REPORT
March 1, 2016

Matthew R. Bernier
SENIOR COUNSEL
Duke Energy Florida, LLC

March 1, 2016

VIA ELECTRONIC FILING

Carlotta Stauffer, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Annual Service Reliability Report for 2015; Undocketed

Dear Ms. Stauffer:

Please find enclosed for electronic filing on behalf of Duke Energy Florida, LLC's ("DEF"), 2015 Annual Service Reliability Report. DEF also provided two (2) hard copies and two (2) CDs of its 2015 Annual Service Reliability Report to the Division of Engineering.

Thank you for your assistance with this matter. Please feel free to call me at (850) 521-1428 should you have any questions.

Sincerely,

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

MRB/mw
Enclosures
cc: Tom Ballinger, Director, Division of Engineering

2015 Annual Reliability Report

March 1, 2016

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2015 Year End Customers Served by Region

Zone / Regions	3 Char OP	Op Center	Cust Served	Date
NORTH CENTRAL	APK	APOPKA	97,551	12/31/2015
	DEL	DELAND	79,206	12/31/2015
	JAM	JAMESTOWN	133,236	12/31/2015
	LNG	LONGWOOD	86,402	12/31/2015
			396,395	
NORTH COASTAL	INV	INVERNESS	71,233	12/31/2015
	MON	MONTICELLO	54,051	12/31/2015
	OCA	OCALA	73,241	12/31/2015
			198,525	
SOUTH CENTRAL	BNV	BUENA VISTA	109,296	12/31/2015
	CLR	CLERMONT	32,607	12/31/2015
	HIL	HIGHLANDS	56,926	12/31/2015
	LKW	LAKE WALES	95,688	12/31/2015
	SEO	SE ORLANDO	87,333	12/31/2015
	WGN	WINTER GARDEN	76,607	12/31/2015
			458,457	
SOUTH COASTAL	CLW	CLEARWATER	141,705	12/31/2015
	SEV	SEVEN SPRINGS	181,013	12/31/2015
	STP	ST. PETERSBURG	173,152	12/31/2015
	WAL	WALSINGHAM	149,684	12/31/2015
	ZEP	ZEPHYRHILLS	25,189	12/31/2015
			670,743	
SYSTEM			**1,724,120**	

OVERALL RELIABILITY PERFORMANCE – 2015 (Rule 25-6.0455, F.A.C.)

a. Discuss overall performance absent adjustments

Please see attached Form 102. From August 3rd to August 6th, DEF had a series of severe thunderstorms that caused flooding of the Anclote River 5.1 feet above the 20 foot flood stage. The Pasco County EOC was activated and DEF was required to keep specific customers de-energized during the flooding. This event accounted for 1.1 SAIDI and was the only Weather excluded event in 2015. Weather excluded SAIDI in 2015 was 96% less than the 5 year average. Please see table below for details.

Year	2010	2011	2012	2013	2014	2015
Weather Excluded SAIDI	2.5	65.3	52.4	18.8	0.4	1.1

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. 2015 continued this trend of reductions with a year-end result of 98.6 SAIDI. This is a 4.1% reduction from the 2014 number and a 23.1% reduction from the 5 year average from 2010 to 2014. This performance improvement is due to a focus on reliability projects including Pole Replacements, Cable Replacements, Storm Hardening, and Feeder Standardization programs, as well as Grid Automation investments. Please see table below for details.

Year	2010	2011	2012	2013	2014	2015
Reported SAIDI	114.7	172.4	142.9	107.9	102.8	98.6

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 2015, 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 updated the CEMI device report in 2015 in order to align with corporate guidelines across the entire enterprise. The CEMI device report looks at devices that have gone out six 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 immediate mitigation and submitted for prioritization and approval when appropriate for the following calendar year. Any redesigns or significant rebuilds necessary that are identified as part of this process are collated.

In 2015, DEF added additional staff to conduct analysis and reviews of reliability data that meet certain operational thresholds in order to reduce the number of outages and momentary interruptions. Unlike our traditional prioritization models, these thresholds do not take customer count into consideration. This format allows for the same level of analysis and impact to devices in rural areas as it does in urban. From 2014 to 2015, DEF had a 15% reduction in the number of unadjusted CEMI5 devices, and a 13% reduction of MAIFI. DEF will look to build on this success by refining processes and execution in 2016.

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 2015adjusted 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: **2015**

Cause (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
1. Animals	5,685,217	5,326	74.7	63.6
2. Vegetation	40,564,408	8,260	136.2	83.2
3. Lightning	2,770,510	1,201	144.5	80.7
4. Other Weather	25,365,892	7,163	133.8	88.7
5. Vehicle	7,601,106	412	227.2	100.2
6. Defective Equipment	28,346,067	8,634	141.6	76.7
7. Unknown	2,789,551	1,226	77.1	57.9
Subtotal	113,122,751	32,222	126.2	81.3
All Other Causes *See Attached	56,882,384	21,596	119.2	57.5
System Totals	170,005,135	53,818	123.4	71.4

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: **2015**

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	18,755,437	1,690	264.6	110.0
Emergency Shutdown-PGN	8,263,241	2,490	95.7	27.2
Line Maintenance	7,751,800	5,816	157.7	157.7
Substation-Animal	2,646,133	36	70.8	58.0
Emergency Shutdown-Customer Request	2,205,395	136	458.7	373.4
Substation-Transformer Failure	1,397,739	13	55.7	50.7
Transmission-Tree-Nonprevent	1,389,600	3	411.5	342.7
Substation-Breaker-Preventable	1,336,202	17	91.8	49.8
Right-Of-Way	1,221,076	41	36.3	24.7
Transmission-Lightning	1,144,416	4	273.5	273.0
Human Error-Public	948,627	396	105.1	64.3
Dig-In	944,448	232	204.7	62.2
U/G Secondary/Service	934,998	3,670	178.6	173.1
Human Error-PGN Contractor	818,844	155	102.3	35.8
Transmission-Vehicle	699,062	4	404.3	291.9
Substation-Breaker-Nonprevent	646,017	9	66.4	42.3
Substation-Storm	590,571	3	103.7	111.9
Transmission-Conductor/Static	581,555	12	108.4	42.7
Transmission-Unknown	481,903	17	17.7	19.2
Relay-Relay Problem	420,126	16	29.5	25.5
Transmission-Emerg Shutdwn-PGN	364,309	6	171.2	76.9
Relay-Incorrect Setting Applied	343,983	5	98.8	82.7
Overload	272,067	105	112.2	79.3
Human Error-PGN	270,165	764	49.4	13.5

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

Utility Name: Duke Energy Florida Year:**2015**

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)
Substation-Breaker Failure	238,673	7	44.4	21.3
Substation-Defective Equipment	219,303	7	71.9	62.6
Substation-Emergency Shutdown	216,890	2	82.3	82.0
Transmission-Human Error-PGN	169,638	3	42.0	42.0
Foreign Material In Line	160,409	77	111.5	52.4
Relay-Human Error-PGN	153,954	4	26.8	27.0
Substation-Potential Transfrmr	147,968	3	35.9	32.3
Transmission-Pole Ground Wire	142,356	4	44.5	44.5
Substation-Planned Outage	131,232	7	12.7	13.8
Transmission-Switch Failure	118,272	7	21.2	21.9
Substation-Lightning	111,593	3	57.3	46.9
Substation-Current Transformer	91,608	2	44.3	44.0
Substation-Coupling Capacitor	79,351	1	72.8	73.0
Miscellaneous	78,152	477	58.2	68.7
O/H Secondary Cable	68,034	201	136.7	150.5
Transmission-Ground/Guy	61,333	3	16.6	11.8
Improper Installation	48,528	26	103.3	31.8
Vandalism	37,762	138	42.6	57.0
Transmission-Crossarm Failure	31,616	1	64.4	64.0
Transmission-Wind	28,532	3	20.0	14.2

CAUSES OF OUTAGE EVENTS – (Absent Adjustments)

Utility Name: Duke Energy Florida Year: **2015**

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)
Relay-Equipment Misapplication	26,897	5	3.2	3.0
Customer Request	22,798	31	75.2	190.0
Substation-Switch Failure	18,565	4	13.9	13.0
Substation-Surge Arrester	16,375	2	4.9	5.0
Transmission-Miscellaneous	10,185	2	4.4	3.0
Transmission-Customer Request	7,765	2	3.7	3.4
Voltage Ok At Meter-No Customer Contact	5,760	720	7.9	6.7
Transmission-Insulator Failure	5,435	1	5.0	5.0
Transformer Changeout (TLM)	4,486	12	59.4	160.2
Inaccessible Meter	1,200	102	8.4	10.1
Dispatcher Resolved	-	4,099	-	-
All Other Causes	56,882,384	21,596	119.2	57.5

PART II

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

Utility Name: Duke Energy Florida __ Year: **2015**

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)
N68	MONTICELLO	MONTICELLO	208	90	1	5	304	8	101.3	74.4	N	-	12/31/16
K118	AVON PARK	HIGHLANDS	1,558	164	-	2	1,724	7	119.8	42.9	Y	1	12/31/16
A272	HOMOSASSA	INVERNESS	1,306	174	-	45	1,525	6	127.2	86.6	N	-	12/31/16
N67	MONTICELLO	MONTICELLO	1,104	200	-	49	1,353	5	193.6	112.8	N	-	12/31/16
A144	ALACHUA	MONTICELLO	449	96	3	20	568	5	152.7	95.9	Y	2	12/31/16
N58	APALACHICOLA	MONTICELLO	653	202	9	77	941	5	120.1	80.0	N	1	12/31/16
W0629	HOLOPAW	CONWAY	831	244	10	20	1,105	5	155.9	79.3	N	4	12/31/16
A271	HOMOSASSA	INVERNESS	837	264	3	26	1,130	5	100.4	49.5	N	-	12/31/16
K3220	DESOTO CITY	HIGHLANDS	1,005	302	2	38	1,347	5	88.9	36.8	N	-	12/31/16
K1885	LAKE OF THE HILLS	LAKE WALES	961	83	1	4	1,049	4	147.4	171.5	Y	1	12/31/16
N43	CARRABELLE	MONTICELLO	1,527	175	1	52	1,755	4	274.7	155.8	Y	2	1/31/16
A195	ARCHER	MONTICELLO	-	-	1	-	1	4	158.4	151.6	Y	3	6/30/16
X152	MAXIMO	ST. PETERSBURG	93	8	-	2	103	4	188.0	134.8	N	-	12/31/16
A16	HIGH SPRINGS	MONTICELLO	689	35	1	6	731	4	165.1	87.4	N	-	12/31/16
N36	CRAWFORDVILLE	MONTICELLO	987	90	-	32	1,109	4	103.7	79.2	N		12/31/16
A196	ARCHER	MONTICELLO	687	163	1	76	927	4	127.5	77.6	N	3	6/30/16
A204	ZUBER	OCALA	1,509	206	2	9	1,726	4	121.1	77.3	N	2	12/31/16
M657	MYRTLE LAKE	LONGWOOD	805	57	-	4	866	4	145.1	72.4	N	2	6/30/16
M822	KELLY PARK	APOPKA	353	61	1	2	417	4	116.0	66.4	N	-	12/31/16
J242	ULMERTON	WALSINGHAM	1,427	516	32	11	1,986	4	98.3	65.9	N	-	12/31/16
J403	LARGO	CLEARWATER	2,021	250	5	8	2,284	4	105.7	61.3	N	-	6/30/16
J2904	TAYLOR AVENUE	WALSINGHAM	2,033	111	-	37	2,181	4	110.7	55.7	N	-	6/30/16
K1695	LAKEWOOD	HIGHLANDS	1,066	112	-	9	1,187	4	100.4	52.6	N	-	6/30/16
K116	AVON PARK	HIGHLANDS	969	116	-	33	1,118	4	109.3	52.0	Y	1	12/31/16
N59	APALACHICOLA	MONTICELLO	1,360	155	2	58	1,575	4	126.6	48.4	N	1	12/31/16
C305	TARPON SPRINGS	SEVEN SPRINGS	1,629	295	8	35	1,967	4	114.3	46.4	N	1	6/30/16
K1446	COUNTRY OAKS	LAKE WALES	422	41	-	-	463	4	130.2	42.0	N	-	12/31/16
X265	CENTRAL PLAZA	ST. PETERSBURG	921	129	2	25	1,077	4	108.6	41.3	N	1	12/31/16
K1320	LAKE PLACID	HIGHLANDS	1,959	247	-	15	2,221	4	93.0	39.4	N	-	12/31/16
C303	TARPON SPRINGS	SEVEN SPRINGS	1,400	394	3	56	1,853	4	145.1	38.5	N	-	6/30/16
K1195	BABSON PARK	LAKE WALES	833	111	-	5	949	4	139.6	37.7	N	-	12/31/16
K100	FROSTPROOF	LAKE WALES	858	162	-	55	1,075	4	142.1	37.5	Y	2	6/30/16
N14	PERRY NORTH	MONTICELLO	1,397	172	1	23	1,593	4	94.3	34.2	N	2	6/30/16
K779	ISLESWORTH	WINTER GARDEN	969	83	-	14	1,066	4	121.1	31.3	N	2	12/31/16
K119	AVON PARK	HIGHLANDS	1,477	216	2	43	1,738	4	95.6	28.5	N	-	6/30/16
M909	FERN PARK	LONGWOOD	589	193	-	17	799	4	111.6	27.0	N	-	6/30/16
X82	FORTIETH STREET	ST. PETERSBURG	1,362	161	-	10	1,533	4	56.8	22.6	N	-	12/31/16
C143	LAND O LAKES	SEVEN SPRINGS	2,452	113	-	42	2,607	4	56.8	15.7	N	-	6/30/16
K1361	ARBUCKLE CREEK	HIGHLANDS	1,020	107	-	9	1,136	3	134.6	211.4	N	-	6/30/16
N69	MONTICELLO	MONTICELLO	975	191	2	39	1,207	3	114.3	121.4	N	2	12/31/16
K3201	SAND MOUNTAIN	HIGHLANDS	419	53	-	2	474	3	190.4	118.0	N	-	12/31/16

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: 2015

District or Service Area (a)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)
North Coastal	**184.4**	**84.7**	**2.18**	**7.2**	**8.20%**
Inverness	140.6	73.7	1.91	6.7	4.01%
Monticello	273.4	95.6	2.86	9.3	16.87%
Ocala	161.2	83.3	1.93	6.0	6.76%
South Coastal	**89.6**	**64.2**	**1.40**	**11.3**	**1.45%**
Clearwater	79.7	64.5	1.24	9.2	0.61%
Seven Springs	96.1	72.2	1.33	14.5	1.74%
St. Petersburg	100.3	65.4	1.53	10.0	1.43%
Walsingham	82.6	54.5	1.52	11.8	2.21%
Zephyrhills	67.3	61.1	1.10	7.0	0.09%
North Central	**86.1**	**79.1**	**1.09**	**8.3**	**0.69%**
Apopka	100.3	66.7	1.50	9.2	1.45%
Deland	96.0	98.7	0.97	7.3	0.31%
Jamestown	59.1	82.8	0.71	7.2	0.45%
Longwood	102.9	78.6	1.31	9.9	0.54%
South Central	**85.4**	**67.4**	**1.27**	**8.1**	**1.78%**
Buena Vista	60.7	68.0	0.89	6.4	0.23%
Clermont	64.7	77.8	0.83	4.8	1.43%
SE Orlando	70.4	63.4	1.11	4.3	2.69%
Highlands	124.2	60.1	2.07	11.1	5.82%
Lake Wales	100.8	74.9	1.35	12.9	1.32%
Winter Garden	98.2	66.9	1.47	8.2	0.62%
SYSTEM	**98.6**	**71.4**	**1.38**	**9.3**	**2.14%**

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

a. Discuss each generation event that resulted in customer outages.

There were no events to report for 2015.

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 2015 service reliability data for each generation outage event that is excluded from your Company's 2015 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: **2015**	
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 2015 - Major Events Excluded".

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

See Attachment A - "DEF Transmission Outages 2015 - 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 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.

d. Provide the 2015 service reliability data for each generation outage event that is excluded from your Company's 2015 Annual Distribution Reliability Report pursuant to Rule 25-6.0455.

There were no major events resulting in an exclusion in 2015. This information is reflected in Attachment B-DEF Transmission Outages 2015-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.

<u>Distribution</u>

See Attachment C - "Summary of Severe Weather Dates – 2015".
See Attachment C1-"Exclusion summary-2015.
See Attachment C2-"2015 Actual Adjusted Data Breakdown"

<u>Transmission</u>

There were no major events resulting in an exclusion in 2015. This information is reflected in attachment B-DEF Transmission Outages 2015-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).

<u>Distribution</u>

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

<u>Transmission</u>

Please see response to "Storm Hardened Facilities" on Page 39. These efforts are also addressed in DEF's 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, 2014 and 2015.

d. Provide the 2015 service reliability data for <u>each</u> extreme weather outage event that is excluded from your Company's 2015Annual Distribution Reliability Report pursuant to Rule 25-6.0455.

<u>Distribution</u>

Dates	Overhead vs. Underground	C	CMI	CI	Duration	L-Bar	N
August 3rd to 6th	Overhead	670,743	446,156	8,313	21,911	158.8	138
	Underground		1,407,648	1,274	65,490	425.3	154

<u>Transmission</u>

There were no major events resulting in an exclusion in 2015. This information is reflected in Attachment B-DEF Transmission Outages 2015-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 2015, 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 2015, DEF has no information to report in this section.

c. Provide the 2015 service reliability data for each distribution outage event that is excluded from your Company's 2015 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 2015, DEF has no information to report in this section.

2015 ADJUSTED RELIABILITY (Rule 25-6.0455, F.A.C.)

Duke Energy Florida's 2015 annual adjusted SAIDI showed a 6% decrease from SAIDI observed in 2014. Additionally, the 2014 SAIDI showed a 4% decrease from 2013, which was observed as the highest adjusted SAIDI since 2010. The primary driver of outages in 2015 was the frequency and severity of daily afternoon thunderstorm activity causing higher outage volume to occur in the DEF service territory. The North and South Coastal zones in particular experienced well above average rainfall in the summer months (June through August) and DEF's reliability results correlated with this weather pattern during that time.

There were 7 days in 2015 that totaled more than 1 SAIDI minute, versus only 3 in 2014. March 26th had a daily SAIDI of 1.66 and the primary driver of SAIDI during this day was a feeder cable outage. Maintenance at Brooker Creek substation caused multiple feeders to be tied together and the result was a much lengthier and more customer impacting outage than would otherwise have occurred. June 1st (1.53 SAIDI), April 20th (1.50 SAIDI), July 11th (1.31 SAIDI), June 30th (1.24 SAIDI), and June 19th (1.19 SAIDI) were all a result of severe thunderstorms, where the bulk of the SAIDI for each of these days was weather-related. April 11th had a daily SAIDI of 1.05 and was primarily the result of a lengthy feeder cable outage in South Coastal. Substation maintenance at Bayway substation had extra customers tied to the Maximo feeder that failed, resulting in additional SAIDI on this outage.

In summary, 2015 was a year with only one weather exclusion, an extremely active storm season, and two abnormally long feeder cable outages in the South Coastal zone. In spite of these challenges, DEF's adjusted SAIDI decreased from 85.1 in 2014 to 79.7 in 2015, and DEF's adjusted SAIFI reduced from 1.09 in 2014 to 0.98 in 2015. Additionally, the 5 year trend for SAIDI continues downward for a 2nd consecutive year.

Year	2010	2011	2012	2013	2014	2015
Adjusted SAIDI	93.3	86.9	73.4	89.1	85.1	79.7

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 - 2015.*

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. 2015 activities and budget levels addressing each of the 10 causes of service outage.

