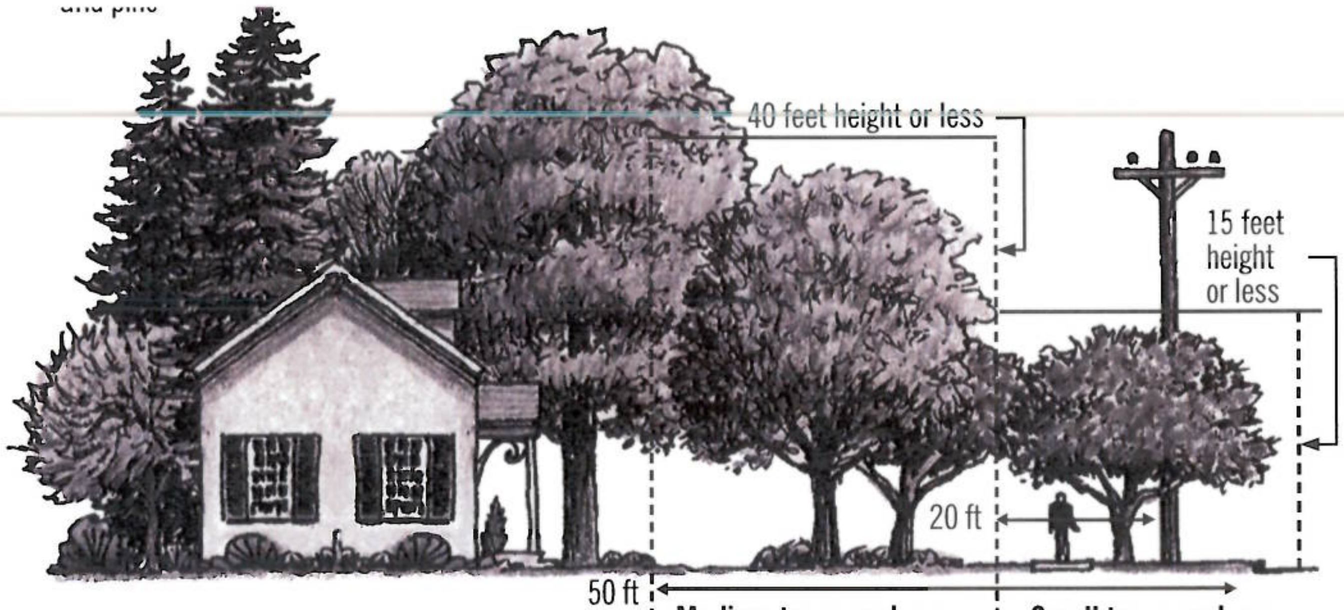
Dr. James R. Fazio

Utility Pruning of Trees

Best Management Practices



CAUTION: Do not attempt to prune or remove trees in contact or near electric lines unless OSHA line clearance certified. Contact your local electric utility before pruning near overhead electric wires.



Medium trees such as: Washington hawthorn, goldenraintree and redbud

Small trees such as: star magnolia, serviceberry, Japanese maple and Kousa dogwood

Arbor Day Foundation™
arborday.org

Selecting a Tree

Proper spacing is important to the growth and health of trees. A good rule of thumb is trees should be planted no closer together than the height they will become at maturity. The following trees thrive in the Carolinas:

Small Trees (trees that can be easily maintained below 15 feet):

- crepe myrtles (certain varieties)
- flowering crabapples (certain varieties)
- Kousa dogwood
- Japanese maple
- fringetree
- common smoketree
- amur maple
- dwarf amur maple
- dwarf red buckeye
- star magnolia
- serviceberry

Medium Trees (grow 15 to 40 feet and should be planted 20 to 50 feet from power lines):

- Yoshino flowering cherry
- aristocrat callery pear
- trident maple
- little leaf linden
- American hornbeam
- Washington hawthorn
- flowering dogwood
- wax myrtle
- saucer magnolia
- redbud

Large Trees (grow over 40 feet and should be planted at least 50 feet from power lines):

- willow oak
- white oak
- red maple
- ginko
- red oak
- sugar maple
- southern magnolia

Call Before You Dig

When digging in your yard, be careful where you dig. If you have underground electrical service, you could hit an underground power line and be seriously or fatally injured.

Always call an underground line locating service before you dig. There is no charge for the service, and the call is toll-free.

- **North Carolina:** Call the N.C. One Call Center at 800-632-4949. Please call at least 48 hours prior to digging.
- **South Carolina:** Call the Palmetto Utility Protection Service (PUPS) at 888-721-7877. Please give PUPS at least 72 hours notice.

Each of these services will mark any underground lines on your property.

DUKE ENERGY®

The Kindest Cut of All

TREE MAINTENANCE PROGRAM FOR DISTRIBUTION POWER LINES

Stock Code 465104 (05/13)

Delivering Power to Millions Daily

Duke Energy provides safe, reliable electricity by maintaining high standards for the power lines serving your home or business. These standards include constantly inspecting and clearing electrical lines through a scheduled tree pruning and right-of-way management program. Each day, we deliver safe, dependable electricity to more than 2 million Carolinians. We contract professional tree crews to provide healthy pruning for the trees along more than 50,000 miles of overhead power lines.

To help ensure uninterrupted service, trees already growing close to power lines must be pruned or taken down. When trees grow near or into overhead power lines, they become a source of danger. The high winds of a sudden summer thunderstorm or a winter ice storm can send limbs crashing to the ground, bringing power lines with them. And even mild breezes can cause limbs to brush power lines and possibly disrupt electric service to an entire neighborhood. Trees planted outside the right of way often require little or no pruning. Typical distribution power line rights-of-way are 30 to 50 feet in width.

Duke Energy's pruning techniques were developed by national experts in tree care and tree health maintenance. These techniques are in accordance with the guidelines outlined in the American National Standards Institute (ANSI) A300 Pruning Standards document.

Duke Energy's Pruning Philosophy

Trees and plants with shorter heights at maturity can be planted under neighborhood power lines and may never need pruning. However, tall or spreading trees, when planted under or near power lines, inevitably will require pruning or taking down.

It is a matter of safety and reliability. When our professional tree crews prune trees near power lines, they follow these guidelines:

- Use a combination of natural and directional pruning to minimize potential damage to trees.
- Prune enough to ensure reliable electric service to the customer for several years.
- Make an effort to contact customers prior to taking down a neighborhood tree, except during emergencies.
- Cut the wood and leave it on the customer's property.

By using these guidelines, tree crews are able to make decisions about pruning a particular tree based on its:

- natural shape
- average annual growth rate
- approximate height at maturity.

These factors help determine the most suitable pruning required to achieve proper line clearance and the accelerated rate of re-growth caused by pruning.

Making a Healthy Cut

Natural pruning refers to the removal of limbs from the trunk or parent limb without damaging the trunk or leaving a protruding stub. Most pruning jobs incorporate one or more of these three types: height reduction pruning, side pruning or directional pruning.

Whenever a tree's height is reduced, the upper crown of the tree is cut back to provide proper clearance. Height reduction is most often required when a tree is growing directly under a power line. Sometimes a crown is reduced through a technique known as a "v-cut." Regardless of the type of pruning, the objective of the pruning crews is to leave as much foliage and limbs on the tree while obtaining the proper, safe and reliable clearances.

Side pruning involves removing side limbs near power lines. Limbs overhanging power lines also are removed. A tree limb properly pruned will form a "doughnut" at the point of the cut about a year after the pruning. A "doughnut" is a callus formation of wood that develops around proper tree cuts and will eventually grow over the entire surface where the limb was removed.

Directional pruning means cutting to lateral limbs that are growing away from power lines.

If you have questions about your trees or Duke Energy's Tree Maintenance Program, call our 24-hour Customer Contact Center at 800-777-9898 where our representatives are available to assist you, or visit our Web site at *www.duke-energy.com.*

Compatible planting of crepe myrtles beneath the power lines

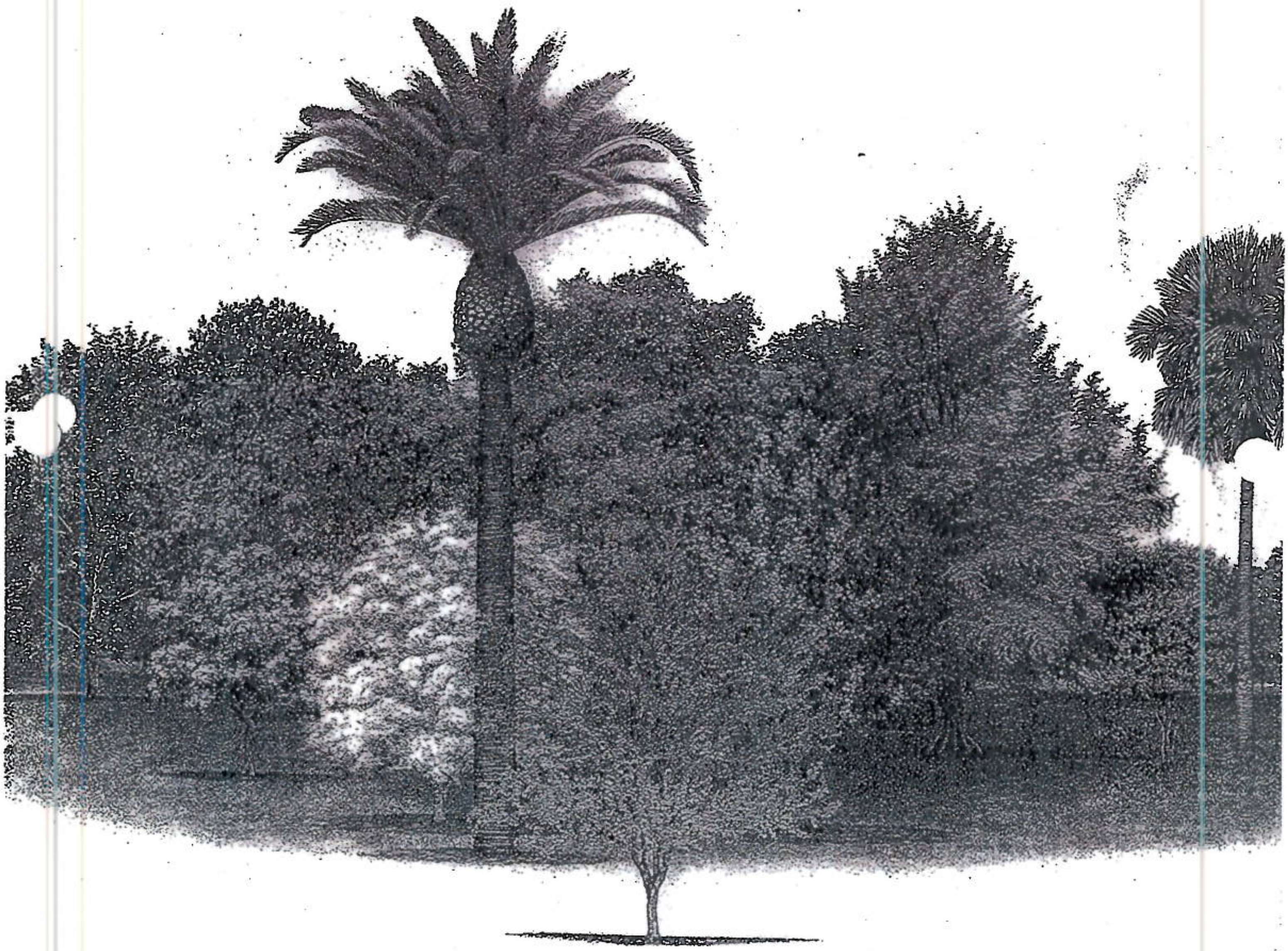
Plan Before You Plant

Customers need to plan carefully when planting near power lines. Homeowners should avoid planting a row of trees that will mature to a large size along a property line. Property lines also are frequently the area where power lines are placed, which means years later when the trees mature, they have to be pruned to ensure safe, reliable electric service. Planning ahead of time is important:

- A common species that many landscaping experts recommend for screening is wax myrtles because they do not grow tall enough to interfere with power lines and make a good choice for landscaping near power lines.
- Tall-growing trees should be planted at least 40 feet from power lines.
- Choose shrubs or low-growing trees if you plant in the vicinity of a power line.
- If you're uncertain about how large a tree will be at maturity, consult a landscaping expert.

RIGHT TREE / RIGHT PLACE

SELECTING & PLANTING Trees for the Central Florida URBAN FOREST



Florida Urban Forestry Council

Document title: Duke Energy Florida (DEF) Distribution Technical Specifications	Document number: MNT-DEOX-00002
	Revision No.: 0
Keywords: Distribution; vegetation maintenance; vegetation management; contract	Applies to: Distribution Vegetation Management – Duke Energy Florida

Duke Energy Florida (DEF) Distribution Technical Specifications

Applicable to all Vegetation Management Activity, Including Time and Equipment and Planned Vegetation Maintenance

2015 to 2017

Duke Energy Vegetation Management Services

DUKE ENERGY®

Rev: 07-30-14

Suppliers who participate in this Duke Energy RFP Event must keep all information provided by Duke Energy confidential in accordance with signed 2009 Mutual Confidentiality Agreement. All information provided by Duke Energy, whether written, oral, observed, or in electronic form, should be considered confidential. This includes all bidding information submitted and witnessed in the online marketplace.

Any supplier who does not honor these confidentiality provisions may be excluded from participating in any Duke Energy supply opportunities as well as be liable for other remedies provided Duke Energy by law. In addition, if a supplier observes practices that are unethical or counterproductive to the fair operation of the online marketplace, they should notify Duke Energy immediately. Unless directed otherwise by Duke Energy, all RFP documentation, including all copies thereof in whatsoever form or medium, should be destroyed at the conclusion of this bidding process.

Table of Contents

1 Definitions

Note: This is a comprehensive list of definitions for all areas. Some definitions may not apply to all areas.

Area: The Duke Energy Vegetation Management Specialist area of responsibility.

Base Location or Designated Starting Point: Location where Contractor production equipment is assembled as a complete work unit at a designated starting point as mutually agreed with the Owner.

Brush: A perennial woody stem that is less than or equal to 6 in, in diameter, measured at breast height (DBH).

Circuit Miles (for reference and reporting purposes): The distance, in miles, of primary voltage electric lines from the substation to the end of the circuit, including single phase, two-phase and three-phase configurations. The distance is measured to the nearest one-tenth of a mile.

Circuit Miles (for scope of work purposes): All lines miles of the circuit, including primary, secondary and service conductors that may or may not be shown on the circuit maps. Conductors that are represented as secondary or service wires are not considered additional miles.

Close Overhang: Overhang that is within the 10 ft space above the primary conductors and extends at least 5 ft past the vertical plane formed by the primary conductor on single-phase lines and the outside primary conductors on three-phase lines.

Customer: A person, household, business or other entity that receives electric service from the Owner. Customers may or may not also be property owners.

Danger Tree: Any tree inside or outside of the right-of-way that is tall enough to strike electrical lines or distribution system equipment.

DBH: Abbreviation for diameter at breast height; tree diameter measured outside bark, typically at 4.5 ft.

Duke Energy Carolinas: The Duke Energy operating company in North Carolina and South Carolina known as Duke Energy Carolinas (abbreviated as DEC). Duke Energy Carolinas is sometimes referred to as Carolinas West.

Duke Energy Florida: The Duke Energy operating company in Florida (abbreviated as DEF).

Duke Energy Mid-West: The Duke Energy operating companies in Indiana, Ohio and Kentucky, collectively referred to as DEM.

Duke Energy Progress: The Duke Energy operating company in North Carolina and South Carolina known as Duke Energy Progress (abbreviated as DEP). Duke Energy Progress is sometimes referred to as Carolinas East.

Hazard tree: A tree that is dead, structurally unsound, dying, diseased, leaning or damaged, whether on or off the right-of-way, and that could strike electrical lines or distribution system equipment if it falls or is cut.

Hinge Point: The point at which a hinged limb could break and fall clear of the conductor.

Maintained Area: An area where cut brush cannot be left on-site. Maintained areas are considered improved areas. Examples of maintained areas include but are not limited to yards, landscaped areas, pastures, agricultural crops, fields and nurseries.

Multi-Stem Tree: A tree that has multiple trunks that are supported by a common root system. All stems of a multi-stem tree make up one tree for billing and record keeping purposes.

Non-Maintained Area: Any area where cut brush can be left on-site. Non-maintained areas are considered unimproved areas. Examples of non-maintained areas include but are not limited to rural areas, wood lots and natural areas.

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Open Wire Secondary (OWS): A distribution line configuration that uses three or four uninsulated conductors stacked vertically with 12-in. spacing between conductors and that is used to deliver secondary voltages ranging from 120 to 600V to customers.

Owner: Representative of Duke Energy. The Owner should be, but is not limited to, the Vegetation Management Specialists, Division Vegetation Management Specialists or Contract Representative.

Overbuild: A type of electric power line construction; refers specifically to conductors and equipment that are built over primary distribution lines (usually transmission voltage power lines).

Primary Conductor: An electric conductor energized at more than 600V electricity.

Property Owner: Person or entity that retains legal ownership of land.

Reactive Work: Work that is unplanned or any work that is not considered planned maintenance work. Examples of reactive work include (but are not limited to) emergency work and work that results from ground and aerial patrols and property owner requests.

Region: Duke Energy Carolinas, Duke Energy Florida, Duke Energy Progress and Duke Energy Midwest.

ROW: Abbreviation for right-of-way.

Secondary Conductor: An electric conductor energized at 600V electricity or less.

Service Triplex or Multiplex Line: Electric conductors energized at 600V electricity or less and that terminate at a service delivery point. Triplex and multiplex lines are bundles of three or four conductors that are commonly used to provide aerial service to homes and businesses and have three or four polyethylene-coated conductors wrapped around a bare, aluminum conductor.

Sharpened Stub: The remaining portion of a tree left in place after being topped with a mechanical trimmer.

Single-Phase Primary: A type of electric power line construction that contains one conductor energized at primary voltage.

Span: A unit of primary conductor line between two poles.

Three-Phase Primary: A type of electric power line construction that contains three conductors energized at primary voltage.

Tree: A perennial woody stem that is more than 6 in. in diameter, measured at breast height (DBH).

Two-Phase or Open Wye: A type of electric power line construction that contains two conductors energized at primary voltage.

Unit-Mile: A mile within a circuit that must be or has been trimmed according to Contract specifications.

Work Plan (Annual Work Plan): Work that is identified to be performed during a particular year.

2 DEF Maintenance Specifications

2.1 General

2.1.1 All work must be performed in conformance to requirements of the Owner, the Occupational Safety and Health Administration (OSHA) and the American National Standards Institute (ANSI) A300 and Z133, as well as other federal, state, county and local ordinances that may apply.

2.2 Annual Work Plan

2.2.1 Work identified to be managed for the year may be selected based on circuits using a cycle-based approach in conjunction with a reliability-based prioritization model. Actual circuits to be worked shall be provided to the Contractor by the Owner.

2.3 Reactive, Revenue and Maintenance Resource Planning

2.3.1 The Contractor shall provide a qualified workforce of sufficient size and type to support all assigned tasks, including but not limited to minor storm, reactive, revenue and maintenance tree work. The Contractor shall also be responsible for managing all work associated with the work types. If there is insufficient work of a given type to support a crew, the Contractor shall work with the Owner to use crews in the most efficient manner on other work types.

2.3.2 If the Owner determines that the Contractor is in jeopardy of not meeting maintenance, reactive or revenue work plan goals, the Owner will notify the Contractor in writing and instruct the Contractor to add resources. The Owner will offer the Contractor the opportunity to address the concerns and the Contractor shall be required to provide the Owner with a written plan to address the concerns. If the Contractor does not satisfactorily address the concerns within a mutually agreed period, the Owner may offer the work to other Contractors. The Contractor shall be responsible for any additional costs or premiums the Owner incurs due to hiring another Contractor to complete the work in the timeframe necessary to meet Owner expectations.

2.4 Business Plan

2.4.1 At the beginning of each year, if requested by the Owner, the Contractor will be required to provide a business plan that includes at least the number, size and types of crews to be used to perform maintenance work for the year.

2.4.2 Maintenance work will include all necessary work on overhead primary, open wire secondary and guy wires, as well as insulated secondary, including street light circuits. The Owners expectations for clearances are defined in this document.

2.5 Contractor Work Scope Tracking

2.5.1 The Contractor shall be responsible for tracking all costs, customer/property owner notification documentation and work scope progress for maintenance, reactive, revenue, mowing, herbicide and other types of vegetation work. If requested by the Owner, Contractor management shall be required to meet with the Owner as needed to formally present this information.

2.5.2 Contractor presentation material shall include (but not be limited to) information by region and area, unless otherwise specified by the Owner. Data will include (but not be limited to) maintenance or herbicide miles in the work scope assigned, completed and

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remaining; units worked; average cost per mile; percentages for revenue, reactive and maintenance work; and safety status.

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3 Process Specifications

3.1 Proactive Customer Notification

3.1.1 The Contractor shall install a door hanger on the customer/property owner premise or use other Owner-approved method of notice in advance of performing any maintenance work on the customer/property owner's property. The notification process is to be carried out by the Contractor's General Foreperson or designee so that routine maintenance is not negatively affected. The Contractor shall install door hangers a minimum of 3 calendar days, but not more than 14 calendar days, prior to commencement of the work (or according to other advance notice requirements approved by the Owner). Reactive crews are exempt from leaving door hangers unless they cannot make contact with the customer/property owner prior to completing the work. In such cases, the Contractor shall leave a door hanger letting the customer/property owner know that the Owner was on site performing work. Maintenance work or other planned vegetation work shall follow Owner-approved documentation procedures. Customer notification logs shall be maintained by the Contractor as specified by Owner and shall be available at the Owner's request.

3.1.2 Removal of trees in maintained areas above 6 in. DBH shall require the Contractor to obtain customer/property owner consent before work takes place. The need for signed permissions for tree and/or brush removal(s) is at the Contractor's discretion. The Owner strongly recommends signed permissions for maintained areas.

3.2 Maintenance

3.2.1 The Contractor, with input and agreement from Owner, shall determine the number, type and composition of maintenance crews. A workforce sufficient to complete 100% of the assigned maintenance work plan is expected in each area. Work shall be performed so that all work scheduled for each quarter is completed in each area.

3.2.2 Circuit miles in the annual plan may be selected using a cycle-based approach in conjunction with a reliability-based prioritization model to support the Owner's annual strategic vegetation management goals. The plan may contain work information by area, circuit and the year last trimmed. The actual plan and circuits are subject to change based on factors such as but not limited to weather, availability of Contractor resources, system reliability and funding levels. After the circuits are selected and the annual maintenance work plan is developed, the Owner shall provide the work plan to the Contractor.

3.2.3 The Owner and the Contractor will jointly review (inventory) and evaluate each circuit to identify the quantity of work units (by span) needed to complete line clearing activities. This inventory should generally occur between 30 and 60 days prior to starting any work.

3.3 Reactive Work

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3.3.1 The Contractor will be responsible for providing a reactive workforce suitable in size and qualifications to complete work requests within the time allotted by the Owner's work request assignment system or the work order preparer. Reactive crews may or may not actually be assigned to a specific operations center, but one reactive crew will be available for use by each center. Daily management of the reactive crews will be by the Contractor, with concurrence from the Owner. The Contractor shall be responsible for completing reactive work assigned by the Owner. Both parties will mutually agree on the timeframe for reactive work completion. Reactive work consists of internal and external customer requests, which may include but are not limited to small storms and non-scheduled emergencies.

3.3.2 Reactive work requests will be field-evaluated, approved and assigned by the Owner. If approved by the Owner, the work with instructions will be assigned to the Contractor for distribution to a reactive crew. Payment for reactive crews will be time and equipment (T&E) through the Owner's invoicing system at the contracted rates.

3.3.3 The Owner reserves the right to make changes to resource levels based on workload and other considerations. In addition, the Owner reserves the right to make changes to resource composition and/or Contractor personnel if work performance is not satisfactory.

3.4 Pruning Work Specifications

3.4.1 Primary conductors: at a minimum, primary conductors shall be cleared by the Contractor to the previously established ROW. All trees will be pruned back to the full width of the established ROW, typically 15 ft on each side of the center point of the line, or to the greatest extent possible in Florida. Unspecified ROW widths will be cleared to 30 ft (15 ft on each side of the center point of the line) unless prohibited by federal regulations, state statutes and/or local ordinances. Every effort shall be made to make cuts at or beyond the old cuts. Other exceptions may include, but are not limited to:

- The proper cut based on ANSI A300 standards is not exactly 15 ft from the center line.
- The trunk of a mature tree is established within 15 ft of the center line.
- The trees are inhabited by an endangered species, such as Indiana bats or red cockaded woodpeckers.
- The tree is a slow-growing species (section 7 Appendix).
- There is a Department of Transportation encroachment.

Overhang: Where not limited by government regulations, minimum accepted clearance above the conductor will be the height that can be reached with a 55- to 60-ft lift and a 10- to 12-ft pruner or the hinge point whichever is greater. The only exception is that in some urban areas, there may be large mature overhang that the Owner has allowed to remain for various reasons. If the Owner specifies that this mature overhang must be removed, obtaining the permission to remove the overhang shall be the responsibility of the Owner. Payment for such removal shall be made using T&E rates. Backlot lines that are not accessible by standard street-buckets will be cleared ground-to-sky of all dead, diseased, dying or incipient growth as part of the unit to avoid letting new overhang become established in inaccessible areas. The Owner may grant other exceptions on a case-by-case basis in areas where overhang within the hinge point has been established for years. In any case where overhang is allowed to remain, all hazardous overhang (e.g., dead, dying, diseased, structurally unsound) shall be removed.

3.4.2 The Contractor shall ensure that a column consisting of an 8-ft radius (or the greatest extent possible, if less than 8 ft) around the pole shall be cleared from the ground to the hinge point when pruning around primary device/switch poles, including but not limited to oil switches, manual switches, air break switches, capacitor banks, regulators and fused cutouts (not including transformer poles), to ensure that switches can be operated safely.

3.4.3 The Contractor shall obtain a minimum of 6 ft clearance below the neutral conductor (or the full extent possible, if less than 6 ft clearance) using proper arboricultural techniques. If the appropriate clearance cannot be obtained using ANSI A300 standards, the Contractor should contact the Owner for approval to remove the trees with the appropriate tree removal unit. Trees shall not be topped under any circumstances.

3.4.4 All circuit work shall start at the substation and proceed to the end of the circuit, unless otherwise directed or approved by the Owner.

3.4.5 Mechanical trimming performed with a mechanical trimmer or similar equipment shall be done in a manner that does not increase the likelihood of the tree dying and creating a threat to the Owner's facilities or to the public's safety.

- Trees shall be side-trimmed according to approved standards.
- Under no circumstances should a substantial portion of the live crown be removed from species such as pine, which will likely result in the demise of the tree and require costly follow-up to address hazard tree removals in the future.
- Cuts shall not be made that top trees low to the ground, leaving sharpened stubs in place. When removing trees and cutting underbrush, make all cuts as close to the ground as practical and preferably no more than 2 in. above the ground. All cuts will be made parallel to the ground.
- Any tree that would require topping, such as a leaning pine, should be left such that it cannot strike the line if it falls.

3.4.6 Open wire secondary shall be pruned back from the established ROW to a distance of 20 ft (10 ft on either side of the center line). The floor shall be maintained to the full width of the ROW.

3.4.7 Multiplex cables and guy wires shall be pruned if limbs are in direct contact and are load bearing on the conductors. Load bearing refers to limbs that are in contact with conductors and have a size and weight that causes tension on the conductor or interference with the normal sag or alignment of the conductor. The Contractor shall exercise prudent judgment and special consideration during winter months, when the weights of leaves may be off of the limbs. This work shall be considered part of the span unit.

3.5 Debris

3.5.1 In areas with customer/property owner impact (e.g., landscaped areas, maintained areas, urban areas, high-use areas) brush and debris shall be chipped, captured and removed from site. No brush is to be left overnight in maintained areas without the consent of the customer/property owner or their agent. Debris shall be removed daily by the Contractor as required by local ordinances or as instructed by the Owner. Our policy is for the Contractor to cut the wood into manageable pieces (18-24 in.) and leave on site. In certain circumstances, at the Owner's direction, wood that cannot be chipped may be removed from site in areas where community requirements or past operational practices exist. Lawn areas and hardscapes (e.g., patios, sidewalks, driveways) shall be cleaned up and returned to their condition prior to work at the time of entry on the property.

3.5.2 In non-maintained areas, every effort shall be made to hash down the debris in a timely manner so is it not readily visible to the public and does not create complaints. Typically, the mowing/hand-cutting should take place no more than 1 week after the trimming was performed. Storm debris shall not be removed or chipped from any location. The Contractor should consider public safety and the potential to cause property damage when leaving debris under any circumstances.

3.6 Underbrush

3.6.1 All brush (typically less than 6 in. DBH), limbs and other vegetation underneath the primary within the floor of the ROW should be cleared appropriately as dictated by the line's location and customer/property owner circumstances. As a general rule, all brush, understory stems and side growth shall be cleared from underneath the conductors as part of the unit when performing maintenance work. Palm and Brazilian pepper trees that are 12 ft or less in height will be removed as part of the span or floor unit if located within the ROW. Palm trees will be measured at the palm head and not the frond when determining their heights.

3.7 Vines

3.7.1 All vines growing on the Owner's facilities (poles, conductors, guys) shall be cut and treated with approved herbicides as they are encountered during maintenance work by the Contractor. For safety purposes, vines that are cut shall have a noticeable section (12 in.) of vine removed so they can be clearly identified as cut vines. Vines that are missed while performing maintenance work shall be the responsibility of the Contractor as rework at no additional expense to Owner. This work shall be considered part of the span unit.

3.8 Underneath the Primary

- Brush, limbs and other vegetation shall be cleared as appropriately dictated by line location and customer/property owner circumstances. As a general rule, all vegetation 6 in. DBH or less, understory stems and side growth shall be cleared from underneath the conductors as part of the unit during maintenance work. The widths of the ROWs in Florida may vary for many reasons. Therefore, the amount of brush removed will be dictated by the width of the aerial corridor being maintained (i.e., tree line to tree line). Customer/property owner consent shall be required for all removals of trees greater than 6 in. DBH in maintained areas.

Exceptions include the following:

- Low-growing species may be left. Species are considered low-growing when they mature at typically less than 15 ft. (for example wax myrtles)
- Shelf limbs may be left where necessary on front-lot construction.
- For shelf limbs on the switch side of the primary device/switch poles, including but not limited to oil switches, manual switches, air break switches, capacitor banks, regulators or fused cutouts, the Contractor shall ensure that a column consisting of a radius of 8 ft (or the greatest extent possible, if less than 8 ft) around the pole shall be cleared from the ground to the hinge point to allow safe operation of the device.

3.9 Removals

3.9.1 Maintenance inside ROW (O&M expense):

- If conditions permit, the Contractor shall remove all trees within the ROW that are 6 in. DBH or less as part of the trim or brush unit price.
- Live healthy trees within the ROW that are more than 6 in. DBH shall require

approval from the Owner before being removed.

- Brazilian pepper trees that are 12 ft or less in height will be included in the routine span or floor unit. All trees that are more than 12 ft in height will be exempt from the 6 in. DBH requirement for floor work and removed with approval from the Owner using the Removal and Chip 12 in. DBH to 24 in. DBH unit.
- Palm trees will be measured at the palm head and not the frond when determining the height for removal. Palms that are 12 ft. or less in height will be included in the trim or floor unit. All trees greater than 12 ft will be exempt from the 6 in. DBH requirement for floor work and removed with approval from the Owner using the Removal and Chip 8 in. DBH to 12 in. DBH unit.
- Danger and hazard trees inside the ROW up to 12 in. DBH shall be removed as part of the trim or floor unit price.

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- Hazard trees inside the ROW that are more than 12 in. DBH require approval from the Owner before being removed and shall be billed using the appropriate removal unit.

3.9.2 Maintenance outside ROW (Capital expense):

- Hazard trees up to 30 in. DBH shall be removed if they are within 45 ft of the center line and billed using the appropriate tree removal unit.
- Hazard trees greater than 30 in. DBH shall be removed on a T&E basis with Owner approval.
- Non-hazard trees outside the ROW should not be removed.
- No hazard tree removals outside the existing ROW are included in the maintenance unit.
- Maintenance circuits that have a substantial number of dead trees (such as fire kills, beetle damage, drought kills and beaver swamps) shall be considered reactive work and worked as directed by the Owner. Brazilian pepper trees that are more than 12 ft in height shall be removed using a Removal and Chip 12 in. DBH to 24 in. DBH unit.
- Palm trees typically require much less labor for removal and will be removed using a removal unit applicable for the time and equipment required for the removal. All palm trees that are more than 12 ft in height shall be removed using the Removal and Chip 8 in. DBH to 12 in. DBH unit. Palms that are 12 ft or less in height will be measured at the palm head and not the frond.

3.10 Stumps

3.10.1 Stumps shall be treated with herbicides approved by the Owner. These applications are required where future foliar treatments will not be appropriate (e.g., landscapes, beddings and fence rows). The Contractor will procure and store herbicides to be used in such areas. Treatment will be included in the appropriate removal unit or equipment and/or labor rates and shall not be billed separately.

3.10.2 When removing trees and cutting underbrush, make all cuts as close to the ground as practical and preferably no more than 2 in. above the ground. All cuts will be made parallel to the ground.

4 Quality of Work

4.1 General

4.1.1 The Contractor shall adhere to the specifications set forth in this document. All work performed by the Contractor shall be field-checked by the Contractor. The Contractor shall be expected to map the crews' completed work on the circuit map (or using a method approved by the Owner). The Contractor shall make special note of any temporary skips or refusals to document locations that require follow up prior to completion of the circuit. The Owner expects that when the Contractor reports their circuit map as complete, all segments of the represented circuit shall comply with the Owner's specifications. If the work is complete and acceptable, the Owner will approve processing of the final invoicing for the work. If the Owner identifies and documents certain trees, taps and/or other line segments that do not meet Owner's specifications during the Owner's quality assessment of the circuit, the Owner shall return deficiencies to the Contractor for correction. The Contractor may be required to correct such work quality deficiencies at no cost to the Owner. In addition, such deficiencies may result in a work stoppage under the contract and a termination for cause.

4.1.2 The Owner shall have 30 working days to inspect for conformance or rejection of the work completed after the Owner acknowledges notice by a Contractor representative that the work is ready for inspection.

4.1.3 Any work that is identified during Owner inspections as not meeting Owner specifications shall be forwarded to the Contractor for rework at the Contractor's expense. The Contractor will have 5 business days to respond to the Owner about the rework notification. The Contractor shall complete all rework within 10 business days of the Contractor's response to Owner. After the Contractor completes the rework, the Contractor shall notify the Owner of completion. The Owner shall re-inspect the work/rework. If quality is again unacceptable, the Owner reserves the right to invoice the Contractor for all labor and equipment costs for the re-inspection and any subsequent inspection costs until the work meets the Owner's specifications.

4.1.4 If line segments were skipped (regardless of segment length) or improperly maintained and it is determined that the work was in flagrant violation of the Owner's specifications, the Owner will return the map to the Contractor with no assessment details. It will be the Contractor's responsibility to revisit the area and ensure that all spans have been maintained properly.

4.1.5 If Owner and Contractor field representatives do not agree on the findings of the quality assessment, they will jointly evaluate the work in question to make a mutually agreeable determination. If a determination cannot be made, the issue shall be referred to the Owner's and Contractor's managements for resolution.

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5 Maintenance Units

5.1 Line Clearing Units

Applicable for distribution circuit maintenance tree pruning and removals.

Type	Cleanup	Sides	Complexity	Unit Name	Unit of Measurement
Conventional	Chip	1-sided	Standard	C-C1S	$/Span
	Chip	1-sided	Complex	C-C1C	$/Span
	Chip	2-sided	Standard	C-C2S	$/Span
	Chip	2-sided	Complex	C-C2C	$/Span
	No-chip	1-sided	Standard	C-N1S	$/Span
	No-chip	1-sided	Complex	C-N1C	$/Span
	No-chip	2-sided	Standard	C-N2S	$/Span
	No-chip	2-sided	Complex	C-N2C	$/Span
	Single Tree Prune			C-1TP	$/Unit
Bucket	Chip	1-sided	Standard	B-C1S	$/Span
	Chip	1-sided	Complex	B-C1C	$/Span
	Chip	2-sided	Standard	B-C2S	$/Span
	Chip	2-sided	Complex	B-C2C	$/Span
	No-chip	1-sided	Standard	B-N1S	$/Span
	No-chip	1-sided	Complex	B-N1C	$/Span
	No-chip	2-sided	Standard	B-N2S	$/Span
	No-chip	2-sided	Complex	B-N2C	$/Span
	Single Tree Prune			B-1TP	$/Unit

5.2 Brush Clearing Units

Applicable for floor clearing when trimming work is not required.

Type	Cleanup	Unit Name	Unit of Measurement
Brush mowing		BH	$/Span
Hand cutting	Chip	HC	$/Span
	No-chip	HN	$/Span
Pole clearing	Chip	PC	$/Unit
	No-chip	PN	$/Unit

5.3 Tree Removals

Applicable when removals are necessary but are not included in another unit.

Type	Cleanup	Unit Name	Unit of Measurement
Removal 5-8 in. DBH	Chip	R5-8C	$/Unit
	No-chip	R5-8NC	$/Unit
Removal 8-12 in. DBH	Chip	R8-12C	$/Unit
	No-chip	R8-12NC	$/Unit
Removal 12-24 in. DBH	Chip	R12-24C	$/Unit
	No-chip	R12-24NC	$/Unit
Removal 24-30 in. DBH	Chip	R24-30C	$/Unit
	No-chip	R24-30NC	$/Unit

5.1 General

5.1.1 The unit costs shall include any and all costs required to complete the work.

5.1.2 Removal of trees 30 in. DBH or more will be paid on a T&E basis at the applicable labor and equipment rates. Removal of trees 30 in. DBH or more must be approved by the Owner.

5.2 Maintenance Unit Descriptions

5.2.1 Type

- Conventional units: spans that are not accessible by standard street buckets.
- Bucket units: spans that are accessible by standard street buckets.

5.2.2 Cleanup

- Chip units: units in which it is reasonable to assume that cleanup of debris and chipping of brush will be necessary. Typically, chip are located in urban or maintained areas with neighborhoods and landscaped settings.
- No-chip units: units in which it is reasonable to assume that cleanup of debris and limbs will **NOT** be necessary. Typically, no-chip units are located in rural or unmaintained areas.

5.2.3 Sides

- 1-sided: spans that require pruning along only one side of the ROW. Typically, 1-sided units are located along streets and highways.
- 2-sided: spans with trees that require maintenance on both sides of the ROW. Typically, 2-sided units are located in backlot and cross-country lines.

5.2.4 Complex

- Standard units: spans that are not exceptionally overgrown. Typically, in standard units, side growth has not grown to the point of breaking the vertical plane of the primary conductors, and underbrush has not grown up through the primary conductors. Overhang situations may occur, but not close overhang.

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- Complex units: spans that are severely overgrown from underneath or severely overgrown from side growth. Underbrush must be grown up through the primary conductors such that it cannot be cut from the base, and the brush must have upper portions of the stem removed prior to felling. Side growth must have at least grown into lines such that the vertical plane of the primary conductor has been breached. Close overhang will qualify a span as a complex unit. A minimum of 50% of the span's length must be affected for a span to qualify as a complex unit.

5.2.5 Other

- Removals: conditions permitting, the Contractor will remove all trees within the utility ROWs according to the region-specified DBH as part of the trim or brush unit price. As indicated within the Owner's specifications, tree removals may not constitute separate units. Where specified, removals shall be included within the particular unit estimated for a given span.
- Span: a span must be at least 50 ft in length to qualify as a unit. Multiple primary poles clustered together in a 50-ft measured length or less for the sole purpose of regulators, underground cable exits and/or other overhead equipment will not constitute an additional span and will be treated as a single pole location and calculated in the previous span.
- Single tree prune: One single tree prune unit will be used per span in two situations: where only one tree within a span requires pruning and typically requires 45 minutes or less to complete the work, or for spans shorter than 50 ft that require trimming.

5.2.6 Brush Floor Clearing Units

- Brush mowing: a span of line that only requires brush to be cut (no trees to prune alongside of ROW). Brush mowing units are located in areas that would be considered appropriate for brush mowing work.
- Hand cutting: a span of line that only requires brush to be cut (no trees to prune alongside of ROW). Hand cutting units are located in areas that would be considered inappropriate for brush mowing or may be inaccessible to mechanical equipment due to geography, remoteness or terrain.
- Pole clear: a unit that provides clearing of vegetation around a pole that has no other tree pruning or floor work.

5.3 Unit Application Business Rules

5.3.1 Conditions permitting, the Contractor will remove all trees and brush within the utility ROWs according to the region-specified DBH as part of the trim or brush unit price. As indicated within the Owner's specifications, tree removals above the region-specified DBH constitute separate removal units.

5.3.2 All unit rates will include necessary work zone and/or flagging costs.

5.3.3 Spans with a tree located directly underneath the line such that V-trimming is required shall be considered a 1-sided unit.

5.3.4 Spans with a tree located directly underneath the line such that V-trimming is required and additional side pruning is required on trees that are not directly underneath the line but are limited to only one side of the ROW shall be considered a 1-sided unit.

5.3.5 A tree whose trunk resides within a given span and whose limbs encroach upon adjacent spans will not justify payment of an additional span or unit.

5.3.6 Perpendicular spans, with a tree located near poles such that limbs affect both spans will not justify payment of an additional span or unit.

5.3.7 Spans that cut diagonally across a road and that require pruning on one side of the span on one end and the other side of the span on the opposite end will be considered a 1-sided unit.

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6 Reference Documents

- None identified

7 Appendix

7.1 Slow-Growing Species

A list of slow-growing species to consider when determining proper clearances but not limited to the following species:

- Ironwood (*Carpinus caroliniana*).
- Pignut Hickory (*Carya glabra*).
- Buttonbush (*Cephalanthus occidentalis*).
- Flowering Dogwood (*Cornus florida*).
- Rusty Lyonia (*Lyonia ferruginea*).
- Southern Magnolia (*Magnolia grandiflora*).
- Devilwood (*Osmanthus americana*).
- Swamp Bay (*Persea palustris*).
- Myrtle Oak (*Quercus myrtifolia*).
- Wax Myrtle (*Myrica cerifera*).
- Citrus spp. Eastern Redbud (*Cercis canadensis*).
- Yaupon Holly (*Ilex vomitoria*).
- Southern Red Cedar (*Juniperus silicicola*).
- Eastern Red Cedar (*Juniperus virginiana*).

Slow-growing species may also include any species defined as having a slow growth rate in the Institute of Food and Agricultural Sciences (IFAS) database.

ANSI®
A300 (Part 1)-2008

for Tree Care Operations —
Tree, Shrub, and Other Woody Plant Management — Standard Practices *(Pruning)*

Secretariat
Tree Care Industry Association, Inc.

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Contents

* The term pruning type is replaced with the term pruning method. The purpose of this is to label the processes detailed in section 6 with greater accuracy.

Foreword This foreword is not part of American National Standard A300 (Part 1)-2008 *Pruning*

ANSI A300 Standards are divided into multiple parts, each focusing on a specific aspect of woody plant management (e.g. Pruning, Fertilization, etc).

These standards are used to develop written specifications for work assignments. They are not intended to be used as specifications in and of themselves. Management objectives may differ considerably and therefore must be specifically defined by the user. Specifications are then written to meet the established objectives and must include measurable criteria.

ANSI A300 standards apply to professionals who provide for or supervise the management of trees, shrubs, and other woody landscape plants. Intended users include businesses, government agencies, property owners, property managers, and utilities. The standard does not apply to agriculture, horticultural production, or silviculture, except where explicitly noted otherwise.

This standard has been developed by the Tree Care Industry Association (TCIA), an ANSI-accredited Standards Developing Organization (SDO). TCIA is secretariat of the ANSI A300 standards, and develops standards using procedures accredited by the American National Standards Institute (ANSI).

Consensus for standards writing was developed by the Accredited Standards Committee on Tree, Shrub, and Other Woody Plant Management Operations – Standard Practices, A300 (ASC A300).

Prior to 1991, various industry associations and practitioners developed their own standards and recommendations for tree care practices. Recognizing the need for a standardized, scientific approach, green industry associations, government agencies and tree care companies agreed to develop consensus for an official American National Standard.

The result – ANSI A300 standards – unify and take authoritative precedence over all previously existing tree care industry standards. ANSI requires that approved standards be developed according to accepted principles, and that they be reviewed and, if necessary, revised every five years.

TCIA was accredited as a standards developing organization with ASC A300 as the consensus body on June 28, 1991. ASC A300 meets regularly to write new, and review and revise existing ANSI A300 standards. The committee includes industry representatives with broad knowledge and technical expertise from residential and commercial tree care, utility, municipal and federal sectors, landscape and nursery industries, and other interested organizations.

Suggestions for improvement of this standard should be forwarded to: A300 Secretary, c/o Tree Care Industry Association, Inc., 136 Harvey Road - Suite B101-B110, Londonderry, NH, 03053.

ANSI A300 (Part 1)-2008 Pruning was approved as an American National Standard by ANSI on May 1, 2008. ANSI approval does not require unanimous approval by ASC A300. The ASC A300 committee contained the following members at the time of ANSI approval:

Tim Johnson, Chair
(Artistic Arborist, Inc.)

Bob Rouse, Secretary
(Tree Care Industry Association, Inc.)

(Continued)

Organizations Represented	*Name of Representative*
American Nursery and Landscape Association	Warren Quinn
	Craig J. Regelbrugge (Alt.)
American Society of Consulting Arborists	Donald Zimar
American Society of Landscape Architects	Ron Leighton
Asplundh Tree Expert Company	Geoff Kempter
	Peter Fengler (Alt.)
Bartlett Tree Expert Company	Peter Becker
	Dr. Thomas Smiley (Alt.)
Davey Tree Expert Company	Joseph Tommasi
	R.J. Laverne (Alt.)
International Society of Arboriculture	Bruce Hagen
	Sharon Lilly (Alt.)
National Park Service	Robert DeFeo
	Dr. James Sherald (Alt.)
Professional Grounds Management Society	Thomas Shaner
Professional Land Care Network	Preston Leyshon
Society of Municipal Arborists	Gordon Mann
	Andy Hillman (Alt.)
Tree Care Industry Association	Dane Buell
	James McGuire (Alt.)
USDA Forest Service	Ed Macie
	Keith Cline (Alt.)
Utility Arborist Association	Matthew Simons
	Jeffrey Smith (Alt.)

Additional organizations and individuals:

American Forests (Observer)
Mike Galvin (Observer)
Peter Gerstenberger (Observer)
Dick Jones (Observer)
Myron Laible (Observer)
Beth Palys (Observer)
Richard Rathjens (Observer)
Richard Roux (NFPA-780 Liaison)

ASC A300 mission statement:

Mission: To develop consensus performance standards based on current research and sound practice for writing specifications to manage trees, shrubs, and other woody plants.

American National Standard for Tree Care Operations –

Tree, Shrub, and Other Woody Plant Management – Standard Practices *(Pruning)*

1 ANSI A300 standards

1.1 Scope

ANSI A300 standards present performance standards for the care and management of trees, shrubs, and other woody plants.

1.2 Purpose

ANSI A300 performance standards are intended for use by federal, state, municipal and private entities including arborists, property owners, property managers, and utilities for developing written specifications.

1.3 Application

ANSI A300 performance standards shall apply to any person or entity engaged in the management of trees, shrubs, or other woody plants.

2 Part 1 – Pruning standards

2.1 Purpose

The purpose of Part 1 – *Pruning* is to provide performance standards for developing written specifications for pruning.

2.2 Reasons for pruning

The reasons for tree pruning may include, but are not limited to, reducing risk, managing tree health and structure, improving aesthetics, or achieving other specific objectives. Pruning practices for agricultural, horticultural production, or silvicultural purposes are exempt from this standard unless this standard, or a portion thereof, is expressly referenced in standards for these other related areas.

2.3 Implementation

2.3.1 Specifications for pruning should be written and administered by an arborist.

2.3.1.1 Specifications should include location of tree(s), objectives, methods (types), and extent of pruning (location, percentage, part size, etc).

2.3.2 Pruning specifications shall be adhered to.

2.4 Safety

2.4.1 Pruning shall be implemented by an arborist, familiar with the practices and hazards of pruning and the equipment used in such operations.

2.4.2 This performance standard shall not take precedence over applicable industry safe work practices.

2.4.3 Performance shall comply with applicable Federal and State Occupational Safety and Health standards, ANSI Z133.1, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and other Federal Environmental Protection Agency (EPA) regulations, as well as state and local regulations.

3 Normative references

The following standards contain provisions, which, through reference in the text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard shall apply the most recent edition of the standards indicated below.

ANSI Z60.1, Nursery stock
ANSI Z133.1, Arboriculture – Safety requirements
29 CFR 1910, General industry [1)]
29 CFR 1910.268, Telecommunications [1)]
29 CFR 1910.269, Electric power generation, transmission, and distribution [1)]
29 CFR 1910.331 - 335, Electrical safety-related work practices [1)]

4 Definitions

4.1 arboriculture: The art, science, technology, and business of commercial, public, and utility tree care.

1) Available from U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20210

4.2 arborist: An individual engaged in the profession of arboriculture who, through experience, education, and related training, possesses the competence to provide for or supervise the management of trees and other woody plants.

4.3 arborist trainee: An individual undergoing on-the-job training to obtain the experience and the competence required to provide for or supervise the management of trees and other woody plants. Such trainees shall be under the direct supervision of an arborist.

4.4 branch: A shoot or stem growing from a parent branch or stem (See Fig. 4.4).

4.4.1 codominant branches/codominant leaders: Branches or stems arising from a common junction, having nearly the same size diameter (See Fig. 4.4).

4.4.2 lateral branch: A shoot or stem growing from another branch (See Fig. 4.4).

4.4.3 parent branch or stem: A tree trunk or branch from which other branches or shoots grow (See Fig. 4.4).

4.4.4 scaffold branch: A primary branch that forms part of the main structure of the crown (See Fig. 4.4).

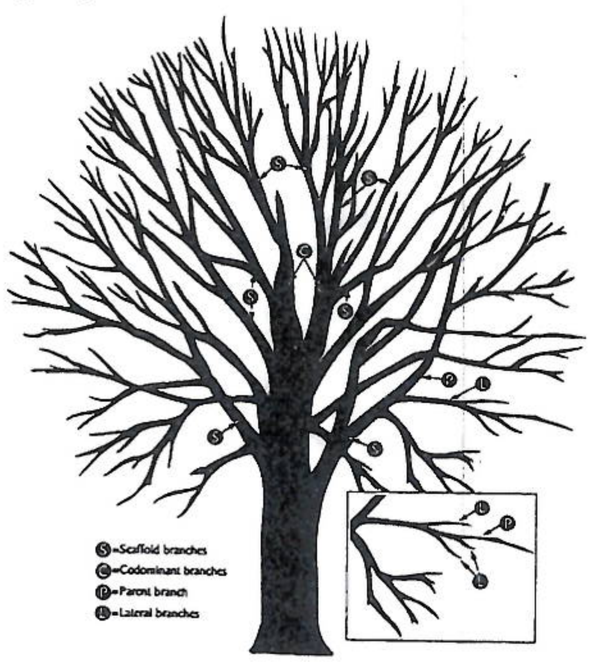


Figure 4.4 Standard branch definitions.

4.5 branch bark ridge: The raised area of bark in the branch crotch that marks where the branch and parent stem meet. (See Figs. 5.3.2 and 5.3.3).

4.6 branch collar: The swollen area at the base of a branch.

4.7 callus: Undifferentiated tissue formed by the cambium around a wound.

4.8 cambium: The dividing layer of cells that forms sapwood (xylem) to the inside and inner bark (phloem) to the outside.

4.9 clean: Selective pruning to remove one or more of the following non-beneficial parts: dead, diseased, and/or broken branches (7.2).

4.10 climbing spurs: Sharp, pointed devices strapped to a climber's lower legs used to assist in climbing trees. (syn.: gaffs, hooks, spurs, spikes, climbers)

4.11 closure: The process in a woody plant by which woundwood grows over a pruning cut or injury.

4.12 crown: Upper part of a tree, measured from the lowest branch, including all the branches and foliage.

4.13 decay: The degradation of woody tissue caused by microorganisms.

4.14 espalier: The combination of pruning, supporting, and training branches to orient a plant in one plane (6.5).

4.15 establishment: The point after planting when a tree's root system has grown sufficiently into the surrounding soil to support growth and anchor the tree.

4.16 facility: A structure or equipment used to deliver or provide protection for the delivery of an essential service, such as electricity or communications.

4.17 frond: A leaf structure of a palm.

4.18 heading: The reduction of a shoot, stem, or branch back to a bud or to a lateral branch not large enough to assume the terminal role.

4.19 interfering branches: Crossing, rubbing, or upright branches that have the potential to damage tree structure and/or health.

4.20 internode: The area between lateral branches or buds.

4.21 job briefing: The communication of at least the following subjects for arboricultural operations: work specifications, hazards associated with the job, work procedures involved, special precautions, electrical hazards, job assignments, and personal protective equipment.

4.22 leader: A dominant, typically upright, stem – usually the main trunk. There can be several leaders in one tree.

4.23 lion's tailing: The removal of an excessive number of inner and/or lower lateral branches from parent branches. Lion's tailing is not an acceptable pruning practice (6.1.7).

4.24 live crown ratio: Crown height relative to overall plant height.

4.25 mechanical pruning: A pruning technique where large-scale power equipment is used to cut back branches (9.3.2).

4.26 method: A procedure or process for achieving an objective.

4.27 peeling: The removal of dead frond bases without damaging living trunk tissue at the point they make contact with the trunk. (syn.: shaving)

4.28 petiole: A stalk of a leaf or frond.

4.29 pollarding: Pruning method in which tree branches are initially headed and then reduced on a regular basis without disturbing the callus knob (6.6).

4.30 pruning: The selective removal of plant parts to meet specific goals and objectives.

4.31 qualified line-clearance arborist: An individual who, through related training and on-the-job experience, is familiar with the equipment and hazards in line clearance and has demonstrated the ability to perform the special techniques involved. This individual may or may not be currently employed by a line-clearance contractor.

4.32 qualified line-clearance arborist trainee: An individual undergoing line-clearance training under the direct supervision of a qualified line-clearance arborist. In the course of such training, the trainee becomes familiar with the equipment and hazards in line clearance and demonstrates ability in the performance of the special techniques involved.

4.33 raise: Pruning to provide vertical clearance (7.3).

4.34 reduce: Pruning to decrease height and/or spread (7.4).

4.35 remote area: As used in the utility pruning section of this standard, an unpopulated area.

4.36 restoration: Pruning to redevelop structure, form, and appearance of topped or damaged trees (6.3).

4.37 rural area: As used in the utility pruning section of this standard, a sparsely populated place away from large cities, suburbs, or towns but distinct from remote areas.

4.38 shall: As used in this standard, denotes a mandatory requirement.

4.39 shoot: Stem or branch and its leaves, especially when young.

4.40 should: As used in this standard, denotes an advisory recommendation.

4.41 specifications: A document stating a detailed, measurable plan or proposal for provision of a product or service.

4.42 sprouts: New shoots originating from epicormic or adventitious buds, not to be confused with suckers. (syn.: watersprouts, epicormic shoots)

4.43 standard, ANSI A300: The performance parameters established by industry consensus as a rule for the measure of extent, quality, quantity, value or weight used to write specifications.

4.44 stem: A woody structure bearing buds, foliage, and giving rise to other stems.

4.45 structural pruning: Pruning to improve branch architecture (6.2).

4.46 stub: Portion of a branch or stem remaining after an internodal cut or branch breakage.

4.47 subordination: Pruning to reduce the size and ensuing growth rate of a branch or leader in relation to other branches or leaders.

4.48 sucker: Shoot arising from the roots.

4.49 thin: pruning to reduce density of live branches (7.5).

4.50 throw line: A small, lightweight line with a weighted end used to position a climber's rope in a tree.

4.51 topping: Reduction of tree size using internodal cuts without regard to tree health or structural integrity. Topping is not an acceptable pruning practice (6.1.7).

4.52 tracing: The removal of loose, damaged tissue from in and around the wound.

4.53 trunk: The main woody part of a tree beginning at and including the trunk flare and extending up into the crown from which scaffold branches grow.

4.54 trunk flare: 1. The area at the base of the plant's trunk where it broadens to form roots. 2. The area of transition between the root system and trunk (syn.: root flare).

4.55 urban/residential areas: Populated areas including public and private property that are normally associated with human activity.

4.56 utility: A public or private entity that delivers a public service, such as electricity or communications.

4.57 utility space: The physical area occupied by a utility's facilities and the additional space required to ensure its operation.

4.58 vista/view prune: Pruning to enhance a specific view without jeopardizing the health of the tree (6.4).

4.59 wound: An opening that is created when the bark of a live branch or stem is cut, penetrated, damaged, or removed.

4.60 woundwood: Partially differentiated tissue responsible for closing wounds. Woundwood develops from callus associated with wounds.

5 Pruning practices

5.1 Tree inspection

5.1.1 An arborist or arborist trainee shall visually inspect each tree before beginning work.

5.1.2 If a condition is observed requiring attention beyond the original scope of the work, the condition should be reported to an immediate supervisor, the owner, or the person responsible for authorizing the work.

5.1.3 Job briefings shall be performed as outlined in ANSI Z133.1, subclause 3.1.4.

5.2 Tools and equipment

5.2.1 Equipment, tools, and work practices that damage living tissue and bark beyond the scope of normal work practices shall be avoided.

5.2.2 Climbing spurs shall not be used when entering and climbing trees for the purpose of pruning.

Exceptions:
- when branches are more than throw-line distance apart and there is no other means of climbing the tree;
- when the outer bark is thick enough to prevent damage to the inner bark and cambium;
- in remote or rural utility rights-of-way.

5.3 Pruning cuts

5.3.1 Pruning tools used in making pruning cuts shall be sharp.

5.3.2 A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent branch without cutting into the branch bark ridge or branch collar or leaving a stub (see Figure 5.3.2).

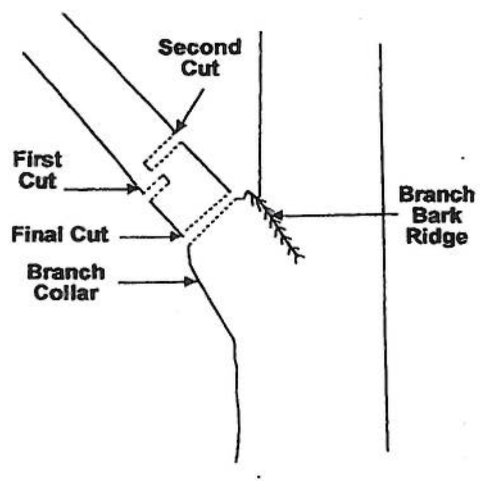


Figure 5.3.2. A cut that removes a branch at its point of origin. (See Annex A – Pruning cut guideline).

5.3.3 A pruning cut that reduces the length of a branch or parent stem shall be made at a slight downward angle relative to the remaining stem and not damage the remaining stem. Smaller cuts shall be preferred (see Fig. 5.3.3).

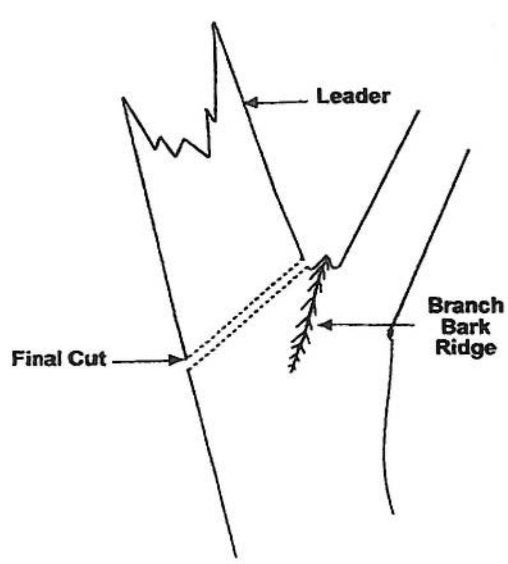


Figure 5.3.3. A cut that reduces the length of a branch or parent stem.

5.3.4 When pruning to a lateral, the remaining lateral branch should be large enough to assume the terminal role.

5.3.5 The final cut should result in a flat surface with adjacent bark firmly attached.

5.3.6 When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

5.3.7 Tree branches shall be removed in such a manner so as to avoid damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark (see Figure 5.3.2). Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

5.3.8 A cut that removes a branch with a narrow angle of attachment should be made from the outside of the branch to prevent damage to the parent branch (see Figure 5.3.8).

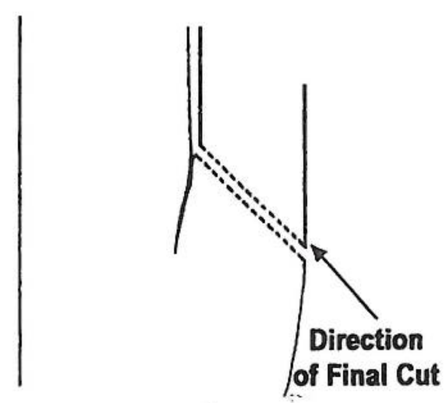


Figure 5.3.8. A cut that removes a branch with a narrow angle of attachment.

5.3.9 Severed branches shall be removed from the crown upon completion of the pruning, at times when the tree would be left unattended, or at the end of the workday.

5.4 Wound treatment

5.4.1 Wound treatments shall not be used to cover wounds or pruning cuts, except when necessary for disease, insect, mistletoe, or sprout control, or for cosmetic reasons.

5.4.2 Wound treatments that are damaging to tree tissues shall not be used.

5.4.3 When tracing wounds, only loose, damaged tissue shall be removed.

6 Pruning objectives

6.1 Pruning objectives shall be established prior to beginning any pruning operation.

6.1.1 Objectives should include, but are not limited to, one or more of the following:
- Risk reduction
- Manage health
- Clearance
- Structural improvement/correction
- View improvement/creation
- Aesthetic improvement
- Restoration

6.1.2 Established objectives should be specified in writing (See Annex B – *Specification writing guideline*).

6.1.3 To obtain the defined objective, the growth cycles, structure, species, and the extent of pruning to be performed shall be considered.

6.1.4 Not more than 25 percent of the foliage should be removed within an annual growing season. The percentage and distribution of foliage to be removed shall be adjusted according to the plant's species, age, health, and site.

6.1.5 When frequent excessive pruning is necessary for a tree to avoid conflicts with elements such as infrastructure, view, traffic, or utilities, removal or relocation of the tree shall be considered.

6.1.6 Pruning cuts should be made in accordance with section 5.3 *Pruning cuts*.

6.1.7 Topping and lion's tailing shall be considered unacceptable pruning practices for trees.

6.2 **Structural:** Structural pruning shall consist of selective pruning to improve tree and branch architecture primarily on young- and medium-aged trees.

6.2.1 Size and location of leaders or branches to be subordinated or removed should be specified.

6.2.2 Dominant leader(s) should be selected for development as appropriate.

6.2.3 Strong, properly spaced scaffold branch structure should be selected and maintained by reducing or removing others.

6.2.4 Temporary branches should be retained or reduced as appropriate.

6.2.5 Interfering, overextended, defective, weak, and poorly attached branches should be removed or reduced.

6.2.6 At planting, pruning should be limited to cleaning (7.2).

6.3 **Restoration:** Restoration shall consist of selective pruning to redevelop structure, form, and appearance of severely pruned, vandalized, or damaged trees.

6.3.1 Location in tree, size range of parts, and percentage of sprouts to be removed should be specified.

6.4 **Vista/view:** Vista/view pruning shall consist of the use of one or more pruning methods (types) to enhance a specific line of sight.