- *See Attachment E - "2016 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 A144:

- *DEF Infrared scanned in June/July of 2015. No issues found after completing Infrared scanning. DEF will continue to Infrared scan main feeder and 3 phase branchlines of A144 in June/July 2016.*
- *Trimmed 55.4 miles of laterals in 2015, completed in early January 2016.*
- *A144 is a primarily rural residential feeder with approximately 91% single phase service. This is a 1/0 AL feeder mainly on road ROW.*
- *A144 experienced 5 feeder level outages in 2015. Two of the 5 were attributed to Storm, one to Wind, a fourth to Connector Failure, and the last to Unknown.*
- *Will send to Operations techs to analyze feeder and perform in-depth patrol to identify operational issues and initiate mitigation actions.*

Feeder N68:

- *DEF Infrared scanned in June/July of 2015. No issues found after completing Infrared scanning. DEF will continue to Infrared scan main feeder and 3 phase branchlines of N68 in June/July 2016.*
- *N68 experienced 5 feeder level outages in 2015. One was attributed to Unknown, two to Storm, and two to Tree-Nonpreventable.*
- *Will send to Operations techs to analyze feeder and perform in-depth patrol to identify operational issues and initiate mitigation actions.*

Feeder A195:

- *DEF Infrared scanned in June/July of 2015. No issues found after completing Infrared scanning. DEF will continue to Infrared scan main feeder and 3 phase branchlines of A195 in June/July 2016.*

- *A195 is an express industrial feeder to a foundry furnace that only runs intermittently. Outage impacts to industrial customers are minimal and do not generate complaints.*
- *This is 1/0A feeder through easements with limited ability to control private property tree canopy effects which cause the vast majority of outages. Work is ongoing with the DEF 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. This work is planned to be finished by June of 2016.*
- *Work is ongoing with 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. The substation work is planned to be finished by the end of 2016.*
- *A195 experienced 4 feeder level outages in 2015, and all four were attributed to Tree-Nonpreventable.*
- *Will send to Operations techs to analyze feeder and perform in-depth patrol to identify operational issues and initiate mitigation actions.*

***Feeder A196**:*

- *DEF will Infrared scan main feeder and 3 phase branchlines of A196 in June/July 2016.*
- *Work is ongoing with upgrading the substation bank that feeds A195 to take customers in the City of Archer that are currently on A196 and move them to A195 after it has been relocated. This will reduce the number of customers impacted from feeder level outages. The substation work is planned to be finished by the end of 2016.*
- *Significant tree trimming was performed along the rerouted path where A195 and A196 will be a double circuit line.*
- *As part of the Outage Follow Up process, a project titled Monticello Pole Replacements was identified to replace approximately 20 poles on feeder A196. This project is planned for completion by the end of 2016.*
- *A196 experienced 4 feeder level outages in 2015. Two of them were attributed to Tree-Nonpreventable, one to Lightning, and the last one to Storm.*
- *Will send to Operations techs to analyze feeder and perform in-depth patrol to identify operational issues and initiate mitigation actions.*

Feeder A36:

- *DEF Infrared scanned in June/July of 2015. One non-critical issue was found on feeder during the IR scan, a bypass cutout for a recloser, and this issue is planned for completion by June 2016. DEF will continue to*

Infrared scan main feeder and 3 phase branchlines of A36 in June/July 2016.

- *A36 experienced 3 feeder level outages in 2015. One was attributed to Human Error, a second to Tree-Nonpreventable, and a third to Lightning.*
- *Will send to Operations techs to analyze feeder and perform in-depth patrol to identify operational issues and initiate mitigation actions.*

Feeder A204:

- *DEF will Infrared scan main feeder and 3 phase branchlines of A204 in June/July 2016.*
- *Zuber Capacity Increase Phase 1 expected completion June 2016.*
- *Feeder tie addition between A204 and A38, completed May 2015.*
- *A204 experienced 3 feeder level outages in 2015. Two of the outages had a cause code of Tree-Nonpreventable, and the third was an UG Primary Cable outage.*
- *Will send to Operations techs to analyze feeder and perform in-depth patrol to identify operational issues and initiate mitigation actions.*

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. 2016 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 indices and customer satisfaction. This process has resulted in consistent and sustained reliability performance.

The 3% feeder list is based solely on the number of interruptions and does not take into consideration any of the additional criteria above. 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 indices.*

For the 2016 budget levels, please see Attachment E - "2016Program 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 2016 projected activities and budget levels directed at improving regional reliability performance.

- *See Attachment E - "2016 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 will continue to implement the multi-year program by the Grid Solutions department to install new electronic reclosers. DEF originally planned over 100 electronic reclosers for installation in 2015 and actually installed 154 as part of the "Self-Healing Team" project that began in 2015 and will continue through 2017. It is designed to reduce the overall number and duration of outages by increased sectionalization on distribution feeders with the new reclosers and the SCADA communication between the devices. The DEF Distribution Control Center (DCC) will allow automatic remote sectionalization to further reduce the number and duration of the outages. DEF currently has 30 active teams in operation and plans to add additional teams in 2016.*
- *In 2015, DEF added additional staff to conduct analysis and reviews of reliability data that meet certain operational thresholds in order to reduce the number of outages and momentary interruptions. From 2014 to 2015, DEF had a 40% reduction in the number of adjusted CEMI5 devices and a 13% reduction of MAIFI. DEF will look to build on this success by refining processes and execution in 2016 and adding additional resources in the SCO zone.*

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:**2015**

Cause** (a)	Customer Minutes Of Interruption	Number of Outage Events(N) (b)	Average Duration (L-Bar) (c)	Average Restoration Time (CAIDI) (d)
1.) Animals	5,683,395	5,321	74.7	63.6
2.) Vegetation	40,491,403	8,240	136.1	83.1
3.) Lightning	2,770,510	1,201	144.5	80.7
4.) Other Weather	25,293,368	7,141	133.6	88.7
5.) Vehicle	7,601,106	412	227.2	100.2
6.) Defective Equipment	28,297,074	8,572	141.6	76.7
7.) Unknown	2,788,439	1,224	77.2	57.9
Subtotal	112,925,295	32,111	126.1	81.3
All Other Causes*See attached	24,495,977	7,900	166.6	79.8
System Totals:	137,421,272	40,011	134.1	81.0

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: **2015**

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	18,700,666	1,685	264.5	110.5
Right-Of-Way	1,221,076	41	36.3	24.7
Human Error-Public	948,627	396	105.1	64.3
Dig-In	943,059	227	203.1	62.1
U/G Secondary/Service	916,458	3,586	178.7	173.3
Human Error-PGN Contractor	818,844	155	102.3	35.8
Overload	272,067	105	112.2	79.3
Human Error-PGN	270,055	761	49.4	13.5
Foreign Material In Line	160,409	77	111.5	52.4
Miscellaneous	78,152	477	58.2	68.7
O/H Secondary Cable	65,844	200	136.3	149.0
Improper Installation	48,528	26	103.3	31.8
Vandalism	37,762	137	42.9	57.1
Construction Equipment	14,430	27	105.0	140.1
All Other Causes	24,495,977	7,900	166.6	79.8

PART II

THREE PERCENT FEEDER LIST – **ADJUSTED**

Utility Name: DUKE ENERGY FLORIDA, INC. Year: **2015**

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)
A144	ALACHUA	MONTICELLO	449	96	3	20	568	5	161.8	99.5	Y	2	12/31/16
N58	APALACHICOLA	MONTICELLO	653	202	9	77	941	5	128.0	79.8	N	-	12/31/16
K118	AVON PARK	HIGHLANDS	1,558	164	-	2	1,724	5	114.3	49.6	Y	1	12/31/16
N68	MONTICELLO	MONTICELLO	208	90	1	5	304	5	117.7	40.3	N	2	12/31/16
A195	ARCHER	MONTICELLO	-	-	1	-	1	4	158.4	151.6	Y	3	6/30/16
N67	MONTICELLO	MONTICELLO	1,104	200	-	49	1,353	4	227.7	143.1	N	-	12/31/16
X152	MAXIMO	ST. PETERSBURG	93	8	-	2	103	4	223.6	134.1	N	-	12/31/16
A196	ARCHER	MONTICELLO	687	163	1	76	927	4	142.1	83.3	N	4	6/30/16
N36	CRAWFORDVILLE	MONTICELLO	987	90	-	32	1,109	4	113.5	79.5	N	-	12/31/16
J403	LARGO	CLEARWATER	2,021	250	5	8	2,284	4	109.0	60.1	N	-	6/30/16
K3220	DESOTO CITY	HIGHLANDS	1,005	302	2	38	1,347	4	84.7	45.7	N	-	12/31/16
X265	CENTRAL PLAZA	ST. PETERSBURG	921	129	2	25	1,077	4	123.7	38.5	N	1	12/31/16
C143	LAND O LAKES	SEVEN SPRINGS	2,452	113	-	42	2,607	4	96.6	15.6	N	-	6/30/16
K1885	LAKE OF THE HILLS	LAKE WALES	961	83	1	4	1,049	3	149.2	180.1	N	-	12/31/16
K3201	SAND MOUNTAIN	HIGHLANDS	419	53	-	2	474	3	213.0	117.9	N	-	12/31/16
K866	WEST LAKE WALES	LAKE WALES	818	194	4	27	1,043	3	123.2	104.9	N	-	12/31/16
A38	MARTIN	OCALA	1,744	240	-	22	2,006	3	152.9	91.5	N	1	12/31/16
A36	REDDICK	OCALA	871	237	-	15	1,123	3	153.0	91.5	N	2	6/30/16
A16	HIGH SPRINGS	MONTICELLO	689	35	1	6	731	3	188.2	91.1	N	-	12/31/16
N556	INDIAN PASS	MONTICELLO	1,602	170	2	48	1,822	3	151.5	90.9	N	-	12/31/16
K499	CENTRAL PARK	CONWAY	779	374	10	11	1,174	3	152.5	87.9	N	-	12/31/16
J242	ULMERTON	WALSINGHAM	1,427	516	32	11	1,986	3	104.2	81.8	N	-	12/31/16
A204	ZUBER	OCALA	1,509	206	2	9	1,726	3	131.8	80.2	N	2	12/31/16
K912	VINELAND	BUENA VISTA	2,005	212	-	20	2,237	3	136.7	79.9	N	-	12/31/16
K1102	REEDY LAKE	BUENA VISTA	265	45	1	3	314	3	123.8	73.9	N	1	12/31/16
K1320	LAKE PLACID	HIGHLANDS	1,959	247	-	15	2,221	3	102.2	64.8	N	-	12/31/16
N59	APALACHICOLA	MONTICELLO	1,360	155	2	58	1,575	3	131.6	62.4	N	-	12/31/16
M657	MYRTLE LAKE	LONGWOOD	805	57	-	4	866	3	200.0	61.8	N	1	6/30/16
J2904	TAYLOR AVENUE	WALSINGHAM	2,033	111	-	37	2,181	3	122.6	60.1	N	-	6/30/16
M662	SPRING LAKE	LONGWOOD	675	244	1	18	938	3	89.8	56.8	N	1	6/30/16
A68	DUNNELLON TOWN	INVERNESS	1,595	179	-	12	1,786	3	122.4	52.8	N	-	12/31/16
K602	CLERMONT	CLERMONT	1,527	276	-	52	1,855	3	102.3	52.5	N	-	12/31/16
X253	PILSBURY	ST. PETERSBURG	2,798	158	-	10	2,966	3	135.8	49.9	N	-	6/30/16
C106	DUNEDIN	CLEARWATER	713	68	5	10	796	3	109.4	49.7	N	-	6/30/16
K116	AVON PARK	HIGHLANDS	969	116	-	33	1,118	3	109.5	49.6	N	-	12/31/16
M1094	OCOEE	WINTER GARDEN	1,510	68	-	16	1,594	3	149.0	48.6	N	-	6/30/16
K1446	COUNTRY OAKS	LAKE WALES	422	41	-	-	463	3	110.4	47.1	N	-	12/31/16
K2250	HEMPLE	WINTER GARDEN	1,507	114	-	20	1,641	3	132.7	46.2	N	-	12/31/16
K891	AVON PARK NORTH	HIGHLANDS	1,680	204	3	14	1,901	3	106.5	45.5	N	-	12/31/16
C3527	SAFETY HARBOR	CLEARWATER	2,138	83	-	20	2,241	3	136.4	42.2	N	-	6/30/16
C305	TARPON SPRINGS	SEVEN SPRINGS	1,629	295	8	35	1,967	3	113.9	40.1	N	-	6/30/16

LBAR AND CAIDI Includes all devices.

PART III

SYSTEM RELIABILITY INDICES – **ADJUSTED**

Utility Name: Duke Energy Florida Year: 2015

District or Service Area (a)	SAIDI (b)	CAIDI (c)	SAIFI (d)	MAIFIe (e)	CEMI5 (f)
North Coastal	**144.9**	**98.9**	**1.47**	**7.1**	**3.96%**
Inverness	90.8	93.7	0.97	6.7	0.50%
Monticello	213.1	107.4	1.98	9.3	7.15%
Ocala	147.1	94.0	1.56	6.0	4.96%
South Coastal	**71.5**	**73.7**	**0.97**	**11.2**	**0.43%**
Clearwater	67.7	69.3	0.98	9.0	0.38%
Seven Springs	72.0	84.5	0.85	14.3	0.56%
St. Petersburg	81.2	73.2	1.11	9.8	0.64%
Walsingham	66.8	66.4	1.01	11.7	0.17%
Zephyrhills	49.2	84.8	0.58	7.0	0.02%
North Central	**71.5**	**84.1**	**0.85**	**8.3**	**0.32%**
Apopka	78.9	69.0	1.14	9.2	0.43%
Deland	85.3	100.6	0.85	7.2	0.23%
Jamestown	51.5	90.8	0.57	7.1	0.30%
Longwood	81.1	85.1	0.95	9.9	0.29%
South Central	**70.7**	**77.3**	**0.91**	**8.1**	**0.64%**
Buena Vista	52.1	78.5	0.66	6.4	0.13%
Clermont	58.3	79.3	0.74	4.8	1.12%
SE Orlando	60.5	81.3	0.74	4.3	0.42%
Highlands	95.9	64.2	1.49	11.1	2.34%
Lake Wales	80.9	88.5	0.91	12.9	0.47%
Winter Garden	82.6	74.4	1.11	8.2	0.34%
SYSTEM	**79.7**	**81.0**	**0.98**	**9.2**	**0.87%**

FEEDER SPECIFIC DATA – **Expanded to include OH/UG details**

Provide the following information for each feeder circuit in service during 2015. 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 – "2015 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 2015 data was obtained from G-Electric.*

For (Z) – See Attachment G - "2015 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*
(AA) Vegetation Management-number of overhead lateral lines-miles	*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: 2015 Duke Energy-Florida SAIDI Reliability Indices

Section	Grid SAIDI	Grid Customers Affected	Grid CMI	SECI SAIDI	Retail SAIDI
North	5.02	197,074	11,536,811	7.64	4.83
South	3.76	9,031,767	9,031,767	3.83	3.94
Florida	8.77	402,946	20,568,579	11.47	8.77

In 2015, Grid SAIDI decreased from 2014 while SECI (Seminole Electric Cooperatives, Inc.) SAIDI increased from 2014. SECI represents its electric cooperative members in Florida.

In 2015, the affected Grid customers increased 0.5% and the customer minutes interrupted increased to 20.57 million CMI, from the 20.32 million CMI in 2014. This is an increase of approximately 1.2%. The average interruption duration per customer decreased by 6%. This particular number went from 9.29 in 2014 to 8.77 in 2015.

Roughly 50% of the total customer interruptions in 2015 occurred during the months of July to November, inclusive, as shown in Figure 4. Line Equipment, Vegetation, and Substation Equipment were the main contributors to higher CMI during this period.

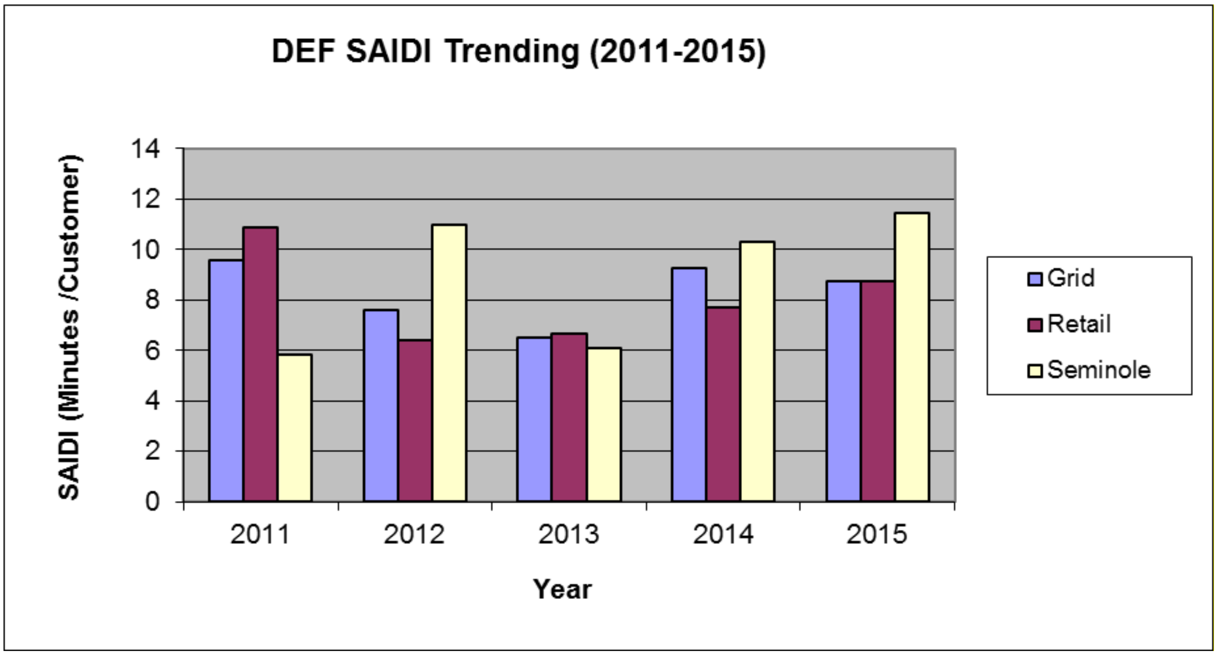


Fig.1 DEF SAIDI Trending (2011-2015)

Grid KPIs	2011	2012	2013	2014	2015
Customers (Thousands)	337.592	336.43	376.36	529.41	402.95
CMI (Millions)	20.803	16.65	14.57	20.32	20.57
SAIDI	9.573	7.614	6.526	7.72	8.77
CAIDI	68.116	46.992	39.266	39.4	49.64
SAIFI	0.16	0.136	0.17	0.14	0.18
FSO	46	32	N/A	N/A	N/A
FOHMY	N/A*	N/A*	8.21	13.5	11.78

Table 2: DEF Statistics (2010-2015)

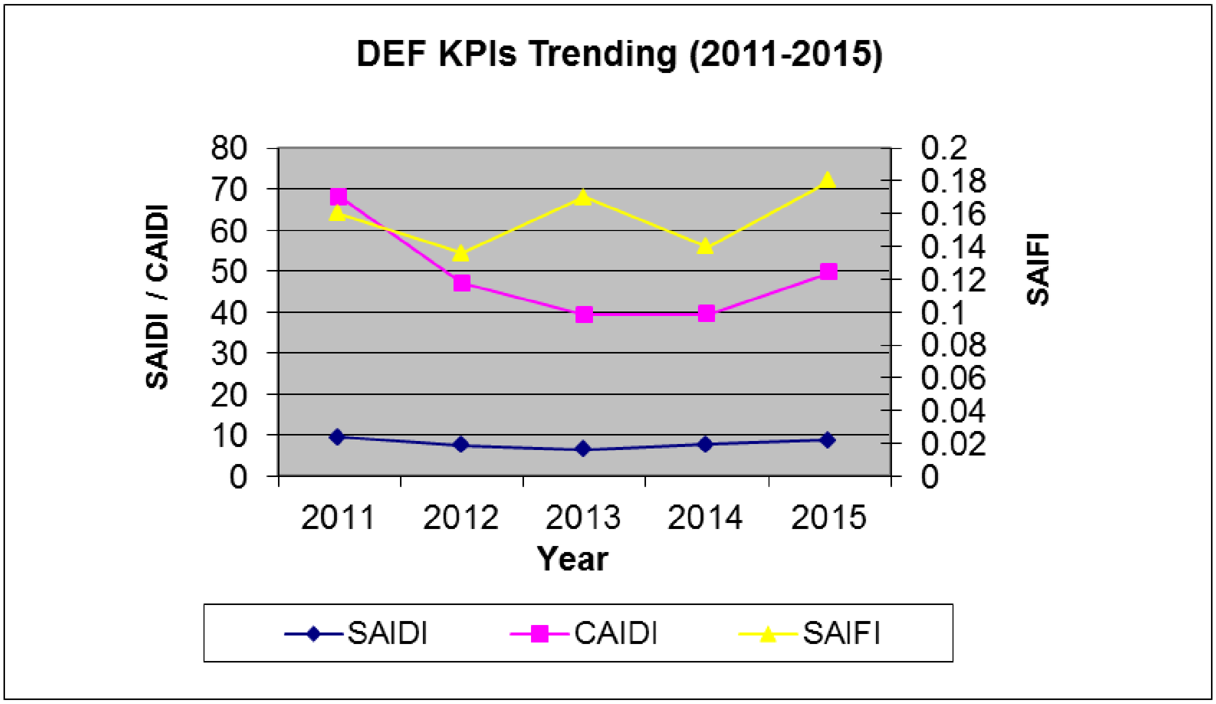


Fig.2 DEF Key Performance Indicators Trending (2011- 2015)