6.4.1 Pruning methods (types) shall be specified.

6.4.2 Size range of parts, location in tree, and percentage of foliage to be removed should be specified.

6.5 Espalier

6.5.1 Branches that extend outside the desired plane of growth shall be pruned or tied back.

6.5.2 Ties should be replaced as needed to prevent girdling the branches at the attachment site.

6.6 Pollarding

6.6.1 Consideration shall be given to the ability of the individual tree to respond to pollarding.

6.6.2 Management plans shall be made prior to the start of the pollarding process for routine removal of sprouts.

6.6.3 Heading cuts shall be made at specific locations to start the pollarding process. After the initial cuts are made, no additional heading cuts shall be made.

6.6.4 Sprouts growing from the cut ends of branches (knuckles) should be removed annually during the dormant season.

7 Pruning methods (types)

7.1 One or more of the following methods (types) shall be specified to achieve the objective.

7.2 **Clean:** Cleaning shall consist of pruning to remove one or more of the following non-beneficial parts: dead, diseased, and/or broken branches.

7.2.1 Location of parts to be removed shall be specified.

7.2.2 Size range of parts to be removed shall be specified.

7.3 **Raise:** Raising shall consist of pruning to provide vertical clearance.

7.3.1 Clearance distance shall be specified.

7.3.2 Location and size range of parts to be removed should be specified.

7.3.3 Live crown ratio should not be reduced to less than 50 percent.

7.4 **Reduce:** Reducing shall consist of pruning to decrease height and/or spread.

7.4.1 Consideration shall be given to the ability of a species to tolerate this type of pruning.

7.4.2 Location of parts to be removed or clearance requirements shall be specified.

7.4.3 Size of parts should be specified.

7.5 **Thin:** Thinning shall consist of selective pruning to reduce density of live branches.

7.5.1 Thinning should result in an even distribution of branches on individual branches and throughout the crown.

7.5.2 Not more than 25 percent of the crown should be removed within an annual growing season.

7.5.3 Location of parts to be removed shall be specified.

7.5.4 Percentage of foliage and size range of parts to be removed shall be specified.

8 Palm pruning

8.1 Palm pruning should be performed when fronds, fruit, or loose petioles may create a dangerous condition.

8.2 Live healthy fronds should not be removed.

8.3 Live, healthy fronds above horizontal shall not be removed. Exception: Palms encroaching on electric supply lines (see Fig. 8.3a and 8.3b).

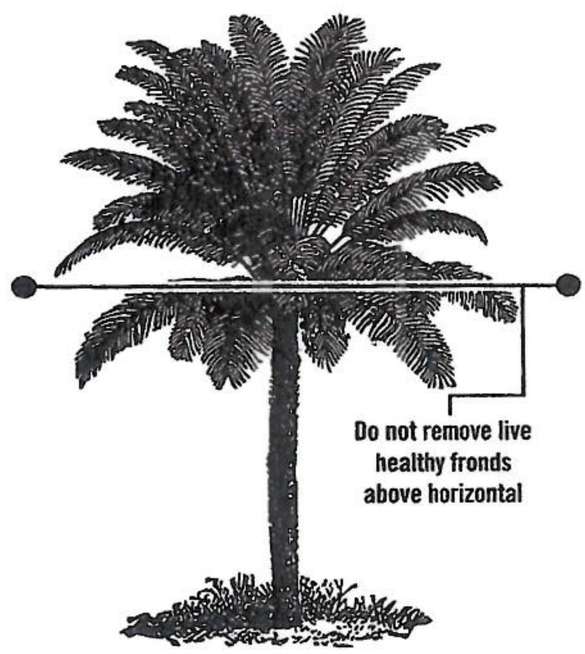


Figure 8.3a Frond removal location.

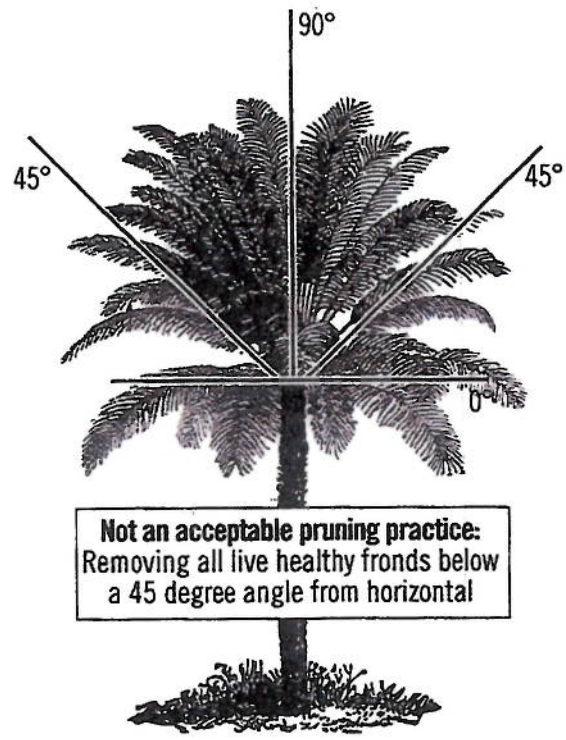


Figure 8.3b An overpruned palm (not an acceptable pruning practice).

8.4 Fronds removed should be severed close to the petiole base without damaging living trunk tissue.

8.5 Palm peeling (shaving) should consist of the removal of only the dead frond bases at the point they make contact with the trunk without damaging living trunk tissue.

9 Utility pruning

9.1 Purpose

The purpose of utility pruning is to prevent the loss of service, comply with mandated clearance laws, prevent damage to equipment, maintain access, and uphold the intended usage of the facility/utility space while adhering to accepted tree care performance standards.

9.2 General

9.2.1 Only a qualified line-clearance arborist or line-clearance arborist trainee shall be assigned to line clearance work in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268 or 29 CFR 1910.269.

9.2.2 Utility pruning operations are exempt from requirements in subclause 5.1, *Tree Inspection*, for conditions outside the utility pruning scope of work.

9.2.3 Job briefings shall be performed as outlined in ANSI Z133.1, subclause 3.1.4.

9.3 Utility crown reduction pruning

9.3.1 Urban/residential areas

9.3.1.1 Pruning cuts should be made in accordance with subclause 5.3, *Pruning cuts*. The following requirements and recommendations of 9.3.1.1 are repeated from subclause 5.3 *Pruning cuts*.

9.3.1.1.1 A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent branch, without cutting into the branch bark ridge or collar, or leaving a stub (see Figure 5.3.2).

9.3.1.1.2 A pruning cut that reduces the length of a branch or parent stem shall be made at a slight downward angle relative to the remaining stem and not damage the remaining stem. Smaller cuts shall be preferred (see Fig. 5.3.3).

9.3.1.1.3 The final cut shall result in a flat surface with adjacent bark firmly attached.

9.3.1.1.4 When removing a dead branch, the final cut shall be made just outside the collar of living tissue.

9.3.1.1.5 Tree branches shall be removed in such a manner so as not to cause damage to other parts of the tree or to other plants or property. Branches too large to support with one hand shall be precut to avoid splitting of the wood or tearing of the bark (see Figure 5.3.2). Where necessary, ropes or other equipment shall be used to lower large branches or portions of branches to the ground.

9.3.1.1.6 A cut that removes a branch with a narrow angle of attachment should be made from the outside of the branch to prevent damage to the parent branch (see Figure 5.3.8).

9.3.1.2 A minimum number of pruning cuts should be made to accomplish the purpose of facility/utility pruning. The structure and growth habit of the tree should be considered.

9.3.1.3 Trees directly under and growing into facility/utility spaces should be removed or pruned. Such pruning should be done by removing entire branches or leaders or by removing branches that have laterals growing into (or once pruned, will grow into) the facility/utility space.

9.3.1.4 Trees growing next to, and into or toward, facility/utility spaces should be pruned by reducing branches to laterals (5.3.3) to direct growth away from the utility space or by removing entire branches. Branches that, when cut, will produce sprouts that would grow into facilities and/or utility space should be removed.

9.3.1.5 Branches should be cut to laterals or the parent branch and not at a pre-established clearing limit. If clearance limits are established, pruning cuts should be made at laterals or parent branches outside the specified clearance zone.

9.3.2 Rural/remote locations – mechanical pruning

Cuts should be made close to the main stem, outside of th branch bark ridge and branch collar. Precautions should be taken to avoid stripping or tearing of bark or excessive wounding.

9.4 Emergency service restoration

During a utility-declared emergency, service must be restored as quickly as possible in accordance with ANSI Z133.1, 29 CFR 1910.331 – 335, 29 CFR 1910.268, or 29 CFR 1910.269. At such times, it may be necessary, because of safety and the urgency of service restoration, to deviate from the use of proper pruning techniques as defined in this standard. Following the emergency, corrective pruning should be done as necessary.

Annex B
Specification writing guideline

A300 (Part 1)-2008 *Pruning* standards are performance standards, and shall not be used as job specifications. Job specifications should be clearly detailed and contain measurable criteria.

The words "should" and "shall" are both used when writing standards. The word "shall" is used when writing specifications.

Writing specifications can be simple or complex and can be written in a format that suits your company/the job. The specifications consist of two sections.

I. General:

This section contains all aspects of the work to be performed that needs to be documented, yet does not need to be detailed.

Saying under the General section that "all work shall be completed in compliance with A300 Standards" means the clauses covering safety, inspections, cuts, etc. will be adhered to. There is no need to write each and every clause into every job specification.

Other items that may be covered in the General section could be: work hours and dates, traffic issues, disposal criteria, etc.

The second section under Job Specifications would be:

II. Details:

This section provides the clear and measurable criteria; the deliverables to the client.

This section, to be written in compliance with A300 standards, shall contain the following information:

1. **Objective – Clause 6**
   These objectives originate from/with the tree owner or manager. The arborist shall clearly state what is going to be done to achieve the objective(s).

   Objectives can be written for the entire job or individual trees. Rarely can one or two words clearly convey an objective so that all parties involved (client, sales, crew, etc.) can visualize the outcome.
2. **Method – Clause 7**
   Here the method(s) to be used to achieve the objective are stated. Again, depending on the type of job, this can be stated for the individual tree or a group of trees.
3. **Location – Clause 7.2.1, 7.3.2, 7.4.2, 7.5.3**
   This is the location in the tree(s) that the work methods are to take place.
4. **Density – Clause 7.3.1, 7.3.3, 7.5.1, 7.5.2, 7.5.4**
   This is the amount or volume of parts that are to be removed and can be stated exactly or in ranges.
5. **Size – Clause 7.2.2, 7.3.2, 7.4.3, 7.5.4**
   This is the size or range of sizes of cut(s) utilized to remove the volume specified.

   NOTE: Items # 4 & 5 are directly related to resource allocation, staffing and dollars.

SAMPLE PRUNING SPECIFICATIONS

#1. **Scope:** Large live oak on west side of pool

Objectives: Increase light penetration through east side of tree. Reduce risk potential of 1-inch-diameter branches falling.

Specifications: All broken branches and 1-inch-plus diameter dead branches shall be removed from the crown.

The three lowest 8-inch-plus diameter branches on the east side shall be thinned 25 percent with 1-inch- to 3-inch-diameter cuts.

NOTE: All work shall be completed in compliance with ANSI A300 and Z133.1 Standards.

#2. **Scope:** 1 Arizona ash

Objective: Enhance structure/structural development.

Specifications: General:

All pruning shall be completed in compliance with A300 Standards.

Detail:

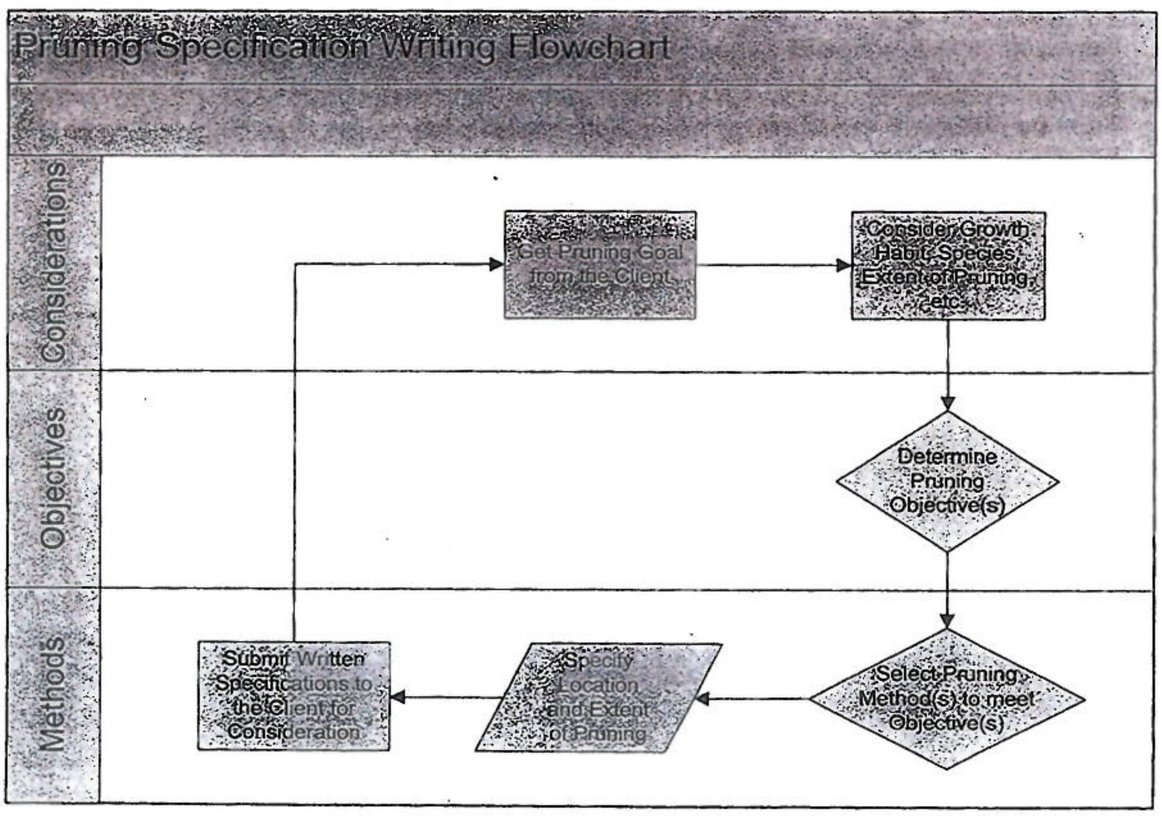
Thin crown 20-25 percent with 1-inch- to 4-inch-diameter cuts. Reduce west codominant leader by approximately 12 feet.

#3. **Scope:** Twenty-three newly installed evergreen elms

Objective: Maximize establishment – reduce nuisance while enhancing natural growth habit.

All work shall be completed in compliance with A300 Standards and the following specifications.

Specifications:
- Retain as much size as possible and 80-90 percent density of foliage.
- Lowest permanent branch will be 6 feet above grade in four to five years.
- Retain all sprout growth originating 18 inches above grade on trunk and 4 inches out from branch attachments throughout crown.
- Remove weakest rubbing branches.
- Remove dead branches.
- Reduce broken branches or branches with dead ends back to live laterals or buds. Heading cuts can be used.
- Maintain 6 inches behind adjacent edge of walks all growth that originates between 1.5 feet (18 inches) and 6 feet (72 inches) above grade. Heading cuts are acceptable.



Annex C
Applicable ANSI A300 interpretations

The following interpretations apply to Part 1 – *Pruning:*

C-1 Interpretation of "should" in ANSI A300 standards

"An advisory recommendation" is the common definition of "should" used in the standards development community and the common definition of "should" used in ANSI standards. An advisory notice is not a mandatory requirement. Advisory recommendations may not be followed when defensible reasons for non-compliance exist.

C-2 Interpretation of "shall" in ANSI A300 standards

"A mandatory requirement" is the common definition of "shall" used in the standards development community and the common definition of "shall" used in ANSI standards. A mandatory requirement is not optional and must be followed for ANSI A300 compliance.

Date: ______________ Time: ______________

We will soon be conducting vegetation maintenance along power lines in your area. After a review of power lines on your property, we found the following:

- ○ Trees near power lines on your property will require routine trimming.
- ○ Certain trees on your property present a reliability risk and have been flagged for removal. Please contact us for more information.
- ○ Power lines are clear of limbs and don't require additional maintenance at this time.
- ○ Vegetation is interfering with access to a pad-mounted transformer and/or pole on your property and requires maintenance.
- ○ Limbs are in cable TV and/or telephone lines and are not affecting power lines. No trimming is required.
- ○ Since the required pruning is the result of storm damage, the brush is being left for your disposal.

If you have questions or concerns, please contact:

____

____

DUKE ENERGY®

Duke Energy is committed to providing our customers with safe, reliable electric service.

Maintaining trees and vegetation along our power lines helps to ensure reliability, minimize outages and enhance safety for customers, Duke Energy employees and contractors.

Duke Energy hires qualified, trained tree experts to inspect and clear electric lines on its system. Our crews use industry-approved pruning techniques endorsed by the National Arbor Day Foundation and the International Society of Arboriculture.

All debris from our regular maintenance pruning activities will be cleaned up and disposed of by Duke Energy. Disposal of vegetation resulting from storms and other emergency operations is the responsibility of the property owner.

Learn more about Duke Energy's vegetation management program at **duke-energy.com/trees.**

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Pruning vs. cutting down

Each tree is different and must be considered individually. Trees with trunks close to the power lines may require much more pruning than trees located farther from the line. Additionally, not all pruning techniques are appropriate for all tree species.

When pruning, our trimming professionals make every attempt to trim for sufficient clearance until we return on our next planned maintenance.

Before deciding to remove a tree, we first evaluate its health and proximity to the lines. A tree may have a decayed portion on the trunk. The entire tree may be dead or in the process of dying, which might cause it to break or fall. It may have soil that is severely eroded away from the root system, making it more likely to fall.

Sometimes trees are required to be cut down when they are too close to power lines or when they would have to be pruned severely.

Herbicide applications

Duke Energy uses environmentally responsible herbicide applications to control tall growing incompatible plants within power line rights of way. Our objective is to maintain low growing vegetation to minimize potential electric power interruptions, which also enhances wildlife habitat.

We use professional contractors to apply herbicide by utilizing different methods including foliar, stump, stem and vine applications.

Duke Energy contractors have been trained on the proper, safe and environmentally responsible techniques of managing plant growth. All products used by Duke Energy are registered by the Environmental Protection Agency and approved by appropriate state agencies.

Debris removal

The majority of Duke Energy's pruning and cutting occurs during planned maintenance. We typically dispose of any small limbs and brush in landscaped settings. The larger pieces of wood are cut into manageable lengths for the property owner's use. In non-landscaped sites, pruned vegetation and wood debris are left in place to bio-degrade. When an "Act of God" (e.g., lightning, ice storms, high winds, hurricanes, tornadoes) causes trees or other vegetation to fall across power lines and thus create power outages, we cut the trees and brush so poles and lines can be repaired and re-energized. Disposal of any wood, limbs or debris resulting from this type of emergency operation is the property owner's responsibility.

For more information visit duke-energy.com/safety/right-of-way-management.asp.

Visit the Arbor Day Foundation at arborday.org/treelineusa for information about planning and planting vegetation around electrical facilities.

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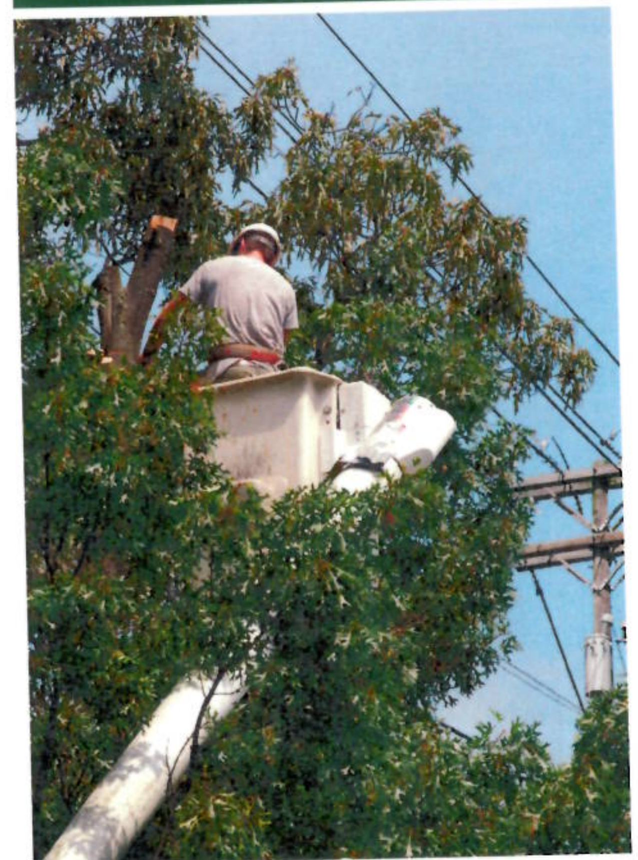


Vegetation Management

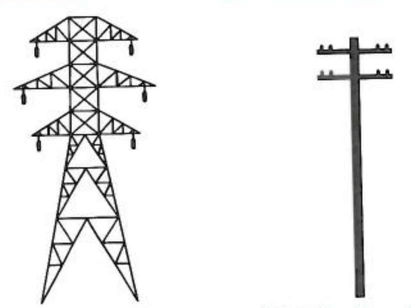
Keeping the lights on.

Our customers want reliable power – in both good weather and bad. And while the trees that thrive throughout our 104,000 square miles of service area are a source of tremendous pride, they are also one of the main causes of power outages.

Duke Energy works consistently to balance aesthetics with our goal to provide safe, reliable power to the households and businesses that depend on us. It is our responsibility to ensure power lines are free of trees and other obstructions that could disrupt electric service. Trees that are close to power lines must be trimmed or cut down to ensure they don't cause power outages, and Duke Energy does much of this work proactively.

Our crews use a variety of methods to manage vegetation growth along distribution circuits and transmission power line rights of way, including vegetation pruning, felling (cutting down) and herbicides. These methods are based on widely accepted standards developed by the tree care industry and approved by the American National Standards Institute for tree care maintenance and operations.

Examples of typical transmission and distribution structures



High-voltage transmission lines provide large amounts of electricity over long distances. The transmission lines in your community are part of the larger, interconnected grid system that powers an entire region, not just the community through which the lines run. Federal rules are more stringent for some transmission lines, depending on the voltage, and may include fines up to $1 million per day for tree-related outages. Duke Energy manages its grid to provide reliable operation of transmission facilities while adhering to regulations and easement rights.

Distribution rights of way

Distribution lines carry power from local substations to homes and businesses. A distribution right of way provides access to a strip of land so that utilities (electric, telephone, cable, water and/or gas) may build and maintain service lines. Duke Energy manages rights of way to provide reliable delivery of electricity.

Vegetation management methods

Duke Energy uses an Integrated Vegetation Management approach, which includes careful pruning, selective herbicidal application and tree felling. This allows us to evaluate power line areas and determine the best method for maintaining reliable service.

The objective of an Integrated Vegetation Management program is to maintain the lines – before the trees and brush are close enough to cause outages – in a manner that is consistent with good arboricultural practices.

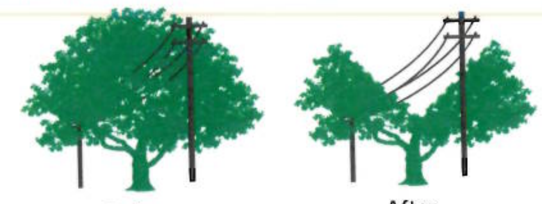
Duke Energy uses specific circuit information, reliability data and other indicators to prioritize lines for tree pruning and removal.

Pruning methods

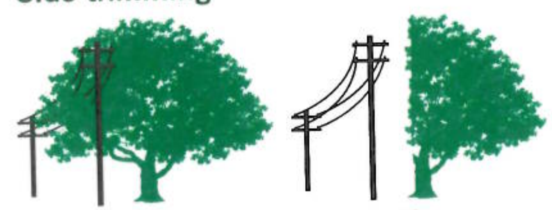
We do not "round" trees over because it's not good for a tree's health. We subscribe to directional or targeted pruning. These methods are endorsed by the tree care industry as the best pruning techniques for tree health.

Examples of trimming methods

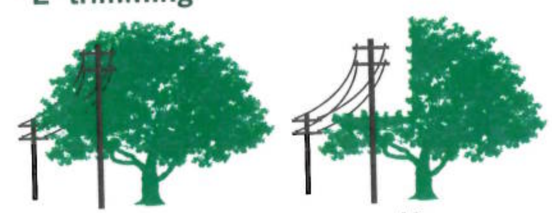
"V" trimming



Side trimming



"L" trimming



Directional pruning involves cutting a limb back to another limb (or lateral) so that future growth of the resulting limb is directed away from the power lines. The basis for this type of pruning is that each limb removed from a tree is removed either where it joins another limb or at the trunk. With directional pruning, tree growth causes less impact to public safety and electrical service. This procedure is different from the philosophy of "rounding" trees over in which limbs are cut at arbitrary points, normally leaving unhealthy "stub" cuts, which can damage the tree.

ATTACHMENT T

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Document title:	Document number:
Damage Assessment	EMG-EDGF-00048
	Revision No.: 2
Keywords: emergency; distribution system storm operational plan; forensic assessment	Applies to: Duke Energy Florida (Distribution)

Contents

Mission

Damage Assessment (DA) provides predictive and actual information regarding the extent of storm damage to the Duke Energy FL system, estimated number of resources needed and expected time of restoration. This is accomplished by assessing actual damage and estimated time of restoration immediately after the storm exits, and producing specific damage assessment information for restoration forces. Damage Assessment is scalable from Mid-Level storms to Major Storms

Definition of Mid-Level or Major Storm Event

Damage Assessment (DA)				
Category	**Incident Commander**	**Level**	**Central**	**Coastal**
Major	System	**IV**	System DA - Major Lead	
Mid-Level	DCC	**III**	DA Mid Lead / Backup DA Mid Lead	DA Mid Lead / Backup DA Mid Lead
		II	DA Mid Lead / Backup DA Mid Lead	DA Mid Lead / Backup DA Mid Lead
		I	DA Mid Lead / Backup DA Mid Lead	DA Mid Lead / Backup DA Mid Lead

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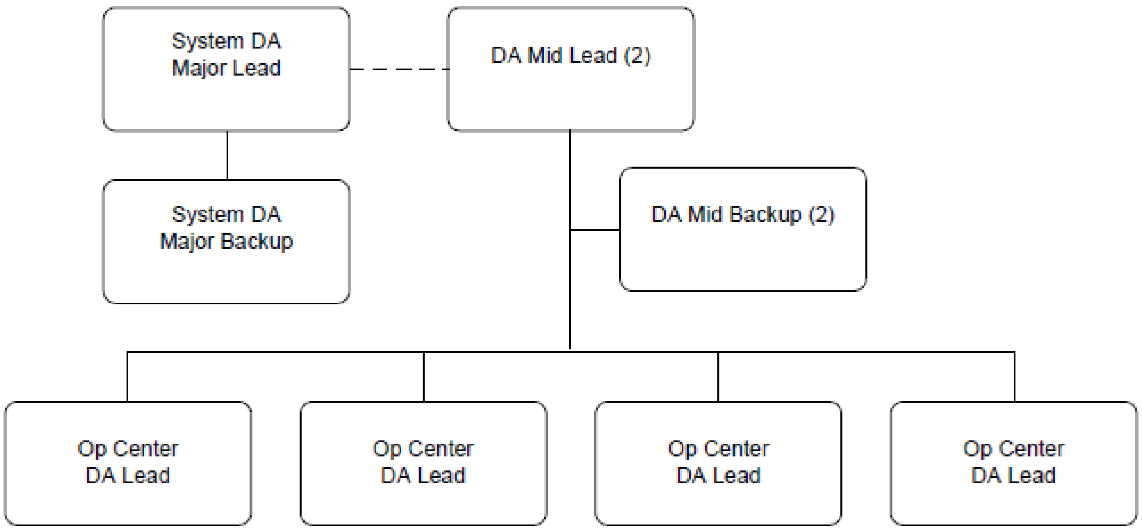
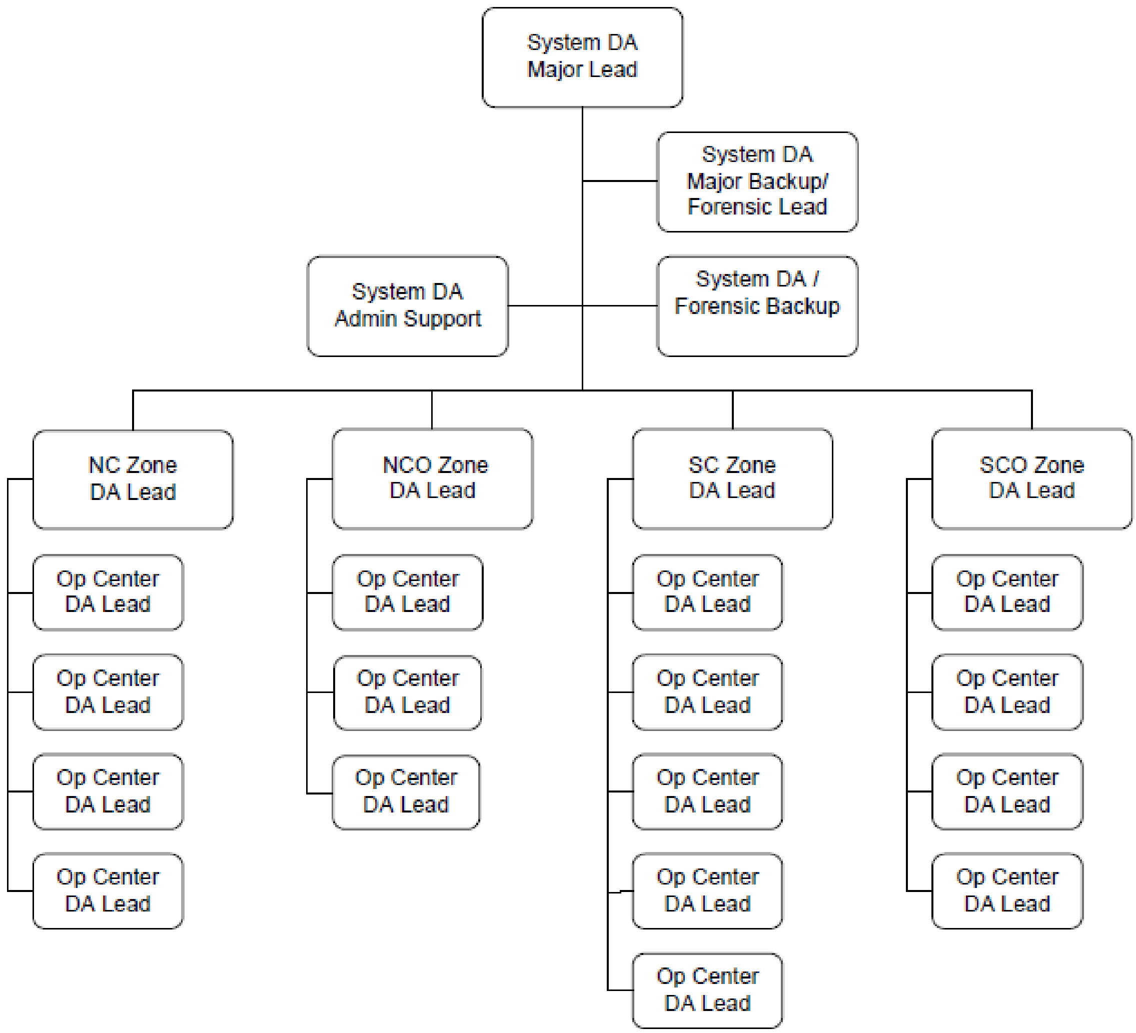
Organization Charts

DA Mid-Level Organization



DA Major Organization



Mid-Level Damage Assessment

This process consists of assessing damaged facilities on the load side of open devices during a Mid-Level Storm event. It is based exclusively on Outage Tickets from OMS and is usually run at the Zone and/or Operating Center organization level.

The following personnel are engaged in Mid-Level Damage Assessment:

- Senior Damage Assessor
- Damage Assessor
- Damage Assessor Driver
- Damage Assessment Support
- Operating Center Damage Assessment Coordinator
- Mid-Level Damage Assessment Coordinator (Zone)
- System Damage Assessment Coordinator

Specific Explanations of Mid-Level Damage Assessment

- This process is a logical and scalable version of the DA Major storm restoration process, i.e., the mid-level and major storm restoration processes will be nearly identical in both process and organizational structures. Additionally, it would provide for more opportunities to both practice and prepare for, make adjustments to, as well as execute the major storm process.
- Both the Central and Coastal Zones will have a designated DA Lead and a designated backup DA Lead.
- Prior to or during an event, DA Zone Leads will be engaged by either:
  - DCC / Zone Point Of Contact (ZPOC) request
  - Proactive monitoring of escalating weather conditions by the DA leadership

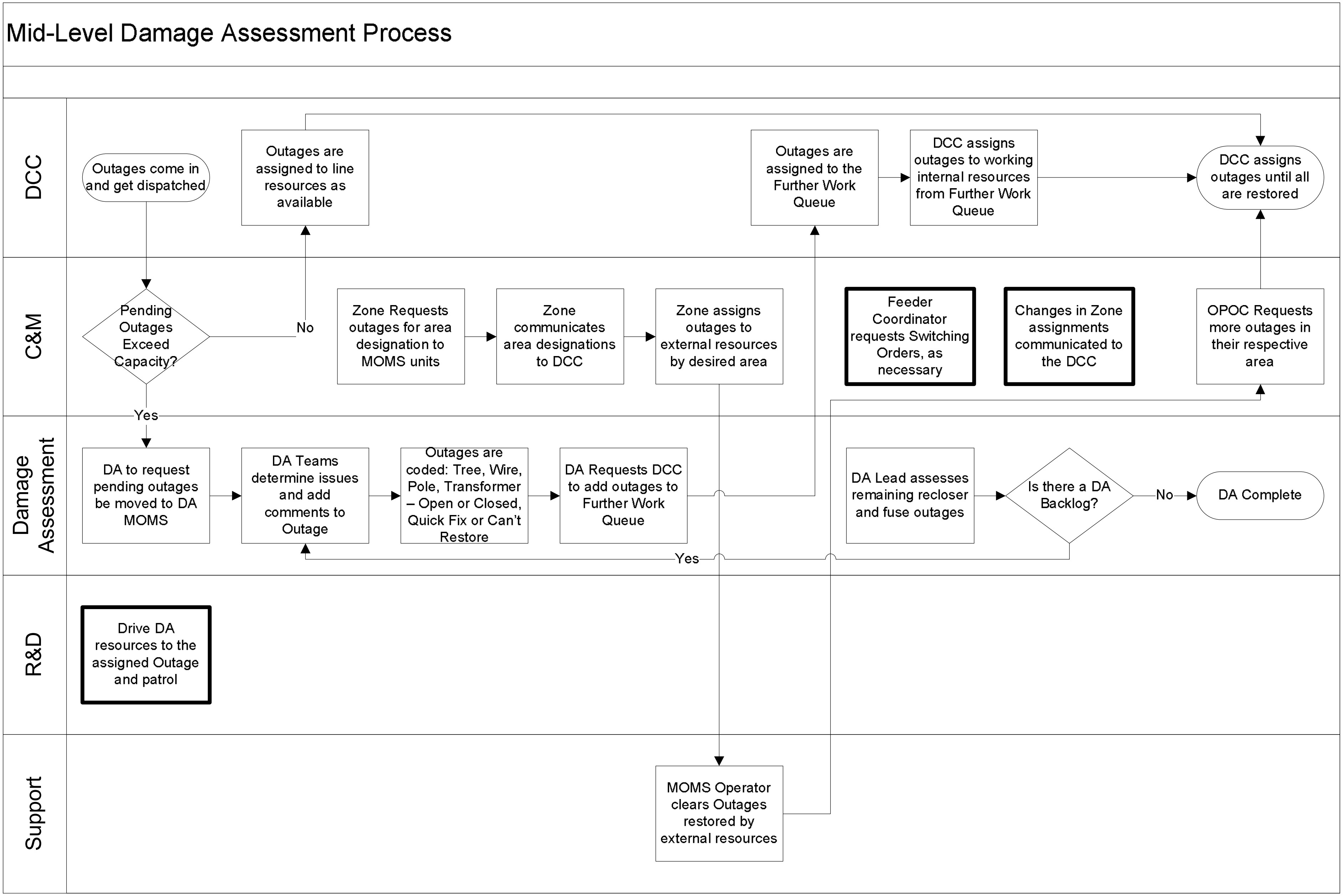
- Mid-Level DA Leads will either perform or cause the callout to be performed via ARCOS to acquire the requisite Damage Assessors.
- Mid-Level DA Leads will contact R&D management to request driving resources to accompany damage assessors during an event.
- DA Local leads will work *side by side* with the Operations Center Point of Contact (OPOC).
- Damage Assessment Investigators will be categorized into two (2) distinct groups:
  - Senior DA - Experienced at Damage Assessment and Mid-Level DA, i.e., fully competent to perform their duties either during the day or at night.
  - Damage Assessor - Relatively Inexperienced at the Damage Assessment and Outage Investigation process, i.e., new to their roles with limited experience performing their duties either during the day or at night.

- DA resources will be deployed as follows:
-

	Senior Damage Assessor	Damage Assessor	R&D Driver
Day	X	X	X
Night (No Backlot)	X	Only w/ Senior DA	X

- The recommended threshold for activating DA resources will be a 3 to 1 ratio of total fuse level and above outages to available line resources.
- DA Local leads will be responsible for identifying the following:
  - How many resources will be required to assist in the restoration efforts,
  - Confirming that the resources have been assigned tasks that are commensurate with their abilities, i.e., DA-1, DA-2.
  - For Levels 1-3, communicating and coordinating submitted outage data to the MOMS operator or inputting the same data into MOMS, if capable.
  - Monitoring the pending tickets as well as communicating with the OPOC to determine the appropriate time to either mobilize DA resources or release them from their assigned duties.

The flowchart below provides a detailed view of this sub-process:


Mid-Level Damage Assessment Process
DCC
C&M
Damage Assessment
R&D
Support
Outages come in and get dispatched
Pending Outages Exceed Capacity?
No
Yes
Outages are assigned to line resources as available
DA to request pending outages be moved to DA MOMS
Drive DA resources to the assigned Outage and patrol
DA Teams determine issues and add comments to Outage
Outages are coded: Tree, Wire, Pole, Transformer – Open or Closed, Quick Fix or Can't Restore
DA Requests DCC to add outages to Further Work Queue
Zone Requests outages for area designation to MOMS units
Zone communicates area designations to DCC
Zone assigns outages to external resources by desired area
MOMS Operator clears Outages restored by external resources
Outages are assigned to the Further Work Queue
DCC assigns outages to working internal resources from Further Work Queue
Feeder Coordinator requests Switching Orders, as necessary
Changes in Zone assignments communicated to the DCC
DA Lead assesses remaining recloser and fuse outages
Is there a DA Backlog?
No
Yes
DA Complete
OPOC Requests more outages in their respective area
DCC assigns outages until all are restored

Major Storm Event Damage Assessment

Consists of the following sub-processes:

- Statistical Damage Assessment
- Targeted Damage Assessment
- Final Sweep

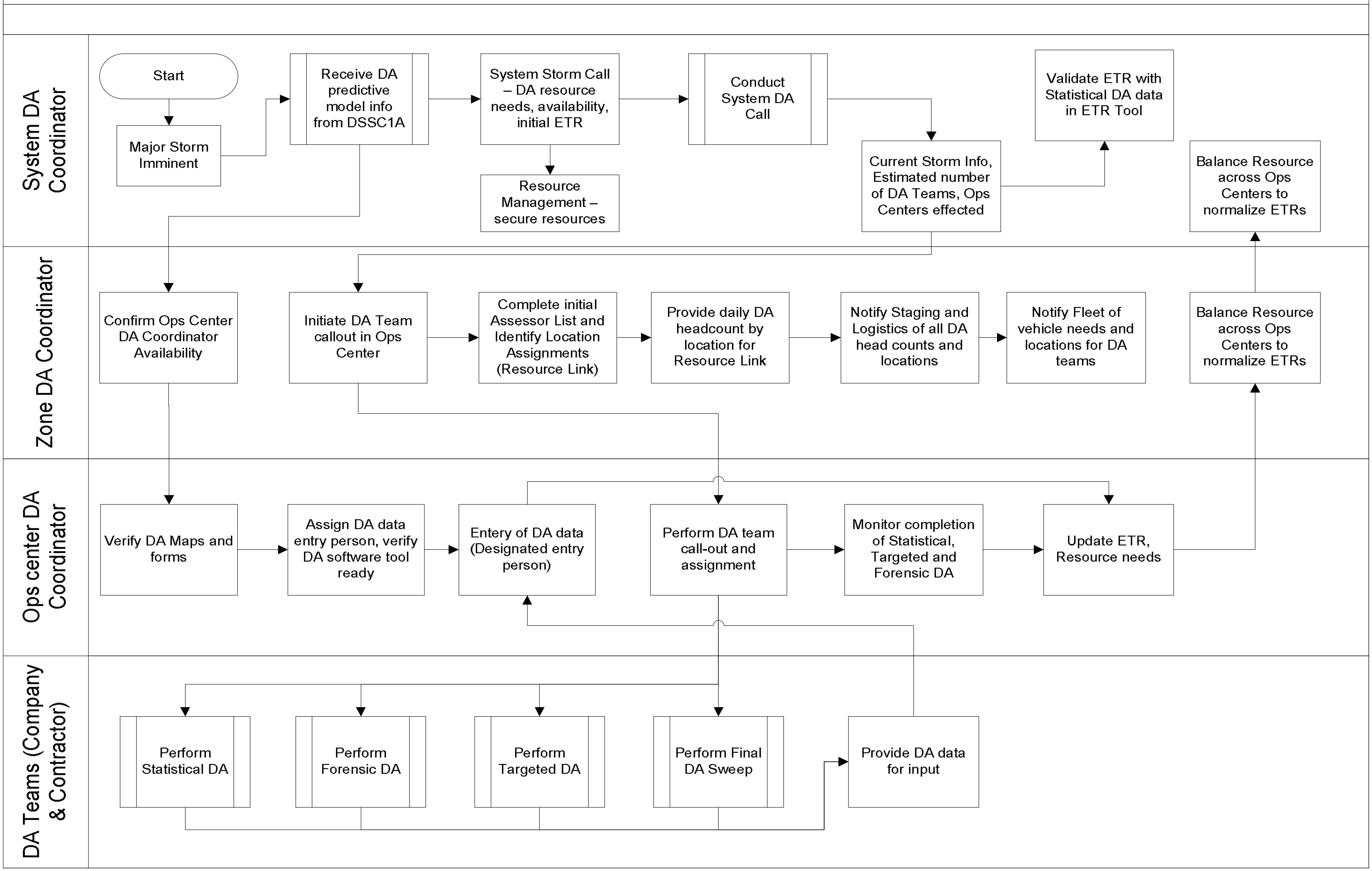
Specific Explanations of Major Storm Event Damage Assessment

- This process is both a logical and scalable version of the DA Mid-Level restoration process, i.e., the mid-level and major storm restoration processes will be nearly identical
- Outages will be assigned by priority feeder after the AIRD feeders have been assessed and modeled in OMS.
- DA can commence on predicted device outages or reported outages as modeled in OMS based on the data obtained from the AIRD process.
- Outages are documented at the device level and either reported as *Further Work Tickets* or cleared as appropriate.
- Damage data, i.e., Further Work, is entered directly into MOMS.
- Addresses or GPS coordinates can be utilized when assigning work packets to both native and off-system line crews.
- The DA process will hereinafter be defined in four (4) distinct categories
  - **Statistical DA**;
  - **Targeted DA**;
  - **Sweep DA**;
  - **Forensic DA**.
- Damage Assessment Investigators will be categorized into two (2) distinct groups:
  - Senior DA - Experienced at Damage Assessment and Mid-Level DA, i.e., fully competent to perform their duties
  - Damage Assessor - Relatively Inexperienced at the Damage Assessment and Outage Investigation process, i.e., new to their roles with limited experience performing their duties.
- DA resources will be deployed as follows:

	Senior Damage Assessor	**Damage Assessor**	**R&D Driver**
Day	X	X	X
Night (No Backlot)	none	none	none

The flowchart below provides a detailed view of this sub-process:

Major Storm Damage Assessment (DA) Process



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Major Event DA Timeline

ID	Task Name	Field Resource Name	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7		Day 8	
			Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	**Statistical DA** - *Determines and Validates Line, Tree, and DA Resource needs at system level. Data point in ETR process.*	*Engineering / R&D (Trouble & Line only as needed)*																
5	**Forensics** - *Documents root cause of facility damage as part of regulatory requirements*	*Engineering / R&D*	If Necessary		If Necessary		If Necessary											
2	**AIRD** - *Models OMS and isolates system to first stage protective devices off of feeder. Restores feeder breakers.*	*Trouble / Line*																
3	**Restore Backbone** - *Ensures most customers and critical customers are restored first*	*Trouble / Line*																
6	**Redefined DA** - *Validates Statistical Model. Provides documented damage directly on the outage ticket that facilitates work package creation.*	*Contract DA*	If available															
7	**Work Scope Assignments** - *Facilitates the ability to effectively match outage work scope to restoration resource for next day's work*	*Night Strategic Support*		If DA was performed														
8	**Restoration** - *Turns the lights on*	*Contract Line*			If AIRD Completed													
10	**Final DA Sweep** - *Documents post storm system changes (abnormalities, non-standard construction, etc) necessary for GIS updates. Captures facility damage that pose impending outage threat. Sweeps performed to the meter base.*	*Contract DA*	"All Clear"															

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Statistical Damage Assessment

This sub-process consists of assessing approximately 10% of the Distribution facilities (in each Operating Center) and recording the damage found. These results are then projected across all facilities in the operating center to predict total facilities damaged from which resource needs and estimated time of restoration can be calculated.
The following personnel are engaged in Statistical Damage Assessment:

- Senior Damage Assessor
- Damage Assessor
- Damage Assessor Driver
- Damage Assessment Support
- Operating Center Damage Assessment Coordinator
- Zone Damage Assessment Coordinator
- System Damage Assessment Coordinator

The flowchart below provides a detailed view of this sub-process:

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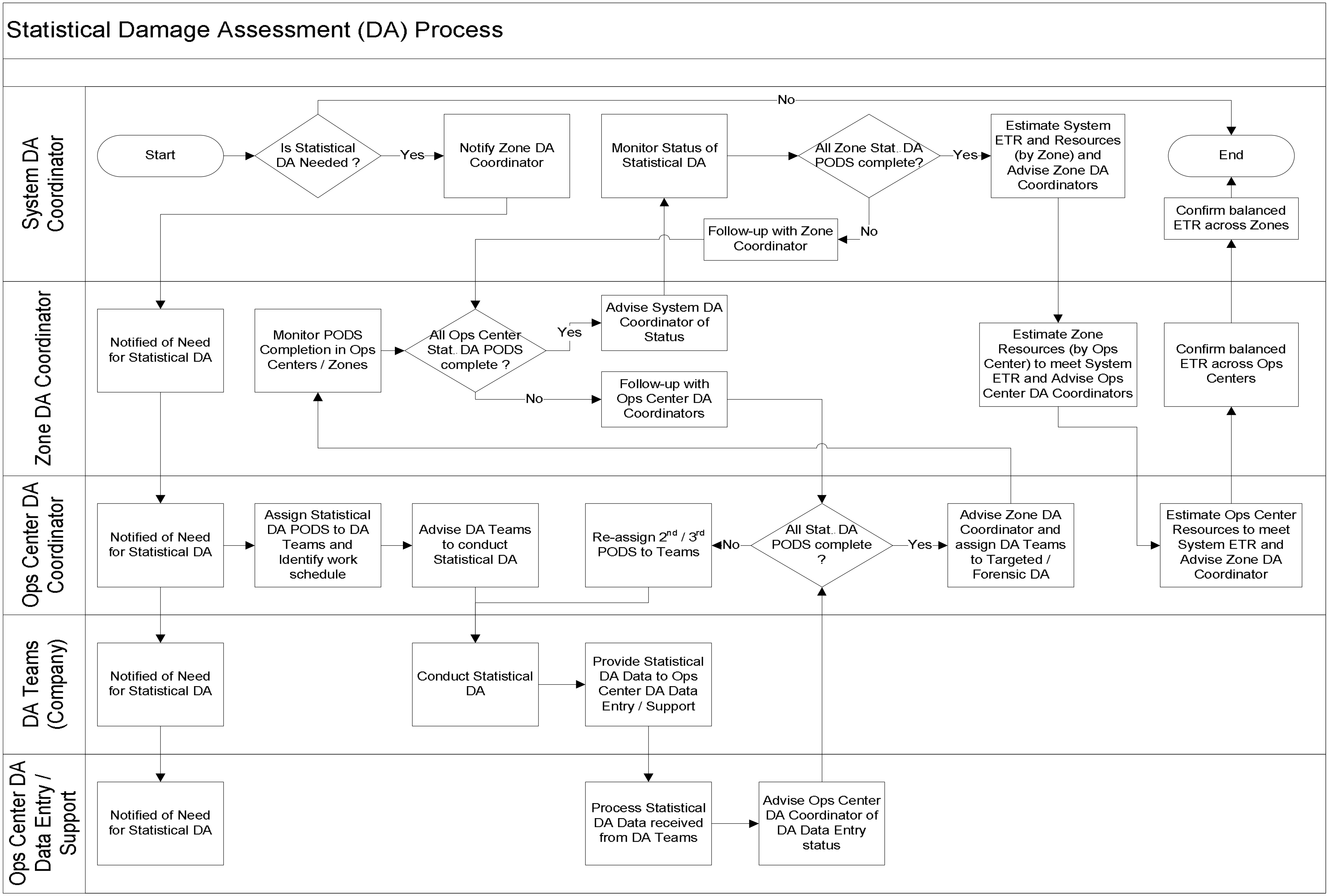

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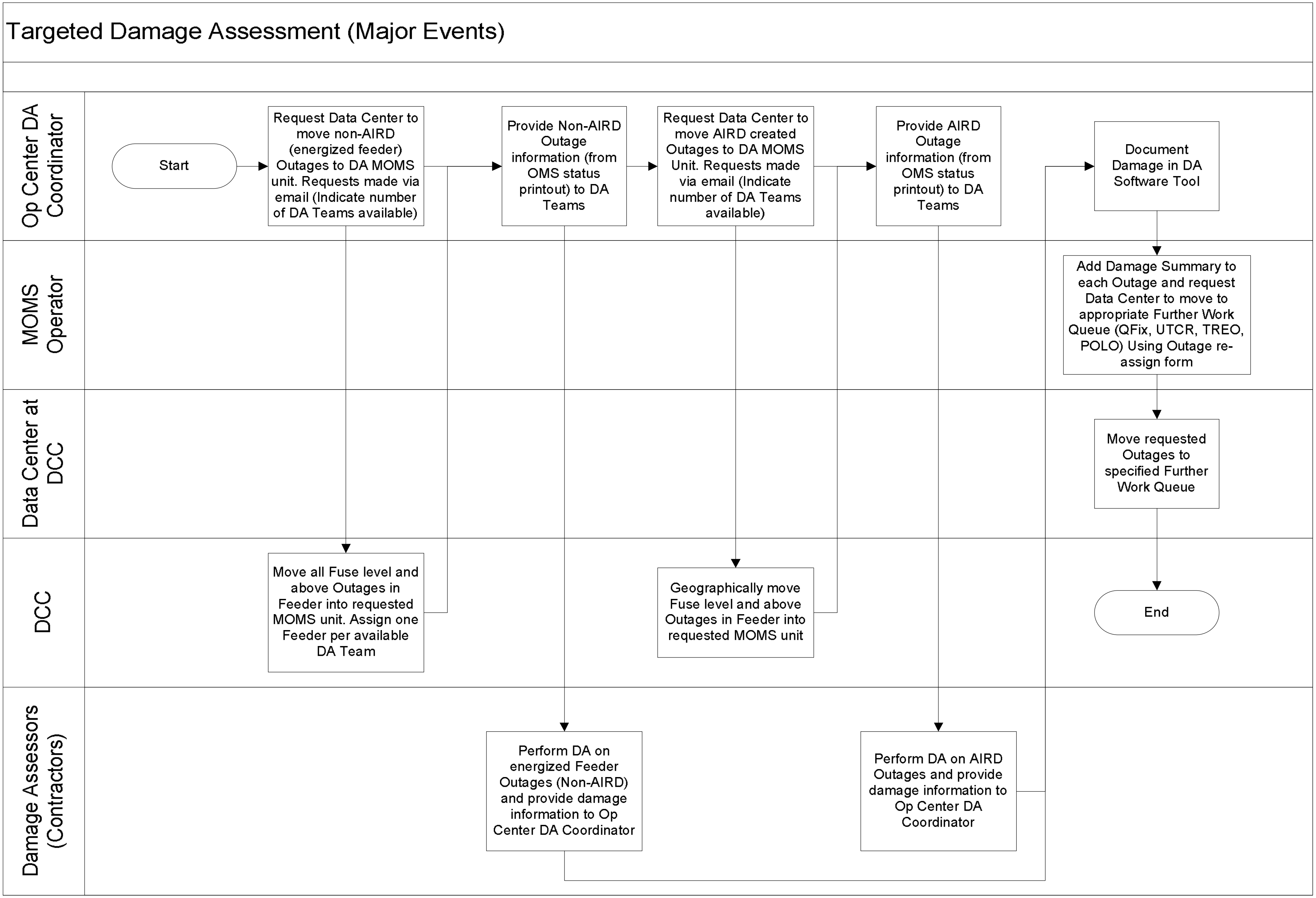
Targeted Damage Assessment

This sub-process provides data for restoring the distribution systemsand models OMS.

The following personnel are engaged in Targeted Damage Assessment:

- Senior Damage Assessor
- Damage Assessor
- Damage Assessor Driver
- Damage Assessment Support
- Operating Center Damage Assessment Coordinator
- Zone Damage Assessment Coordinator
- System Damage Assessment Coordinator

The flowchart below provides a detailed view of this sub-process:


Targeted Damage Assessment (Major Events)
Op Center DA Coordinator
MOMS Operator
Data Center at DCC
DCC
Damage Assessors (Contractors)
Start
Request Data Center to move non-AIRD (energized feeder) Outages to DA MOMS unit. Requests made via email (Indicate number of DA Teams available)
Provide Non-AIRD Outage information (from OMS status printout) to DA Teams
Request Data Center to move AIRD created Outages to DA MOMS Unit. Requests made via email (Indicate number of DA Teams available)
Provide AIRD Outage information (from OMS status printout) to DA Teams
Document Damage in DA Software Tool
Add Damage Summary to each Outage and request Data Center to move to appropriate Further Work Queue (QFix, UTCR, TREO, POLO) Using Outage re-assign form
Move requested Outages to specified Further Work Queue
Move all Fuse level and above Outages in Feeder into requested MOMS unit. Assign one Feeder per available DA Team
Geographically move Fuse level and above Outages in Feeder into requested MOMS unit
End
Perform DA on energized Feeder Outages (Non-AIRD) and provide damage information to Op Center DA Coordinator
Perform DA on AIRD Outages and provide damage information to Op Center DA Coordinator

Final Sweep

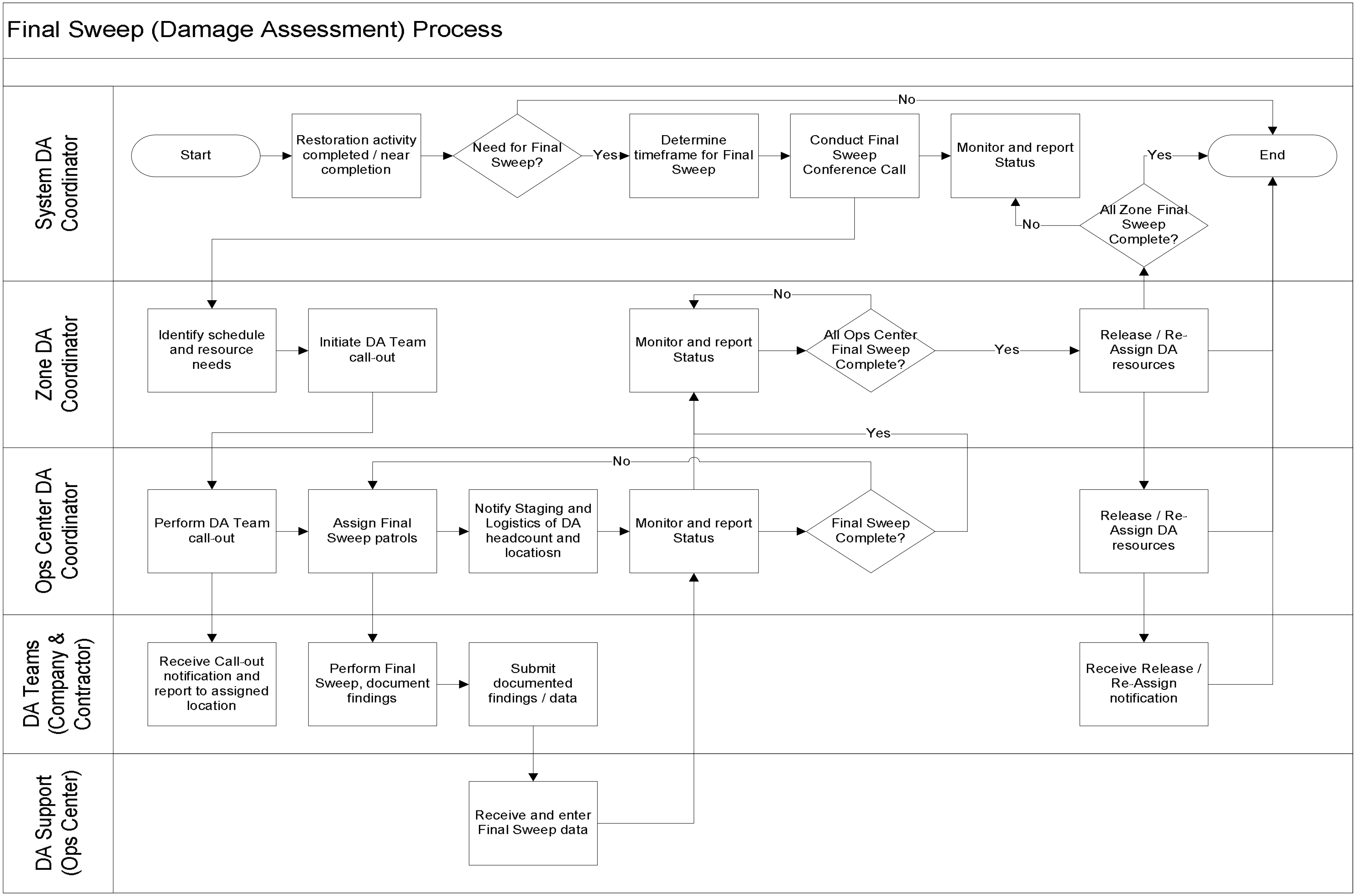
This sub-process provides information regarding the current configuration of the distribution system (i.e., the state of each switch, existing phasing, etc.). Final Sweep teams identify existing distribution devices in need of repair or replacement due to storm damage or restoration actions immediately following the storm. Additionally, the teams record and report final sweep damage assessment information, which is used to assist in identifying the resources needed to return the distribution system to normal configuration.

The following personnel are engaged in Final Sweep:

- Senior Damage Assessor
- Damage Assessor
- Damage Assessor Driver
- Damage Assessment Support
- Operating Center Damage Assessment Coordinator
- Zone Damage Assessment Coordinator
- System Damage Assessment Coordinator

The flowchart below provides a detailed view of this sub-process:

Duke Energy Proprietary Business Information – Not for external distribution



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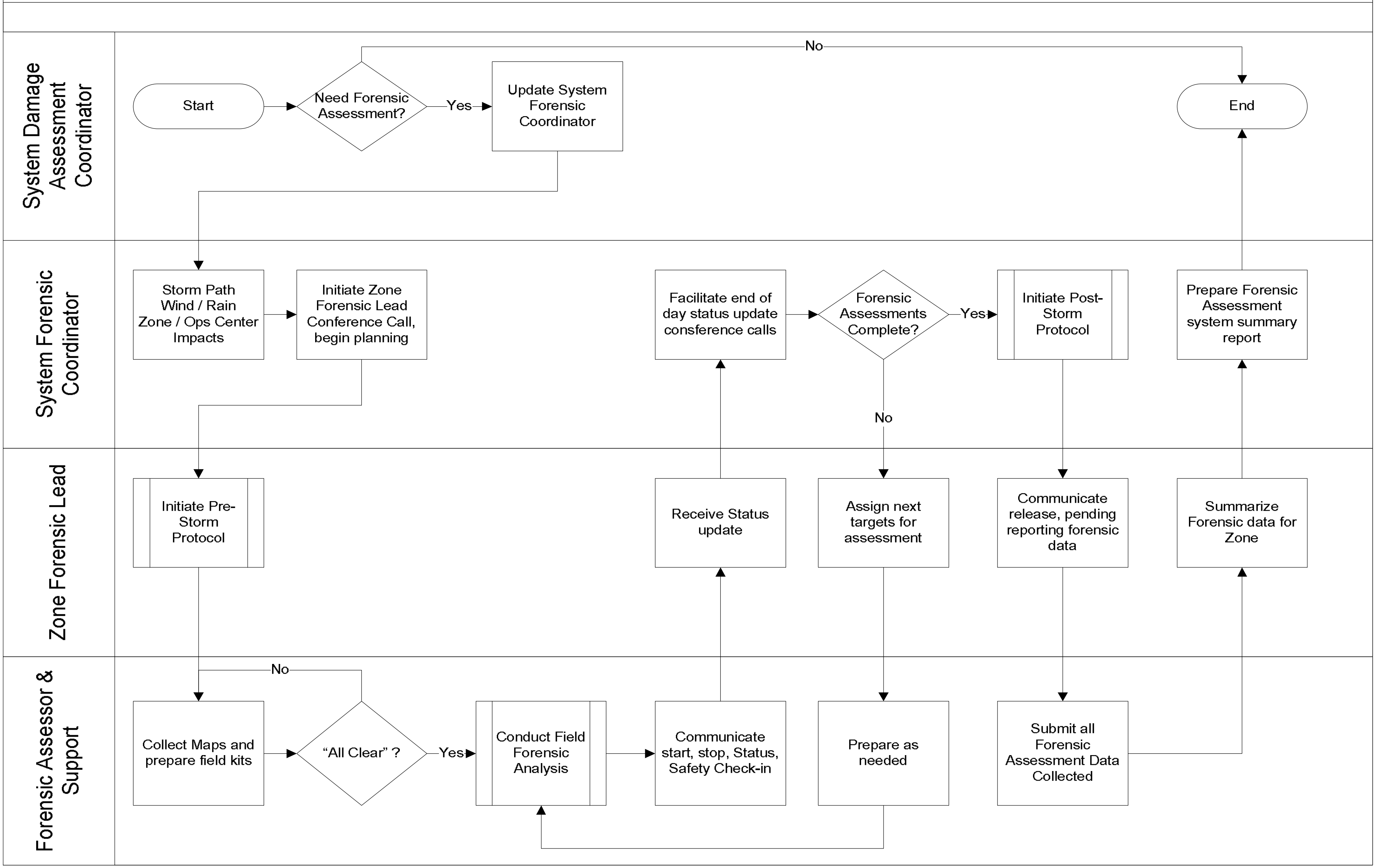
Forensic Assessment

This sub-process is not directly related to the restoration effort. The purpose of forensic assessment is to provide data on causal modes for distribution pole and structure damage due to storm related damage. The following personnel are engaged in Final Sweep:

- System Damage Assessment Coordinator
- System Forensic Coordinator
- Zone Forensic Lead
- Forensic Assessor
- Assessor Support

The flowchart below provides a detailed view of this sub-process:

Forensic Assessment Process



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Job Descriptions

System Damage Assessment Coordinator

Job Function

The System Damage Assessment Coordinator is responsible for the overall readiness of the Damage Assessment process at Duke Energy Florida and provides leadership to the process.