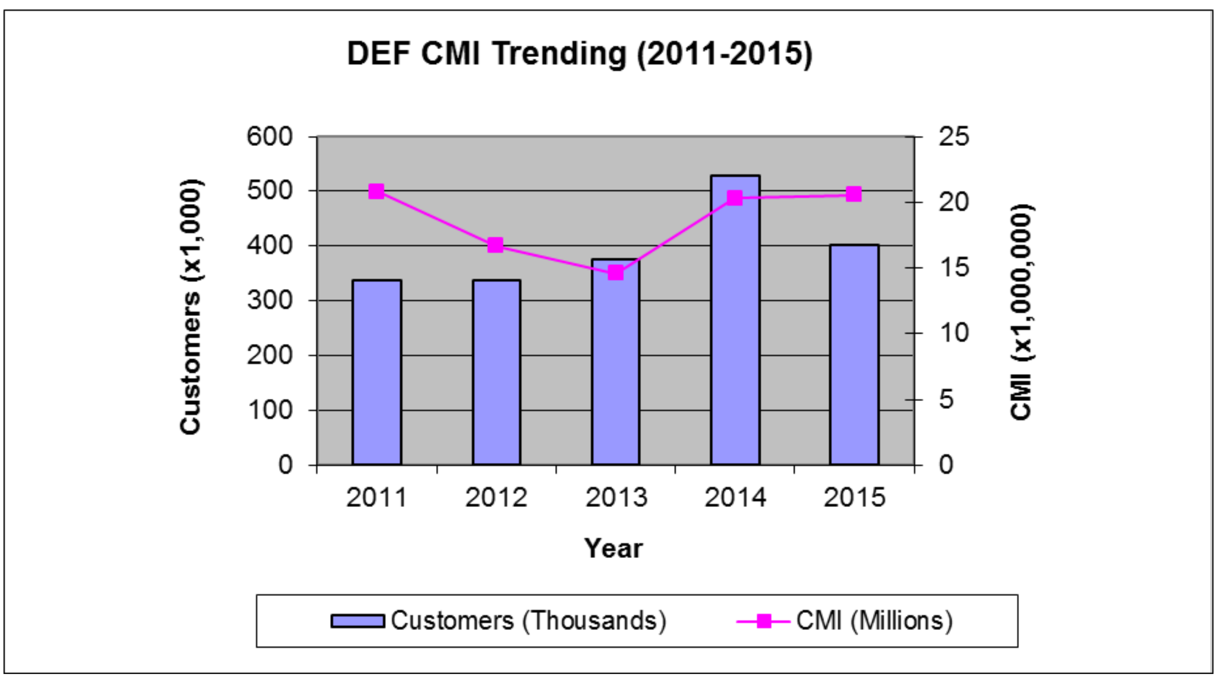


Fig.3 DEF Customers Minute Interruption Trending (2011- 2015)

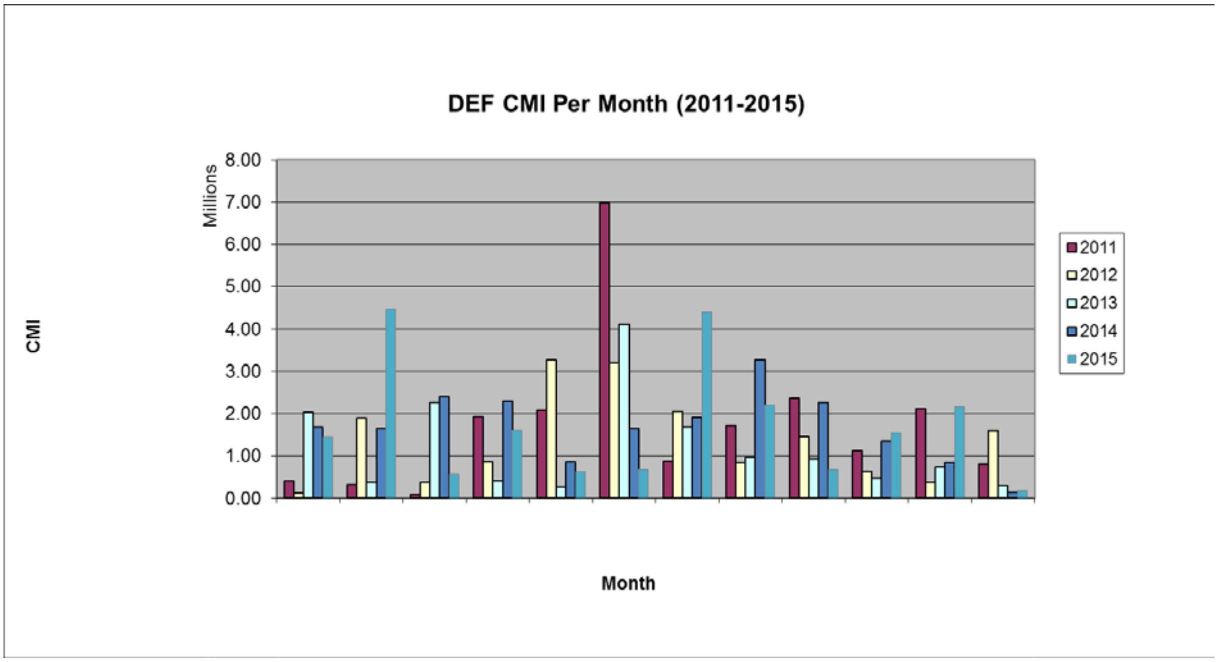


Fig.4 DEF CMI per month (2011- 2015)

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 2015.

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:

2015

	Unadjusted Data		Adjusted Data	
	CMI	**CI**	**CMI**	**CI**
NORTH CENTRAL	**34,145,770**	**431,804**	**28,327,142**	**336,654**
APOPKA	9,783,483	146,694	7,701,477	111,607
DELAND	7,601,283	76,984	6,760,110	67,217
JAMESTOWN	7,873,601	95,042	6,856,602	75,473
LONGWOOD	8,887,403	113,084	7,008,953	82,357
NORTH COASTAL	**36,600,411**	**432,213**	**28,759,788**	**290,900**
INVERNESS	10,016,334	135,925	6,466,603	69,035
MONTICELLO	14,777,894	154,604	11,518,634	107,255
OCALA	11,806,183	141,684	10,774,551	114,610
SOUTH CENTRAL	**39,135,917**	**580,821**	**32,403,451**	**418,982**
BUENA VISTA	6,636,432	97,595	5,692,585	72,495
CLERMONT	2,108,747	27,115	1,901,473	23,981
HIGHLANDS	7,069,744	117,711	5,457,218	84,991
LAKE WALES	9,649,634	128,875	7,741,351	87,446
SE ORLANDO	6,150,950	97,043	5,286,730	65,044
WINTER GARDEN	7,520,410	112,482	6,324,094	85,025
SOUTH COASTAL	**60,123,037**	**936,209**	**47,930,891**	**650,026**
CLEARWATER	11,295,157	175,047	9,595,298	138,534
SEVEN SPRINGS	17,392,016	240,806	13,025,046	154,127
ST. PETERSBURG	17,371,114	265,596	14,068,301	192,165
WALSINGHAM	12,369,646	227,020	10,003,903	150,590
ZEPHYRHILLS	1,695,104	27,740	1,238,343	14,610
Grand Total	**170,005,135**	**2,381,047**	**137,421,272**	**1,696,562**

CEMI5 Unadjusted Report - 2015												
	INTERRUPTIONS:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10 +**	**Cust >5**	**CEMI >5**
NORTH COASTAL													
	Inverness	24,688	14,868	7,741	4,999	2,645	1,010	609	526	332	376	2,853	**4.01%**
	Monticello	8,811	7,983	8,027	6,399	4,569	2,539	1,877	1,126	970	1,479	7,991	**16.87%**
	Ocala	18,872	10,246	7,189	3,315	1,870	1,580	1,513	519	472	1,180	5,264	**6.76%**
	NORTH COASTAL	52,371	33,097	22,957	14,713	9,084	**5,129**	**3,999**	**2,171**	**1,774**	**3,035**	**16,108**	**8.20%**
SOUTH COASTAL													
	Clearwater	42,672	23,736	12,031	5,586	1,865	630	176	33	13	78	930	**0.61%**
	Seven Springs	46,061	36,078	14,105	8,643	3,075	2,183	574	120	43	61	2,981	**1.74%**
	St. Petersburg	47,448	41,555	16,310	6,988	3,960	1,445	596	247	58	22	2,368	**1.43%**
	Walsingham	38,827	35,209	17,778	5,791	2,132	2,164	854	274	6	-	3,298	**2.21%**
	Zephyrhills	8,626	2,683	3,346	582	92	19	4	-	-		23	**0.09%**
	SOUTH COASTAL	183,634	139,261	63,570	27,590	11,124	**6,441**	**2,204**	**674**	**120**	**161**	**9,600**	**1.45%**
NORTH CENTRAL													
	Apopka	31,163	19,075	9,909	5,391	2,489	771	474	109	40	12	1,406	**1.45%**
	Deland	21,180	12,151	4,750	2,322	753	214	27	1	-		242	**0.31%**
	Jamestown	36,600	15,200	4,231	1,454	583	438	92	53	1	-	584	**0.45%**
	Longwood	27,535	18,147	6,395	3,356	1,048	327	83	20	13	14	457	**0.54%**
	NORTH CENTRAL	116,478	64,573	25,285	12,523	4,873	**1,750**	**676**	**183**	**54**	**26**	**2,689**	**0.69%**
SOUTH CENTRAL													
	Buena Vista	22,578	17,646	6,710	1,221	342	20	9	75	83	60	247	**0.23%**
	Clermont	7,453	3,005	1,862	467	466	216	186	33	6	-	441	**1.43%**
	Highlands	11,076	10,291	5,982	5,148	4,306	1,806	934	291	126	128	3,285	**5.82%**
	Lake Wales	30,566	14,828	9,735	3,942	1,618	920	245	67	9	30	1,271	**1.32%**
	SE Orlando	23,346	11,368	4,304	1,092	1,010	1,422	186	83	363	227	2,281	**2.69%**
	Winter Garden	21,494	18,539	8,891	4,520	594	276	62	65	1	63	467	**0.62%**
	SOUTH CENTRAL	116,513	75,677	37,484	16,390	8,336	**4,660**	**1,622**	**614**	**588**	**508**	**7,992**	**1.78%**
	System	468,996	312,608	149,296	71,216	33,417	**17,980**	**8,501**	**3,642**	**2,536**	**3,730**	**36,389**	**2.14%**

CEMI5 Adjusted Report - 2015

INTERRUPTIONS:		1	2	3	4	5	6	7	8	9	10 +	Cust >5	CEMI >5
NORTH COASTAL	**Customers Served**												
INVERNESS	71,233	23,938	8,482	5,029	1,400	665	122	182	40	11	3	358	**0.50%**
MONTICELLO	54,051	10,901	7,106	6,614	5,004	3,442	1,397	672	700	282	811	3,862	**7.15%**
OCALA	73,241	19,379	10,524	4,301	3,612	1,542	1,175	906	529	574	448	3,632	**4.96%**
NORTH COASTAL	**198,525**	54,218	26,112	15,944	10,016	5,649	**2,694**	**1,760**	**1,269**	**867**	**1,262**	**7,852**	**3.96%**
SOUTH COASTAL													
CLEARWATER	141,705	39,607	19,757	8,373	4,130	1,258	395	31	27	16	63	532	**0.38%**
SEVEN SPRINGS	181,013	49,605	18,587	7,932	5,722	2,063	675	207	44	44	48	1,018	**0.56%**
ST. PETERSBURG	173,152	51,712	27,088	14,103	4,698	1,569	710	187	176	14	15	1,102	**0.64%**
WALSINGHAM	149,684	40,616	27,425	8,286	4,119	1,341	210	36	1	1	-	248	**0.17%**
ZEPHYRHILLS	25,189	3,949	3,750	633	157	19	4	-	-	-	-	4	**0.02%**
SOUTH COASTAL	**670,743**	185,489	96,607	39,327	18,826	6,250	**1,994**	**461**	**248**	**75**	**126**	**2,904**	**0.43%**
NORTH CENTRAL													
APOPKA	97,551	35,349	16,757	6,286	2,799	1,412	331	55	9	17	6	418	**0.43%**
DELAND	79,206	19,964	11,052	4,188	1,746	437	165	13	1	-	-	179	**0.23%**
JAMESTOWN	133,236	33,569	11,594	3,162	584	478	288	88	26	-	-	402	**0.30%**
LONGWOOD	86,402	28,336	13,947	4,730	1,385	399	167	68	4	13	-	252	**0.29%**
NORTH CENTRAL	**396,395**	117,218	53,350	18,366	6,514	2,726	**951**	**224**	**40**	**30**	**6**	**1,251**	**0.32%**
SOUTH CENTRAL													
BUENA VISTA	109,296	21,873	15,206	4,234	934	261	99	2	41	-	-	142	**0.13%**
CLERMONT	32,607	5,798	2,781	1,906	438	383	170	174	21	-	-	365	**1.12%**
HIGHLANDS	56,926	12,889	7,987	5,975	4,302	1,848	836	232	91	80	93	1,332	**2.34%**
LAKE WALES	95,688	32,622	11,946	4,362	2,092	677	289	107	24	4	28	452	**0.47%**
SE Orlando	87,333	19,106	9,897	2,907	1,813	983	192	64	52	42	14	364	**0.42%**
WINTER GARDEN	76,607	26,683	11,492	7,885	1,376	503	183	22	6	-	-	263	**0.34%**
SOUTH CENTRAL	**458,457**	118,971	59,309	27,269	10,955	4,655	**1,769**	**601**	**235**	**126**	**135**	**2,918**	**0.64%**
System	**1,724,120**	475,896	235,378	100,906	46,311	19,280	**7,408**	**3,046**	**1,792**	**1,098**	**1,529**	**14,925**	**0.87%**

MAIFIe - Unadjusted (01/01/2015 - 12/31/2015)

	Customers Served	# momentary events	CME	MAIFIe
NORTH COASTAL				
INVERNESS	71,233	403	476,766	**6.7**
MONTICELLO	54,051	686	504,322	**9.3**
OCALA	73,241	308	439,936	**6**
NORTH COASTAL	**198,525**	**1,397**	**1,421,024**	**7.2**
SOUTH COASTAL				
CLEARWATER	141,705	671	1,303,160	**9.2**
SEVEN SPRINGS	181,013	1,548	2,624,881	**14.5**
ST. PETERSBURG	173,152	908	1,731,628	**10**
WALSINGHAM	149,684	1,012	1,770,654	**11.8**
ZEPHYRHILLS	25,189	86	177,418	**7**
SOUTH COASTAL	**670,743**	**4,225**	**7,607,741**	**11.3**
NORTH CENTRAL				
APOPKA	97,551	761	897,675	**9.2**
DELAND	79,206	428	580,794	**7.3**
JAMESTOWN	133,236	620	963,540	**7.2**
LONGWOOD	86,402	679	855,394	**9.9**
NORTH CENTRAL	**396,395**	**2,488**	**3,297,403**	**8.3**
SOUTH CENTRAL				
BUENA VISTA	109,296	671	696,921	**6.4**
CLERMONT	32,607	123	155,616	**4.8**
HIGHLANDS	56,926	508	631,214	**11.1**
LAKE WALES	95,688	861	1,238,343	**12.9**
SE Orlando	87,333	316	373,215	**4.3**
WINTER GARDEN	76,607	410	630,988	**8.2**
SOUTH CENTRAL	**458,457**	**2,889**	**3,726,297**	**8.1**
System	**1,724,120**	**10,999**	**16,052,465**	**9.3**

MAIFIe - Adjusted (01/01/2015 - 12/31/2015)

	Customers Served	# momentary events	CME	MAIFIe
NORTH COASTAL				
INVERNESS	71,233	374	473,760	**6.7**
MONTICELLO	54,051	686	504,322	**9.3**
OCALA	73,241	308	439,936	**6.0**
	198525	**1,368**	**1,418,018**	**7.1**
SOUTH COASTAL				
CLEARWATER	141,705	659	1,276,552	**9.0**
SEVEN SPRINGS	181,013	1,526	2,579,446	**14.3**
ST. PETERSBURG	173,152	894	1,701,328	**9.8**
WALSINGHAM	149,684	1,002	1,755,698	**11.7**
ZEPHYRHILLS	25,189	86	177,418	**7.0**
	670743	**4,167**	**7,490,442**	**11.2**
NORTH CENTRAL				
APOPKA	97,551	761	897,675	**9.2**
DELAND	79,206	419	572,317	**7.2**
JAMESTOWN	133,236	566	948,957	**7.1**
LONGWOOD	86,402	679	855,394	**9.9**
	396395	**2,425**	**3,274,343**	**8.3**
SOUTH CENTRAL				
BUENA VISTA	109,296	664	696,055	**6.4**
CLERMONT	32,607	123	155,616	**4.8**
HIGHLANDS	56,926	508	631,214	**11.1**
LAKE WALES	95,688	861	1,238,343	**12.9**
SE Orlando	87,333	316	373,215	**4.3**
WINTER GARDEN	76,607	410	630,988	**8.2**
	458457	**2,882**	**3,725,431**	**8.1**
System	**1,724,120**	**10,842**	**15,908,234**	**9.2**

SYSTEM RELIABILITY INDICES – ABSENT ADJUSTMENTS Utility Name: Duke Energy Florida		
2015		
Region	Operation Center	SAIDI
NORTH COASTAL		**184.4**
	Inverness	140.6
	Monticello	273.4
	Ocala	161.2
SOUTH COASTAL		**89.6**
	Clearwater	79.7
	Seven Springs	96.1
	St. Petersburg	100.3
	Walsingham	82.6
	Zephyrhills	67.3
NORTH CENTRAL		**86.1**
	Apopka	100.3
	Deland	96.0
	Jamestown	59.1
	Longwood	102.9
SOUTH CENTRAL		**85.4**
	Buena Vista	60.7
	Clermont	64.7
	Highlands	124.2
	Lake Wales	100.8
	SE Orlando	70.4
	Winter Garden	98.2
SYSTEM		**98.6**

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

SYSTEM RELIABILITY INDICES – ADJUSTED Utility Name: Duke Energy Florida		
2015		
Region	Operation Center	SAIDI
NORTH COASTAL		**144.9**
	Inverness	90.8
	Monticello	213.1
	Ocala	147.1
SOUTH COASTAL		**71.5**
	Clearwater	67.7
	Seven Springs	72.0
	St. Petersburg	81.2
	Walsingham	66.8
	Zephyrhills	49.2
NORTH CENTRAL		**71.5**
	Apopka	78.9
	Deland	85.3
	Jamestown	51.5
	Longwood	81.1
SOUTH CENTRAL		**70.7**
	Buena Vista	52.1
	Clermont	58.3
	Highlands	95.9
	Lake Wales	80.9
	SE Orlando	60.5
	Winter Garden	82.6
SYSTEM		**79.7**

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

I. RELIABILITY RELATED CUSTOMER COMPLAINTS

Please see "Attachment H" for DEF's spreadsheet comparing DEF vs. PSC 2015 reliability-related complaints.

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

Duke Energy Florida receives its 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				
	2011	2012	2013	2014	2015
Outages - Momentary	18	10	27	15	12
Outages - Frequent	21	29	35	53	38
Outages - Delay in Restoring	12	2	2	5	5
Voltage	4	0	3	2	3
Equipment/Facilities	12	9	6	5	4
Tree Trimming	11	8	9	9	6
Safety	1	0	2	1	0
Total	79	58	84	90	68

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).

Customer complaints are investigated by Operations Technicians who analyze performance history utilizing various systems and tools. Field investigations and additional data gathering are conducted as part of this process as necessary. Work order(s) are generated for any item(s) that are identified as being related to the customer's concern and that are in need of immediate mitigation. DEF internally tracks PSC complaints as well as executive complaints received by our Consumer Affairs department that are related to reliability. 2015 showed a 40% reduction in outage related complaints of this type.

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 2015.

Distribution

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 2015:

Existing Overhead to Underground Conversion:
See Attachment L - "Major Conversions Historical Data".

New Construction Cable footage installed underground:
In 2015, DEF installed 270 circuit miles of new underground cable. Overall, the DEF distribution system consists of 43.2% primary underground circuit miles (13,715 circuit miles).

Network Maintenance and Replacement:
2015 Actuals - $560k

Switchgear Replacement
2015 Actuals - $2.4m

Midfeeder Electronic Sectionalizing (Reclosers):
2015Actuals - $896k

Wood Pole Inspection and Treatment:
2015 Actuals - $2.9m

Wood Pole Replacement:
2015 Actuals - $37.4m

Padmount Transformer Replacement:
2015Actuals - $7.9m

Storm Hardening Projects
2015 Actuals - $9.3m

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 2015:

Maintenance Change outs:
Duke Energy Florida Transmission is installing either steel or concrete poles when replacing existing wood poles. This activity resulted in the replacement of 1,738 wood poles with steel or concrete during 2015.

DOT/Customer Relocations and Line Upgrades and Additions:
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 559 poles with steel or concrete during 2015.

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

Maintenance Change outs
Poles that require change out are identified by Procedure TECP-MIM-TRM-00026, "Ground Patrols" (Attachment M). The change out schedule is determined by the condition of the wood pole based upon inspector experience.

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

Line Upgrades and Additions
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.

<u>Distribution</u>

See Subsection (a) above.

<u>Transmission</u>

<u>Line Maintenance Change outs</u>
Duke Energy Florida Transmission spent approximately $66.4 million for Capital Improvements in 2015. 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%.

<u>DOT/Customer Relocations and Line Upgrades and Additions</u>
Duke Energy Florida Transmission spent approximately $88.6 million for DOT/Customer Relocations and Line Upgrades and Additions in 2015.

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 2016 projected activities and budget levels.

<u>Distribution</u>

Duke Energy Florida Distribution's storm hardening strategy and activities for 2016 are still ongoing and under development. At this time, however, Duke Energy Distribution reports as follows:

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

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.

<u>New Construction Cable footage installed underground:</u>
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>
2016 Projections - $1.1m

<u>Switchgear Replacement</u>
2016 Projections - $2.8m

<u>Wood Pole Inspection and Treatment:</u>
2016 Projections - $2.0m

<u>Wood Pole Replacement:</u>
2016 Projections - $30.5m

<u>Padmount Transformer Replacement:</u>
2016 Projections - $9.4m

<u>Storm Hardening Projects</u>
2016 Projections - $4.3m

<u>Transmission</u>

Duke Energy Florida Transmission's storm hardening strategy and activities for 2016 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 607 poles in 2016. Capital Budget for Line Maintenance is $22.9 million for 2016 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 1,175 poles in 2016. Current identified DOT/Customer Relocation Projects and Line Upgrades and Additions has a capital budget of $116.0 million.

III. STORM SEASON READINESS

a. Describe the efforts the Company is taking to be storm-ready by June 1, 2016

Please see Attachment N – DEF's March 18, 2015 FPSC Presentation "Storm Season Readiness"

Distribution

DEF's Distribution Storm Plan has been reviewed and revised as of June 2015 (See Attachment X). The Distribution organization conducted a storm readiness drill from April 13, 2015 to April 17, 2015. By the start of storm season, all feeder backbones were surveyed for tree conditions and corrective work completed. System reliability is continually monitored and upgraded through DEF's storm hardening efforts. Critical restoration material and fuel will be ready and available from multiple sources, and DEF has taken steps to ensure that outside line and tree trimming resources are ready and available.

Transmission

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 11, 2015. Transmission will conduct its 2016 storm drill in conjunction with Distribution in April of 2016. Also, aerial patrols for DEF's entire transmission system took place between March-May and September-October, 2015. The next aerial patrols are scheduled between March-April and September-October, 2016.

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's 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. 2015 accomplishments

Distribution

Duke Energy Florida inspected 100,653 wood distribution poles during 2015. This completes 1 year and 8 months of the second 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.

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 Duke Energy's engineering and line resources throughout Florida.

Transmission

In 2015, DEF's Transmission ground patrol inspected 5,856 wood pole structures. This represents approximately 25% of the wood pole structures on the DEF Transmission system.

c. Projected accomplishments for 2016

Distribution

Among other things, DEF's goal for 2016 is to continue cycle two inspections in a manner that provides a more even distribution of work throughout DEF's system. DEF will continue to utilize the same inspection procedures in 2016 that were used in the past. Projected cost for the 2016 distribution pole inspection program is $2.9m.

Transmission

Plans for 2016 are to perform a visual and sounding inspection on 1/3 of the wood pole system. A sound and bore inspection will be performed on at least 1/8 of the wood pole system. Both inspections will be performed by outside contractors. The entire system will also be flown aerially twice via helicopter in 2016.

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.

Distribution

Please see Attachment O - 2015Annual Wood Pole Inspection Report filed with the FPSC on March 1, 2016.

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 – a CD containing Excel file - "2015 DEF Distribution Pole Inspection Data".

Transmission

Please see Attachment O - 2015 Annual Wood Pole Inspection Report filed with the FPSC on March 1, 2016.

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 - "2015 Pole Data" and "2015 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."*

2015 CCA Pole Sampling Results

Please see Attachment O – Duke Energy's 2015 Annual Wood Pole Inspection Report filed with the FPSC on March 1, 2016. The "CCA Sampling Results for 2015" 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 2015and 2016 in terms of both activity and costs.**

- *See Attachment R - "Internal Policy & Guidelines".*
- *For activities and costs - See information herein on pages 49-55.*

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 and 4.123, 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 2016 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 *	160	N/A *	N/A *	8,080	N/A *
(B) Customer Interruptions	N/A *	214,568	N/A *	N/A *	272,838	N/A *
(C) Miles Cleared	N/A *	1,024	N/A *	N/A *	3,579	N/A *
(D) Remaining Miles	N/A *	552	N/A *	N/A *	229	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.10	N/A *	N/A *	2.12	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	136.19	N/A *	N/A *	71.65	N/A *
(G) Number of Hotspot trims	N/A *	6,346	N/A *	N/A *	19,286	N/A *
(H) All Vegetation Management Costs	N/A *	$ 8,492,776	N/A *	N/A *	$ 26,361,648	N/A *
(I) Customer Minutes of Interruption	N/A *	10,134,554	N/A *	N/A *	30,347,109	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2015	N/A *	$ 1,988,330	N/A *	N/A *	$ 24,740,620	N/A *
(L) Vegetation Goal (current year) - 2015	N/A *	472	N/A *	N/A *	3,350	N/A *
(M) Vegetation Management Budget (next year) – 2016	N/A *	$ 5,023,317	N/A *	N/A *	$ 18,226,599	N/A *
(N) Vegetation Management Goal (next year) – 2016	N/A *	1,235	N/A *	N/A *	2,397	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

Note: Total miles cleared in 2015 was 4,603. 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 25% of total 3-year cycle feeder miles and 100% of total 5-year cycle lateral miles. The term "feeder" within the vegetation management program is defined as the "backbone or big wire" portion of the 3 phase circuit typically within a substation breaker's zone of protection, and the lateral is defined as section of the circuit that is an extension beyond the "backbone or big wire" segment normally sectionalized by a line fuse or recloser. The vegetation management lateral line miles are defined in column AA of Attachment G. These definitions are consistent with the PSC filing in 2006.

DEF maintains compliance with a three-year feeder and five year lateral plan as specified in FPSC Order No. PSC-06-0351-PAA-EI. Through the years, resource availability, unusual growth patterns, and other factors have forced DEF to utilize a non-level, annual work plan to remain in compliance with the mandated cycles. While this activity is appropriate and, at times, desirable, to minimize variability impacts to resource *requirements and financial resources DEF has determined it is appropriate to target a more level, annual work plan for vegetation management.*

To target a level, annual work plan, a portion of the miles recently maintained were re-inspected in 2015 and additional maintenance performed if needed to ensure appropriate clearance for the next three years. This is due to 80% of feeder miles being maintained in 2014. The total quantity of miles that were re-inspected were 552; these are in addition to 472 miles chosen based on previous maintenance cycle for a total of 1,024 miles in 2015. This represents about 25% of the total feeder mileage and our goal is to target 33% on an annual basis. We will be pursuing the same balancing for our lateral work plan mileage in 2016. In order to maintain focus on reliability, we will continue to review and utilize reliability performance data of our feeder and laterals on an annual basis to aide with the prioritization of the annual work plan.

* 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 DEF 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, DEF's ability to capture reliable data becomes significantly compromised.

** This data is actually completed in 2015 and scheduled in 2016.

*** 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 *	38	N/A *	N/A *	1,830	N/A *
(B) Customer Interruptions	N/A *	49,231	N/A *	N/A *	59,837	N/A *
(C) Miles Cleared	N/A *	323	N/A *	N/A *	734	N/A *
(D) Remaining Miles	N/A *	301	N/A *	N/A *	92	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.06	N/A *	N/A *	2.22	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	78.91	N/A *	N/A *	72.46	N/A *
(G) Number of Hotspot trims	N/A *	2,154	N/A *	N/A *	4,891	N/A *
(H) All Vegetation Management Costs	N/A *	$ 2,733,348	N/A *	N/A *	$ 6,205,368	N/A *
(I) Customer Minutes of Interruption	N/A *	2,330,733	N/A *	N/A *	6,274,265	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2015	N/A *	$ 102,150	N/A *	N/A *	$ 5,639,200	N/A *
(L) Vegetation Goal (current year) - 2015	N/A *	23	N/A *	N/A *	642	N/A *
(M) Vegetation Management Budget (next year) – 2016	N/A *	$ 1,018,380	N/A *	N/A *	$ 4,565,321	N/A *
(N) Vegetation Management Goal (next year) – 2016	N/A *	185	N/A *	N/A *	453	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 *	26	N/A *	N/A *	1,047	N/A *
(B) Customer Interruptions	N/A *	28,980	N/A *	N/A *	33,871	N/A *
(C) Miles Cleared	N/A *	271	N/A *	N/A *	802	N/A *
(D) Remaining Miles	N/A *	181	N/A *	N/A *	108	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.06	N/A *	N/A *	1.15	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	64.09	N/A *	N/A *	37.24	N/A *
(G) Number of Hotspot trims	N/A *	1,258	N/A *	N/A *	3,722	N/A *
(H) All Vegetation Management Costs	N/A *	$ 1,701,242	N/A *	N/A *	$ 5,035,275	N/A *
(I) Customer Minutes of Interruption	N/A *	1,506,809	N/A *	N/A *	4,082,506	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2015	N/A *	$ 343,980	N/A *	N/A *	$ 4,587,100	N/A *
(L) Vegetation Goal (current year) - 2015	N/A *	90	N/A *	N/A *	694	N/A *
(M) Vegetation Management Budget (next year) – 2016	N/A *	$ 805,320	N/A *	N/A *	$ 3,361,274	N/A *
(N) Vegetation Management Goal (next year) – 2016	N/A *	224	N/A *	N/A *	559	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 *	51	N/A *	N/A *	2,588	N/A *
(B) Customer Interruptions	N/A *	50,067	N/A *	N/A *	89,857	N/A *
(C) Miles Cleared	N/A *	30	N/A *	N/A *	1,362	N/A *
(D) Remaining Miles	N/A *	30	N/A *	N/A *	220	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.84	N/A *	N/A *	1.64	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	823.47	N/A *	N/A *	56.81	N/A *
(G) Number of Hotspot trims	N/A *	131	N/A *	N/A *	5,886	N/A *
(H) All Vegetation Management Costs	N/A *	$ 190,072	N/A *	N/A *	$ 8,515,301	N/A *
(I) Customer Minutes of Interruption	N/A *	3,227,638	N/A *	N/A *	10,964,942	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2015	N/A *	$ -	N/A *	N/A *	$ 6,096,020	N/A *
(L) Vegetation Goal (current year) - 2015	N/A *	0	N/A *	N/A *	1,142	N/A *
(M) Vegetation Management Budget (next year) – 2016	N/A *	$ 2,666,460	N/A *	N/A *	$ 3,300,004	N/A *
(N) Vegetation Management Goal (next year) – 2016	N/A *	702	N/A *	N/A *	727	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 *	45	N/A *	N/A *	2,615	N/A *
(B) Customer Interruptions	N/A *	86,290	N/A *	N/A *	89,273	N/A *
(C) Miles Cleared	N/A *	399	N/A *	N/A *	681	N/A *
(D) Remaining Miles	N/A *	40	N/A *	N/A *	(191)	N/A *
(E) Outages per Mile [A ÷ (C + D)]	N/A *	0.10	N/A *	N/A *	5.33	N/A *
(F) Vegetation CI per Mile [B ÷ (C + D)]	N/A *	196.74	N/A *	N/A *	181.89	N/A *
(G) Number of Hotspot trims	N/A *	2,803	N/A *	N/A *	4,787	N/A *
(H) All Vegetation Management Costs	N/A *	$ 3,868,114	N/A *	N/A *	$ 6,605,704	N/A *
(I) Customer Minutes of Interruption	N/A *	3,069,374	N/A *	N/A *	9,025,396	N/A *
(J) Outage restoration costs	N/A *	***	N/A *	N/A *	***	N/A *
(K) Vegetation Management Budget (current year) – 2015	N/A *	$ 1,542,200	N/A *	N/A *	$ 8,418,300	N/A *
(L) Vegetation Goal (current year) - 2015	N/A *	359	N/A *	N/A *	872	N/A *
(M) Vegetation Management Budget (next year) – 2016	N/A *	$ 533,157	N/A *	N/A *	$ 7,000,000	N/A *
(N) Vegetation Management Goal (next year) – 2016	N/A *	123.99	N/A *	N/A *	658.78	N/A *
(O) Trim-Back Distance	N/A *	***	N/A *	N/A *	***	N/A *

Local Community Participation: 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 71-76.

Priority Trees

a) Number of priority trees removed? 9,180
b) Expenditures on priority tree removal? $603,264 **(*includes tree removal, removal trims, overhang & vines*)**

c) Number of request for removals that were denied? 24 (*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 2015 (*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 2015, one-eighth (1/8) of the joint attachments were audited to fulfill the 8-year requirement.*
c) **Date of previous audit?** *2015 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.*

2015 Joint-Use Structural Audits – Distribution Poles (all pole types)

(A) Number of company owned distribution poles.	997,001
(B) Number of company distribution poles leased.	449,832
(C) Number of owned distribution pole attachments (cable & phone attachments on DE poles)	773,746
(D) Number of leased distribution pole attachments. (PE attachments on phone poles)	13,861
(E) Number of authorized attachments. (3,073 new attachments permitted in 2015)	773,746
(F) Number of unauthorized attachments.	0
(G) Number of distribution poles strength tested. (complete loading analysis needed)	56,637
(H) Number of distribution poles passing strength test. (complete loading analysis needed) *	56,589
(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)	33
(L) Number of distribution poles corrected (other reasons).	0
(M) Number of distribution poles to be replaced. (Overloaded poles entered into the DARTS database)	15
(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.*

2015 Joint-Use Attachment Audits – Transmission Poles (all pole types)

(A) Number of company owned transmission poles.	53,476
(B) Number of company transmission poles leased.	5,580
(C) Number of owned transmission pole attachments (cable & phone attachments on DE poles)	7,443
(D) Number of leased transmission pole attachments. (DE attachments on phone poles)	0
(E) Number of authorized attachments.	7,443
(F) Number of unauthorized attachments.	0
(G) Number of transmission poles strength tested.	362
(H) Number of transmission poles passing strength test.	332
(I) Number of transmission poles failing strength test (overloaded).	30
(J) Number of transmission poles failing strength tests (other reasons).	0
(K) Number of transmission poles corrected (data provided to transmission for replacement)	30
(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 TECP-MIM-TRM-00026 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

	2015 Activity		2015 Current Budget		Next Year (2016)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A)Total transmission circuits	N/A	587	$1,902.542	$3,269,495	N/A	$2,230,904
(B) Planned transmission circuit inspections	175	N/A	N/A	N/A	195	N/A
(C) Completed transmission	N/A	175	N/A	N/A	N/A	N/A
(D) Percent of transmission	N/A	30%	N/A	N/A	33%	N/A
(E) Planned transmission substation	N/A	485	$$21,895,939	$15,132,330	482	$$14,648,181
(F) Completed transmission	N/A	485	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

	2015 Activity		2015Current Budget		Next Year (2016)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total transmission tower structures.	N/A	3,330	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	1,062	N/A	N/A	N/A	N/A
(D) Percent of transmission tower structure inspections completed.	N/A	32%	N/A	N/A	N/A	N/A

Note 1: Please see the previous budget and actuals on page 58for 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

	2015 Activity		Current Budget (2015)		Next Year (2016)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of transmission pole structures.	N/A	45,598	$1,920,542	$3,269,495 See Note 1	N/A	$2,230,904
(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: 5,856	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: 5,856	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	1,266	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	1,738see note 2	N/A	N/A	N/A	N/A
(H) Total transmission poles replaced.	N/A	1,738	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 March 1, 2016 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

	2015 Activity		Current Budget (2015)		Next Year (2016)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Transmission structures scheduled for hardening.	3,150	N/A	122.4M	N/A	1,782	$110.9M
(B) Transmission structures hardening completed.	N/A	2,297	N/A	$143M	N/A	N/A
(C) Percent transmission structures hardening	N/A	73%	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
2015	1,738	559	**2,297**
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
2015	25,370	24,265	**1,105**
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 DEF's 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	1,354,682	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 PEF'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	177,883	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 PEF's current GIS system and DEF's ongoing efforts to upgrade that system.

Transmission OH Data Input

	Activity (2015)		Current Budget (2015)		Next Year (2016)	
	Goal	Actual	Budget	Actual	Goal	Budget
(A) Total number of system wide OH transmission assets for input.	N/A	49,348	N/A	N/A	N/A	N/A
(B) Number of OH transmission assets currently on system.	N/A	48,859	N/A	N/A	N/A	N/A
(C) Percent of OH transmission assets already on	N/A	100%	100%	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	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 PEF's current GIS system and DEF's ongoing efforts to upgrade that system.

Transmission UG Data Input

	Activity (2015)		Current Budget (2015)		Next Year (2016)	
	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?**

Distribution

Yes. The forensics process will again participate in DEF's 2016 Storm Drill.

Transmission

Yes.

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

Distribution

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.).*

Transmission

Yes. The forensic team collects sufficient data at the failure sites to determine the nature and cause of the failure. Data collection includes 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?**

Distribution

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 that DEF is 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.