Job Description

- Understand the DSSOP and Damage Assessment Storm Plan and communicate effectively across group and department lines, ensuring that the damage assessment process is properly aligned with storm restoration strategy
- Maintain relationships with field and storm management team members
- Lead lessons learned activities following major events to ensure continual improvement

Key Interface Points

- Distribution System Storm Coordinator
- Mid-Level Damage Assessment Coordinator
- Zone Damage Assessment Coordinator
- Operations Center Damage Assessment Coordinator

Checklist of Actions

Before Major Storm

- Recruit skilled (senior) and unskilled Damage Assessors from:
  - Zone/Operations Center personnel
  - RSVP volunteers
  - Retirees
  - Fossil and Nuclear plants
  - Transmission Department
  - Contractors
- Create and maintain Damage Assessment databases and distribution lists
- Develop, schedule, and deliver Damage Assessor training
- Develop and schedule training for Zone and local Operations Center Damage Assessment contacts
- Ensure that estimated time of restoration (ETR) tool is maintained and enhanced to meet restoration needs
- Participate in development and administering of system storm drills to ensure readiness
- Develop and maintain specifications for statistical and feeder maps utilized during the Damage Assessment process
- Determine Damage Assessment materials needs, secure funding, purchase, and distribute to Duke FL and other jurisdictions

During Major Storm

- Participate in all System storm conference calls to develop restoration strategy
- Develop Damage Assessment plan and deploy to the field
- Determine availability of Damage Assessment team members
- E-mail team member names and contact information to distribution lists
- Direct phone calls to Damage Assessment team members
- Develop Damage Assessment team assignments and vehicle deployment plans
- Deploy and communicate Damage Assessment plan to Zone Damage Assessment Coordinator
- Monitor storm progress and make Damage Assessment resource adjustments as necessary
- Monitor data entry into ETR tool across the System
- Provide resource modeling and ETR estimates for the System to the Distribution System Storm Coordinator

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After Major Storm

- Demobilize deployed Damage Assessment teams
- Lead lessons learned activities
- Provide input into DSSOP improvement

Training Requirements

- Review DSSOP and recent lessons learned to ensure understanding of “the big picture” as it pertains to damage assessment, restoration, and customer communications
- Participate in developing storm drill scenarios to ensure readiness of all those involved in the damage assessment process
- Communicate with Human Resources to obtain lists of recent retirees for recruiting purposes
- Review and test tools to ensure workability and competency of users: Resource Tracking, Damage Assessment Data Entry, Damage Assessment ETR (Web-based)
- Review Damage Assessment training module for potential enhancements
- Develop and implement Damage Assessment training classes for newly recruited Damage Assessors and contractors
- Communicate with Damage Assessors to enlist support for upcoming storm season

Engaged in the Following Sub-processes

- Mid-Level Damage Assessment
- Statistical Damage Assessment
- Targeted Damage Assessment
- Final Sweep
- Forensic Assessment

Mid-Level Damage Assessment Coordinator

Job Function

The Mid-Level Damage Assessment Coordinator is responsible for the overall readiness of the Mid-Level Damage Assessment process and provides leadership to the process.

Job Description

- Understand the Damage Assessment Storm Plan and communicate effectively across the Zone to ensure that the damage assessment process is in a ready state
- Communicate with the System Damage Assessment Coordinator to ensure linkage with the DSSOP
- Participate in lessons learned activities following Mid-Level events to ensure continual improvement

Key Interface Points

- Operations Center Damage Assessment Coordinators
- System Damage Assessment Coordinator

Checklist of Actions

Before Mid-Level Storm

- Organize and participate in training of Operations Center Damage Assessment personnel
- Stay linked with System Damage Assessment Coordinator to ensure readiness
- Ensure that all Operations Center contacts have the current ETR tool and are trained in its use
- Work with Zone management to ensure resource-sharing capability in the event the Zone is not impacted by a storm (i.e., how many Damage Assessment teams can be made available elsewhere)

During Mid-Level Storm

- Participate in Zone storm conference calls
- Communicate with System Damage Assessment Coordinator to ensure that the deployment plan is understood
- Monitor storm impact and make Damage Assessment resource adjustments as necessary
- Monitor ETR tool for data input and maintain communications with Operations Center Damage Assessment contacts to ensure that data flow is timely
- If Zone is not impacted by storm, engage Zone Damage Assessment Coordinator to develop a Damage Assessment resource-sharing plan for use elsewhere in the System

After Mid-Level Storm

- Participate in demobilizing efforts once restoration is complete
- Participate in lessons learned activities

Training Requirements

- Review Zone Storm Plan and recent lessons learned to ensure understanding of “the big picture” as it pertains to damage assessment, restoration, and customer communications
- Provide the DA training/safety awareness presentation at the DA staging sites prior to dispatching DA teams

Engaged in the Following Sub-processes

- Mid-Level Damage Assessment

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Zone Damage Assessment Coordinator

Job Function

The Zone Damage Assessment Coordinator is responsible for the overall readiness of the Damage Assessment process within the assigned Zone and provides leadership to the process.

Job Description

- Understand the Damage Assessment Storm Plan and communicate effectively across the Zone to ensure that the damage assessment process is in a ready state
- Communicate with the System Damage Assessment Coordinator to ensure linkage with the DSSOP
- Participate in lessons learned activities following major events to ensure continual improvement

Key Interface Points

- Operations Center Damage Assessment Coordinators
- Zone Storm Coordinator
- Damage Assessors
- System Damage Assessment Coordinator

Checklist of Actions

Before Major Storm

- Organize and participate in training of Operations Center Damage Assessment personnel
- Stay linked with System Damage Assessment Coordinator to ensure readiness
- Ensure that all Operations Center contacts have the current ETR tool and are trained in its use
- Ensure timely printing of feeder maps and statistical maps for damage assessment
- Work with Zone management to ensure resource-sharing capability in the event the Zone is not impacted by a storm (i.e., how many Damage Assessment teams can be made available elsewhere)

During Major Storm

- Participate in Zone storm conference calls
- Communicate with System Damage Assessment Coordinator to ensure that the deployment plan is understood
- Monitor storm progress and make Damage Assessment resource adjustments as necessary
- Monitor ETR tool for data input Duke and maintain communications with Operations Center Damage Assessment contacts to ensure that data flow is timely
- Provide Zone resource modeling from statistical damage assessment data
- If Zone is not impacted by storm, engage Zone Damage Assessment Coordinator to develop a Damage Assessment resource-sharing plan for use elsewhere in the System

After Major Storm

- Participate in demobilizing efforts once restoration is complete
- Participate in lessons learned activities
- Ensure that Operations Center feeder maps and statistical sampling maps get restocked for next storm

Training Requirements

- Review Zone Storm Plan and recent lessons learned to ensure understanding of “the big picture” as it pertains to damage assessment, restoration, and customer communications
- Review and test tools to ensure workability and competency of users: Resource Tracking, Damage Assessment Data Entry, and Damage Assessment ETR (Web-based)
- Provide the DA training/safety awareness presentation at the DA staging sites prior to dispatching DA teams

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Engaged in the Following Sub-processes

- Mid-Level Damage Assessment
- Statistical Damage Assessment
- Targeted Damage Assessment
- Final Sweep
- Forensic Assessment

Operations Center Damage Assessment Coordinator

Job Function

The Operations Center Damage Assessment Coordinator is responsible for the overall readiness of the damage assessment process within the assigned Operations Center.

Job Description

- Understand the Damage Assessment Storm Plan and communicate effectively within the Operations Center to ensure that the damage assessment process is in a ready state
- Communicate with Zone Damage Assessment Coordinator to ensure linkage with the DSSOP
- Participate in lessons learned activities following major events to ensure continual improvement

Key Interface Points

- Operations Center storm team
- Damage Assessors
- Zone Damage Assessment Coordinator
- System Damage Assessment Coordinator

Checklist of Actions

Before Major Storm

- Participate in training of Operations Center Damage Assessment personnel
- Stay linked with Zone Damage Assessment Coordinator to ensure readiness
- Ensure that the most current version of the ETR tool is on appropriate Operations Center computers and that designated personnel are trained in its use
- Ensure that adequate feeder and statistical maps are available for Damage Assessment use
- Provide directions and addresses to beginning points of all statistical sampling maps

During Major Storm

- Ensure Safety Briefings are conducted with all DA teams before field work is started
- Ensure “addresses to avoid” within that Operations Center are shared with DA teams before field work is started
- Communicate with Zone Damage Assessment Coordinator to ensure that deployment plan is understood
- Develop logistics and deploy Damage Assessment plan for the Operations Center
- Provide Assignments to DA Teams
- Work with Damage Assessor to provide refresher training to incoming teams
- Input statistical data into ETR tool, perform resource modeling for the Operations Center, and upload data to server
- Input non-emergency environmental reports into environmental tool for tracking by the Zone Environmental Lead
- Input actual damage data into ETR tool to assist in developing feeder-level ETRs
- Provide feeder-level ETRs to Zone Damage Assessment Coordinator for review prior to data loading in Outage Management System (OMS)
- Ensure that Damage Assessment data and maps are provided to Feeder/Field Coordinators

- Fax completed Actual Damage Assessment forms to Distribution Control Center (DCC) (fax # is on bottom of form) for creation of outages in Trouble Call Analysis (TCA)
- Ensure a smooth transition for Damage Assessment teams—from performing damage assessment to leading crews, running Outage Tickets, etc.
- If Operations Center is not directly impacted by the storm, offer local resources to Zone Damage Assessment Coordinator for developing a resource-sharing plan

After Major Storm

- Participate in demobilization efforts once restoration is complete DA teams are released to the Zone Damage Assessment Coordinator
- Participate in lessons learned activities
- Restock Operations Center feeder maps, statistical sampling maps, and local maps as needed

Training Requirements

- Review Operations Center Storm Plan and recent lessons learned to ensure understanding of "the big picture" as it pertains to restoration and customer communications
- Review and test tools to ensure workability and competency of users: Resource Tracking, Damage Assessment Data Entry, and Damage Assessment ETR (Web-based)
- Ensure the DA training/safety awareness presentation was conducted with all DA teams at the DA staging sites prior to dispatching DA teams

Engaged in the Following Sub-processes

- Mid-Level Damage Assessment
- Statistical Damage Assessment
- Targeted Damage Assessment
- Final Sweep
- Forensic Assessment

Damage Assessor

Job Function

The Damage Assessor performs field damage assessments.

Job Description

- Understand the Damage Assessment Storm Plan and communicate effectively across the Zone to ensure that the damage assessment process is in a ready state

Key Interface Points

- Feeder/Field Coordinators
- Operations Center Damage Assessment Coordinators

Checklist of Actions

Before Major Storm

- Attend Damage Assessment briefing to get assignment, team information, and up-to-date weather update
- Attend pre-storm season training to ensure familiarity with:

- Damage assessment process, forms, etc.
- ETR tool review
- Maps to Operations Centers and staging sites

During Major Storm

Before traveling to location:

- Receive Safety Briefings conducted by Operations Center DA Coordinator before field work is started
- Receive “addresses to avoid” within that Operations Center from Operations center DA Coordinator before field work is started
- Receive Damage Assessment assignment document / package
- Notify assigned Operations Center of schedule, estimated time of arrival of teams, and preparations needed prior to arrival (vehicle assignment, etc.)
- Determine whether the Operations Center has resource needs (Network routers, office supplies, hardhats, etc.)

Before storm, after arriving at assigned location:

- Review skill level of assigned Damage Assessment team members
- Access Storm Center Website (“Current Information”), and print copy of most current Damage Assessment assignment document and other information, and provide to Damage Assessment tea members
- Ensure that Damage Assessment vehicles are in place and obtain keys
  - Record vehicle and tag information for each assigned vehicle
  - Remind Damage Assessment team members to return vehicles to point of origin
- Provide “just in time” Damage Assessment refresher training to all Damage Assessment teams immediately prior to major storm event.

- Hand out color copies of the following slides and discuss:
  - Damage Assessment Color Coding DIS Feeder Maps
  - Statistical Damage Assessment Form Example
  - Damage Assessment Scenario #1 (with damage data, no color coding)
  - Damage Assessment Data Form Scenario #1 (completed)
  - Damage Assessment Scenario #1 (final)
  - Damage Assessment Scenario #2 (final)
  - Damage Assessment Data Form Scenario #2
  - Damage Assessment Scenario #3 (final)
  - Damage Assessment Data Form Scenario #3
  - Wrap up with reminders from the Personal Safety and Vehicle Safety slides
- Ensure that all Damage Assessment teams have the following items (one per team): Damage Assessment bag
  - Strobe light
  - Hand-held light (red “Show Me” light with 12v charger, fully charged)
  - Flood light
  - Supply of Damage Assessment forms (10 copies statistical and 25 copies pole-to-pole)
  - Local road maps
  - Emergency numbers
  - Damage Assessment team member contact numbers
  - Hand-held radios (if Operations Center has them available for Damage Assessment use)
  - Operations Center contact numbers

(NOTE: All of these materials are located at each Operations Center and can be obtained from the local Administrative Support or Damage Assessment contact)

- Coordinate with Operations Center Damage Assessment contact to:
  - Locate statistical grid, distribution feeder, and local maps
  - Organize statistical assessment and assign Damage Assessment teams
  - Define the backbone for each feeder

- Utilize statistical assessment data and TCA data to determine when/if backbone assessments will begin and where
- Organize runners (where needed) and meeting times with Damage Assessment teams
- Assign vehicles to Damage Assessment teams
- Ensure that extra Damage Assessment forms are available
- Review faxing procedure for backbone and pole-to-pole Damage Assessment forms to Customer Service Center
- Ensure that backbone and pole-to-pole data are entered into ETR tool by Operations Center staff

After Major Storm

Before beginning damage assessment:

- Access Storm Center Website (“Current Information”), print copy of most current Damage Assessment assignment document and current weather forecast, and provide to team members
- Conduct pre-job safety briefing, sharing field conditions and safety pointers
- Continue to emphasize working safely in hazardous situations
- Obtain information about housing and food arrangements and ensure that Damage Assessment teams are in the loop
- Ensure pre-trip inspections are performed on vehicle

During damage assessment and restoration phase:

- Lead pre-job briefings prior to each assessment
- Track progress of work and move resources as needed
- Record non-emergency oil spills and environmental issues
- Emergency oil spills shall be immediately reported to the Zone Environmental Lead
- Ensure that color-coded feeder maps are given to Feeder/Field Coordinators
- Ensure that backbone and pole-to-pole data are entered into ETR tool

After completion of restoration work:

- Document:
  - Follow-up work for crews
  - Transformers and poles left in field
  - Oil spills requiring clean-up
- Ensure that Damage Assessment teams return all Damage Assessment kits, lights, rental vehicles and keys, and associated items to the Operations Center when released
- If Damage Assessment teams are relocated to other Operations Centers, where the total number of Damage Assessment teams deployed exceeds the set number for the Operations Center, ensure that teams carry Damage Assessment kits with them
- Ensure that Damage Assessment kits are returned to the Operations Center of origin

Training Requirements

- Review Damage Assessment training materials
- Arrange to attend a Damage Assessment training class if not trained or if not deployed as a Damage Assessor in the last three years
- Communicate any changes in contact numbers (home, work, cell phone, e-mail address, etc.) to System Damage Assessment Coordinator
- Keep abreast of major weather developments and proactively contact System Damage Assessment Coordinator regarding availability

Engaged in the Following Sub-processes:

- Mid-Level Damage Assessment
- Statistical Damage Assessment
- Targeted Damage Assessment
- Final Sweep
- Forensic Assessment

Damage Assessor Support

Job Function

This position is typically filled by personnel with no experience in distribution or transmission systems. This position will work with the Damage Assessor.

Job Description

This position is primarily responsible for:

- the safe operation of the patrol vehicle
- entering damage assessment data that Damage Assessor has identified
- performing pre-flight inspections of vehicle
- participate in pre-job briefings prior to each assessment

System Forensic Assessment Coordinator

Job Function

This position is responsible for the coordination of collecting and collating forensic data of distribution pole and structure damage due to a major storm.

Job Description

This position will:

- Monitor path of approaching storm coordinate a pre-storm conference call with Zone Forensic Leads at least 48 hours prior to expected landfall.
- Facilitate and document substation and feeder assignments among Zone Forensic Leads
- Coordinate end-of-day conference calls with Zone Forensic Leads to determine daily Duke and communicate system forensic assignments for the following day.
- Develop and deliver post-storm System Forensic Summary Report to the Damage Assessment Manager within 2 weeks after storm restoration activity has been completed.

Key Interface Points

- System Damage Assessment Coordinator
- Zone Forensic Lead

Checklist of Actions

Before Major Storms

- Validate Forensic Assessment roles have been assigned and filled for all Zones
- Ensure that training modules are updated annually
- Ensure Forensic Team is trained prior to storm season
- Monitor path of approaching storm and coordinate pre-storm conference call with Zone Forensic Leads at least 48 hours prior to expected landfall to document initial substation and feeder assignments.

During Major Storm

- Facilitate end-of-day conference calls with Zone Forensic Leads to document the status of substation and feeder assignments and coordinate next day assignments
- Collect and collate all forensic data

After Major Storm

- Develop and deliver post-storm System Forensic Summary Report to the Damage Assessment Manager within 2 weeks after storm restoration activity has been completed.

Engaged in the following Sub-process:

- Forensic Assessment

Zone Forensic Lead

Job Function

This position is responsible for the execution of a forensic review of the assigned Zone and for coordinating the field activities of the Forensic Assessors and Forensic Support functions.

Job Description

The Zone Forensic Lead will be responsible for identifying, recruiting, and training team members to perform Forensic Assessment. In addition, this position will:

- Participate in pre-storm conference call with System Forensic Coordinator at least 48 hours prior to expected landfall to determine high-priority substations for Forensic Assessment and additional calls, as needed.
- Communicate team assignments and expected initial reporting time/location to Forensic Assessor and Forensic Support team members 48 hours in advance of expected landfall
- Secure and assign vehicles for all Forensic Assessment teams within the Zone
- Determine and communicate daily substation and feeder assignments by team
- Establish protocols and timelines with Forensic Assessment teams within the Zone for communicating daily start, stop, and safety check-in times and notify system Damage Assessment Manager and System Forensic Coordinator if communication is not established with teams as expected.
- Participate in end-of-day conference calls with System Forensic Coordinator and other Zone Forensic Leads to determine the system-wide status of Forensic Assessment and assign assessment locations for the following day
- Provide complete Zone Substation Forensic Summary Reports to System Forensic Coordinator within 1 week after storm restoration activity has been completed

Key Interface Points

- System Forensic Assessment Coordinator
- Forensic Assessor
- Forensic Support

Checklist of Actions

Before Major Storms

- Ensure Zone Forensic Assessment organization has been staffed and trained

During Major Storm

- Pre-Storm Protocol
  - Participate in pre-storm conference call with System Forensic Coordinator and other Zone Forensic Leads at least 48 hours in advance of expected landfall to determine resource needs and potential Day 1 assessment locations by substation and feeder.
  - Communicate team assignments and expected initial reporting time/location to Forensic Assessor and Forensic Support team members 48 hours in advance of expected landfall
  - Secure 1 vehicle for each 2 person Forensic Assessment team expected for the Zone
  - Provide final call to Forensic Assessor and Forensic Support team members 6 to 24 hours in advance of expected landfall to confirm team assignment and substation feeder assignments.

- Establish protocols and timelines with Forensic Assessment teams within the Zone for communicating daily start, stop, and safety check-in times and notify system Damage Assessment Manager and System Forensic Coordinator

- Obtain status report from Forensic Assessment teams prior to end-of-day conference call with System Forensic Coordinator and other Zone Forensic Leads
- Participate in end-of-day conference calls with System Forensic Coordinator and other Zone Forensic Leads to determine the system-wide status of Forensic Assessment and assign assessment locations for the following day

After Major Storm

- Confirm vehicles have been returned
- Provide complete Zone Substation Forensic Summary Reports to System Forensic Coordinator within 1 week after storm restoration activity has been completed

Engaged in the following Sub-process:

- Forensic Assessment

Forensic Assessor

Job Function

This position is primarily responsible for conducting a forensic review and the collection of data on the failure mode of distribution poles.

Job Description

The Forensic Assessor will be responsible for the resources necessary to conduct the Forensic Assessment in the field, including the direct supervision of an assigned Forensic Support team member. This position will:

- Be proficient in the data collection process and procedure necessary to conduct Forensic Assessment
- Prepare field kit upon initial notification of assignment from Zone Forensic Lead (described below)
- Confirm daily Forensic Assessment assignment with Zone Forensic Lead and confirm protocols and timelines with for communicating daily start, stop, and safety check-in times
- Initiate contact with assigned Forensic Support team member and provide just-in-time refresher of expectations as required
- Conduct pre-trip inspection with Forensic Support prior to departing local Operation Center to ensure all materials and resources are available and that the vehicle is in safe working order
- Conduct pre-job briefing before each inspection
- Conduct field Forensic Assessment of assigned substations and/or feeders and collect required data for each pole identified as damaged or in need of repair
- Report daily observations and status update to Zone Forensic Lead as assigned
- Complete and submit hardcopy checklist to Zone Forensic Lead for each pole identified as damaged or in need of repair no later than 2 days after restoration activity has been completed

Key Interface Points

- Zone Forensic Lead
- Forensic Support

Checklist of Actions

Before Major Storms

- Be knowledgeable of the roles and responsibilities of the Forensic Assessor and Forensic Support functions, including the proper procedures for collecting data regarding the failure mode of distribution poles
- Be familiar with current Distribution Construction Specifications likely to be encountered during field Forensic Assessment of overhead distribution construction
- Ensure PPE is inspected and in date

During Major Storm

- Print or collect current statistical grid, distribution feeder, and local road maps that correspond to assigned substations and/or feeders
- Prepare daily field kit to consist of at least:
  - Strobe light
  - Supply of Forensic Assessment Forms (sufficient number for assigned area)
  - Emergency numbers
  - Forensic Assessment team member contact numbers
  - Local Operations Center contact numbers
  - Water
  - Personal items
- Have ready access to additional PPE for Forensic Support team member if needed
- Initiate contact with assigned Forensic Support team member to confirm reporting location and time
- Check-out vehicle
- Conduct pre-job briefing with Forensic Support prior to departing local Operation Center to ensure all materials and resources are available and are in safe working order
- Communicate start, stop, and safety check-in times with Zone Forensic Lead as required
- Facilitate safe navigation to and from Forensic Assessment locations
- Conduct field Forensic Assessment of all assigned substations and/or feeder locations and ensure a Forensic Assessment form has been completed with the required data for each pole identified as damaged or in need of repair
- Provide direction to and supervision of Forensic Support to facilitate efficient and safe collection of data
- Report daily observations and status update to Zone Forensic Lead as assigned
- Communicate daily assignments and meeting logistics information to assigned Forensic Support team member

After Major Storm

- Return vehicle
- Complete and submit hardcopy checklist to Zone Forensic Lead for each pole identified as damaged or in need of repair no later than 2 days after restoration activity has been completed

Engaged in the following Sub-process:

- Forensic Assessment

Forensic Support

Job Function

This position will provide field support to the Forensic Assessor in the collection of required data during Forensic Assessment in the field.

Job Description

This position is responsible for:

- Participating in pre-job briefings
- Safe operation of assigned passenger vehicle
- Cataloguing time, location, and other required data for each pole identified as damaged or in need of repair
- Assisting in the preparation of summary reports for use by the Zone Forensic Lead

Key Interface Points

- Forensic Assessor
- Zone Forensic Lead

Checklist of Actions

Before Major Storms

- Review storm plan assignment
- Ensure PPE is inspected and in date
- If required, pack personal needs and clothing for extended period
- Receive pre-storm planning communication from Zone Forensic Lead

During Major Storm

- Arrive at assigned area with PPE and personal items
- Check in with the Forensic Assessor
- Assist Forensic Assessor with data collection
- Assist Forensic Assessor with maintaining communication schedule during the shift
- Assist Forensic Assessor with data download at the end of each shift
- Assist in pre-trip inspection of vehicle
- Participate in pre-job briefings prior to each assessment

After Major Storm

- Support Forensic Assessor as required in completing summary reports

Engaged in the following Sub-process:

- Forensic Assessment

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Systems For Damage Assessment Team

- Damage Assessment Software (PC Based) for Ops center DA Coordinators
- Damage Assessment Software (Web Based) for Zone and System DA Coordinators
- OMS
- Resource On Demand Software
- Environmental input tool

Supplemental Information

FDO Major Storm Workflow Process (from DCC web Site):

FDO Major Storm Workflow Process

DEF Damage Assessment SharePoint Site:

http://biz/moss/dda/default.aspx

Damage Assessment Reporting Software (Web Based – System and Zone Level):

Statistical DA Tool-System Level

Storm ETR and Resource Calculator (SERC) Tool:

Mid-Level SERC Tool

Duke Energy Florida
Storm Forensic Analysis Specification

Description of Services

The purpose of the forensic analysis services will be to collect and analyze damaged facilities and components after a storm event. The results of the analysis should provide correlation of the failed facilities to (1) storm intensity, (2) storm location, (3) facility condition and maintenance history, (4) facility design and vintage.

The forensic analysis requirements consist of four components:

- Post event data collection
- Forensic analysis of collected data
- Correlation of forensic analysis with storm data and GIS data
- Reporting of analysis

Contractor Qualifications

The forensic analysis contractor must be capable of performing all of the functions listed in the services section of this document. The contractor must have experience in transmission line design and must be geographically located so that they can be quickly mobilized after a storm event. The data collection team should have technical and transmission line design knowledge and have access to failure analysis experts so that the nature and cause of an failures can be analyzed.

Pre-storm Requirements

When the Storm Coordinator activates the storm plan prior to a storm event, one or more of the Forensic contractors will be notified that their service will be required. The forensic contractor will then mobilize their forensic team and will make preparations to support the forensic data collection requirements. Once the storm event has passed, the forensic contractor will be contacted by the logistic center coordinator and will be directed to affected region storm center where the region storm center coordinator will direct the team to the damaged zones.

Contracts

DEF will establish contracts with local engineering firms to support the forensic analysis requirements outlined in PSC-06-0947-PAA-EI. Contracts will ensure that upon notification the firm will mobilize a forensic data collection team within 24 hours of the passing of the storm event. Work will be performed on predetermined time and material rates for data collection, data analysis and reporting.

Post Storm Requirements

Data Collection

The contractor shall collect sufficient data at the failure sites to determine the nature and cause of the failure. Data collection shall include the following:

- Structure identification
- Photographs
- Sample of damaged components as necessary
- Field technical assessment (soil conditions, exposure, vegetation, etc)
- Inventory of attachments and guys

Forensic Analysis

Data and forensic samples will be analyzed to determine the cause and correlating factors contributing to the failure. Analysis will include as required:

- Conditional assessment of failed components
- Structural evaluations
- Failure analysis
- Correlation with storm path and intensity
- Correlation with GIS data

Reporting

The contractor will prepare a report containing the findings and assessments from the above described analysis. This report shall contain at minimum:

Diagram of storm path and intensity isobars and scatter chart of failed facilities
Summary table of failed facilities including:

- Type of facility (wood pole, steel tower, etc)
- Vintage
- Maintenance History
- Photographs
- Professional assessment as to cause of failure

ATTACHMENT U

Comparison of Historical Trends
Overhead vs. Underground (Adjusted Data)

OVERHEAD INDICES											
SAIDI	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	73.3	74.0	64.9	60.7	62.4	66.6	63.8	71.2	82.5	76.3	63.3
SAIFI											
	1.125	1.155	1.068	0.992	0.986	1.015	0.944	0.986	1.140	0.987	0.880
CAIDI											
	65.2	64.0	60.8	61.2	63.3	65.6	67.6	72.2	72.3	77.4	71.9
L-Bar											
	102.3	101.3	102.1	105.2	106.7	109.7	104.9	115.6	112.7	125.8	112.7

UNDERGROUND INDICES											
SAIDI											
	14.7	11.8	12.0	13.5	12.5	11.9	12.0	11.6	10.8	10.6	10.1
SAIFI											
	0.130	0.111	0.122	0.120	0.107	0.112	0.104	0.092	0.086	0.082	0.075
CAIDI											
	112.9	106.2	98.7	112.8	116.6	105.6	115.2	125.9	126.0	129.8	134.0
L-Bar											
	145.8	141.3	143.7	156.5	155.4	157.2	161.2	169.4	161.3	176.0	182.0

ATTACHMENT V

OVERHEAD/UNDERGROUND RELIABILITY (OH/UG) (Initiative 7)
Section D

2014				
OVERHEAD METRICS	# OF Miles	CMI	CI	L-Bar
	25,290	127,123,097	1,715,961	119.3

UNDERGROUND METRICS	# OF Miles	CMI	CI	L-Bar
	22,071	17,366,041	126,499	177.8

ATTACHMENT W

Report on Collaborative Research for Hurricane Hardening

Provided by

The Public Utility Research Center
University of Florida

To the

Utility Sponsor Steering Committee

February 2015

I. Introduction

The Florida Public Service Commission (FPSC) issued Order No. PSC-06-00351-PAA-EI on April 25, 2006 (Order 06-0351) directing each investor-owned electric utility (IOU) to establish a plan that increases collaborative research to further the development of storm resilient electric utility infrastructure and technologies that reduce storm restoration costs and outages to customers. This order directed IOUs to solicit participation from municipal electric utilities and rural electric cooperatives in addition to available educational and research organizations. As a means of accomplishing this task, the IOUs joined with the municipal electric utilities and rural electric cooperatives in the state (collectively referred to as the Project Sponsors) to form a Steering Committee of representatives from each utility and entered into a Memorandum of Understanding (MOU) with the University of Florida's Public Utility Research Center (PURC). This MOU was recently extended by the Research Collaboration Partners through December 31, 2015.

PURC manages the work flow and communications, develops work plans, serves as a subject matter expert, conducts research, facilitates the hiring of experts, coordinates with research vendors, advises the Project Sponsors, and provides reports for Project activities. The collaborative research has focused on undergrounding, vegetation management, hurricane-wind speeds at granular levels, and improved materials for distribution facilities.

This report provides an update on the activities of the Steering Committee since the previous report dated February 2014.

II. Undergrounding

The collaborative research on undergrounding has been focused on understanding the existing research on the economics and effects of hardening strategies, including undergrounding, so that informed decisions can be made about undergrounding policies and specific undergrounding projects.

The collaborative has refined the computer model developed by Quanta Technologies and there has been a collective effort to learn more about the function and functionality of the computer code. PURC and the Project Sponsors have worked to fill information gaps for model inputs and significant efforts have been invested in the area of forensics data collection. Since the state has not been affected by any hurricanes since the database software was completed, there is currently no data. Therefore, future efforts to refine the undergrounding model will occur when such data becomes available.

In addition, PURC has worked with doctoral and master's candidates in the University of Florida Department of Civil and Coastal Engineering to assess some of the inter-relationships between wind speed and other environmental factors on utility equipment damage. PURC has also been contacted by engineering researchers at the University of Wisconsin and North Carolina State University with an interest in the model, though no additional relationships have been established. In addition to universities, PURC was contacted by researchers at the Argonne National Laboratory who expressed interest in modeling the effects of storm damage. The researchers continue to develop a deterministic model, but did use many of the factors that the Collaborative have attempted to quantify. Every researcher that contacts PURC cites the model as the only non-proprietary model of its kind.

The research discussed in last year's report on the relationship between wind speed and rainfall is still under review by the engineering press. Further results of this and related research can likely be used to further refine the model.

III. Wind Data Collection

The Project Sponsors entered into a wind monitoring agreement with WeatherFlow, Inc., in 2007. Under the agreement, Florida Sponsors agreed to provide WeatherFlow with access to their properties and to allow WeatherFlow to install, maintain and operate portions of their wind monitoring network facilities on utility-owned properties under certain conditions in exchange for access to wind monitoring data generated by WeatherFlow's wind monitoring network in Florida. WeatherFlow's Florida wind monitoring network includes 50 permanent wind monitoring stations around the coast of Florida, including one or more stations located on utility-owned property. The wind monitoring agreement expired in early 2012; however, the wind, temperature, and barometric pressure data being collected at these stations is being made available to the Project Sponsors on a complimentary basis.