DEF has re-assessed statistical pods in DEF's 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 DEF's 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.)**

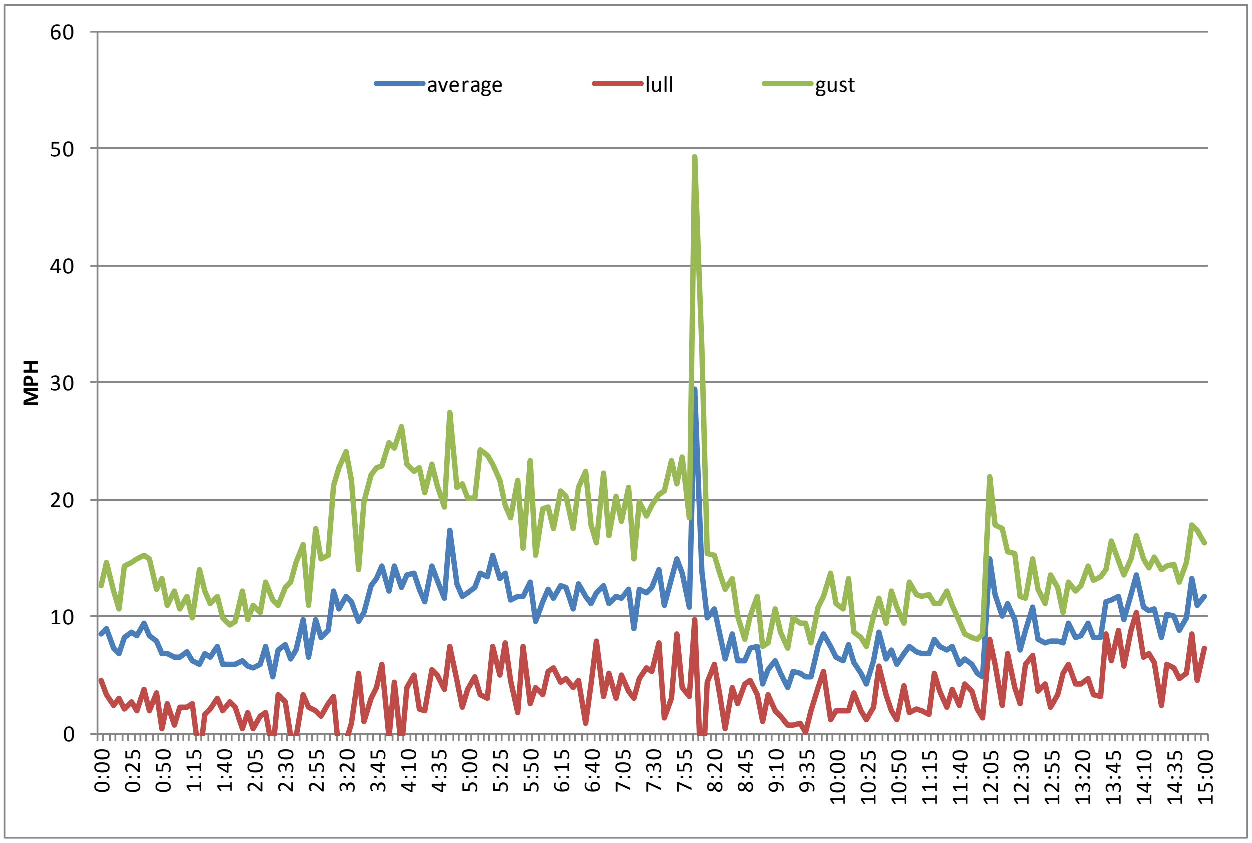
See Attachment T - "Damage Assessment" – GDLP-EMG-DOS-00008- Distribution's damage assessment process and "Transmission Storm Forensic Analysis Specification".

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), DEF is 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" – GDLP-EMG-DOS-00008- 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.

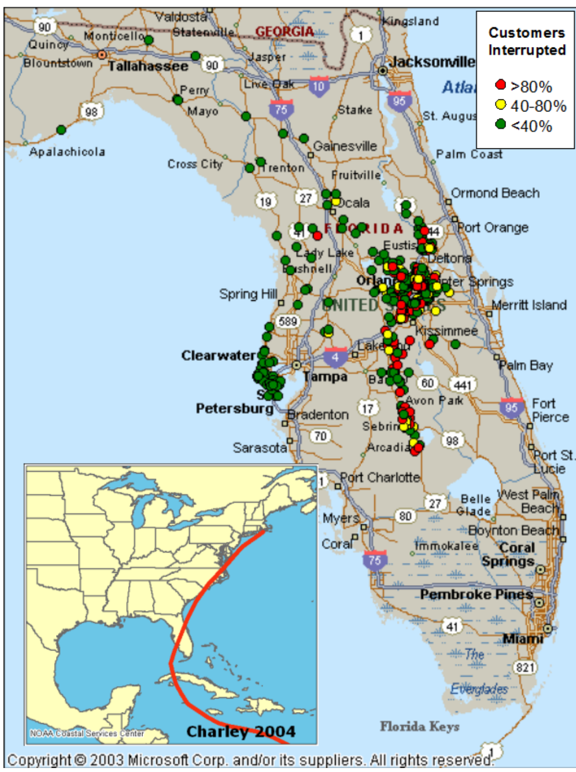
DEF has an internal hierarchy in its Outage Management System (OMS) that models how all of its facilities are connected to each other. This information provides the connection to the feeder breaker down to the individual transformer. DEF's Customer Service System (CSS) captures which customer is tied 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*

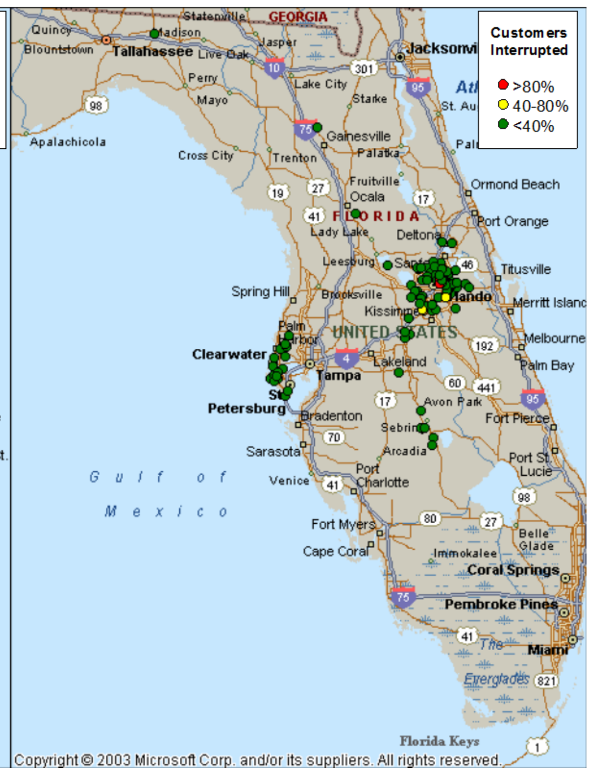
As part of this process, the location of each feeder circuit point is determined by approximating the geographic midpoint of each circuit. Outages experienced as a result of a named storm will be extracted from system data. The outages will then be grouped by feeder *circuit ID and by outage type, where 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 2015, DEF installed 270circuit miles of new underground cable. Overall, the DEF distribution system consists of 43.2% primary underground circuit miles (13,715 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 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 and governmental coordination. DEF has created a cross-departmental organization to inform or update community relations managers on projects where external activity is occurring to communicate any relevant project details with cities and counties.

***Emergency Planning and Storm Coordination** – DEF's team works with counties and municipalities year round and during major storm 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 DEF's yearly planning process, DEF works with counties to identify and prioritize specific infrastructure within the counties. The prioritization of these critical accounts is factored into restoration activities by DEF's operation centers during storms.

DEF has enhanced the 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 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 dedicated storm 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 devices. This online reporting tool gives DEF's 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 two 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.*

Honors and Awards – *In August 2015, the Duke Energy Foundation awarded a partner level $100,000 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.*

EOC Road Clearing Program *- In 2015, DEF further enhanced DEF's "Make It Safe" road clearing program to provide dedicated resources to assist County EOC road clearing programs within DEF's service territories for the first 24 – 48 hours of storm restoration with road clearing and "make it safe" activities. DEF resources will work with county road clearing crews and remove DEF facilities from across roads, allowing the county to safely clear the roads. DEF has dedicated crews for each service territory zone staged at county facilities or Duke Energy operations centers. The benefits of this program include improved response time to county priorities, improve customer satisfaction by reducing customer outage times, reduced exposure to night time storm hazards, and increased DEF crew productivity during daylight hours.*

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. To enhance communication with DEF's 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.*

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, including 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. DEF also coordinates with local governments on subaqueous cable projects to DEF's beach and island communities to improve reliability and storm restoration efforts.*

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.*

Educational Outreach *- DEF has conducted live line demonstrations, 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, animals, and/or ladders on power lines, vehicle wrecks involving power lines, and digging into underground facilities incidents. DEF also provides a safety presentation at the session, as well as sharing DEF's storm coordination and planning efforts in a separate presentation. 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 select county high school and grade schools and at the Youth Energy Academy in Marion and Polk counties that introduces under-served youth to careers in the utility field. In total, DEF held 26 individual sessions, with 570 first responders and emergency management personnel, and 763 students attending the sessions.*

2015 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 2015:

- *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. (March – August 2015)*

- *Live Line Demonstrations – From March to July, DEF held twenty six individual live line demonstration sessions across DEF's 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, emergency management and elementary and high school students. (March – July 2015)*

- *Pinellas County Response Operations Coordination Group - This event was held planned by Pinellas County which the DEF EOC representatives attended. (April 2015)*

- *Duke Energy Florida Storm Drill Exercise – DEF prepares a week long mock storm drill engaging all parts of the company in an internal drill. Mock scenarios are performed. (April 2015)*

- *Duke Energy Large Account Management Storm Seminar in Orange County – presented by Duke Energy, several of DEF's largest commercial customers attended this seminar on DEF's hurricane preparedness efforts. The Orange county EOC Director also presented at this event. (April 2015)*

- *Florida Statewide Hurricane Exercise - Representatives throughout the DEF service territory* *participated in storm preparedness activities throughout this event. (May 2015)*

- *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 2015. (May and June 2015)*

- *Seminole EOC Annual Storm Drill and EOC Training - These events were planned by Seminole county which the DEF EOC representatives attended. (May 2015)*

- *Pinellas County EOC Storm Forum - 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. (May 2015)*

- *Weathering the Storm Hurricane Forum, Pinellas County – 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, and a Commander from the US Coast Guard. (June 2015)*

- *Duke Energy North Coastal Mock Drill – DEF performed a multi-day mock drill including twenty-one counties in Duke Energy's north coastal service area from Bay county to Sumter county to discuss Duke Energy storm preparedness and mock storm scenarios. Duke Energy coordinated the event with the EOCs throughout the region. (June 2015)*

- *Alachua County Training and Exercise Plan Workshop and the Alachua County Hurricane Kickoff Meeting – These events were planned by Alachua county at which the DEF EOC representatives attended. (June 2015)*

- *Osceola Emergency Operations Center – DEF representative met with the Osceola Emergency Operations Manager to discuss an ESP 12 operational review. (June 2015)*

- *Hernando County EOC Storm Drill - This event was planned by Hernando county which the DEF EOC representatives attended. (June 2015)*

- *Pinellas County Road Clearing – DEF representatives met with the Director of the Pinellas county EOC multiple times 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 2015)*

- *Sumter EOC LCAT and Gap Analysis – DEF representative attended this internal process as part of the county's process to build FEMA and SERT EOC county certification for emergency management. (July 2015)*

- *Pasco County Flood Event – Between July 16, 2015 and August 17, 2015, Pasco county received record amounts of rainfall, causing extensive flooding issues and flooding related power outages. DEF representatives spent four days at the Pasco EOC with 24 hours availability to assist in restoration efforts. DEF was recognized in Pasco County Resolution No. CAO16-5110 for DEF's efforts during the event. After the flooding event, DEF donated 200 pairs of safety goggles and gloves to Pasco Rebuilds Together!, which is a non-profit organization to assist those affected by the Pasco flooding to rebuild their homes. (July/August 2015)*

- *Osceola County Road Clearing – DEF representatives met with the Osceola to discuss and coordinate the DEF Make It Safe program. (August 2015)*

- *Marion County EOC Warning Incident – In response to Tropical Storm Erika, the Marion county EOC created a mock incident and DEF was requested to participate as needed to test the county's Web EOC functionality. (August 2015)*

- *Sumter County Emergency Management/Flood Tabletop Exercise/Smart 911 Webinar - This was a logistical tabletop county exercise regarding flooding along the Withlacoochee River. (November 2015)*

<u>2016 Activities</u>

The following activities are currently planned activities associated with DEF's coordination activities with state and local governments for 2016:

State Activities:

- *Florida Division of Emergency Management's Severe Weather Awareness Week. (February 22-26, 2016)*

- *30th Annual Governor's Hurricane Conference. (May 8 – 13, 2016)*

<u>2016 County/City Activities:</u>

- *DEF representatives will meet with county representatives in each of DEF's counties* *throughout DEF's 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 continue to expand the number of Live Line demonstrations across the service territory. These events will take place from January – 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 DEF's 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. DEF also meets with many other Home Owners' Associations (HOAs) and Property Owners' Associations (POAs) throughout the DEF service territory. DEF uses 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 2016.

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 2016.

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 2016.

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 2016.

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 2016. 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 2015 and projected for 2016.

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.

INDEX for Reliability Report

Eight-Year Wood Pole Inspection Programs

Ten Initiatives

INDEX for Reliability Report

INDEX for Reliability Report

ATTACHMENT A

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
40915	LAKE WEIR 69KV (0048)	1/29/2015 10:38	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	0	28845.6
40831	FORT GREEN #10 69KV (0463)	1/18/2015 15:23	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40874	HIGH SPRINGS - HULL ROAD 69KV (GH-1)	1/23/2015 18:48	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
40922	GINNIE - TRENTON 69KV (IS-4)	1/31/2015 13:47	LINE - PUBLIC INTERFERENCE - OTHER	LINE - PUBLIC INTERFERENCE - OTHER	0	6441.4
40968	FT MEADE - WEST LAKE WALES 230KV (FWL-1)	2/5/2015 2:31	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
40826	TRENTON - WILCOX 69KV (376159801)	1/17/2015 8:48	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
40969	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	2/5/2015 5:22	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - -		0
40973	TROPIC TERRACE 115KV (0281)	1/29/2015 7:26	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	52200	52200
40977	NEW RIVER - NEW RIVER (WREC) 69KV (NRX-1)	2/6/2015 9:40	LINE - EQUIPMENT - ARRESTER	- -		0
40991	BROOKSVILLE - FLORIDA ROCK 69KV RADIAL (BFR-1)	2/9/2015 9:58	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37620	DEBARY PLANT 230KV (0246)	1/3/2015 10:24	SUB - EQUIPMENT - BREAKER	RELAY - EQUIPMENT - OTHER		0
40882	FORT GREEN #10 69KV (0463)	1/25/2015 10:43	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
37637	CLEARWATER - HIGHLANDS 69KV (HCL-1)	1/5/2015 17:24	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
40878	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	1/24/2015 15:32	LINE - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - BREAKER		0
40938	MULBERRY 69KV (0424)	2/2/2015 11:00	SUB - CUSTOMER - GENERATION	SUB - CUSTOMER - GENERATION		0
40979	NORTH LONGWOOD - WINTER SPRINGS 230KV (NR-2)	2/6/2015 14:23	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
41349	OCCIDENTAL #1 115KV (0177)	2/13/2015 12:28	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41352	FORT GREEN #10 69KV (0463)	2/14/2015 10:19	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
39355	FT MEADE - VANDOLAH 230KV (FV-1)	1/12/2015 2:53	LINE - ANIMAL - BIRD - EXCREMENT	LINE - ANIMAL - BIRD - EXCREMENT		0
37693	OCCIDENTAL #1 115KV (0177)	1/6/2015 15:08	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
41396	DISSTON 115KV (0015)	2/9/2015 7:39	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	152456	152456
41436	FORT GREEN #6 69KV (0437)	2/19/2015 14:25	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
41432	ORANGEWOOD 69KV (0239)	1/19/2015 15:36	SUB - EQUIPMENT - UNKNOWN	SUB - EQUIPMENT - UNKNOWN	87604	87604
41437	OCCIDENTAL METERING 115KV (0408)	2/19/2015 18:28	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
41443	MANLEY ROAD (CARGILL) 115KV (0004)	2/20/2015 11:03	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
41457	THIRTY SECOND STREET 115KV (0366)	2/19/2015 22:10	LINE - CUSTOMER - DISTRIBUTION	RELAY - EQUIPMENT - RELAY PROBLEM	158528	158528
41476	AVON PARK PL - SOUTH POLK 230KV (AF-1)	2/24/2015 6:59	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
41492	DRIFTON - MONTICELLO 69KV (DB-1)	2/25/2015 20:42	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	1342730	1709126.3
41494	DRIFTON - PERRY 69KV (DP-1)	2/25/2015 21:40	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	7375	97129.6
40805	OCCIDENTAL #1 115KV (0177)	1/13/2015 11:54	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40813	FORT GREEN #4 69KV (0335)	1/14/2015 10:18	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40823	FORT GREEN #4 69KV (0335)	1/16/2015 11:38	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40825	OCCIDENTAL #1 115KV (0177)	1/17/2015 8:29	SUB - OPERATIONAL - EMERGENCY	SUB - OPERATIONAL - EMERGENCY		0
40849	HIGGINS PL - LAKE TARPON 230KV (LTH-1)	1/20/2015 13:46	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
40876	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	1/24/2015 6:36	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
40879	INVERNESS 115KV (0028)	1/25/2015 0:10	SUB - EQUIPMENT - TRANSFORMER - WINDING	SUB - EQUIPMENT - TRANSFORMER - WINDING	551370	1102502.4
41497	CROSS CITY - OLD TOWN NORTH SW STA 69KV (TC-2)	2/25/2015 23:35	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	48060	48060
52026	FERN PARK 69KV (0296)	5/13/2015 15:12	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	29416	29416
41511	AVON PARK PL - FISHEATING CREEK 230KV (AFC-1)	2/24/2015 6:58	LINE - WEATHER - WIND	RELAY - HUMAN ERROR - INCORRECT SETTING APPLIED		0
41516	LISBON TEMP 69KV (0027)	2/4/2015 17:20	SUB - ANIMAL - SQUIRREL	SUB - ANIMAL - SQUIRREL	168778	168778
41529	LITTLE PAYNE CREEK #1 69KV (0287)	2/28/2015 15:12	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41527	SOUTH FORT MEADE 115KV (0360)	2/28/2015 11:51	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41530	FORT GREEN #10 69KV (0463)	2/28/2015 18:55	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41531	SOUTH FORT MEADE 115KV (0360)	2/28/2015 23:01	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41538	MYRTLE LAKE 230KV (0394)	3/1/2015 23:16	SUB - ANIMAL - RACCOON	SUB - ANIMAL - RACCOON	552430	552430
41561	CRYSTAL RIVER SOUTH - HOMOSASSA 115KV RADIAL (TROPIC TE	2/26/2015 5:46	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	116380	116380
41563	CRYSTAL RIVER SOUTH 115KV - LECANTO (CSB-1)	2/26/2015 7:27	SUB - OPERATIONAL - EMERGENCY	SUB - OPERATIONAL - EMERGENCY	433780	433782.7
41575	HAINES CITY EAST - PONICIAN 69KV (HP-2)	3/6/2015 0:21	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE		0
41576	FORT GREEN #6 69KV (0437)	3/6/2015 7:02	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41581	BROOKSVILLE - BUSHNELL EAST 69KV (BCF-BW-1)	3/6/2015 19:02	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
41390	NORTHEAST 230KV (0077)	2/14/2015 18:16	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER	678067	678067
41528	SOUTH FORT MEADE 115KV (0360)	2/28/2015 15:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
40982	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	2/7/2015 4:53	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40857	FORT GREEN #10 69KV (0463)	1/21/2015 15:08	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40863	MULBERRY 69KV (0424)	1/22/2015 14:19	SUB - CUSTOMER - GENERATION	SUB - CUSTOMER - GENERATION		0
40870	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	1/23/2015 12:25	LINE - LIGHTNING -	- -		0
40903	AVON PARK PLANT 230KV (0503)	1/27/2015 15:36	LINE - HUMAN ERROR - CONTRACTOR - CONSTRUCTION	LINE - HUMAN ERROR - CONTRACTOR - CONSTRUCTION		0
41002	LAKE BRANCH 115KV (0475)	2/9/2015 17:38	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
37619	NORTHEAST - PINELLAS COUNTY RR 230KV (NX-1)	1/3/2015 8:13	LINE - CUSTOMER - MUNICIPALITY	LINE - CUSTOMER - MUNICIPALITY		0
41421	LAKE BRANCH 115KV (0475)	2/17/2015 13:58	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
41428	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	2/17/2015 23:35	LINE - ANIMAL - BIRD - DAMAGE	LINE - ANIMAL - BIRD - DAMAGE		0
41489	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	2/25/2015 18:47	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR	0	343977.6
41657	FORT GREEN #6 69KV (0437)	3/12/2015 15:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
40794	LAKE BRANCH 115KV (0475)	1/12/2015 15:18	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40939	MONTICELLO - BOSTON (GA PWR) 69KV (DB-2)	2/2/2015 13:06	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE		0
40959	FORT GREEN #10 69KV (0463)	2/4/2015 11:02	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40966	INTERCESSION CITY PL - LAKE BRYAN CKT#1 230KV (ILB-1)	2/4/2015 17:15	LINE - OPERATIONAL - EMERGENCY	SUB - EQUIPMENT - CCPD		0
41348	FORT GREEN #6 69KV (0437)	2/13/2015 9:49	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40811	UCF 69KV (0200)	1/8/2015 3:50	SUB - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - NON PREVENTABLE	164272	164272
40873	CRYSTAL RIVER EAST - CRYSTAL RIVER SOUTH 115KV (CRB-3)	1/23/2015 18:28	LINE - LIGHTNING -	- -		0
40900	OCCIDENTAL #1 115KV (0177)	1/27/2015 9:04	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41478	PORT ST. JOE INDUSTRIAL 69KV (0152)	2/6/2015 8:46	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - NON PREVENTABLE	53247	53247
41493	DRIFTON - PERRY 69KV (DP-1)	2/25/2015 21:28	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE	14750	27939.2
52268	DRIFTON - HANSON 115KV (JQ-4)	6/3/2015 11:58	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM	0	6150
52164	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	6/2/2015 20:41	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
41645	FLORIDA GAS TRANSMISSION EAST - WEWAHOOTEE 69KV (RW-3	3/12/2015 2:17	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
41659	OCCIDENTAL #1 115KV (0177)	3/12/2015 19:23	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
41519	FORT GREEN #6 69KV (0437)	2/27/2015 14:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
38550	HUDSON - LAKE TARPON 230KV (CC-5)	1/7/2015 14:26	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
38567	OCCIDENTAL #1 115KV (0177)	1/9/2015 7:26	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
38553	PARKWAY - TAFT 69KV (WR-5)	1/8/2015 6:32	LINE - EQUIPMENT - JUMPER	- -		0
38554	PARKWAY - TAFT 69KV (WR-5)	1/8/2015 6:53	LINE - EQUIPMENT - JUMPER	LINE - EQUIPMENT - CONNECTOR		0
41435	BAYBORO - 16TH ST 115KV (BFE-1)	2/19/2015 0:55	LINE - EQUIPMENT - GROUND/GUY	LINE - EQUIPMENT - GROUND/GUY		0
41498	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	2/25/2015 23:38	SUB - CUSTOMER - INDUSTRIAL	- -		0
41515	CURLEW 115KV (0149)	2/16/2015 8:53	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	48942	48942
40824	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	1/16/2015 21:07	SUB - CUSTOMER - REA/EMC	SUB - CUSTOMER - REA/EMC		0
40828	OCC SWIFT CREEK #1 - OCC SWIFT CREEK #2 115KV (SCSC-1)	1/17/2015 16:42	SUB - EQUIPMENT - BUS - ARRESTER	SUB - EQUIPMENT - BUS - ARRESTER		0
41636	ARCHER - HULL ROAD 69KV (AUF-1)	3/11/2015 6:09	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
40796	FT MEADE - VANDOLAH 230KV (FV-1)	1/12/2015 15:53	LINE - ANIMAL - BIRD - EXCREMENT	LINE - ANIMAL - BIRD - EXCREMENT		0
40818	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	1/15/2015 0:03	SUB - EQUIPMENT - BUS - ARRESTER	SUB - EQUIPMENT - BUS - ARRESTER		0
40827	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	1/17/2015 16:48	SUB - EQUIPMENT - BUS - ARRESTER	SUB - EQUIPMENT - BUS - ARRESTER		0
40853	OCCIDENTAL #1 115KV (0177)	1/21/2015 3:18	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
41500	CRYSTAL RIVER SOUTH - HOMOSASSA 115KV RADIAL (TROPIC TE	2/26/2015 2:40	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	74060	74060
41419	ORANGE CITY 230KV (0255)	2/17/2015 10:16	RELAY - EQUIPMENT - RELAY PROBLEM	RELAY - EQUIPMENT - RELAY PROBLEM		0
40798	HOMELAND - MULBERRY 69KV (BH-2)	1/12/2015 16:57	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
37626	OCCIDENTAL #1 115KV (0177)	1/4/2015 23:22	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
40841	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	1/19/2015 17:21	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
41646	DENHAM - CABBAGE HILL (TECO) 69KV (TZ-1)	3/12/2015 5:28	LINE - ANIMAL - OTHER	- -		0
41016	FORT GREEN #10 69KV (0463)	2/11/2015 9:52	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49132	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	3/24/2015 18:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49251	FORT GREEN #10 69KV (0463)	4/4/2015 11:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49305	FLORA-MAR 115KV (0209)	4/7/2015 13:11	SUB - EQUIPMENT - TRANSFORMER - WINDING	SUB - EQUIPMENT - TRANSFORMER - WINDING	749361	749361
51971	ANDERSEN - CENTRAL FLA 230KV (CCF-1)	5/29/2015 16:48	RELAY - EQUIPMENT - RELAY PROBLEM	RELAY - EQUIPMENT - RELAY PROBLEM		0
49426	OCCIDENTAL #1 115KV (0177)	4/13/2015 9:56	LINE - CUSTOMER - DISTRIBUTION	LINE - CUSTOMER - DISTRIBUTION		0
49455	LITTLE PAYNE CREEK #1 69KV (0287)	4/15/2015 0:10	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49402	FORT GREEN #11 69KV (0472)	4/12/2015 13:26	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49512	APALACHICOLA 69KV (0053)	4/19/2015 12:15	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - OTHER	65136	65136
49481	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	4/16/2015 18:32	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49482	ALTAMONTE - SANFORD (FP&L) 230KV (DA-1)	4/16/2015 21:18	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
49483	TURNER ? FP&L TIE (SANFORD-BARWICK) 115KV (TSX-1)	4/16/2015 21:18	LINE - EQUIPMENT - CONDUCTOR/STATIC	RELAY - EQUIPMENT - OTHER		0
49484	OCCIDENTAL #1 115KV (0177)	4/17/2015 6:57	LINE - CUSTOMER - DISTRIBUTION	LINE - CUSTOMER - DISTRIBUTION		0
49494	FORT GREEN #6 69KV (0437)	4/18/2015 10:19	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49501	ALTAMONTE - MAITLAND 69KV (WO-1)	4/19/2015 12:12	LINE - PUBLIC INTERFERENCE - VEHICLE	- -		0
49503	WINTER GARDEN 69KV (0311)	4/19/2015 17:35	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
49533	OCCIDENTAL #1 115KV (0177)	4/21/2015 12:33	LINE - CUSTOMER - DISTRIBUTION	LINE - CUSTOMER - DISTRIBUTION		0
49568	DUNDEE - HAINES CITY EAST 230KV CKT #2 (ICD-3)	4/23/2015 18:35	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49615	HOMELAND - MULBERRY 69KV (BH-2)	4/28/2015 9:03	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49255	LITTLE PAYNE CREEK #1 69KV (0287)	4/5/2015 20:54	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49397	FORT GREEN #6 69KV (0437)	4/11/2015 7:46	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
49437	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	4/13/2015 19:30	LINE - LIGHTNING -	- -		0
49288	OCCIDENTAL #1 115KV (0177)	4/6/2015 20:13	SUB - CUSTOMER - INDUSTRIAL	- -		0
49614	MANLEY ROAD (CARGILL) 115KV (0004)	4/28/2015 9:08	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49619	DENHAM - CABBAGE HILL (TECO) 69KV (TZ-1)	4/28/2015 11:18	LINE - LIGHTNING -	LINE - LIGHTNING -		0
49621	OCCIDENTAL #1 115KV (0177)	4/28/2015 16:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49636	FORT GREEN #6 69KV (0437)	4/29/2015 9:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49639	OCCIDENTAL #1 115KV (0177)	4/29/2015 14:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49395	SAND LAKE - WINDERMERE 69KV (WLB-3)	4/10/2015 21:48	LINE - EQUIPMENT - ARRESTER	LINE - EQUIPMENT - ARRESTER		0
49107	FT MEADE - VANDOLAH 230KV (FV-1)	3/23/2015 10:53	LINE - ANIMAL - BIRD - EXCREMENT	LINE - ANIMAL - BIRD - EXCREMENT		0
49504	APOPKA SOUTH - PLYMOUTH 69KV (WP-1)	4/19/2015 17:22	LINE - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL	690451	690451
49525	FORT GREEN #4 69KV (0335)	4/21/2015 6:12	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49566	BARTOW PL - 40TH ST UGA 115KV (UGBF-1)	4/23/2015 10:48	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER	16375	16375
49399	FORT GREEN #4 69KV (0335)	4/11/2015 10:24	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49578	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	4/25/2015 13:00	LINE - WEATHER - WIND	- -		0
49158	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	3/26/2015 16:56	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49294	BARCOLA - MULBERRY 69KV (BH-1)	4/7/2015 6:49	LINE - ANIMAL - BIRD - EXCREMENT	LINE - ANIMAL - BIRD - EXCREMENT	0	4
49519	LITTLE PAYNE CREEK #1 69KV (0287)	4/20/2015 18:04	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49520	AVON PARK PL - WAUCHULA 69KV (APW-1)	4/20/2015 18:35	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
51471	PORT RICHEY WEST - SEVEN SPRINGS 115KV (SPR-1)	4/30/2015 17:43	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
51484	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	5/1/2015 19:14	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51485	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	5/1/2015 20:39	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52308	SOUTH FORT MEADE 115KV (0360)	6/6/2015 13:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51588	DAVENPORT - HAINES CITY 69KV (ICLW-6)	5/9/2015 23:57	SUB - EQUIPMENT - PT	SUB - EQUIPMENT - PT		0
52310	SOUTH FORT MEADE 115KV (0360)	6/6/2015 13:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51592	OCCIDENTAL #1 115KV (0177)	5/10/2015 22:58	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51593	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	5/11/2015 3:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52311	LAKE BRANCH 115KV (0475)	6/6/2015 13:44	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51658	AVON PARK PL - WAUCHULA 69KV (APW-1)	5/12/2015 16:29	LINE - EQUIPMENT - GROUND/GUY	LINE - EQUIPMENT - GROUND/GUY	37270	45434
51663	DENHAM - ODESSA 69KV (TZ-6)	5/12/2015 19:22	LINE - LIGHTNING -	- -		0
51684	APOPKA SOUTH - PLYMOUTH 69KV (WP-1)	4/19/2015 17:30	LINE - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL		0
51698	HOLOPAW - WEST LAKE WALES 230KV (WLXF-3)	5/14/2015 13:14	LINE - PLANNED - EMERGENT	LINE - ANIMAL - BIRD - CLEARANCE		0
49560	CRYSTAL RIVER PLANT 500KV (8920)	4/12/2015 11:58	SUB - EQUIPMENT - BREAKER/TRANS - OTHER	SUB - EQUIPMENT - BREAKER/TRANS - OTHER		0
49579	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	4/25/2015 13:01	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52337	OVIEDO 69KV (0303)	5/14/2015 0:04	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER	9072	9072
49441	OCCIDENTAL #1 115KV (0177)	4/14/2015 7:14	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
51739	OCCIDENTAL #1 115KV (0177)	5/18/2015 13:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51775	OCCIDENTAL #1 115KV (0177)	5/19/2015 18:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51790	CURLEW 115KV (0149)	4/28/2015 10:51	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	35329	35329
52368	AVON PARK PL - DESOTO CITY 69KV (AD-1)	6/9/2015 17:07	LINE - LIGHTNING -	- -		0
52378	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/10/2015 1:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51849	MANLEY ROAD (CARGILL) 115KV (0004)	5/25/2015 16:16	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51864	EAST CLEARWATER 230KV (0127)	5/23/2015 16:20	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	236702	236702
51870	FERN PARK 69KV (0296)	4/26/2015 8:09	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER	1576	1576
51880	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	5/26/2015 23:04	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51881	VANDOLAH 230KV (0284)	5/27/2015 0:21	SUB - UNKNOWN - UNDER INVESTIGATION	- -		0
52386	LAKE BRANCH 115KV (0475)	6/10/2015 11:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51897	MONTICELLO 69KV (0108)	5/21/2015 20:19	SUB - ANIMAL - SNAKE	- -	90138	90138
49230	FORT GREEN #6 69KV (0437)	4/1/2015 17:04	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49401	FORT GREEN #11 69KV (0472)	4/12/2015 12:56	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49403	FORT GREEN #11 69KV (0472)	4/12/2015 13:44	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
51560	FORT GREEN #10 69KV (0463)	5/7/2015 6:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51577	NORALYN #1 69KV (0030)	5/8/2015 11:05	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51578	LAKE TARPON - PALM HARBOR 230KV (CC-LTL-1)	5/8/2015 18:28	SUB - OPERATIONAL - EMERGENCY	RELAY - EQUIPMENT - RELAY PROBLEM		0
51591	FORT GREEN #10 69KV (0463)	5/10/2015 18:30	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51657	KELLY PARK - ZELLWOOD 69KV (EP-3)	5/12/2015 15:45	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
51662	DENHAM - DALE MABRY (TECO) 69KV (DX-1)	5/12/2015 18:44	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
51665	DRIFTON - HANSON 115KV (JQ-4)	5/13/2015 1:13	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0	2460
51687	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	5/14/2015 4:49	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51699	BARCOLA - MULBERRY 69KV (BH-1)	5/14/2015 13:43	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER	0	424
51701	SOUTH FORT MEADE 115KV (0360)	5/14/2015 17:50	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51759	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	5/19/2015 7:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
49253	FT WHITE - PERRY 69KV (FP-1)	4/4/2015 15:59	LINE - LIGHTNING -	- -		0
49328	MULBERRY - MULBERRY COGEN CKT#1B 69KV (BH-4)	4/4/2015 5:03	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL		0
51467	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	4/29/2015 18:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51551	WINDERMERE - WOODSMERE 69KV (WWW-1)	5/6/2015 15:11	LINE - LIGHTNING -	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE		0
51580	CRAWFORDVILLE - ST MARKS EAST 69KV (CS-1)	5/9/2015 0:35	SUB - CUSTOMER - REA/EMC	SUB - CUSTOMER - REA/EMC		0
52302	MANLEY ROAD (CARGILL) 115KV (0004)	6/6/2015 3:23	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52303	FORT GREEN #6 69KV (0437)	6/6/2015 7:51	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52304	ODESSA - TARPON SPRINGS 69KV (TZ-2)	6/6/2015 11:19	LINE - LIGHTNING -	- -		0
52306	VANDOLAH 230KV (0284)	6/6/2015 12:05	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52307	LITTLE PAYNE CREEK #1 69KV (0287)	6/6/2015 13:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52309	LAKE BRANCH 115KV (0475)	6/6/2015 13:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52312	CHIEFLAND - INGLIS 69KV (IS-1)	6/6/2015 15:15	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
51721	FORT GREEN #10 69KV (0463)	5/16/2015 16:13	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51750	FT MEADE - HOMELAND 69KV (FMB-1)	5/18/2015 18:30	LINE - EQUIPMENT - CONNECTOR	LINE - EQUIPMENT - CONNECTOR	12878	12925
51778	FORT GREEN #4 69KV (0335)	5/19/2015 20:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51779	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	5/19/2015 21:01	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52328	NARCOOSSEE 69KV (0221)	4/24/2015 9:53	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	11844	11844