IV. Public Outreach

In last year's report we discussed the impact of Hurricane Sandy on greater interest in storm preparedness. PURC researchers discussed the collaborative effort in Florida with the engineering departments of the state regulators in Connecticut, New York, and New Jersey, and regulators in Jamaica, Grenada, and Curacao. While all of the regulators and policymakers showed great interest in the genesis of the collaborative effort, and the results of that effort, they have not, at this point, shown further interest in participating in the research effort.

PURC researchers continue to utilize the insight gained through the hurricane hardening research to contribute to the debate on undergrounding in the popular press, and reinforce the state of Florida as a thought leader in this area. On February 13, 2014 PURC Director of Energy Studies Ted Kury was asked to contribute an essay on CNN.com entitled "Burying power lines is not always the answer" where he discussed the economic trade-offs of undergrounding power lines. The essay also provided a link to an *Electricity Journal* article by Kury and Lynne Holt, another PURC researcher, which discusses Florida's cooperative approach and holds it up as a "best practice" in regulation. In addition, the October 2014 issue of *Costco Connection* featured a debate on whether utilities should be required to bury power lines, where Kury provided the "No" position.

V. Conclusion

In response to the FPSC's Order 06-0351, IOUs, municipal electric utilities, and rural electric cooperatives joined together and retained PURC to coordinate research on electric infrastructure hardening. The steering committee has taken steps to extend the research collaboration MOU so that the industry will be in a position to focus its research efforts on undergrounding research, granular wind research and vegetation management when significant storm activity affects the state.

ATTACHMENT X

Document title: **Distribution System Storm Operational Plan**	Document number: EMG-EDGF-00042
	Revision No.: 9
Keywords: emergency; distribution system storm operational plan	Applies to: Florida Delivery Operations and Supporting Storm Organizations - Florida

Introduction

At Duke Energy Florida we believe that people succeed because they act with integrity, collaborate effectively, embrace diversity, and communicate. Not only do they take responsibility for their actions and achieve objectives with speed and agility, they are intolerant of mediocrity and produce results that matter.

As a company our goals are to exceed customer expectations, to deliver superior shareholder value, and to challenge employees to excel. With these goals and principles in mind, we have developed the Distribution System Storm Operational Plan (DSSOP).

This plan provides a blueprint for safely restoring power to our customers in the shortest amount of time following a storm event. Designed with the flexibility to respond to both small and large storms, this comprehensive plan reflects an organizational redesign at Duke Energy Florida. The storm plan also incorporates internal feedback, suggestions and customer survey responses, documenting and applying the invaluable knowledge gained from experience.

Zones, Operation Centers and supporting storm organizations are responsible for following the storm plan as identified in this document and linked storm support documents. In addition, each storm organization shall maintain an updated storm organizational chart identifying personnel in key storm roles and contact information. When applicable, this information should be inserted into the storm organizations storm folder located on the storm center web site. Operations and Zone storm centers are responsible for placing their updated storm organizational charts and contact information on their respective web sites prior to the start of hurricane season. This information should be updated, as needed, throughout the storm season.

Built on Experience

At Duke Energy Florida we have faced more than our share of storms and hurricanes. In 2004, our company received the Emergency Response Award from Edison Electric Institute for “outstanding work under extreme conditions” during the unprecedented four hurricanes that pounded Florida and the Carolinas in August and September of that year. We have received this award a record five times, including our responses to hurricanes Bonnie (1998) and Floyd (1999), the January 2000 winter storm, and the December 2002 ice storm. In 2005, our company received the EEI Emergency Assistance award which recognized our storm restoration efforts in support of outside electrical utilities located in the Southeastern Electric Exchange (SEE).

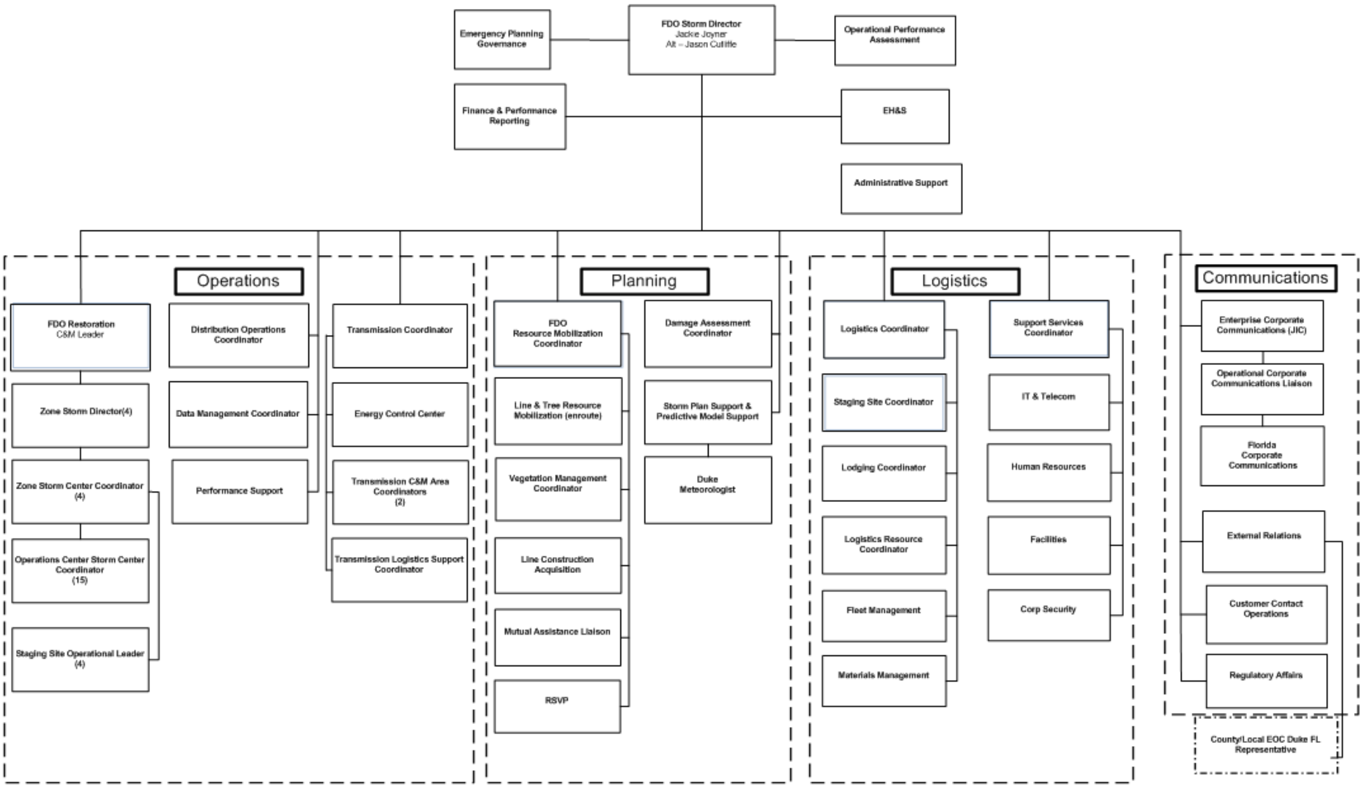
By applying lessons learned from past events and during the 2004 hurricane season, we were able to quickly and efficiently implement best practices, maximize manpower, and reduce damage to equipment. Lessons learned from all past storms and hurricanes have been integrated into this plan, so we may continue to produce results that matter with speed and agility before, during, and after a storm.

Plan Overview

The objective of this plan is to establish a consistent approach and level of responsibility for each emergency response. This document provides the authority and coordination needed to restore electric service and maintain business continuity from emergency storm events. This plan consolidates authority to a System Level “top down” organizational structure for major storm responses and organizational structure for minor storm events.

In addition, the plan offers guidance for transitioning from a minor event that escalates to a system level-major event.

The following is a representation of the Distribution System Storm Organization:



[FDO Major Storm Incident Command Structure]

[FDO-Major Storm Incident Command Structure Contacts]

Authority

The VP of Engineering & Construction Planning is the primary owner of this document and shall direct the maintenance of this document through the Distribution Department. The VP of Engineering & Construction fulfills the storm role: Distribution System Storm Coordinator (DSSC1) when the Distribution System Storm Center is activated for major system level emergencies. Each storm organization will have an internal command and control structure that ultimately reports to the Distribution System Storm Coordinator.

Referenced Storm Title

Storm Process Owners – Each storm organization, as identified in the above storm organizational chart, shall identify a lead or individual person that is responsible for that storm organizations storm plan, preparedness and restoration efforts. This person is typically identified throughout this document as Storm Process Owner.

Supporting Storm Process Owner – Typically those storm organization leads other than the Distribution System Storm Center, Zone or Operations Storm Centers.

Using the Plan

The purpose of the Distribution System Storm Operational Plan (DSSOP) is to ensure that all employees are informed and aware of the roles they serve in the event of a major storm. Many of you whose jobs do not normally require involvement in service restoration will be called upon to offer your talents and services in providing logistics support, guiding crews, answering telephones at the Customer Contact Operations Center, or other critical roles.

To make best use of this plan, carefully read and understand this document and the section or sections that apply to your role for your organizations storm plan listed at the back of this document. It is also helpful to read the roles and responsibilities of your interface contacts, identified and hyper-linked in your storm plan. The table of contents, listed on the end of this document provides links to individualized functional storm plans, each of which contains (or will contain in a future revision as information becomes available) a mission statement, functional process and/or sub-process descriptions, flow charts, organization charts, job descriptions, key interface points, checklists of actions, lists of needed tools and information, an inventory of systems used, and links to supplementary information. Storm role codes are provided for each job title.

All Storm Process Owners will be required to certify annually that their storm organizations are prepared for a major storm event. The document below shall be completed, signed and forwarded to the Distribution System Storm Center each year.

Storm Organization Certification Form

The DSSOP has been created as a Word document and is posted on the Duke Energy Florida Intranet as a PDF file, making it easy to access, print, and keep on hand.

Testing the Plan

Storm Process Owners are responsible for determining if and when testing is necessary for effective storm plan implementation, prior to the start of storm season. Preparedness and action plans to test their individual organizations can include, but are not limited to:

- Simulated emergency conditions
- Drills
- Communication flow reviews
- Personnel and duties assignment listings review
- Resource listings reviews
- Evaluation of action plan readiness
- Priority circuits and customer listing s review
- Damage assessment plans
- Relevance of forms and reports format review

The Distribution System Storm Center (DSSC) will sponsor and facilitate an annual system level storm drill to test organizational preparedness prior to the start of hurricane season. In addition, the DSSC will sponsor a lessons learned process following the drill to ensure existing storm processes are being institutionalized throughout the organization and gaps in storm planning are identified and resolved.

Updating the Plan

The Duke Energy Florida DSSOP is a dynamic document that requires periodic enhancement and regular updates to maintain its effectiveness in time-critical situations. Maintenance of the DSSOP is the responsibility of the Distribution System Storm Coordinator (DSSC1) and is accomplished in the following manner:

➢ Updating Key Storm Personnel

Telephone numbers and personnel assignments shall be updated prior to the hurricane season. In addition, updates should be made as they occur during each storm season. Zones and Operations Centers shall post their updated list of storm personnel and contact information on their respective storm web sites by May 30, with further updates required as personnel transition in and out of the organization.

➢ Lessons Learned Process

Each Supporting Storm Process Owner will conduct a lessons learned process with their storm teams within 30 days after each major storm and have each member review and critique planning and restoration efforts. The evaluation process should include the following:

- Things that went well—successes
- Things that need improvement—opportunities
- Lessons learned
- Follow-up action plans

The Storm Process Owners shall forward lessons learned and task assignments to the Distribution System Storm Coordinator who will ensure the quality of this integrated storm document.

Each Operations Center Coordinator (OPS1) will send their list of recommended improvements to the Zone Storm Manager (REG1), who will compile the zone level list and forward it to the Distribution System Storm Coordinator. The Distribution System Storm Coordinator will then determine which items should be pursued to effect any system-wide changes and will develop an action plan for implementing these improvements.

Plan Maintenance

Each spring prior to the start of hurricane season, the Distribution System Storm Coordinator (DSSC1) will sponsor a review of the DSSOP for any needed changes. The Distribution System Storm Coordinator Assistant (DSSC1A) will coordinate the review process with all functional processes supporting the DSSOP. Each functional process owner will be responsible for making revisions. The Distribution System Storm Coordinator (DSSC1), with the support of the Distribution System Storm Coordinator Assistant (DSSC1A), will ensure that necessary changes are incorporated.

The Distribution System Storm Coordinator (DSSC1) is responsible for notifying Delivery Operations personnel of any revisions to the DSSOP and ensuring that any training needs are accomplished in a timely manner, prior to the start of the hurricane season.

The following sub-process identifies key responsibilities for updating the DSSOP:

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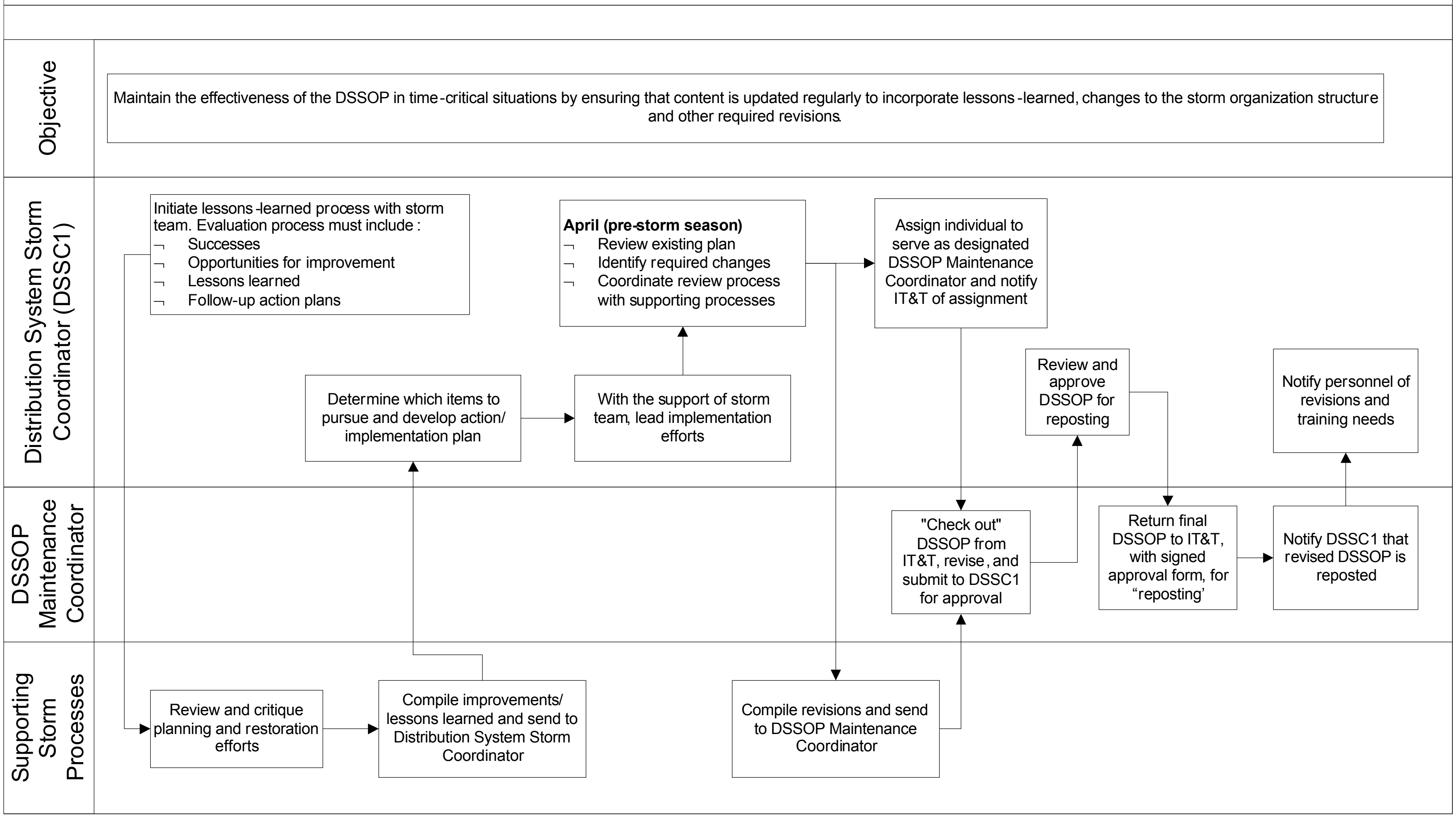
Distribution System Storm Operational Plan Update and Maintenance Process



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Approach to Storm Preparation

Personal Safety

Personal safety is a shared responsibility of all employees. The safety of our fellow employees as well as the safety of the general public and contract resources is the most important consideration when implementing any major emergency plan:

- Under no circumstances will safety be sacrificed for speed.
- Job briefings are the cornerstone of all work to be performed safely and shall be utilized to identify and mitigate all hazards associated with the work, following appropriate safe work practices.
- No employee shall attempt any restoration activity or establish staging sites where environmental or weather conditions are deemed unsafe.
- Switching and tagging work rules shall be followed at all times, regardless of dispatching authority or control.
- Work at night shall be well planned and organized.

Training

The process owner of each storm organization is responsible for ensuring their personnel are assigned to a response role in the RSVP tool, are trained to the required responsibilities and are able to safely execute their assigned duties.

Environmental Stewardship

Duke Energy Florida has established itself as a good steward of the environment. Environmental concerns such as transformer oil and fuel spills must be reported immediately to the Zone level Environmental Lead or Coordinator. Spills should be contained as quickly as possible to mitigate damage to the environment, especially when waterways are at risk.

Major Storm

Damage to facilities may be caused by hurricanes, tornadoes, ice, and other natural causes or disaster, or the damage may be caused by civil disturbances.

The use of the term “Major Storm”, as defined by IEEE Std 85901987; section 6.3.2 (page 10), indicates that weather has exceeded design limits of the facilities and results in all of the following:

1. Extensive damage to facilities
2. More than a percentage of customers out of service (10% or above)
3. Service restoration time is longer than a specified time (24 hours or above)

Note: Typical industry criteria are 10% of customers out of service and 24 hours or more restoration time. Percentage of customers out of service may be related to a company operating area rather than to an entire company.

There are no specific measures for EXTENSIVE MECHANICAL damage. However, the term does not include electrical damage such as internal failures of transformers or conductors. Extensive refers to the magnitude of damage and the distance over which the damage extends. Therefore, it would be expected that the storm was of sufficient severity to cause damage of an unusual magnitude at multiple locations on the system.

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Minor Storm

Daily thunderstorm monitoring and coordination of operation center resources for level 1, level 2 and most level 3 storms are generally controlled by the Distribution Control Center (DCC). The DCC facilitates the coordination and management of the Zone Mid-level Storm Plans by supplying information to the Zone General Manager's or (Zone Point of Contacts and local Ops Center Point of Contacts. Enabling them to make informed decisions with regards to storm restoration within their respected zones.

FDO DCC Mid-Level Escalation Guidelines

Emergency Response Levels

Emergency response levels are generally associated with outages due to storms or other emergency situations. However, a large reduction of employees due to pandemic health outbreaks could also trigger these response levels. There are four (4) interrelated emergency plan levels. Where damage to our lines and equipment has occurred, one or more, or all levels may be implemented. This is dependent upon the intensity and speed of the storm, the amount of damage and the capability of the local personnel to restore service in a timely manner. When activating the various emergency response levels, the controlling authority must remember to "Think to the next level" in order to establish timely transitions between the levels.

The four (4) event levels are:

- Level 1 - One Ops Center impacted (Resources within zone utilized) - Least Severe
- Level 2 - More than one Ops Center impacted within a zone (Resources within zone utilized) – Moderately Severe
- Level 3 – One or more Ops centers impacted within a zone(Resources from other zones utilized - Severe
- System (level 4) – Most Severe, requiring system wide or mutual assistance resource plans

Storm Level Definitions	Storm Level	Normal	Level 1	Level 2	Level 3	Level 4
	Resource Scope	On Duty Resources (1st resp)	Op Center Resources (1st and 2nd resp)	Zone Resources	Multiple Zones	System and Mutual Assistance

These levels may be implemented at any given time depending on the emergency. Often, emergency response efforts start out as minor events and then quickly transition into a more significant event. The outage restoration rate, assessment of damage and the number of new outages are important factors in the decision to move to a higher response level. Each level has an identified authority that implements their respective part of this plan and participates in the decision to transition to a higher emergency level. A useful guide is provided for your use below:

Mid-Level Escalation Guidelines

Contacting Customers

Revenue Customers - Normal work activities will be affected when crews are supporting storm restoration efforts. Customers may understand why their scheduled work could be delayed should a storm event impact their area. However, deployment of local DEF resources to other areas impacted by storm events, that cause similar delays, may not be understood by our customers. To minimize customer concern in these circumstances, proactive calls to the customers should occur when it appears that scheduled work may be delayed due to major events. This will require a collaborative effort between the responsible Operations Center and Resource Management team.

Care Customers - Those accounts that are tagged "Life Support" in our CSS data base are to be contacted by the Customer Contact Operations (Call Center) prior to the arrival of a Tropical System. The purpose of this function is to ensure all potentially impacted Life Support customers are contacted and advised that Duke Energy Florida will be unable to provide priority restoration. In the advent of an extended outage due to the storm, these customers are to find alternate locations, such as shelters that are suitable for life support functions during the restoration effort.

Weather Information

Duke Energy Florida is supported by the Duke Meteorology Team. The Duke Meteorology Team provides daily weather updates and forecasts for major weather events. During approaching tropical events, the Duke Meteorology Team Weather provides daily graphical tracking maps and projections on wind and rain. The Distribution System Storm Center forwards this information to supporting storm organizations. In addition, these projections will be posted in the Current Storm Information folder located on the Duke Energy Florida Storm Center web page. Finally, the Duke Meteorology Team supports the DCC and Zone Operation and System storm conference calls with updated forecasts and projections for the approaching storm.

Storm Escalation Awareness

(Removed in the 2008 revision – information identified in Exhibit 1 – Storm Response Escalation Guidelines above)

Storm Room Standards

Storm rooms or storm centers are the command and control authority while the emergency response plan is in effect. For a system level response, the command and control hierarchy is as follows:

1. System Storm Center
2. Zone Level Storm Room
3. Operations Center Storm Room

Effective operation of a storm center or storm room is critical to efficient and speedy responses to emergency situations. The following guidelines should be utilized:

System Storm Center Timeline

Storm Room Standards

Planning for Storm Events

Restoration Priorities

The following guidelines should be utilized by the Storm Process Owners to determine their restoration priorities:

- **Priority 1** – Feeders, lines and service drops for nuclear sirens, hospitals, municipal water & sewer treatment plants and emergency shelters.
- **Priority 2** – Feeders, lines and service drops for law enforcement, fire & rescue stations, central communications centers and food distribution centers.
- **Priority 3** - All other feeders, lines, service drops and equipment.

Paralleling these priorities, are requirements for restoring communications links that facilitate the restoration of electric service. The Energy Delivery Group will assist IT&T by giving reasonable priority to electric facilities serving two-way radio sites, PBX sites, fiber optics and microwave sites, etc. In addition, the Delivery Operations Group will make resources available on a priority basis to support restoring fiber optic cables which carry communications traffic for the Company.

Operational Restoration Performance

The purpose is to assess conformance to DSSOP during a major storm restoration.

Operational Performance Time-line

Operational Performance Guiding Principles

Operational Performance

GIS Data Integrity

Maintaining the data integrity of our distribution information systems is important for day to day operational processes. Construction changes that occur during restoration efforts can negatively impact these information systems if not properly documented. These changes are more economically and efficiently documented at the time the construction change occurred. To avoid the need for a re-verification sweep of an area after the restoration effort has been completed, the Zone/Feeder Coordinator shall document these changes, using the form below, and forward to the local GIS contact.

At the point during a mid-level or major storm (outage volume threshold) where the determination is made by the Person in charge at the ops center, zone, or system level as to whether the yards will stay in RTARM or revert to paper during restoration. **Careful thought should be given prior to doing this as it causes a lot of manual work. Each ops center must either be using RTARM or using paper outage tickets. Reverting to paper when RTARM can be used should be the last resort.**

Any crews working on paper outage tickets, PE or contractors, will need to track the assets changed out via the storm procedure and inventory sheets on the link below. These sheets should be printed and carried with the crew.

GIS Data Form

Distribution Control Center

The Distribution Control Center (DCC) is responsible for monitoring the status of and issuing switching orders for system level distribution lines and equipment and underground loop designed facilities. As a major tropical system approaches or when restoration efforts require, the DCC may need to delegate their switching and tagging authority and/or dispatching authority for OMS and field equipment to appropriate Zone Storm Centers. The transferal of switching and tagging responsibility from the DCC to Zone Storm Centers and from Zone Storm Centers back to the DCC shall be documented utilizing the following form:

Dispatch Function Transfer-Florida

The use of the following document can be used as a guideline for delegating dispatching authority for OMS from the DCC to the responsible Zone/Ops Center storm centers:

Delegation of Dispatch Authority OMS-Florida

Resource Management

The largest and most critical storm response resources are company employees and contractor line and tree crews. The efficient use of these valued resources directly affects the level of success with safety, timely restoration and cost for any restoration effort.

1) Duke Energy Florida Employee Mobilization and Tracking

In the event of a hurricane, major ice storm or other system emergencies, it may be necessary to deploy Duke Energy Florida employees across Departmental, Business Unit or Zone boundaries to support a timely restoration effort. The successful use of these resources requires precise communications between various groups and storm room/centers. The Resource Storm Volunteer Program (RSVP) is the authorized mobilization, tracking and release tool for Duke Energy Florida employees, non-line & tree contractors and activated retirees. Each storm organization and Department will identify a RSVP Coordinator and a backup to utilize and maintain the RSVP tool for major emergency responses.

2) On or Off System Crew Mobilization and Tracking

Resource Management is responsible for maintaining an updated list of contractors in the service area who have a contract agreement with the company. The Contract Manager is responsible for keeping an updated zone list of contractors available for use during a storm event to support restoration efforts.

In the event of a hurricane, major ice storm or other system emergencies, it may be necessary to bring in off-system line and tree resources to support a timely restoration effort. The successful use of these resources requires precise communications and coordination between various storm rooms/centers. The resource tracking tool is the authorized mobilization, tracking and release tool for contract line and tree resources supporting Delivery Operations. The resource tracking tool shall be utilized by qualified employees at all affected Operations, Zone and System Storm Centers.

Prior to releasing restoration personnel, a thorough ride-out inspection should be performed to ensure restoration repairs and tree work has been completed and any mitigation plans have been established.

The following guideline should be used for the mobilization, tracking and release of off-system resources:

Off-System Crew Mobilization Guidelines

3) Handling of Crews

- Receiving Crews: Upon reporting for duty, the local Resource Management Coordinator should evaluate each person's work history to determine how many hours of work are available before rest should be scheduled. All prior hours worked, including travel time that have not been preceded by an eight hour rest period, should be counted.

- Crew Utilization: The Operations Center Resource Management Coordinator is responsible for making sure the location of each crew compliment is tracked during the storm restoration effort. Each off-system crew should have an assigned Zone/Feeder/Field Coordinator to monitor their work progress. Each crew lead/foreman should be supplied with the following:

  - Local maps
  - Safety information and instructions
  - Emergency contact list
  - Local emergency facilities locations
  - Staging area maps/directions
  - Assigned feeder one lines

  Crew packages should be stored at each Operations Center. Additional information regarding laundry services, food services and lodging should be included, when applicable.

- Transferring Crews: When crews from other areas are in route, the Substation/Zone Coordinator will be given the name of the person in charge, the number of personnel, and the ETA by the Ops Center Resource Management Coordinator. The Substation/Zone Coordinator can then organize them into a work unit and assign a Feeder/Field Coordinator to receive them. The person in charge of the crew will give a list of names and equipment to the Feeder/Field Coordinator. The Feeder/Field Coordinator will verify the list and log the arrival time. Crews will not be released without consent from Substation/Zone Coordinator to do so. When crews are released, the Feeder/Field Coordinator will log their departure time. The Feeder/Field Coordinator in one area may be assigned to deliver the crew to a new Feeder/Field Coordinator in another area. No crews can be released to go off system or travel to another zone without the approval and direction from the System Resource Management Group.

- Working Hours: Each Storm Process Owner will establish work shifts for those resources assigned to them. In the initial stages of the restoration effort it is general practice to work up to 16 hours, including travel time, without an extended rest period. As the 16 hour threshold approaches, each Process Owner will evaluate the extended response time needed and implement rotational shift assignments for all personnel, as needed. Operation Center Storm Coordinators should make assignments to utilize a minimum of 80% of their assigned work force during daylight and early evening hours and establish an eight (8) hour rest period, where practical, before beginning a new shift.

- Creature Comforts: Rooms, laundry service, meals, drinks, etc., will be coordinated through the System Logistics group by the Process Owners of each storm organization.

- Vehicles & Equipment: If crew personnel are lodged for the evening, Logistics personnel will identify an area near the lodging establishment for the parking of line vehicles and equipment if the lodging establishment cannot accommodate them. Vehicles and equipment should be safely secured and where possible, security personnel or local police should be asked to patrol the area from time to time to reduce exposure to vandalism or theft.

Logistics - Staging & Mustering Sites

The efficient staging of vehicles and equipment, and providing personnel with meals, medical care, fuel, material and sleeping quarters directly affects the level of success for any restoration effort.

For all level 4 responses and in some Level 3 responses, the normal line & service facility is not able to coordinate the volume of resources required to restore service. For the Florida Service territory, the Zone Storm Managers are responsible for coordinating the identification of staging sites within their respective areas. Ideally, there should be at least two staging areas identified per Operations Centers; the second being available should the first site be flooded or otherwise not available.

The preferred staging site would be able to accommodate at least 500 linemen and 250 line trucks. The staging site should have a prepared layout that indicates traffic flow, security area, pole storage, transformer storage, re-fueling arrangements, old material storage, administrative space with supporting communications lines and equipment, restroom facilities (portable or fixed), electricity, lighting, water & ice storage and food preparation and eating area. These staging sites will normally be manned, maintained and managed by Logistics personnel specifically trained to these responsibilities.

Damage Assessment

Accurate and timely damage assessment information is critical to being able to plan our response efforts and to set accurate Estimated Time of Repairs (ETR's) in our Outage Management Systems (OMS). In assessing damage, qualified employees and/or contractors will be dispatched to identify, document and report the type and severity of damage. In addition, damage assessors play an important role in identifying accounts that cannot receive service due to structural damage and reporting environmental spills to the Zone Environmental Lead or Coordinator.

For level 4 storms, Centralized Damage Assessment teams are available to assist in this process. Normally, a two person Damage Assessment teams are dispatched to assist the Operations Center. To utilize these teams to their fullest, the Operations Center Storm Coordinator should have GIS maps available for the targeted feeders. The Damage Assessment teams will perform a damage assessment in statistically valid areas first, then patrol the target feeders and mark every pole, span of wire and transformer that is down. Line patrolling is performed by both vehicles and helicopters. Once these teams have done their damage assessment assignment they may be available to remain in the Operations Centers to serve as support resources.

Data Management

Data Management plays an increasingly important role in the restoration effort from major events. This group is responsible for updating and tracking OMS outages and customers restored. Data Management is the authorized storm organization that supplies the outage information utilized by the Company for updating employees, customers, news channels and regulatory personnel on the progress of the restoration effort.

The Tactical Management Coordinator in each Operations Center is responsible for seeing that this function is properly manned and managed.

Truck and Vehicle Convoys

Duke Energy Florida's Public Affairs group will initiate the procedures to ensure that state law enforcement agencies cooperate with our need to move trucks, vehicles and other equipment safely and quickly throughout the United States during major emergency responses. Public Affairs will ask state law enforcement officials to waive requirements that utility or contractor vehicles stop at weigh stations. In addition, a request will be made to suspend enforcement of fuel permits, size & weight restrictions, and other requirements for vehicles responding to the emergency. For additional details, see the following guideline:

Storm Plan for Truck Convoys

Tracking of Road Closings

Efficiently transporting manpower, materials and fuel is dependent upon our knowledge of road closings. State DOT website postings for road closing information can be inaccurate and may not be up to date. Our local material delivery personnel, line & service employees and field support personnel develop accurate knowledge of road closings while performing their duties. The following procedure should be used to identify and track road closings reported by these individuals:

1. Each affected Zone Storm Center and the System Storm Center shall identify an individual in their center that will act as the single point of contact for consolidating road closing information.
2. The Zone Storm Centers and the System Storm Center shall equally share responsibilities for communicating road closing information.
3. All road closing information shall be sent to the System Storm Center contact, which should be associated with the Crew Mobilization Team.
4. Road closing information shall be consolidated at the System Storm Center into one document titled "Road Closings".
5. The Road Closings document shall be posted and updated as necessary on the storm center intranet site under Current Storm Information for use by traveling members of Duke Energy Florida.