51789	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	5/20/2015 15:47	LINE - LIGHTNING -	- -		0
51794	FROSTPROOF - LAKE WALES 69KV (AL-3)	5/20/2015 19:23	LINE - LIGHTNING -	- -		0
51811	FORTIETH STREET 230KV (0014)	3/2/2015 14:04	LINE - CUSTOMER - DISTRIBUTION	SUB - UNKNOWN - INVESTIGATION COMPLETE	19617	19617
52330	DELAND EAST 115KV (0145)	5/18/2015 9:07	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER	7240	7240
51846	MANLEY ROAD (CARGILL) 115KV (0004)	5/25/2015 6:21	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51871	FERN PARK 69KV (0296)	5/3/2015 7:42	LINE - CUSTOMER - DISTRIBUTION	RELAY - EQUIPMENT - RELAY PROBLEM	38661	38661
49095	BARTOW PLANT - NORTHEAST 230KV UG7 (BNU-7)	3/20/2015 22:31	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
49186	BAYBORO - CENTRAL PLAZA 115KV (BCP-1)	3/30/2015 11:42	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
49516	KELLY PARK - ZELLWOOD 69KV (EP-3)	4/19/2015 17:27	LINE - WEATHER - MAJOR STORM	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL		0
49583	OLD TOWN TAP (CFEC) RADIAL 69KV (376160001)	4/26/2015 11:02	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
51561	FORT GREEN #6 69KV (0437)	5/7/2015 7:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51725	HOMELAND - MULBERRY 69KV (BH-2)	5/17/2015 14:57	LINE - ANIMAL - BIRD - DAMAGE	LINE - ANIMAL - BIRD - DAMAGE	0	59
51833	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	5/22/2015 22:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
51835	FORT GREEN #4 69KV (0335)	5/23/2015 15:43	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51979	FORT GREEN #10 69KV (0463)	5/30/2015 8:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51983	AVALON - CLERMONT EAST 69KV (CET-1)	5/30/2015 15:54	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
51995	DENHAM - ODESSA 69KV (TZ-6)	5/30/2015 19:34	LINE - LIGHTNING -	RELAY - HUMAN ERROR - SETTING ERROR		0
51999	CRAWFORDVILLE - PORT ST JOE 230KV (CPS-1)	5/31/2015 11:14	LINE - LIGHTNING -	LINE - LIGHTNING -		0
49144	HAVANA - TALLAHASSEE 69KV (TQ-HH-1)	3/25/2015 13:09	RELAY - CUSTOMER - REA	- -		0
49228	SOUTH FORT MEADE 115KV (0360)	4/1/2015 13:01	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51474	VANDOLAH - WAUCHULA 69KV (VW-1)	4/30/2015 23:17	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52000	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	5/31/2015 12:58	LINE - LIGHTNING -	LINE - PUBLIC INTERFERENCE - OTHER	0	62542.1
52002	DENHAM - ODESSA 69KV (TZ-6)	5/31/2015 20:07	LINE - LIGHTNING -	RELAY - HUMAN ERROR - SETTING ERROR		0
52003	DENHAM - DALE MABRY (TECO) 69KV (DX-1)	5/31/2015 20:02	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52004	TRENTON - WILCOX 69KV (376159801)	5/31/2015 20:27	LINE - LIGHTNING -	LINE - LIGHTNING -	0	5194.8
52005	OCCIDENTAL #1 115KV (0177)	5/31/2015 21:02	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49470	WEST CHAPMAN - ALAFAYA 69KV (WCA-1)	4/15/2015 18:16	LINE - LIGHTNING -	- -		0
51621	OCCIDENTAL #1 115KV (0177)	5/11/2015 10:33	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51634	FT WHITE - NEWBERRY 230KV (CF-3)	5/11/2015 18:08	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE		0
51763	CHAMPIONS GATE 69KV (0358)	5/2/2015 3:42	SUB - ANIMAL - RACCOON	SUB - ANIMAL - RACCOON	43310	43310
51776	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	5/19/2015 19:13	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51795	FROSTPROOF - LAKE WALES 69KV (AL-3)	5/20/2015 19:41	LINE - LIGHTNING -	- -		0
49166	OCCIDENTAL #1 115KV (0177)	3/28/2015 17:08	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49547	FORT GREEN #10 69KV (0463)	4/22/2015 9:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51831	VANDOLAH - WHIDDON 230KV (VWX-1)	5/22/2015 17:44	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
51832	FROSTPROOF - LAKE WALES 69KV (AL-3)	5/22/2015 19:22	LINE - LIGHTNING -	LINE - LIGHTNING -		0
51834	AVON PARK NORTH - FROSTPROOF 69KV (AL-1)	5/22/2015 22:42	LINE - ANIMAL - BIRD - DAMAGE	LINE - ANIMAL - BIRD - DAMAGE		0
51836	GATEWAY - 32ND ST 115KV (HD-6)	5/23/2015 17:07	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
51842	OCCIDENTAL #1 115KV (0177)	5/24/2015 14:08	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
51865	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	5/26/2015 11:56	LINE - WEATHER -	- -		0
51866	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	5/26/2015 12:04	LINE - LIGHTNING -	- -		0
51867	PALM HARBOR 230KV (0079)	5/26/2015 12:15	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	49335	49335
51872	BRONSON - CHIEFLAND 69KV (BC)	5/26/2015 16:31	LINE - LIGHTNING -	LINE - LIGHTNING -		0
51876	OCCIDENTAL #1 115KV (0177)	5/26/2015 17:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
51879	DENHAM - ODESSA 69KV (TZ-6)	5/26/2015 22:35	LINE - LIGHTNING -	LINE - LIGHTNING -		0
49040	FORT GREEN #10 69KV (0463)	3/15/2015 14:29	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - MILITARY		0
49147	HORSE CREEK 69KV (0006)	3/25/2015 22:30	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49318	LITTLE PAYNE CREEK #1 69KV (0287)	4/8/2015 8:17	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49400	FORT GREEN #11 69KV (0472)	4/12/2015 11:00	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49500	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	4/19/2015 12:08	LINE - LIGHTNING -	LINE - LIGHTNING -		0
49086	LAKE TARPON - PALM HARBOR 230KV (CC-LTL-1)	3/19/2015 11:40	LINE - OPERATIONAL - EMERGENCY	RELAY - EQUIPMENT - RELAY PROBLEM		0
49440	FT WHITE - JASPER 69KV (JF-1)	4/14/2015 6:55	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49089	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	3/20/2015 3:06	SUB - CUSTOMER - INDUSTRIAL	- -		0
49090	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	3/20/2015 11:03	LINE - NEIGHBORING UTILITY - EQUIPMENT	LINE - NEIGHBORING UTILITY - EQUIPMENT		0
49096	FORT GREEN #10 69KV (0463)	3/21/2015 14:40	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49222	INTERCESSION CITY - DUNDEE 230KV CKT #1 (ICD-1)	4/1/2015 7:46	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49126	FORT GREEN #4 69KV (0335)	3/24/2015 10:44	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
49149	NORTH LONGWOOD - SANFORD (FP&L) 230KV (NLSX-1)	3/26/2015 5:12	LINE - NEIGHBORING UTILITY - EQUIPMENT	RELAY - HUMAN ERROR - SETTING ERROR		0
49250	HOMELAND - MULBERRY 69KV (BH-2)	4/4/2015 5:03	LINE - ANIMAL - BIRD - DAMAGE	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL		0
49312	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	4/7/2015 16:54	LINE - LIGHTNING -	- -		0
49320	OCCIDENTAL #1 115KV (0177)	4/8/2015 10:18	LINE - CUSTOMER - DISTRIBUTION	LINE - CUSTOMER - DISTRIBUTION		0
49331	FORT GREEN #5 69KV (0352)	4/8/2015 12:52	SUB - UNKNOWN - INVESTIGATION COMPLETE	SUB - UNKNOWN - INVESTIGATION COMPLETE		0
49039	CYPRESSWOOD - DUNDEE 69KV (ICLW-1)	3/15/2015 11:11	SUB - UNKNOWN - INVESTIGATION COMPLETE	- -		0
49078	HORSE CREEK #2 69KV (0409)	3/19/2015 7:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49577	OCCIDENTAL #1 115KV (0177)	4/25/2015 12:49	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
49469	FORT GREEN #6 69KV (0437)	4/15/2015 17:10	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
52551	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/15/2015 13:22	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52663	LAKE WALES - WEST LAKE WALES CKT#1 69KV (WLLW-1)	6/20/2015 16:41	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53567	OCCIDENTAL #1 115KV (0177)	7/29/2015 15:16	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53569	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	7/29/2015 15:27	LINE - WEATHER - WATER	LINE - WEATHER - WATER		0
53738	BROOKSVILLE - UNION HALL 69KV (BZ-1)	8/7/2015 21:55	LINE - LIGHTNING -	- -		0
53826	MULBERRY - NORTHWEST (CITY OF BARTOW) 69KV (MSW-NWSV	8/15/2015 17:23	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53850	BAY RIDGE - KELLY PK 69KV (BK-1)	8/16/2015 22:43	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54087	APALACHICOLA - CARRABELLE 69KV (JA-1)	8/29/2015 8:40	LINE - WEATHER -	- -		0
54130	ALTAMONTE - SPRING LAKE 230KV (ASW-1)	8/31/2015 19:26	LINE - WEATHER -	- -		0
54148	FLORIDA GAS TRANSMISSION EAST - WEWAHOOTEE 69KV (RW-3	9/2/2015 20:45	LINE - WEATHER -	- -		0
54167	FT MEADE - TIGER BAY 230KV (TBFM-1)	9/4/2015 18:53	LINE - WEATHER -	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54272	OCCIDENTAL #1 115KV (0177)	9/12/2015 18:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54713	HAVANA - TALLAHASSEE 69KV (TQ-HH-1)	8/21/2015 16:18	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	0	1070262.7
54817	DESOTO CITY - PHILLIPS PL (TECO) 69KV (AD-2)	10/28/2015 15:14	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54800	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	10/28/2015 7:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54834	WINDERMERE - WOODSMERE 230KV (WIW-1)	10/30/2015 6:09	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM		0
52960	JACKSON BLUFF 69KV (0078)	7/2/2015 11:50	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
53280	OCCIDENTAL #1 115KV (0177)	7/15/2015 9:03	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53315	AVON PARK PL - FT MEADE 230KV (AF2-1)	7/17/2015 6:33	LINE - WEATHER - MAJOR STORM	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53736	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	8/7/2015 18:26	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54163	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	9/4/2015 17:10	LINE - WEATHER -	- -		0
52387	MANLEY ROAD (CARGILL) 115KV (0004)	6/10/2015 12:49	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52979	AVON PARK PL - WAUCHULA 69KV (APW-1)	7/3/2015 20:23	LINE - LIGHTNING -	- -		0
53000	OCCIDENTAL #1 115KV (0177)	7/5/2015 13:38	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53064	VANDOLAH 230KV (0284)	7/7/2015 16:24	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53096	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	7/9/2015 6:50	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53134	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	7/11/2015 17:55	LINE - LIGHTNING -	- -		0
53366	OCCIDENTAL #1 115KV (0177)	7/20/2015 2:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53426	CIRCLE SQUARE 69KV (0354)	7/21/2015 14:11	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53643	IDYLWILD - DEPOT (CITY OF GAINSVILLE) 138KV (SI-1)	8/3/2015 18:53	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53749	LAKE BRANCH 115KV (0475)	8/9/2015 18:01	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53793	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	8/12/2015 18:40	LINE - LIGHTNING -	- -		0
54185	CASSELBERRY - LAKE ALOMA 69KV (CLA-1)	9/5/2015 17:55	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54300	LAKE TARPON - SHELDON ROAD CKT#2 (TECO) 230KV (LTX2-1)	9/15/2015 12:25	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54422	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	9/27/2015 20:10	LINE - LIGHTNING -	- -		0
54793	NEW RIVER - HANDCART (TECO) 69KV (TZ-4)	10/27/2015 15:36	LINE - UNKNOWN - INVESTIGATION COMPLETE	RELAY - HUMAN ERROR - SETTING ERROR	0	15456
52032	HOMELAND - MULBERRY 69KV (BH-2)	6/1/2015 19:10	LINE - ANIMAL - BIRD - CLEARANCE	- -		0
52034	MULBERRY - NORTHWEST (CITY OF BARTOW) 69KV (MSW-NWSV	6/1/2015 19:29	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52040	FORT GREEN #4 69KV (0335)	6/1/2015 20:28	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
52388	HOWEY SEC - OKAHUMPKA (CLL-3)	6/10/2015 13:40	LINE - LIGHTNING -	LINE - LIGHTNING -	0	401
52790	FROSTPROOF - LAKE WALES 69KV (AL-3)	6/24/2015 22:28	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52843	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/27/2015 9:31	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52902	HINES ENERGY COMPLEX PL - FT MEADE 230KV (HEFM-1)	6/30/2015 4:50	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
52947	AVON PARK PL - WAUCHULA 69KV (APW-1)	7/1/2015 19:41	LINE - LIGHTNING -	- -		0
53001	CRYSTAL RIVER SOUTH - TWIN COUNTY RANCH 115KV (CRB-4)	7/5/2015 13:57	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53413	OCCIDENTAL #1 115KV (0177)	7/20/2015 22:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53571	OCCIDENTAL #1 115KV (0177)	7/29/2015 15:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53572	OCCIDENTAL #1 115KV (0177)	7/29/2015 16:08	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53638	CARRABELLE - CRAWFORDVILLE 69KV (JA-2)	8/3/2015 16:01	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53644	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	8/3/2015 20:27	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53776	OCCIDENTAL #1 115KV (0177)	8/11/2015 7:05	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53993	LAKE EMMA - WINTER SPRINGS 230KV (DWS-2)	8/23/2015 4:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54013	WINTER GARDEN 69KV (0311)	8/24/2015 1:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54029	BROOKSVILLE - BUSHNELL EAST 69KV (BCF-BW-1)	8/24/2015 11:39	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54088	SOUTH FORT MEADE 115KV (0360)	8/29/2015 10:27	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54131	NORTH LONGWOOD - WINTER SPRINGS 69KV (WO-6)	8/31/2015 20:03	LINE - WEATHER -	LINE - WEATHER - WIND		0
52030	LAKE WALES - WEST LAKE WALES CKT#1 69KV (WLLW-1)	6/1/2015 18:37	LINE - LIGHTNING -	- -		0
52895	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	6/29/2015 12:58	LINE - LIGHTNING -	- -		0
52921	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	6/30/2015 14:20	LINE - LIGHTNING -	- -		0
53002	CIRCLE SQUARE 69KV (0354)	7/5/2015 14:35	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53574	APOPKA SOUTH - WOODSMERE 69KV (WP-2)	7/29/2015 17:08	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53578	APOPKA SOUTH - WOODSMERE 69KV (WP-2)	7/29/2015 18:24	LINE - WEATHER - WIND	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53620	BROOKSVILLE WEST - SEVEN SPRINGS 230KV (CRS-CC-1)	8/2/2015 21:56	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54210	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/8/2015 10:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54264	MANLEY ROAD (CARGILL) 115KV (0004)	9/12/2015 6:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54279	BARNUM CITY - WESTRIDGE 69KV (ICB-1)	9/13/2015 10:45	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54281	MANLEY ROAD (CARGILL) 115KV (0004)	9/14/2015 3:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52160	EAST LAKE WALES 69KV (0223)	6/2/2015 16:16	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52881	INTERCESSION CITY PLANT 230KV (0166)	6/29/2015 6:52	SUB - EQUIPMENT -	- -		0
52981	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	7/3/2015 21:18	LINE - ANIMAL - BIRD - CLEARANCE	LINE - ANIMAL - BIRD - CLEARANCE		0
52990	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	7/4/2015 18:00	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52991	EUSTIS - EUSTIS SOUTH 69KV (EP-1)	7/4/2015 18:01	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53445	CHIEFLAND-GA PACIFIC 69KV (CGP-1/IS-5)	7/22/2015 9:52	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53470	OCCIDENTAL #1 115KV (0177)	7/23/2015 21:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53538	EAST LAKE WALES - INDIAN LAKES ESTATES 69KV RADIAL (ELX-AL	7/28/2015 8:03	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53660	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	8/4/2015 15:24	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53806	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/13/2015 14:48	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	86019	86019
53807	NORTH BARTOW - WEST LAKE WALES 69KV (BWL-2)	8/13/2015 14:47	LINE - WEATHER -	- -		0
53847	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	8/16/2015 18:28	LINE - LIGHTNING -	- -		0
53848	SOUTH FORT MEADE 115KV (0360)	8/16/2015 19:10	LINE - WEATHER -	LINE - CUSTOMER - INDUSTRIAL		0
53989	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/22/2015 22:53	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54085	ANDERSEN - WILDWOOD 69KV (AND-1)	8/28/2015 22:15	LINE - WEATHER -	- -		0
54162	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	9/4/2015 16:50	LINE - WEATHER -	- -		0
54166	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	9/4/2015 17:57	LINE - LIGHTNING -	- -		0
54182	PORT RICHEY WEST - SEVEN SPRINGS 115KV (SPR-1)	9/5/2015 16:10	LINE - WEATHER -	- -		0
54233	VANDOLAH - WAUCHULA 69KV (VW-1)	9/10/2015 10:17	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52627	FORT GREEN #6 69KV (0437)	6/19/2015 15:59	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52642	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	6/19/2015 18:22	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52683	SOUTH FORT MEADE 115KV (0360)	6/21/2015 19:06	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52731	SUWANNEE RIVER PL - MADISON 115KV (SP-SUM-1)	6/22/2015 17:38	LINE - EQUIPMENT - POLE GROUND	LINE - EQUIPMENT - POLE GROUND		0
52973	BROOKSVILLE - UNION HALL 69KV (BZ-1)	7/3/2015 18:22	LINE - NEIGHBORING UTILITY - EQUIPMENT	LINE - NEIGHBORING UTILITY - EQUIPMENT	0	210312.8
53041	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	7/6/2015 16:49	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53368	ZEPHYRHILLS 69KV (0021)	7/19/2015 7:45	SUB - ANIMAL - SQUIRREL	SUB - ANIMAL - SQUIRREL	296447	296447
54000	FORT GREEN #10 69KV (0463)	8/23/2015 12:12	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52280	PERRY 230KV (0042)	4/19/2015 11:54	LINE - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - INCORRECT SETTING APPLIED	31848	31848
52763	CIRCLE SQUARE 69KV (0354)	6/23/2015 15:35	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52812	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	6/25/2015 16:25	LINE - LIGHTNING -	- -		0
52975	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	7/3/2015 19:29	LINE - WEATHER -	- -		0
53020	VANDOLAH 230KV (0284)	7/5/2015 20:04	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53319	FT WHITE - PERRY 69KV (FP-1)	7/17/2015 14:34	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
54694	FORT GREEN #6 69KV (0437)	10/18/2015 8:33	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52041	LITTLE PAYNE CREEK #1 69KV (0287)	6/2/2015 0:55	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52042	LITTLE PAYNE CREEK #1 69KV (0287)	6/2/2015 0:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52549	PALM HARBOR 230KV (0079)	6/11/2015 12:35	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	5300	5300
52730	SUWANNEE RIVER PL - MADISON 115KV (SP-SUM-1)	6/22/2015 17:29	LINE - EQUIPMENT - POLE GROUND	LINE - EQUIPMENT - POLE GROUND		0
52996	LAKE BRANCH 115KV (0475)	7/4/2015 20:51	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
53339	FORT GREEN #6 69KV (0437)	7/18/2015 21:13	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53545	HOWEY SEC - OKAHUMPKA (CLL-3)	7/28/2015 19:19	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
53762	EAST ORANGE 69KV (0346)	8/3/2015 11:31	SUB - EQUIPMENT - TRANSFORMER - OTHER	SUB - HUMAN ERROR - OTHER		0
54005	MARTIN WEST 230KV (0341)	8/23/2015 18:20	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54007	LINADALE SEC 69KV (6804)	8/23/2015 20:24	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54008	LINADALE SEC 69KV (6804)	8/23/2015 20:39	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54031	FORT GREEN #6 69KV (0437)	8/24/2015 14:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54164	CROSS CITY - WILCOX 69KV (WCC-1)	9/4/2015 17:25	LINE - LIGHTNING -	- -		0
54201	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	9/7/2015 20:13	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54257	MANLEY ROAD (CARGILL) 115KV (0004)	9/11/2015 20:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54271	OCCIDENTAL #1 115KV (0177)	9/12/2015 17:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54313	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/17/2015 11:28	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54467	SOUTH FORT MEADE 115KV (0360)	9/29/2015 14:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52300	CHAMPIONS GATE - DAVENPORT 69KV (ICLW-5)	6/5/2015 17:38	LINE - LIGHTNING -	- -		0
52930	LIBERTY 69KV (0466)	6/30/2015 17:38	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
53007	KELLY PARK - ZELLWOOD 69KV (EP-3)	7/5/2015 17:36	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53109	ISLEWORTH -DISNEY WORLD NORTHWEST 69KV (WT-3)	7/9/2015 16:58	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
53285	CROSS CITY - WILCOX 69KV (WCC-1)	7/15/2015 9:33	LINE - LIGHTNING -	- -		0
53697	LAKE BRANCH 115KV (0475)	8/6/2015 14:15	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53728	OCCIDENTAL #1 115KV (0177)	8/7/2015 16:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53734	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	8/7/2015 17:05	LINE - WEATHER -	LINE - -		0
54011	KELLY PARK - MT DORA 69KV (EP-5)	8/23/2015 21:26	LINE - WEATHER -	LINE - WEATHER - WIND		0
54049	AVON PARK PL - DESOTO CITY 69KV (AD-1)	8/25/2015 20:03	LINE - OPERATIONAL - EMERGENCY	- -		0
54222	U.C.F. NORTH 69KV (0008)	8/26/2015 17:44	LINE - WEATHER - WIND	LINE - WEATHER - WIND	16280	16280
54282	LAKE BRANCH 115KV (0475)	9/14/2015 3:46	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52590	GA PACIFIC - WILCOX 69KV (WGP-1)	6/18/2015 15:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52594	OAK RUN (SEC) REA 69KV (6889)	6/18/2015 16:59	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52817	BONNET CREEK - LAKE BRYAN 69KV (ICBL-2)	6/25/2015 18:11	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52914	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	6/30/2015 12:20	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52970	ROSS PRAIRIE 230KV (0407)	7/3/2015 15:53	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53011	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	7/5/2015 18:22	LINE - LIGHTNING -	- -		0
53059	UCF 69KV (0200)	7/7/2015 13:28	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53062	BITHLO - UCF 69KV (FTR-2)	7/7/2015 13:58	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53063	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	7/7/2015 14:05	LINE - LIGHTNING -	- -		0