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Post Response Plan and Functions

1) Post Emergency Response Recovery Plan – Once restoration efforts have been completed, the following should be utilized as a guideline for establishing a prioritized work list:

- Opening points should be identified and corrected to ensure the integrity of GIS and OMS.
- Primary phasing, recloser status and fuse and transformer size should be verified to ensure the integrity of GIS and OMS.
- Grid Mod asset restoration status
- All DIS or GIS construction changes documented during the restoration effort shall be updated in appropriate applications.
- Vegetation mitigation plan shall be developed and implemented with 10 days of completion of restoration effort.
- Pending customer revenue work should be evaluated and rescheduled.
- Missing or damaged streetlight facilities should be identified and scheduled for repair or replacement.
- Significant amount of missing GIS numbers in an area should be replaced.

The following should be utilized to help establish a recovery plan:

Post Storm Recovery Plan

2) Clean up Crews - After a major emergency response has been completed, there is often a need to perform "clean-up work". The work consists of straightening leaning poles, re-sagging lines, re-installing or repairing streetlight fixtures, cutting danger limbs and/or trees and correcting any temporary repairs. The best resource that can be utilized for this work may be the off-system contract crews that can be held over. However, the cost of these resources and any mutual assistance agreements should be considered before utilizing them for this work. The Resource Management Team at the System Storm Center shall identify which contract resources are available for being held over and will work with the zone and operations center management team to develop a plan to efficiently complete this work.

3) Tree Removal Policy – When restoring power to customers as quickly as possible after a major event, line and tree crews cut trees and limbs off and away from power lines and equipment and leave the debris laying in place. Duke Energy Florida does not provide tree debris removal during storm restoration. Customers needing downed trees and limbs removed from their property should contact local tree contractors. Also, Duke Energy Florida does not remove any danger trees during storm restoration unless they pose an immediate threat to our facilities.

4) Revenue Customer Callbacks – Normal work activities will be affected when crews are supporting other areas during emergency responses. Customers may understand why their work could be delayed when they see a storm damage their area; however, when the storm hits elsewhere, customers may not readily tolerate delays in regular work caused by deploying local resources to those hard hit areas. To minimize customer concern in these circumstances, proactively call customers when it appears that regularly scheduled work may be delayed. This requires collaborative effort between the Operations Center and the Customer Service Center.

5) Grid Modernization Infrastructure – As a major emergency response nears completion, there is often a need to perform "Grid Mod clean-up work". The work consists of Connection to Distribution power source, remounting the Nan device to the pole, antenna connections and reconnection of cable to the battery Access Power Units. The best resource that can be utilized for this work may be the off-system contract crews that can be held over. However, the cost of these resources and any mutual assistance agreements should be considered before utilizing them for this work. The Resource Management Team at the System Storm Center shall identify which contract resources are available for being held over and will work with the zone and operations center management team to develop a plan to efficiently complete this work.

FDO Interim RDR AMI Florida Storm Response Plan

Supplemental Exempt Compensation Procedures

The Supplemental Exempt Compensation pay policy can be applied to major storm and other system level emergency work. If applicable, these procedures will be initiated and implemented by the Human Resources.

See individual storm organization storm plans below:

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ATTACHMENT Y

AUTHORIZED COPY

Transmission Florida Storm Plan

Transmission Storm Plan Florida

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TRANSMISSION - FLORIDA
STORM PLAN

1.0 Purpose

The Transmission Storm Plan, in keeping with the corporate guideline, has been developed for use when either catastrophic damage to transmission facilities has occurred and the repair is beyond the capability of the local Transmission Maintenance Area personnel, or the National Weather Service issues a wide area severe weather warning (e.g., hurricane or ice storm expected to hit the Duke Energy Florida service area).

2.0 Storm/Emergency Classification

The Transmission Storm response is controlled and managed by multiple Storm Centers. The Storm Centers and their associated roles and responsibilities are listed below. The storm/emergency classifications are also listed below.

2.1 Level I - Command and Control

Storms or events that affect or could affect only one Transmission Maintenance Area with low to moderate damage. Restoration is normally accomplished by the affected area's resources without outside assistance.

- Transmission Maintenance Area Storm Center is functioning (responsible for assessing needs, coordinating all assigned resources and restoration efforts within their respective areas).
- Transmission Maintenance Area is responsible for obtaining materials, major equipment, engineering support, general office support, fault locations and additional crews through normal methods (note: Transmission Maintenance Area may contact Logistics Center lead and request assistance).
- Transmission Storm Center is not manned, but Transmission Maintenance Area Coordinator and Transmission Storm Coordinator need to determine if updates on conference calls are needed to assist and facilitate mobilization decisions and resource needs.

2.2 Level I Examples -

- Anticipated large number of distribution breaker operations.
- Loss of offsite power at Nuclear Plant (see note 1).
- Event of High Interest to Public or Media (see note 1).
- Single Transmission Line Locked out.
- Single Transformer Failure that the Transmission Maintenance Area can handle with own resources.
- Single Regulator Failure that Transmission Maintenance Area can handle with own resources.

Note 1: May be elevated to Level II, depending on need as determined by affected Transmission Maintenance Area and Transmission Storm Center.

2.3 <u>Level II -</u> Command and Control.
Storms or events with moderate damage affecting one or more Transmission Maintenance Area. Damage in the maintenance area may require the use of crews from other Transmission Maintenance Areas or Transmission Construction in order to be repaired in a timely manner.

- Transmission Maintenance Area Storm Centers are open (responsible for assessing needs, coordinating all assigned resources and restoration efforts within their respective areas).
- Logistics Center is open for engineering, materials, contracting, accounting, fault locations, General Office and scheduling support.
- Transmission Storm Center is not manned, but holds updates on conference calls to assist with restoration efforts and facilitate mobilization decisions. The Transmission Storm Center will also resolve conflicts for competing resources, materials and contractors.
- Transmission Storm Center will represent Transmission on Distribution System Storm Conference Calls.

2.4 <u>Level II Examples -</u>

- Events that affect critical customers with sustained outage or that Transmission Maintenance Area cannot handle.
- Anticipated ice accumulation level of 3/8” to ½”.
- Lockout of two transmission lines in the same area at the same time, which Transmission Maintenance Area cannot handle with regularly available resources.
- Lockout of two Subs at the same time in one Transmission Maintenance Area, which cannot be handled with regularly available resources.
- Event threatening Major Generation Availability.
- Loss of offsite power at Nuclear Plant (see note 1)
- Event of High Interest to Public or Media (see note 1).
- Event where out-of-Area (on-system) crews/resources are needed

Note 1: When elevated from Level I by affected Transmission Maintenance Area Manager and Transmission Storm Center.

2.5 <u>Level III</u> - Command and Control
Storms or events causing damage to one or more Transmission Maintenance Area requiring the assistance of the Transmission Storm Center, Logistics Center, and Wholesale Customer Storm Center. Restoration efforts require the use of on-system contractors, possible off-system contractors, other utilities and personnel from other Transmission Maintenance Areas.

- Transmission Storm Center is open (responsible for coordinating inter-maintenance area efforts and serving as a liaison to Senior Management and Corporate Communications/media).
- Transmission Maintenance Area Storm Centers are open (responsible for assessing needs, coordinating all assigned resources and restoration efforts within their respective areas).

- Logistics Center is open for engineering, materials, contracting, accounting, fault locations, General Office and scheduling support.
- Wholesale Center is open to facilitate communications between Duke Energy Florida and Wholesale Power Customers.

2.6 Level III Examples -

- Conditions Significantly Threatening Reliability (System Stability) General Load Reduction & Restoration Status - PE level 4 condition Red or NERC EEA 3
- Potential for hurricane force winds over large area of Duke Energy Florida System.
- Open when anticipated Major Storm is declared.
- Damage in excess of what on-system crews can handle.
- Event of significant Civil Disturbance that could cause significant power disruption.
- Anticipated ice accumulation level of greater than ½".

2.7 Level IV Command Control -

Storms or events producing extensive damage to the Transmission System, as well as to other Electric, Communications, and Commercial Services Infrastructure. Restoration efforts require management of large compliments of off-system crews (>100 off-system personnel), as well as extensive materials, logistics, and engineering support.

- Transmission Storm Center is open (responsible for coordinating inter-maintenance area efforts and serving as a liaison to Senior Management and Corporate Communications/media).
- Transmission Maintenance Area Storm Centers are open (responsible for assessing needs, coordinating all assigned resources and restoration efforts within their respective areas).
- Logistics Center is open for engineering, materials, contracting, accounting, fault locations, General Office and scheduling support.
- Wholesale Center is open to facilitate communications between Duke Energy Florida and Wholesale Power Customers.

2.8 Level IV Examples -

- Heavy Category III (or stronger) Hurricane and accompanying tornadic activity producing widespread structural damage to lines and substations.

3.0 Activation and Communication

The individual Transmission Maintenance Area Storm Center leads shall be responsible for monitoring the storm/emergency situation and determining the storm/emergency classification level in order to activate the storm/emergency response for their area. The Transmission Storm Center shall also monitor the storm/emergency situation and has the responsibility for involving all Transmission Maintenance Area Storm Center Coordinators to determine the overall Transmission Storm/Emergency classification level and elevation. During system-wide events, such as ice storms and major damage events, the

Transmission Storm Center shall have overall responsibility for communicating with the areas and determining the Storm/Emergency classification level.

To initiate a storm conference call, e-mails may be sent to the following addresses in the Global Address List, as required:
Carolinas – “Transmission – Carolinas East – Storm Center Call List”
Florida - “Transmission FL – Storm Call”

The Transmission Storm Center shall inform all Transmission Maintenance Area Storm Center leads and alternates of the storm/emergency classification level by direct communications. The Transmission Storm Center shall also inform the remainder of the General Office Transmission Department of the classification level via email.

Once the storm/emergency classification level has been activated, the individual Transmission Maintenance Area Storm Center leads in the affected areas shall inform their respective staffs of the classification level via email and direct communications.

Storm Communications Diagram: See Attachment 1

4.0 Transmission Florida Storm Center

4.0 Transmission Florida Storm Center - The primary location of the Transmission Storm Center is at North Point, and the backup location is the Winter Garden Training Center.

4.1 Storm Center Duties and Responsibilities

- Monitor development of storm or emergency and determine appropriate level of response.
- Track and Report outage data and information for external (to the Department) communications.
- Serve as liaison to Senior management, Corporate Communications/Media, Legal, and SYSTEM STORM CENTER.

4.2 Restoration Priority

- With input from the ECC, the Storm Center determines the overall priority for the assignment of transmission resources, equipment, and materials for system restoration activities among multiple maintenance areas.
- Paralleling the priorities set for restoring critical electrical services are requirements for restoring communications links that facilitate the restoration of electric service. The Storm center, with input from IT&T, will give reasonable priority to electric facilities serving two way radio sites, PBX sites, fiber optics and microwave sites, as well as over head fiber optic cable which carries communications traffic for the company.
- Communicates restoration priorities to Logistics and the maintenance area storm centers.
- Enter outages and priorities into the Outage Tracking Tool (Carolinas – the ECC in Florida enters the outages).

4.3 Transmission Storm Center Setup - Setup and decommissioning of the Transmission Storm Center and Transmission Logistics Center located in Lake Mary is the responsibility of the Storm Setup Team. The Setup Team configures the Storm Center as directed by the Storm Center Lead, and configures the Logistics Center as directed by the Logistics Center Lead.

Storm Center Organization Chart: See Attachment 2

Transmission FL Storm Call Distribution List

5.0 CONFERENCE CALL AGENDA/CHECKLIST

PRIOR TO EVENT

❑ ***Roll Call FLORIDA*** ❑ Logistics ❑ NTA ❑ STA ❑ Trans. Financial	❑ Corporate Security ❑ ECC ❑ Dept VP Maint & Const ❑ Fleet ❑ Aviation	❑ Distribution ❑ Safety ❑ Wholesale ❑ Stores	❑ Trans ROW ❑ Heavy Hauling ❑ Weather ❑ Telecom	***TSC***
❑ ***Safety / Messages to the troops*** ❑ Messages to reinforce commitment to safety excellence				***VP & Safety***
❑ ***Weather Forecast*** ❑ Reference projected path & timeline storm map on storm web site ❑ Discussion of start/stop wind timeline ❑ Rainfall and flooding, ice accretion ❑ Area impact, damage predictions, based on the forecast.				***Weather***
❑ ***Resources Availability / Readiness*** ❑ Construction, Maintenance, Contract Crew Availability and Equipment ❑ Contract Line crews (on-system and off-system) ❑ Tree crews (on system and off system) ❑ Special resources (Helicopter, Track Equipment, other) ❑ Planned mobilization timeline – updates ❑ Confirm resource availability versus projected resource needs ❑ Non-craft personnel availability				***Logistics***
❑ ***Logistics support*** ❑ Materials issues/availability vs. projected need (poles, hardware, other) ❑ Transportation – Vehicle needs ❑ Telecom – cell phone, radio needs ❑ Financial – storm credit cards, storm project numbers ❑ For Level IV (heavy damage) event: ❑ Verify adequate plan for crew receiving, processing, staging, logistics ❑ Prepare for potential staging sites (personnel, security, communications, loading/unloading equipment, consumables)				***Logistics***
❑ ***Area reports*** FLORIDA ❑ NTA ❑ STA				***ATCs***
❑ ***ECC Update*** ❑ Preparation activities – updates				***ECC***
❑ ***System Storm Center*** ❑ Confirm system storm, logistics, and Area Storm Center hours of manned operations ❑ Review actions & open issues ❑ Verify next conf call time and phone number ❑ Preparation plans – system issues				***TSC***

DURING THE EVENT

❑ ***Roll Call*** FLORIDA ❑ Logistics ❑ NTA ❑ STA ❑ Trans. Financial	❑ Corp Security ❑ ECC ❑ Dept VP Maint & Const ❑ Fleet ❑ Aviation	❑ Distribution ❑ Safety ❑ Wholesale ❑ Stores	❑ Trans ROW ❑ Heavy Hauling ❑ Weather ❑ Telecom	***TSC***
❑ ***Safety / Messages to the troops*** ❑ Messages to reinforce commitment to safety excellence				***VP or Safety***
❑ ***Transmission Outage updates*** FLORIDA ❑ NTA ◻ STA				***ATCs***
❑ ***ECC Update*** ❑ Dispatch, communications, emerging issues,				***ECC***
❑ ***Distribution status update)*** ❑ Customers out and estimated restoration for the distribution system				***TSC***
❑ ***Resources Assignments / Mobilization*** ❑ Status of mobilization ❑ Assignments of crews (contract / company / tree) ❑ Special resource assignments (Helicopter, Track Equipment, other) ❑ Additional needs ❑ De-mobilization timeline – when appropriate ❑ Non-craft personnel assignments				***Logistics***
❑ ***Logistics support*** ❑ Materials issues/availability vs projected need (poles, hardware, other) ❑ Transportation issues ❑ Communications issues ❑ For Level IV (heavy damage) event: ❑ Crew receiving, processing, staging, logistics issues ❑ Staging sites (personnel, security, communications, loading/unloading equipment, consumables) issues				***Logistics***
❑ ***System Storm Center*** ❑ Confirm System, Area Storm, & Logistics Ctr. hrs. of manned operations ❑ Review priories, actions, & open issues ❑ Are all ETRs current? ❑ Verify next conf call time and phone number				***TSC***

6.0 TRANSMISSION LOGISTICS CENTER

6.1 Logistics Center Duties and Responsibilities -

- Provide for engineering, materials, contracting, accounting, fault locations, General Office and scheduling support in restoration activities as requested by Transmission Maintenance Area Storm Centers and prioritized by the Transmission Storm Center.
- Serve as contact to SYSTEM STORM CENTER when Transmission Storm Center is not activated.
- Track all resources and location of Transmission Employees and contractors.
- Update Transmission Operations and Planning Department Storm On-Line Tracking Tool with Crew Information and Locations.

Transmission Logistics Center:	Provides logistics (resources) to storm restoration priorities
Logistics Support Coordinators:	Provides overall coordination and direction to Logistics Center support teams.
Contract Support Team:	Provides any contracted human resources, materials, equipment to restore system.
• ROW Support:	Provides helicopters and performs damage assessments with area supervisors; provides clearing crews for access to work areas.
• Contracts Support:	Provides contract resources for storm restoration (crews, equipment, etc.)
• Misc. Contracts Support:	Contract Crew Tracking and Heavy Hauling Support provide
Materials Team:	Provides all materials for restoration (poles to buggy stock)
• Materials Support:	Enter, track and monitor the request and fulfillment of materials required for storm restoration.
Administrative Team:	
• Financial Tracker:	Establishes charging codes, charge cards and monitors costs of storm restoration
• Hotel Support / Travel Center:	Provides hotel accommodations for logistics support, maintenance support, supervisors and contract crews. Manages all hotels for transmission in collaboration with distribution hotels / travel center.
• Phone Duty:	Responds to all phone calls from regions and field; document request, time & date stamp, send request to appropriate support area for fulfillment.
• Data Entry:	Enter all phone requests into Storm Tool and track open requests; confirm closed requests.
• Runner:	Field support for Maintenance Areas / Crews; must be prepared to travel into storm damaged area and provide whatever the crew/Maintenance Area Storm Center/Logistics require to perform restoration activities. (I.e. delivery of drawings to meals). See detailed roles/responsibility and checklist.

6.2 Logistics Support Coordinator

Pre- Storm

96 hours before Storm	-	Initiate Pre-Storm activities upon notification of Pre-Storm Declaration by Transmission System Coordinator.
	-	Ensure that the Contracts Team provides list of available helicopter service, moves them into location where storm/emergency is not expected to hit places on standby status and removes from standby status as directed by Transmission System Coordinator.
	-	Contact Heavy Hauling to get availability of specialized equipment, e.g. track equipment.
	-	Activate satellite phones for the Storm Center
72 Hours before storm	-	Determine required number of rental vehicles and inform Admin Team.
	-	Determine required number of cell phones and company radios and inform Admin Team
48 hours before Storm	-	Notify affected individuals when notified of Transmission Storm Center activation and track resources and their locations. Keep the Transmission Storm Center updated on resource status.
	-	Receive progress of major emergencies from Transmission System Coordinator.
	-	Develop a list of available construction contractors **on** the system and provide to the Transmission System Coordinator and the Transmission Maintenance Area Coordinators. (Contracts Team)
	-	Develop a list of available construction materials **on** the system and provide to the Transmission System Coordinator and the Area Transmission Assistant Coordinators. (Contracts Team)
	-	Develop a Materials Team list of available construction materials **off** the system and provide to the Transmission System Coordinator and the Area Transmission Coordinators.
	-	Have the Contracts Team place contractors on stand-by status as directed by the Transmission System Coordinator.
	-	Ensure that the Materials Team has contacted material suppliers to reserve or hold critical materials for possible later shipment.
	-	Instruct company construction resources to initiate pre-storm activities and forward construction resource availability to Transmission System Coordinator.
24 hours before Storm	-	Ensure that Fault Recorder and Aspen Fault Location application expertise is available and the S.R. lab is staffed. (S.R.)
	-	Ensure that spare parts inventory support personnel are staffed in the

Logistics Support Center.

- Ensure that TPP HVAC and lighting is left on during the Logistics Support Center activation.
- Ensure that Materials Team has secured Material Inventory report for all Transmission crews.

  This information will be combined into a report similar to the Material Inventory report for the Storm Plan.
- Ensure that Contracts Team has developed list of available construction contractors **off** the system and provide to the Transmission System Coordinator and the Area Transmission Coordinators.
- Activate Logistics Support Center upon direction from Transmission System Coordinator and have designated personnel set up the room.
- Develop preliminary Storm Plan crew schedule for system and provide to Transmission System Coordinator.
- Develop status and schedule/location of construction mobile substations and 230 kV mobile switch and provide to Transmission System Coordinator.

Damage Repair

- Contact company construction and contract crews and provide Assessment & Maintenance Area assignment, location to report, and contact person to report to.

  Upon cancellation of pre-storm activities, cancel all contractors placed on standby and release all materials being held for Duke Energy Florida.
- Ensure that the contracts team contacts helicopter service for aerial patrol of lines.
- To be provided preliminary outage/damage report from the Transmission System Coordinator.
- To be provided the initial priority for system restoration from the Transmission System Coordinator and updates as priorities change.
- Coordinate all Office resources, Construction crews, and Construction Support Personnel and provide initial single point of contact for Area Transmission Assistant Coordinators. Logistics Support Coordinator may then designate individuals to provide response information to the Area Transmission Coordinator.
- To be provided with each crews work schedule by each Area Transmission Coordinator.
- Provide schedule/listing of resources by Maintenance area and for system; indicating crew (contractor, company, and other utility) by functional area with supervisor's name. This information should be provided and updated daily to the affected Area Transmission Coordinators and the Transmission System Coordinator.

- Coordinate materials and resources to the prioritized work location, as directed by the Transmission System Coordinator.
- Provide Transmission System Coordinator and all Area Transmission Coordinators with appropriate project number.
- To be provided progress of repairs on a daily basis by the Area Transmission Coordinator.
- To be provided travel conditions in each maintenance area from the Area Transmission Coordinator.
- Ensure that the materials team provides material requisition and delivery information to the Area Transmission Coordinator.
- Provide volunteers to man Family Information Center.

6.3 Contract Support Team - Timeline Storm Preparedness

Pre-Storm

96 hours before Storm

- Initiate Pre-Storm activities upon notification of Pre-Storm Declaration by Transmission System Coordinator.
- Coordinate obtaining the number of Helicopters required by the Transmission System Coordinator and Energy Delivery, when requested by SYSTEM STORM CENTER, and place Helicopters on "Standby" as directed

  Carolinas – ROW Management Manager

  Florida - ROW Management Manager
- Place Transmission Contractors on "Standby" status as directed by the Transmission System Coordinator

72 hours before Storm

- Verify the number of Helicopters required by the Transmission System Coordinator and Energy Delivery, and place Helicopters on "Standby" as directed.

  Carolinas – ROW Management Manager

  Florida - ROW Management Manager
- Place Transmission Contractors on "Standby" status as directed by the Transmission System Coordinator

48 hours before Storm

- Verify the number of Helicopters required by the Transmission System Coordinator, and Energy Delivery, and place Helicopters on "Standby" as directed.

  Carolinas – ROW Management Manager

  Florida - ROW Management Manager
- Coordinate Helicopter Staging Areas, if practical and possible, and preliminary Helicopter and Duke Energy Florida Contact information when provided by SYSTEM STORM CENTER and Transmission System Coordinator. **Note: Helicopters must be stored in hangers during**

storm and windy conditions for protection.

	- Place Transmission Contractors on “Standby” status as directed by the Transmission System Coordinator
	- Receive progress of major emergencies from Transmission System Coordinator.
	- Make list of available construction contractors **on** the system and provide to the Transmission System Coordinator and the Area Transmission Coordinators.
24 hours before Storm	- Finalize and Coordinate Helicopter Reporting locations Contact information, when provided by SYSTEM STORM CENTER and Transmission System Coordinator.
	- Provide list of available helicopter service, reporting locations, and estimated Time of Arrival.
	- Make list of available construction contractors **off** the system and provide to the Transmission System Coordinator and the Area Transmission Coordinators.
	- Place contractors on stand-by status as directed by the Transmission System Coordinator. (Contractor should be placed on “Standby” a minimum of 24 hours prior to Storm making land fall)
	- Provide list of available helicopter service, move them into location where emergency is not expected to hit place on standby status and remove from standby status as directed by Transmission System Coordinator. Note: Helicopters must be stored in hangers during Storm and wind conditions for protection
	- Instruct company construction resources to initiate pre-storm/emergency activities and forward construction resource availability to Transmission System Coordinator.
	- Develop preliminary Storm Plan crew schedule for system and provide to Transmission System Coordinator.
Damage Repair	- Contact company construction and contract crews and provide Assessment & Maintenance Area assignment, location to report, and contact person to report to.
	- Contact helicopter service for aerial patrol of lines. (Helicopter provider are to report to Maintenance Area / location as soon as conditions after the storm/emergency allow)
	- To be provided preliminary outage/damage report from the Transmission System Coordinator.
	- To be provided the initial priority for system restoration from the Transmission System Coordinator and updates as priorities change.
	- Remove Contractors, which are not needed from “Standby” status and release as directed by Transmission System Coordinator

- Provide schedule/listing of resources by Maintenance area and for system; indicating crew (contractor, company, and other utility) by functional area with supervisor's name. This information should be provided and updated daily to the affected Area Transmission Coordinators and the Transmission System Coordinator.
- To be provided progress of repairs on a daily basis by the Area Transmission Coordinator.
- To be provided travel conditions in each maintenance area from the Area Transmission Coordinator.

6.4 Materials Team - Timeline Storm Preparedness

Pre-Storm

48 Hours before Storm	-	Receive progress of major emergencies from Transmission System Coordinator.
	-	Make list of available construction materials **on** the system and provide to the Transmission System Coordinator and the Area Transmission Coordinators.
	-	Make list of available construction materials **off** the system and provide to the Transmission System Coordinator and the Area Transmission Coordinators.
	-	Contact material suppliers to reserve or hold critical materials for possible later shipment.
	-	Develop status and schedule/location of construction mobile substations and 230 kV mobile switch and provide to Transmission System Coordinator.
24 Hours before storm	-	Secure Material Inventory report for all Transmission crews.
	-	Provide spare parts inventory support personnel in the Logistics Support Center.
	-	Burn Material Database CD in case computer system goes down
	-	Upon cancellation of pre-storm/emergency activities, cancel all contractors placed on standby and release all materials being held.
Damage Repair	-	Coordinate materials and resources to the prioritized work location as directed by the Transmission System Coordinator.
	-	To be provided progress of repairs on a daily basis by the Area Transmission Coordinator.
	-	To be provided travel conditions in each maintenance area from the Area Transmission Coordinator.
	-	Provide material requisition and delivery information to the Area Transmission Coordinator

6.5 Administrative Team - Timeline Storm Preparedness

Pre-Storm

96 Hours before Storm	- Initiate Pre-Storm activities upon notification of Pre-Storm Declaration by Transmission System Coordinator.
72 Hours before storm	- Contact Enterprise about availability of cars and obtain required vehicles. - Obtain required number of cell phones and company radios. Schedule Conference Call for Transmission Department
48 Hours before Storm	- Ensure that the local HVAC and lighting is left on during the Logistics Support Center activation and Storm Center activation.
24 Hours before storm	- Reserve hotel rooms for Logistics Center Staff and Support Personnel. - Assist with the Activation of the Logistics Support Center upon direction from the Logistics Center Coordinator - Upon cancellation of pre-storm activities, cancel all vehicles, cell phones, radios, hotels and food services being reserved for PE.
Damage Repair	- Assist with Storm Restorations Efforts as needed. - Determine Food Requirements for Storm Center, Logistics Support Center, SR Lab and Support Personnel and provide refreshments - Determine Daily Hotel Needs for Staff and ensure that reservations are provided. - Assist with providing volunteers to man Family Information Center.

6.6 Heavy Hauling Team - Timeline Storm Preparedness

96 Hours before Storm	Initiate Pre-Storm activities upon notification of Pre-Storm Declaration by Transmission System Coordinator.
48 Hours before Storm	- Locate and haul all Pool Equipment back to Wildwood for staging for the storm. - Place contractors on stand-by status as directed by the Transmission System Coordinator (Contractor should be placed on “Stand-by” a minimum of 24 hours prior to the storm making land fall).

7.0 WHOLESALE CUSTOMER

7.1 Wholesale Customers Duties and Responsibilities

- The Wholesale Storm Center (WSC) is normally activated when the Transmission Storm Center is activated.
- It is staffed by Transmission Planning Unit with assistance from Account Management – North Unit (Regulated Commercial Operations) personnel if needed. In the event RCO staff provides assistance, the Legal Department will file for an exception to FERC Code of Conduct.
- The Wholesale Storm Center (Carolinas) is located in TPP 17C3-4 where phones and computer equipment are installed.
- The Wholesale Storm Center (Florida) is located in the Transmission Storm center.
- Upon activation, staff contacts the CSC and coordinates the transfer of the Wholesale Customer Service Restoration Hotline (800-615-4893) to the WEC.
- WSC staff notifies wholesale customers, SYSTEM STORM CENTER Storm Center, Transmission Storm Center, and ECC of its activation.
- When customer outage calls are received from customers, outage information is relayed to the appropriate Distribution Operations Center (currently developing access to DCC's Web based ticket reporting system) for distribution served POD outages or reported to the ECC and Transmission Storm Center for transmission POD outages.
- WSC staff obtains outage status information from the various distribution and transmission Storm Centers and/or Region staffs to provide appropriate information to customers and/or obtains information from customers for the Company's restoration operations.

8.0 MAINTENANCE AREAS

In the event of severe damage to transmission facilities, due to storm or other cause, the repair of which is beyond the capability of local Transmission Maintenance Personnel, the resources of the Company will be consolidated to the extent deemed necessary by the System or Area Transmission Coordinator, in accordance with the following outline.

In the Transmission Department, each Area will have appropriate personnel, facilities, and equipment under the direction of the Area Transmission Coordinator. The Area Transmission Coordinators will report to the Assistant System Coordinator for the Transmission Department.

All staff assignments and other necessary information must be kept up to date and reviewed annually. Area Transmission Coordinators must be ready to affect the transfer of help to other areas with a minimum of confusion and delay, as well as to direct the work of numerous crews with efficiency and safety in case of trouble in their own areas.

The decision on which Storm Center(s) to activate will depend on the location of the storm/emergency. The body of this document applies to all locations, with separate attachments for contacts primarily supporting each location.

THE SAFETY OF EMPLOYEES AND THE PUBLIC WILL, AT ALL TIMES, BE THE PRIME CONSIDERATION!

8.1 Area Transmission Coordinator

The Area Transmission Coordinator will coordinate all the Company transmission resources in the respective Area in a severe storm or other disaster in an effort to maintain or restore service.

- The Area Transmission Manager is responsible for ensuring the area contact lists for storm/emergency restoration are maintained current.
- Under the authority of the Transmission System Coordinator, the Area Transmission Coordinator will have similar authority on the Transmission Area level.

8.2 Asset Management Engineer

The Asset Management Engineer will normally work with the Area Transmission Coordinator, providing relief for rest and meals and otherwise assisting as needed.

- Can be designated as a Field Coordinator.
- Will be available to assess damage to Area substations and lines and provides local design review to local storm restoration and repair.
- Will maintain a current substation direction book.

8.3 Maintenance Supervisor

The Maintenance Supervisor will coordinate personnel restoration activities as directed by the Area Transmission Coordinator and ECC dispatcher.

- Will normally work with the Area Transmission Coordinator, providing relief for rest and meals and otherwise assisting as needed.
- Can be designated as a Field Coordinator.
- Will act as liaison between Transmission Maintenance and other DE or contract personnel.
- Will see that the generator located at the headquarters is tested periodically in anticipation of a storm/emergency, the tank level is checked and filled as necessary in anticipation of a storm/emergency (Substation Supervisor).
- Will, in anticipation of the storm/emergency, fuel all vehicles, test and charge all portable radio batteries, test and fuel all portable generators, emphasize the importance of minimizing radio traffic on primary channels, and check the operation of all pagers and cellular phones.
- Will contact fuel vendors and arrange for fuel supply needs. This will include field refueling.
- Will assist with Company/Contractor expense documentation and the implementation of all special accounting practices.
- Will keep a complete log of events.
- Will assign a member of crew (normally the Senior Lineman) to work with a Field Coordinator stationed at the Storm control center in the determining and dispatching of materials.

8.4 Forester

The Forester will normally work with the Area Transmission Coordinator, serving as relief for rest and meals and otherwise assisting as needed, particularly with moving and accounting for extra crews.

- Can be designated as a Field Coordinator.
- Will assess ROW damage and clearing needs.
- Will organize support from local contractors, coordinating all ROW and clearing activities.
- Will maintain Transmission Area maps to be copied and distributed to out-of-town crews.
- Will maintain a current Contractor directory.
- Will gather and provide information on road access from state and local agencies with the help of the Support Staff.
- Will arrange for aerial patrol of lines. When appropriate, will notify contract helicopter in advance and route to a location on the system where the storm is not expected to hit.
- Will help with the distribution, crew registration forms, voucher forms, and will be responsible for notification of charge numbers.
- Will assist with Company/Contractor expense documentation and the implementation of all special accounting practices.

8.5 Administrative Specialist

The Administrative Specialist will assist in communications between the Storm Center and field operations.

- Will lend clerical support to the Area Transmission Coordinator as needed.
- Will help man the Storm Center telephone/radio.
- Will contact and make arrangements with the local Division Services Coordinator for the possible need of rooms in advance; once needs are known, make reservations through the local Division Services Coordinator.
- Will make arrangements for meals for personnel involved in restoration of the system through the local Division Services Coordinator.
- Will be responsible for maintaining and distributing up-to-date employee directories, Storm Center telephone numbers, and inserts for inclusion in this plan.
- Will help with the distribution, crew registration forms, voucher forms, and will be responsible for notification of charge numbers.

8.6 Regional Data Coordinator

The Regional Data Coordinator will work within the Regional Storm Center to provide data entry of outages, clearances, work in progress, and restored lines/subs.

- The Coordinator must be trained in Storm/ECC tool and system data / 1-lines.

9.0 PRE-STORM PREPARATION TIMELINES

9.1 Area Transmission Coordinator Pre-Storm Checklist

	BEGINNING OF STORM SEASON (6-1)	
	Verify that staff revised and updated Storm Plan Contact List.	
	During the January and June Safety Council Meeting, discuss with employees the DE philosophy concerning employee safety during emergencies.	
	Verify area staff have completed pre-storm season check list.	
	96 – 72 HOURS PRIOR TO THE STORM	
	Verify area staff have completed 96-72 hour check list.	
	72 – 48 HOURS PRIOR TO THE STORM	
	Check tools and equipment including flashlights, boots, and rain suits, etc.	
	Review Storm Plan responsibilities.	
	Review safety responsibilities.	
	Verify area staff have completed 72-48 hour check list.	
	48 – 24 HOURS PRIOR TO THE STORM	
	Track storm and projected time, area, amount of damage. Set up on-going weather information channel. Evaluate need to request onsite IT support for the Storm Centers.	
	Hold staff meeting and ascertain their state of readiness.	
	Check all tools and equipment, to include flashlights, boots, and rain suits.	
	Review Storm Plan responsibilities.	
	Review safety responsibilities.	

	Place contract and Duke Energy Florida crews on standby.	
	Prepare a grab bag of clothes and hygiene items.	
	Verify area staff has completed 48- 24 hour check list.	
24 – 0 HOURS PRIOR TO THE STORM		
	Review crew readiness and availability.	
	Evacuate families if necessary.	
	Prepare headquarters area for storm/emergency.	
	Check availability and operation of pagers and portable radios.	
	Verify area staff have completed 24-0 hour check list.	

9.2 Asset Management Engineer Pre-Storm Checklist

96 – 72 HOURS PRIOR TO THE STORM		
	Make the necessary arrangements for staging areas.	
72 – 48 HOURS PRIOR TO THE STORM		
	Assist ATC to make arrangements for possible need of company crews.	
	Check all tools and equipment including flashlights, boots, and rain suits, etc.	
	Review Storm Plan responsibilities.	
	Review safety responsibilities.	
48 – 24 HOURS PRIOR TO THE STORM		
	Assist ATC to make arrangements for possible need of company crews.	
	Assist ATC in establishing Storm Center.	
	Check first aid kits.	
	Prepare a grab bag of clothes and hygiene items.	
24 – 0 HOURS PRIOR TO THE STORM		
	Evacuate families if necessary.	
	Prepare headquarters area for storm/emergency.	
	Check availability and operation of pagers and portable radios.	

9.3 Maintenance Supervisor Pre-Storm Checklist

BEGINNING OF STORM SEASON (6-1)		
	Chain saw training and equipment obtained/checked.	
	Check condition of all vehicles.	
96 – 72 HOURS PRIOR TO THE STORM		
	Line Supv: Check inventory; poles, arm, etc.	
	Sub Supv: Secure all items in all substations	.
	Relay Supv: Check inventory and supplies in the warehouse.	
	Check condition of all vehicles and fill fuel tanks.	
	Verify need for and request satellite phones	
72 – 48 HOURS PRIOR TO THE STORM		
	Line Supv: Check with Transmission Construction for number of available crews.	
	Check all tools and equipment including flashlights, boots, and rain suits, etc.	
	Review Storm Plan responsibilities.	
	Review safety responsibilities.	
48 – 24 HOURS PRIOR TO THE STORM		
	Line Supv: Review Storm Plan responsibilities of contractor with contract management: * Reporting location, * Meal tickets, * Motel tickets, * Time sheets, * Contractor work schedule, * Crew sign-in process, staging areas and crew tracking	

	Check all tools and equipment, to include flashlights, boots, and rain suits.	
	Sub Supv: At TM Headquarters, check gas in tank for the generator and arrange for refueling truck to be on site.	
	Sub Supv: Check generator and emergency lights.	
	Relay Supv: Assist Sub Supv to zero-hour countdown.	
	Discuss crew assignments.	
	Contact other Company crews.	
	Check for special tools - chain saw, air compressor, large generator.	
	Check first aid kits.	
	Review Pre-Event Briefing with Crew	
	Prepare a grab bag of clothes and hygiene items.	
24 – 0 HOURS PRIOR TO THE STORM		
	Move equipment out of storm path to safe area, if necessary.	
	Review crew readiness and availability.	
	Fill all vehicles and cans with fuel. (Spray windshields with Rain-X)	
	Evacuate families if necessary.	
	Prepare headquarters area for storm/emergency.	
	Obtain water and ice for each vehicle.	
	Check availability and operation of pagers and portable radios.	

9.4 Forester Pre-Storm Checklist

96 – 72 HOURS PRIOR TO THE STORM		
	Review area maps to assure that they are current	
	Review contractor labor, equipment, and phone number list to verify they are current.	
	Check contractor packets for crews.	
	Check condition of vehicle and fill fuel tank.	
72 – 48 HOURS PRIOR TO THE STORM		
	Make initial contact with helicopter service – verify availability and location.	
	Check tools and equipment including flashlights, boots, and rain suits, etc.	
	Review Storm Plan responsibilities.	
	Review safety responsibilities.	
48 – 24 HOURS PRIOR TO THE STORM		
	Make available current maintenance area maps.	
	Review contractor labor, equipment and phone number list to assure they are current.	
	Have contractor packets for crews available.	
	Review Storm Plan responsibilities of contractor with contract management: * Reporting location, * Meal tickets, * Motel tickets, * Time sheets, * Contractor work schedule, * Crew sign-in process, staging areas and crew tracking	

	Make follow-up contact with helicopter service - verify availability and location.	
	Check ready effort of contract crews.	
	Check first aid kits.	
	Prepare a grab bag of clothes and hygiene items.	
24 – 0 HOURS PRIOR TO THE STORM		
	Put contractors on ready alert.	
	Assure contract crews know where, when, and to whom to report.	
	Contact helicopter service-position helicopter at closest "safe" location.	
	Review crew readiness and availability.	
	Fill vehicle and cans with fuel. (Spray windshields with Rain-X)	
	Evacuate families if necessary.	
	Prepare headquarters area for storm/emergency.	
	Obtain water and ice for each vehicle.	
	Check availability and operation of pagers and portable radios.	

9.5 Administrative Specialist Pre-Storm Checklist

	BEGINNING OF STORM SEASON (6-1)	
	Verify and distribute updated Storm Plan organizational charts, phone lists, and identify where to find those.	
	96 – 72 HOURS PRIOR TO THE STORM	
	Contact Facilities Management to check gas in the tank for the local generator(s).	
	Check ice machine to see if ice is needed. Contact local ice company if needed.	
	72 – 48 HOURS PRIOR TO THE STORM	
	Review Storm Plan responsibilities.	
	Review safety responsibilities.	
	48 – 24 HOURS PRIOR TO THE STORM	
	Ask for additional portable cell phones and hand held radios and distribute.	
	Stock food and water at headquarters; order port-a-johns.	
	Check all tools and equipment, to include flashlights, boots, and rain suits.	
	Assist ATC in establishing Storm Center.	
	Prepare a grab bag of clothes and hygiene items.	
	Contact District Coordinator to reserve hotel rooms.	
	Contact District Coordinator regarding meals for crews.	
	Contact District Coordinator regarding fuel supply needs for vehicles.	

	Contact District Coordinator regarding availability of local garages for vehicle repairs.	
24 – 0 HOURS PRIOR TO THE STORM		
	Contact District Coordinator to confirm number of hotel rooms needed and to confirm meal arrangements.	
	Man Storm Center and radio.	
	Prepare headquarters area for storm.	

10.0 Links to Local Maintenance Area Contacts

10.1 Florida NTA - \\s00225\grpdata\TransDocs\Storm\Fla NTA Contacts

10.2 Florida STA - \\s00225\grpdata\TransDocs\Storm\Fla STA Contacts

11.0 Transmission Maintenance Area Storm Plan Accounting Procedures

Storm Plan accounting procedures for the Transmission Department will not be effective **until** the Transmission System Coordinator (or the designated Assistant) requests their implementation by Transmission C&M and Controller-Accounting. These procedures are intended for use when there is severe **and** extensive damage to transmission facilities.

Road Tax for Diesel Fuel
If arrangements are made with a vendor to deliver diesel fuel, make sure the vendor understands when he prepares his invoice that Duke Energy Florida does not pay the road tax on this fuel.

For questions concerning the current accounting procedures, contact Penny Goebel BELL 980-373-7708 or cell 704-975-6197.

12.0 Nuclear Plant Siren Restoration Plan

After a major storm/emergency event such as a hurricane, sirens surrounding nuclear plants may be without service. These sirens are served by both Duke Energy Florida and other electric service providers. Plants cannot return to service until the power is restored to the sirens and they have been tested. The financial impact to Duke Energy of not having nuclear plants operational is significant. It is critical to assign a very high priority to the restoration of power to sirens.

The following action plan describes the process to be followed to ensure sirens are returned to service as quickly as possible following a major storm/emergency event.

Nuclear Siren Restoration Action Plan			
Item to be Addressed	**How Identified**	**Who**	**Status/Results**
1. Determine number and location of inoperative sirens and report results to SYSTEM STORM CENTER and Transmission Storm Centers.	Brunswick/Robinson: electronic feedback/reporting from each site. Harris: notify and dispatch Sanford TSM and/or Telecommunication crews to assess each site.	Emergency Preparedness (EP) at each affected plant will analyze data and communicate to SYSTEM STORM CENTER Operation and Transmission Area Storm Centers. EP at each affected plant will provide status reports to SYSTEM STORM CENTER Department and Transmission Operations and Planning Department Storm Centers.	Number and location of inoperative sirens is communicated to SYSTEM STORM CENTER and Transmission Storm Centers.

13.0 Environmental – Environmental Contact Information

14.0 Health & Safety Storm Plan Instructions

14.1 Health & Safety Services Transmission Support

- Monitoring and assigning Safety Representatives as needed
- Coordinating, tracking and dispersing Storm Plan Safety Reports
- Providing and dispersing daily Storm Plan safety tips
- Assisting on accident investigations and Workers' Compensation issues
- Providing safety support to regions as needed
- Providing on site medical support as needed

14.2 Oil Spill Reporting

- 1-866-769-1266

15.0 Pre-Event Briefing

15.1 Working in Windy Conditions

- The person in charge (PIC) of the crew must ensure the safety of all employees and cease work or travel when it becomes hazardous.
- Employees should cease traveling (in all vehicles) or working, including climbing, when winds reach tropical storm velocity of 39 MPH.
- The Area Storm Center has the authority to cancel all storm restoration related travel and work activities if weather conditions are expected to continue to deteriorate locally.
- The Area Storm Center will be contacted if assistance is needed to ascertain forecasted wind speeds in the work area.
- Transmission class bucket trucks will be equipped with an approved anemometer to determine wind speed in the work area.

15.2 Use of Transmission Class Bucket Trucks in Windy Conditions

- Employees are prohibited from operating bucket trucks in the elevated work position when the wind speed (steady or gusts) exceeds <u>30 MPH.</u>
- Any manufacture's recommended wind speed guideline, for bucket trucks operating in the elevated position, which is less than 30 MPH must be adhered to for said equipment. (Example: Condor (Transmission) recommends a maximum wind speed of 25 MPH.)
- The wind speed must be determined by using an approved anemometer before vehicles equipped with an aerial lift device are operated in the elevated work position.
- The wind speed must be periodically tested with an approved anemometer at the work elevation throughout the work process if windy conditions are present in the work area.
- When operating in winds <u>up to, but not exceeding 30 MPH</u>, follow these precautions:
  - Outriggers, if so equipped, must be properly extended and on firm ground. Always use outrigger pads if there is any doubt as to the ground firmness.
  - On units without outriggers, the tires must be properly inflated and on firm ground. The truck must be maintained at a safe angle as described in the operator's manual.
  - Refer to specific equipment operator / instruction manual for other precautions.

15.3 Work Coordination

- **Coordination of Personnel:** Field personnel will be dispatched by the local area storm centers and will contact the ECC/DCC upon arrival at the work site.
- **Hours of Work:** The hours of work will be determined by the local area storm center. In general each person is permitted to initially work a maximum of 25 continuous hours before being rested. All hours should be counted once a person reports for work, including travel time to and from the job site. The hours that should be counted should also include breaks and rest periods that are less than eight hours in length. After the initial work period, the employee should be allowed to rest a minimum of 8 hours before returning to work. After the initial work period, employees should be limited to a maximum of 16 hours for each work period. In general, personnel are more productive in daylight hours and the majority of field personnel should have their hours scheduled in daylight.
- **Special Circumstances:** If special circumstances dictate that a major objective can be achieved by working an additional three hours or less, this will be allowed only if authorized through the local area storm center. Any personnel working more than 28 hours should have approval from the Transmission System Storm Coordinator.

- **Hours of Rest:** Each person should have at least eight hours of rest scheduled between work periods.
- **Work History:** Upon reporting for storm/emergency duty, each person's work history should be evaluated to determine how many hours of work are available before rest should be scheduled. All prior hours worked, including travel time, that has not been preceded by an eight hour rest period should be counted.

16.0 Environmental Health and Safety Services Regional Storm Plan Instructions

16.1 Instructions for use of safety information

- Personal Injury/Property Damage
- Environmental and Health Representatives

16.2 Designated Safety Representatives Regional Storm Plan

- Providing necessary assistance with accidents
- Assisting with Workers' Compensation issues
- Supporting safety awareness with crews
- Sharing Storm related accident information
- Supporting crews with personal protective equipment needs

17.0 Contract and Accounting Procedures

- Storm Accounting Procedures/Hyperlink - *Process is in transition (TBD)*
- Storm Accounting Tasks

17.1 Contract Provisions for Storm Work

When contractor is utilized under storm/emergency conditions due to hurricanes, snow, ice emergencies, etc., or for special assignments requested by Duke Energy Company (hereinafter "Duke Energy Florida"), the following conditions apply:

- Contractor agrees to furnish all labor, tools, equipment, transportation, and supervision to perform storm/emergency work at the following rates: Assisting with Workers' Compensation issues
  - Equipment at contractor's standard hourly rates.
  - Labor at contractor's hourly payroll rate in effect at the time the work is done, plus overhead.
- All invoices for work done at hourly rates will be supported by a copy of the time tickets. Overtime for a partial week will be supported by time tickets for the full week.
- Each meal ticket which Duke Energy Florida is obligated to pay, whether charged to Duke Energy Florida or billed on the invoice, will show the name of the restaurant, town, date, which meal, name of the contractor, and Duke Energy Florida, and each meal ticket will be signed by contractor's employee. Contractor employee shall be provided a meal every six hours.

- Each lodging receipt which Duke Energy Florida is obligated to pay, whether charged to Duke Energy Florida or billed on the invoice, will show the name of the place of lodging, town, date, name of contractor, and Duke Energy Florida, and each receipt will be signed by contractor's employee.
- Before Duke Energy Florida will pay overtime for a partial week, Duke Energy Florida must be furnished documentation of hours worked for each person on another utility system, by means of a copy of work report rendered to that utility company. It is understood that Duke Energy Florida will pay travel time for each person to and from his normal assembly point, to and from each emergency headquarters and, while at emergency headquarters, to and from each work location.
- If a contractor employee is required to work in excess of sixteen (16) hours in the twenty-four (24) hour period, the overtime rate shall prevail until such time as the employee is given an eight (8) hour rest period.

17.2 Construction and Clearing Contractors

Listed in this plan are the Construction and Clearing Contractors. The Contractors, which the Transmission Operations and Planning Department has contract agreements with are indicated with the contract number and expiration dates. These contracts have provisions for payment during emergency and standby situations. The next page is a copy of the contract provisions for Emergency work.

During a major storm/emergency, additional contractor work forces may be necessary. Arrangements for acquiring these additional contractors for mobilizing to work area or standby should be made through the Logistics Support Coordinator. However, if the Area Transmission Coordinator (ATC) makes the original contact, of contractors located in their maintenance area, to acquire additional contract workers, then the ATC should give the home office number and a contact name to the Logistics Support Coordinator. The Transmission Contracts Coordinator will call the contractor's home office and make agreements for payment (equipment and labor rates inclusive). The Transmission Contracts Coordinator will then send a copy of the agreement to the Area Technical Aid to assist her in processing invoices.

Hotel or motel reservations for contract labor will be made and guaranteed by the Area Transmission Coordinator unless the contractor specifies otherwise.

Releasing any contract crews that are on standby requires the approval of the Area Transmission Coordinator and the Transmission System Coordinator (or his assistant). The Transmission System Coordinator is to communicate the released contractor information to the Logistics Support Coordinator.

17.3 Crew Registration Instructions

General Information

- Crew Registration Form developed to provide the following:
    - Tracking of all crew personnel and equipment in the area.
    - Means for logging out work assignments.

- o Means for documenting any problems or comments that crews feel might be needed for future reference.
- o Method for collecting Fixed Asset Accounting information.

Instructions

- Side 1 of the form **must** be completed by the Duke Energy Florida Supervisor for his assigned crew when they first report to the area headquarters.
  - o **Company:** write in the name of the company that the crew works for (example: Duke Energy Florida, MasTec, Richardson Wayland, etc.). If crew works for Duke Energy Florida, add the area that it is from (example: Duke Energy Florida Asheville Line Crew).
  - o **Employee's Full Name:** write in the full name (not nickname) of each member of the crew.
  - o **Social Security Number:** fill in the social security number for each crew member.
  - o **Duke Energy Florida Supervisor of Crew:** supervisor should write in his name.
  - o **Vehicles/Equipment:** list the types of vehicles and equipment assigned to the crew (for example: wire stringer, marsh master, bucket truck, etc.).
  - o **Crew Lodging**: list the name of the place where the crew will be staying.

- On Side 2 of the form, the Area Transmission Coordinator will issue the **Date** and **Assignment** for each crew. The Duke Energy Florida Supervisor, or his designee, will record the structure number where his crew began their day's work assignment (**From Structure**) and will also record the structure number where the crew stopped (**To Structure**). The Duke Energy Florida Supervisor, or his designee, will record the number (**#**) of **poles** his crew replaced during the assignment, the **%** of **insulators** that had to be replaced, and the **%** of **conductor** that had to be replaced during each day's assignment.

The **Comments/Problems/Follow-up Needed** section will be completed by the crew's supervisor to record any information that may be needed by the Emergency Area's maintenance crews after storm/emergency work has been completed (example: structures that were repaired using engineering-approved substitutes, any temporary fixes that should be replaced after all storm/emergency work has been completed, etc.)

18.0 Transmission Storm Credit Card Procedures

Duke Energy Florida no longer utilizes a separate Storm Credit Card.

In the event of a **<u>major storm/emergency,</u>** Corporate Credit Cards are to be used for **<u>all</u>** purchases, cash advances, motel bills, meals, vehicle rental, etc. associated with the restoration of the transmission system. This will drastically minimize the number of miscellaneous invoices that must be processed by Accounts Payable. The desired state is for all miscellaneous major storm/emergency costs incurred for restoration of the transmission system to be handled through Corporate Credit Cards. This will be a cost savings to Duke Energy Florida, and our vendors will be paid immediately.

18.1 Transmission Accounting Task Numbers - FL

Transmission DEF Storm Tasks

- T7202 - Transmission Storm Support – applies to all major storm support/restoration activities related to the Transmission system, except for what is specifically noted below.
- TTREE – Transmission Tree Trimming – applies to tree trimming contractor costs for Transmission system storm restoration.
- TLNDS – Transmission Landscaping - applies to contractor costs to restore landscaping (i.e. landscaping surrounding a Duke Energy Florida substation) damaged by a major storm.
- TOHLN – Transmission Overhead Line Restoration - applies to internal and contractor costs required to restore Transmission overhead lines damaged by a major storm.
- TUGLN – Transmission Underground Line Restoration - applies to internal and contractor costs required to restore Transmission underground lines damaged by a major storm.

19.0 Distribution Links

19.1 Critical Customers Priority List

19.2 Distribution Outage Map

20.0 Florida Emergency Operations Center

20.1 State Emergency Personnel - FL

- Florida Department of Emergency Management, ESF-12
  Voice: 850-921-0165
  Fax: 850-488-7841
- Florida Disaster EOC

21.0 Current Road Conditions

- **FLA Roads** http://www.fhp.state.fl.us/traffic/

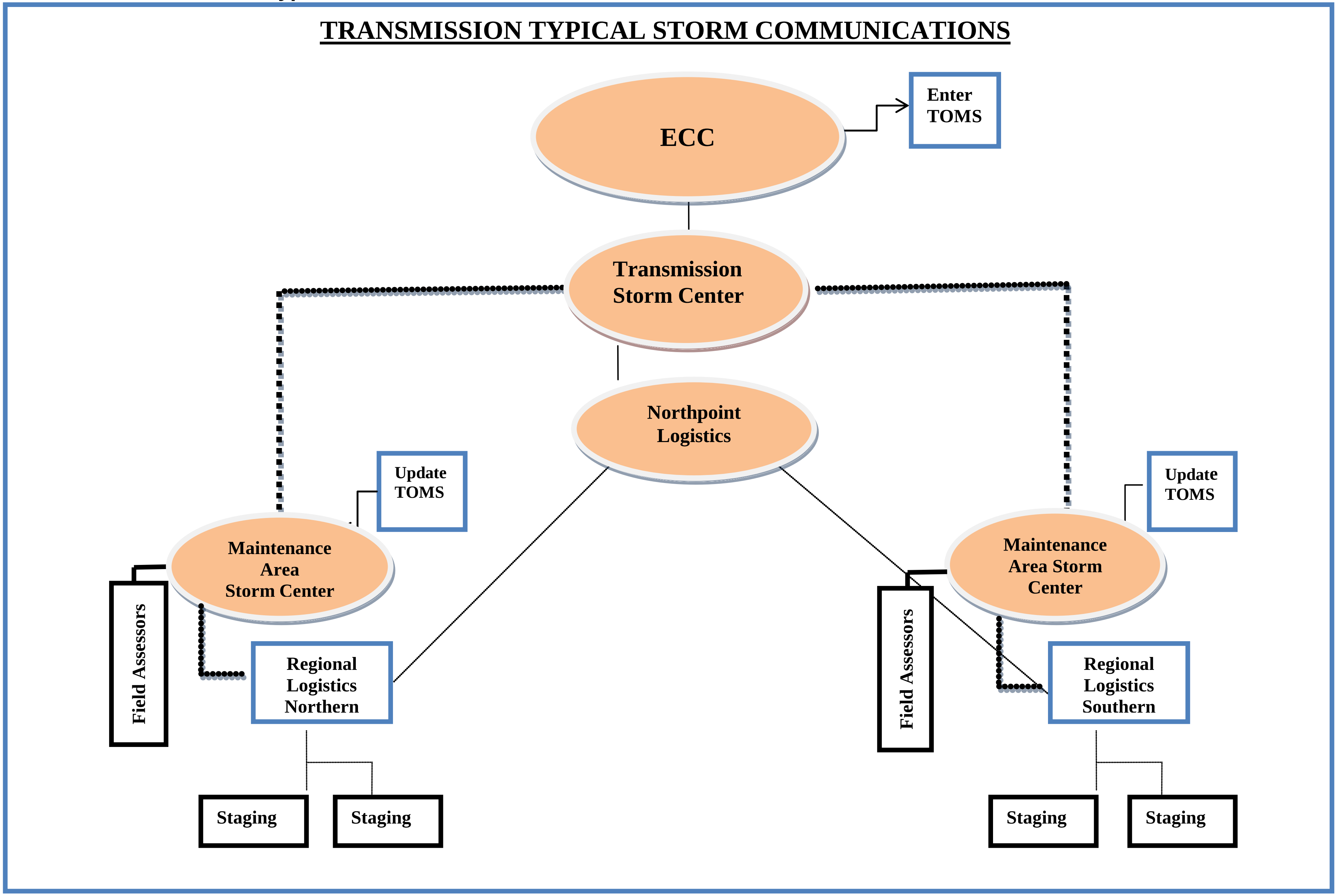
22.0 Florida Support Services

- **Transportation Storm**
- **Supply Chain M&S FL Storm**

23.0 Post Storm Analysis - FL

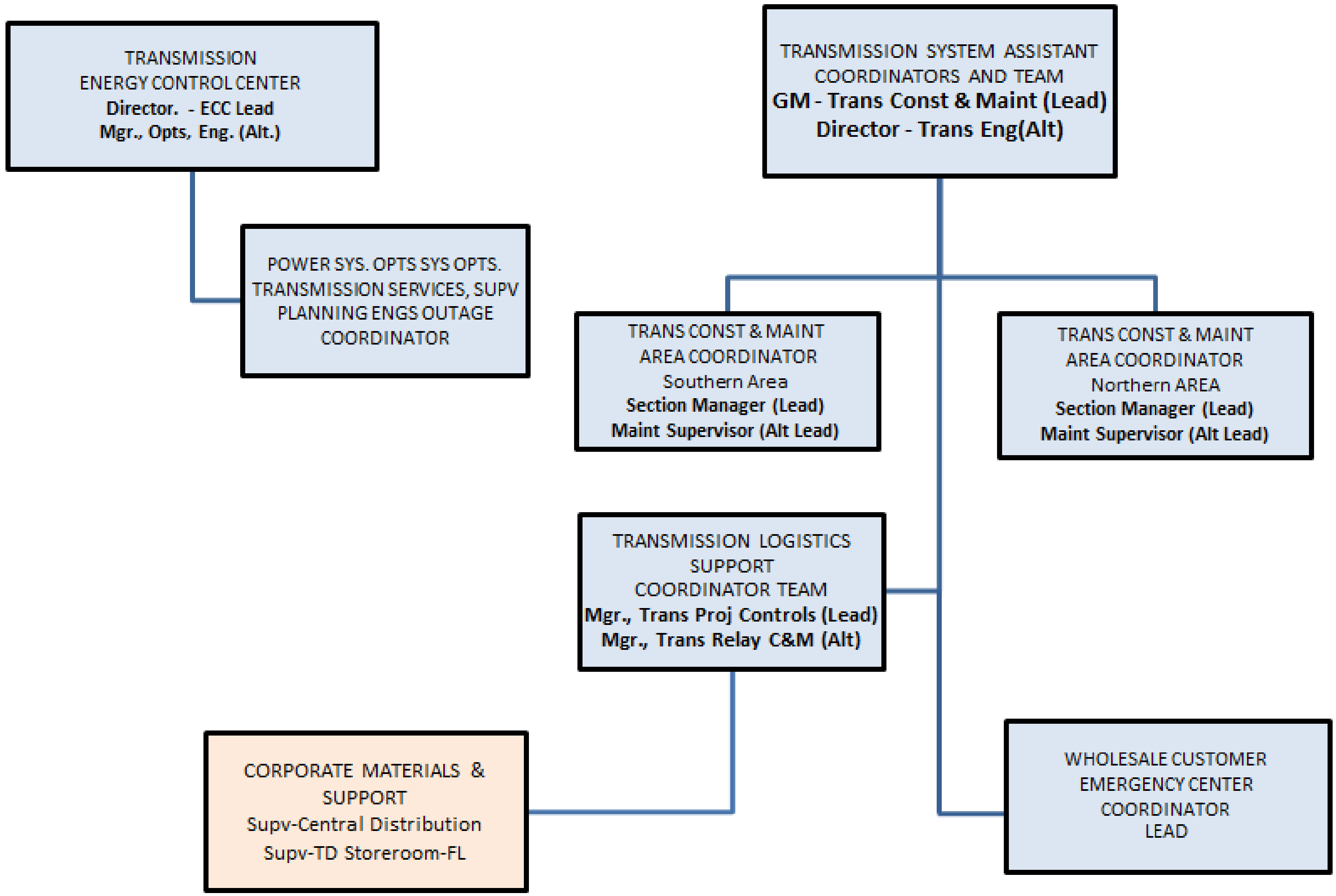
After any major storm, Duke Energy Florida is required by the Florida PSC to have an analysis of the storm response and service restoration performed. This is to be done by an outside company. Potential companies for this analysis have been identified. It is the responsibility of the Manager of Transmission Line Engineering to initiate the analysis.

23.0 Transmission –FL Typical Storm Communications – ATTACHMENT 1



24.0 Transmission –FL Coordinator Organization Chart – ATTACHMENT 2

TRANSMISSION SYSTEM COORDINATORS ORGANIZATION CHART FLORIDA



25.0 Transmission FL System Contacts

Description	Bell #	VN#	Fax Bell #	Fax VN#	Satellite#
Trans Storm Center North Point Conference Line	407-905-3523 407-942-9606	284-3523			221651-439-728
Trans Logistics Northpoint	407-942-9565	280-2565	407-942-9568	280-2568	881651-439-727
North – Monticello *(Alt)*	850-342-2356	224-2356	850-342-2321	224-2321	
North - Crystal River *(Alt)*	352-501-6667	246-6667			
North – Wildwood	352-748-8275	223-4275	352-748-8786	223-4786	81651-442-545 81651-442-546
North – High Springs *(Alt)*	386-454-6039	257-6039	386-454-6037		
South –Buena Vista	407-938-6713	280-6713	407-938-6720	280-6720	881651-439-725 881651-439-726 881651-442-507
South - Tarpon Springs	727-939-4373	232-4373			
Wholesale Customer	407-905-3525	284-3525			
SR Lab	919-546-2350 919-546-6016	770-2350 770-6016	919-546-2684	770-2684	
Distribution	407-942-9581	280-2581	407-942-9588	280-2588	
ECC (FL)	727-344-4397 727-344-4398 727-344-4399	220-4398 220-4397 220-4399			

Dist. Op. Center	Bell #	VN#	Fax Bell#	Fax VN#	Satellite#
Clearwater	727-461-2964 (B1)	220-4201			
Seven Springs	727-372-5102	220-5102			
Walsingham	727-593-6931				
St. Petersburg	727-593-6931	220-3793			
Ocala	352-694-8420 352-694-8845	220-6420 220-6845			
Inverness	352-341-7518 352-341-7519	228-7518 228-7519			

Monticello	850-342-2298	224-2298			
Lake Wales	*863-678-4501* *863-678-4392*	*280-3501* *280-3392*			
Highlands	863-471-5822	280-5822			
Buena Vista	407-938-6651 407-938-6745	280-6651 280-6745			
North Central Region Storm Center	407-942-9585	280-2585			
Longwood	407-772-5300 407-772-5302	283-5300 283-5302			
Jamestown	407-359-4450 407-359-4831	239-4450 239-4831			
Apopka/Eustis	407-646-8530	237-5530			
Deland	386-943-3904 386-943-3932	286-3904 286-3932			