53293	HOLDER - INVERNESS 69KV (HB-3)	7/15/2015 12:40	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53295	UMATILLA - UMATILLA (SEC)69KV (ED-3)	7/15/2015 14:12	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53804	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	8/13/2015 14:12	LINE - LIGHTNING -	- -		0
53822	GATEWAY - 32ND ST 115KV (HD-6)	8/14/2015 18:50	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54009	LITTLE PAYNE CREEK #1 69KV (0287)	8/23/2015 20:14	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54189	NORTH BARTOW - PEBBLEDALE (TECO) 230KV (WLXT-1)	9/6/2015 1:34	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54239	HOLDER 230KV (0203)	9/10/2015 14:45	LINE - EQUIPMENT - SWITCH	- -	0	0
54270	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	9/12/2015 16:32	LINE - LIGHTNING -	- -		0
54423	LOCKHART - SPRING LAKE 230KV (ASW-3)	9/27/2015 20:15	LINE - LIGHTNING -	- -		0
54450	OCCIDENTAL #1 115KV (0177)	9/29/2015 0:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54796	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	10/27/2015 22:02	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52392	DENHAM - ODESSA 69KV (TZ-6)	6/10/2015 16:55	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53183	LAKE PLACID 69KV (0176)	6/28/2015 23:47	SUB - WEATHER - MAJOR STORM	SUB - EQUIPMENT - LIGHTNING ARRESTER	29541	29541
53322	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/17/2015 17:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53324	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/17/2015 18:23	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53325	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/17/2015 18:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53362	AVON PARK PL - WAUCHULA 69KV (APW-1)	7/19/2015 20:47	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52664	FLORIDA GAS TRANSMISSION EAST - WEWAHOOTEE 69KV (RW-3	6/20/2015 16:50	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52682	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/21/2015 12:28	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52782	HOMELAND - ORANGE SWITCHING STATION 69KV (FMB-2)	6/24/2015 17:15	LINE - EQUIPMENT - CONNECTOR	LINE - EQUIPMENT - CONNECTOR	16	31.9
52884	FORT GREEN #6 69KV (0437)	6/29/2015 8:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
52974	CLERMONT EAST- LAKE LOUISA SEC 69KV (INACTIVE) (CEB-1)	7/3/2015 19:16	LINE - WEATHER -	LINE - WEATHER -		0
53136	ALTAMONTE - DOUGLAS AVE 69KV (ASL-1)	7/11/2015 18:08	LINE - WEATHER - MAJOR STORM - WIND	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53358	FORT GREEN #4 69KV (0335)	7/19/2015 14:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53407	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	7/20/2015 13:39	LINE - WEATHER -	- -		0
53733	OCCIDENTAL #1 115KV (0177)	8/7/2015 16:59	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53797	SOUTH FORT MEADE 115KV (0360)	8/13/2015 7:15	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53832	CYPRESSWOOD - HAINES CITY 69KV (ICLW-2)	8/15/2015 19:18	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53851	MANLEY ROAD (CARGILL) 115KV (0004)	8/17/2015 3:21	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53908	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	8/18/2015 22:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53966	AVON PARK NORTH - FROSTPROOF 69KV (AL-1)	8/21/2015 12:45	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
54101	DALLAS - SILVER SPRINGS SHORES 69KV (DW-OCF-1)	8/29/2015 17:53	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54147	SOUTHWOOD (OUC) 69KV (7931)	9/2/2015 19:30	LINE - UNKNOWN - INVESTIGATION COMPLETE	RELAY - EQUIPMENT - CARRIER		0
52395	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	6/10/2015 18:37	LINE - WEATHER -	- -		0
52637	MAITLAND - WINTER PARK 69KV (WO-5)	6/19/2015 17:55	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52680	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	6/21/2015 9:16	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52767	BARNUM CITY 69KV (0235)	6/23/2015 19:40	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52832	OCCIDENTAL #1 115KV (0177)	6/26/2015 11:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52976	LAKE BRANCH 115KV (0475)	7/3/2015 19:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53008	OCOEE - HEMPLE 69KV (OH-1)	7/5/2015 17:55	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53009	BAY HILL - VINELAND 69KV (BHV-1)	7/5/2015 18:04	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53023	DESOTO CITY - PHILLIPS PL (TECO) 69KV (AD-2)	7/5/2015 20:12	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53363	SUWANNEE RIVER 230KV (0061)	7/19/2015 20:58	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53553	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	7/29/2015 8:59	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53563	CRYSTAL RIVER SOUTH - TWIN COUNTY RANCH 115KV (CRB-4)	7/29/2015 13:55	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	1126572	2380742.9
53564	BROOKRIDGE - TWIN COUNTY RANCH 115KV - CLEARWATER (CR	7/29/2015 13:55	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53684	LAKE PLACID - LAKE PLACID NORTH 69KV (DLP-2)	8/6/2015 2:03	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53727	SUWANNEE RIVER PL - HANSON 115KV (SW-JQ-1)	8/7/2015 15:10	LINE - WEATHER -	LINE - -		0
53731	OCCIDENTAL #1 115KV (0177)	8/7/2015 16:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53838	CARRABELLE - GUMBAY 69KV (GBC-1)	8/16/2015 7:07	LINE - WEATHER -	- -		0
53846	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	8/16/2015 18:21	LINE - LIGHTNING -	- - ICE/SNOW		0
53906	FT GREEN SPRINGS - VANDOLAH #2 CKT 69KV (VFGS-1)	8/18/2015 22:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53907	FT GREEN SPRINGS - VANDOLAH #2 CKT 69KV (VFGS-1)	8/18/2015 22:42	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53911	FT GREEN SPRINGS - VANDOLAH #1 CKT 69KV (VFG-1)	8/18/2015 22:42	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53915	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	8/18/2015 22:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53916	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	8/18/2015 22:42	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - -		0
53950	SEVEN SPRINGS 230KV (0225)	8/16/2015 21:14	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	60876	60876
53968	BEVERLY HILLS - LECANTO 115KV (CSB-2)	8/21/2015 13:38	LINE - WEATHER -	LINE - OPERATIONAL - OTHER	10167	10167
53970	PARKWAY - SHINGLE CREEK 69KV (SCP-1)	8/21/2015 18:55	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52794	HINES ENERGY COMPLEX PL - BARCOLA CKT2 230KV (HEB-2)	6/25/2015 1:30	RELAY - EQUIPMENT - EXTERNAL CONTROL SCADA	RELAY - EQUIPMENT - EXTERNAL CONTROL SCADA		0
52980	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	7/3/2015 20:50	LINE - ANIMAL - BIRD - CLEARANCE	LINE - ANIMAL - BIRD - CLEARANCE		0
53045	SOUTH FORT MEADE 115KV (0360)	7/7/2015 2:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53884	PIEDMONT - PLYMOUTH 69KV (PP-1)	8/18/2015 18:12	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53887	BROOKSVILLE - UNION HALL 69KV (BZ-1)	8/18/2015 19:09	LINE - LIGHTNING -	- - INVESTIGATION COMPLETE		0
54004	OCCIDENTAL #1 115KV (0177)	8/23/2015 16:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54196	DUNDEE 230KV (0083)	9/6/2015 22:33	LINE - HUMAN ERROR - OTHER	LINE - HUMAN ERROR - OTHER	169638	169638
54529	OCCIDENTAL #1 115KV (0177)	10/5/2015 2:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53287	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	7/15/2015 9:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53931	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	8/19/2015 18:20	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53982	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	8/22/2015 18:08	LINE - LIGHTNING -	- -		0
54001	CARRABELLE - GUMBAY 69KV (GBC-1)	8/23/2015 15:36	LINE - LIGHTNING -	- -		0
54002	DELAND - DELAND WEST 69KV (ED-1)	8/23/2015 15:45	LINE - WEATHER -	- -		0
54003	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	8/23/2015 16:00	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54006	OCC SWIFT CREEK #1 - OCC SWIFT CREEK #2 115KV (SCSC-1)	8/23/2015 15:04	LINE - WEATHER -	LINE - EQUIPMENT - POLE FAILURE - PREVENTABLE		0
54048	AVON PARK PL - DESOTO CITY 69KV (AD-1)	8/25/2015 18:56	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54058	ALAFAYA - OVIEDO 69KV (AO-1)	8/26/2015 17:50	LINE - WEATHER -	- -		0
54060	WINTER PARK EAST 230KV (0133)	8/26/2015 17:46	LINE - WEATHER - WIND	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL		0
54094	ODESSA - TARPON SPRINGS 69KV (TZ-2)	8/29/2015 16:41	LINE - WEATHER -	- -		0
54091	JASPER -HOMERVILLE (GA. PWR) 115KV (JW2)	8/29/2015 16:21	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54092	BAYBORO - CENTRAL PLAZA 115KV (BCP-1)	8/29/2015 16:19	RELAY - MISOPERATION -	RELAY - MISOPERATION -	18552	18552
54129	EATONVILLE - WINTER PARK 69KV (WO-3)	8/31/2015 19:26	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54213	OCCIDENTAL #1 115KV (0177)	9/8/2015 15:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
54302	NORTH BARTOW - SOUTH ELOISE (TECO) 230KV (WLXT-2)	9/16/2015 5:31	LINE - NEIGHBORING UTILITY - EQUIPMENT	- -		0
54314	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/17/2015 14:22	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54328	OCCIDENTAL #1 115KV (0177)	9/20/2015 16:24	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54446	PORT RICHEY WEST 115KV (0164)	9/27/2015 7:57	LINE - UNKNOWN - INVESTIGATION COMPLETE	RELAY - EQUIPMENT - RELAY PROBLEM	51360	51360
54496	SOUTH FORT MEADE 115KV (0360)	10/1/2015 21:12	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52374	MANLEY ROAD (CARGILL) 115KV (0004)	6/9/2015 20:24	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52660	LAKE BRANCH 115KV (0475)	6/20/2015 16:09	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53493	CLEARWATER - HIGHLANDS 69KV (HCL-1)	7/24/2015 18:30	LINE - EQUIPMENT - CONDUCTOR/STATIC	RELAY - UNKNOWN - INVESTIGATION COMPLETE		0
53639	FT WHITE - NEWBERRY 230KV (CF-3)	8/3/2015 18:05	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - -		0
53676	MEADOW WOODS SOUTH - HUNTER CREEK 69KV (MSH-1)	8/5/2015 17:26	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53836	BEVERLY HILLS - HOLDER 115KV (HBH-1)	8/15/2015 20:07	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53849	DALLAS - SILVER SPRINGS 230KV (CFO-4)	8/16/2015 19:51	LINE - WEATHER -	LINE - -		0
53930	VANDOLAH - WAUCHULA 69KV (VW-1)	8/19/2015 18:17	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54098	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/29/2015 17:07	LINE - LIGHTNING -	- -		0
54099	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/29/2015 17:11	LINE - WEATHER -	- -		0
54137	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/2/2015 6:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54139	OCCIDENTAL #1 115KV (0177)	9/2/2015 6:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54389	AVON PARK PL - SOUTH POLK 230KV (AF-1)	9/23/2015 22:24	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
54414	FLORA MAR - SEVEN SPGS 115KV (SFM-1)	9/26/2015 16:40	LINE - LIGHTNING -	- -		0
54505	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	10/3/2015 13:05	LINE - CUSTOMER - CUSTOMER REQUEST	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL		197
54525	FORT GREEN #10 69KV (0463)	10/4/2015 16:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52165	OCCIDENTAL #1 115KV (0177)	6/2/2015 21:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52684	HIGGINS PL - GRIFFIN 115KV (HG-1)	6/21/2015 19:56	LINE - LIGHTNING -	- -		0
52810	BROOKSVILLE WEST - SEVEN SPRINGS 230KV (CRS-CC-1)	6/25/2015 12:32	LINE - LIGHTNING -	SUB - HUMAN ERROR - SWITCHING ERROR - TRANS		0
52880	OCCIDENTAL #1 115KV (0177)	6/29/2015 7:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52971	BROOKSVILLE - UNION HALL 69KV (BZ-1)	7/3/2015 17:45	LINE - LIGHTNING -	- -		0
53359	FT WHITE - PERRY 69KV (FP-1)	7/19/2015 17:05	LINE - LIGHTNING -	- -		0
53444	ATWATER 115KV (0467)	7/22/2015 9:10	LINE - NEIGHBORING UTILITY - EQUIPMENT	LINE - NEIGHBORING UTILITY - EQUIPMENT		0
53517	PASADENA 230KV (0135)	7/27/2015 8:17	SUB - EQUIPMENT - BREAKER	SUB - EQUIPMENT - BREAKER		0
53842	DELTONA 115KV (0047)	8/16/2015 15:17	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53859	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	8/17/2015 13:46	LINE - WEATHER -	- -		0
53860	NORALYN #1 69KV (0030)	8/15/2015 12:00	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
53885	LAND O LAKES 69KV (0473)	8/18/2015 18:13	LINE - WEATHER -	- -		0
53891	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	8/18/2015 20:51	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53897	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	8/18/2015 21:33	LINE - LIGHTNING -	- -		0
53914	FLORIDA GAS TRANSMISSION EAST 69KV (0527)	8/19/2015 3:12	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52315	NEWBERRY - WILCOX 230KV (NW-1)	6/7/2015 22:36	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE		0
53040	AVON PARK PL - WAUCHULA 69KV (APW-1)	7/6/2015 15:52	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53237	LITTLE PAYNE CREEK #1 69KV (0287)	7/14/2015 7:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53481	OCCIDENTAL #1 115KV (0177)	7/24/2015 8:04	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53967	OCCIDENTAL #1 115KV (0177)	8/21/2015 13:24	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53981	VANDOLAH - WAUCHULA 69KV (VW-1)	8/22/2015 17:59	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
54214	RIO PINAR 230KV (0148)	8/16/2015 14:28	LINE - WEATHER -	SUB - EQUIPMENT - BREAKER/DIST - MECHANICAL	156185	156185
54232	MAITLAND 69KV (0023)	9/2/2015 16:03	SUB - CUSTOMER - DISTRIBUTION	SUB - CUSTOMER - DISTRIBUTION		0
54280	HOMELAND - MULBERRY 69KV (BH-2)	9/13/2015 11:38	LINE - LIGHTNING -	- -		0
54376	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/22/2015 22:57	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54384	LAKE BRANCH 115KV (0475)	9/23/2015 13:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54415	LARGO - PALM HARBOR 230KV (LTL-1)	9/26/2015 18:05	LINE - LIGHTNING -	- -		0
54435	OCCIDENTAL #1 115KV (0177)	9/28/2015 11:19	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54470	BARTOW PLANT - NORTHEAST 230KV UG6 (BNU-6)	9/30/2015 3:05	LINE - OPERATIONAL - SYSTEM VOLTAGE LIMIT MITIGATI(	- -		0
54480	SOUTH POLK 230KV (0498)	9/30/2015 14:59	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54598	OCCIDENTAL #1 115KV (0177)	10/10/2015 6:44	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52269	OCCIDENTAL #1 115KV (0177)	6/3/2015 14:09	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52573	OCCIDENTAL #1 115KV (0177)	6/17/2015 15:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52775	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	6/24/2015 13:52	LINE - EQUIPMENT - CONDUCTOR/STATIC	- -		0
52844	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/27/2015 11:33	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52847	ATWATER - US HYDRO WOODRUFF DAM 115KV (QX-2)	6/27/2015 14:04	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
52969	DUNNELLON TOWN - RAINBOW LK EST SEC 69KV RADIAL (DR-1)	7/3/2015 15:06	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - UNDER INVESTIGATION	119721	300048
53019	HINES - WEST LAKE WALES 230KV (HWLW-1)	7/5/2015 18:55	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53052	ODESSA 69KV (0445)	7/7/2015 4:39	SUB - ANIMAL - RACCOON	SUB - ANIMAL - RACCOON	228640	228640
53073	MANLEY ROAD (CARGILL) 115KV (0004)	7/8/2015 8:19	SUB - UNKNOWN - INVESTIGATION COMPLETE	SUB - UNKNOWN - INVESTIGATION COMPLETE		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
53167	LITTLE PAYNE CREEK #1 69KV (0287)	7/12/2015 21:40	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
53173	BROOKSVILLE - UNION HALL 69KV (BZ-1)	7/13/2015 7:26	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53306	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	7/16/2015 11:50	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53381	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/20/2015 10:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53429	CLARCONA - OCOEE 69KV (OCC-1)	7/21/2015 15:00	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53490	CROSS CITY - WILCOX 69KV (WCC-1)	7/24/2015 13:04	LINE - LIGHTNING -	- -		0
53509	FORT GREEN #10 69KV (0463)	7/26/2015 16:53	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52299	BAYBORO - 16TH ST 115KV (BFE-1)	6/5/2015 15:38	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	0	0
52894	PASADENA - SEMINOLE 230KV (LSP-1)	6/22/2015 20:21	LINE - LIGHTNING -	RELAY - EQUIPMENT - CARRIER		0
53409	HOWEY SEC - OKAHUMPKA (CLL-3)	7/20/2015 17:00	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53508	LIBERTY 69KV (0466)	7/26/2015 10:26	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54128	CRYSTAL RIVER SOUTH - HOMOSASSA 115KV RADIAL (TROPIC TE	8/31/2015 16:43	LINE - EQUIPMENT - CONDUCTOR/STATIC	RELAY - EQUIPMENT - RELAY PROBLEM	86374	86374
54653	TAYLOR AVENUE 69KV (0222)	10/13/2015 12:30	LINE - CUSTOMER - DISTRIBUTION	RELAY - UNKNOWN - UNDER INVESTIGATION	119900	119900
54692	HOLOPAW - WEST LAKE WALES 230KV (WLXF-3)	10/18/2015 4:05	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - CONDUCTOR/STATIC	9783	9783
54724	MANLEY ROAD (CARGILL) 115KV (0004)	10/20/2015 21:46	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54789	FORT GREEN #10 69KV (0463)	10/27/2015 14:01	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54847	LAKE PLACID NORTH 69KV (0476)	10/24/2015 7:28	SUB - ANIMAL - SQUIRREL	SUB - ANIMAL - SQUIRREL	57600	57600
52394	MANLEY ROAD (CARGILL) 115KV (0004)	6/10/2015 17:29	SUB - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52813	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	6/25/2015 16:40	LINE - WEATHER -	- -		0
53201	DUNNELLON TOWN - RAINBOW LK EST SEC 69KV RADIAL (DR-1)	7/13/2015 13:49	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53510	CENTRAL FLA - COLEMAN 69KV (BCF-2)	7/26/2015 18:35	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
53518	CROSSROADS - PASADENA UG 115KV (PXUG)	7/27/2015 8:17	RELAY - UNKNOWN - UNDER INVESTIGATION	- -		0
53598	APOPKA SOUTH - PLYMOUTH 69KV (WP-1)	7/30/2015 15:56	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53626	INGLIS MINING 115KV (0395)	8/2/2015 18:50	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53740	OCCIDENTAL #1 115KV (0177)	8/8/2015 7:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53843	COUNTRY OAKS - EAST LAKE WALES 69KV (LEL-1)	8/16/2015 15:34	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53844	EAST ORANGE - RIO PINAR 69KV (REO)	8/16/2015 16:06	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53845	HOLDER - INVERNESS 69KV (HB-3)	8/16/2015 17:46	LINE - WEATHER -	LINE - WEATHER -		0
53892	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	8/18/2015 21:10	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53893	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	8/18/2015 21:10	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53894	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	8/18/2015 21:11	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53895	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	8/18/2015 21:20	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53896	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	8/18/2015 21:25	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53980	LAKE BRANCH 115KV (0475)	8/22/2015 17:43	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54083	AVON PARK PL - WAUCHULA 69KV (APW-1)	8/28/2015 15:10	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54114	NEW RIVER - CABBAGE HILL (TECO) 69KV (TZ-3)	8/30/2015 18:17	LINE - WEATHER -	- -		0
52845	OCCIDENTAL #1 115KV (0177)	6/27/2015 11:57	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52904	LIBERTY 69KV (0466)	6/30/2015 6:26	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
52984	OCCIDENTAL #1 115KV (0177)	7/4/2015 6:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53087	CAMP LAKE - HOWEY BKR STA (SEC)69KV (CLL-1)	7/8/2015 20:27	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53501	FT MEADE - VANDOLAH 230KV (FV-1)	7/25/2015 13:23	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - UNDER INVESTIGATION		0
53546	BROOKRIDGE - CRYSTAL RIVER EAST 230KV (CC-1)	7/28/2015 20:42	SUB - EQUIPMENT - CCPD	SUB - EQUIPMENT - CCPD		0
53802	OCCIDENTAL #1 115KV (0177)	8/13/2015 12:31	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54110	HAINES CREEK - SORRENTO 230KV (CFS-2)	8/30/2015 14:19	LINE - LIGHTNING -	- -		0
54208	ULMERTON 230KV (0126)	8/25/2015 13:13	SUB - EQUIPMENT - DISCONNECT	SUB - EQUIPMENT - DISCONNECT	18565	18565
54209	FORT GREEN #6 69KV (0437)	9/8/2015 10:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54325	OCCIDENTAL #1 115KV (0177)	9/19/2015 22:24	LINE - CUSTOMER - INDUSTRIAL	- -		0
54753	WINTER SPRINGS 230KV (0252)	10/24/2015 17:01	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER		0
52630	LAKE BRANCH 115KV (0475)	6/19/2015 16:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52632	SOUTH FORT MEADE 115KV (0360)	6/19/2015 16:42	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52891	MYRTLE LAKE - WEKIVA 230KV (NLP-2)	6/22/2015 8:31	LINE - PUBLIC INTERFERENCE - VEHICLE	RELAY - HUMAN ERROR - SETTING ERROR		0
52985	MARTIN WEST - REDDICK 69KV (SI-4)	7/4/2015 7:43	LINE - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL		0
53005	BAY RIDGE - KELLY PK 69KV (BK-1)	7/5/2015 17:06	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53161	CLEARWATER - EAST CLEARWATER 69KV (LECW-3)	7/12/2015 12:52	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53431	QUINCY - ATTAPULGUS (GA PWR) 69KV (QB-1)	7/21/2015 19:27	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54385	OCCIDENTAL #1 115KV (0177)	9/23/2015 18:13	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54408	FORT GREEN #10 69KV (0463)	9/25/2015 11:23	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52383	CARRABELLE - CRAWFORDVILLE 69KV (JA-2)	6/10/2015 7:16	LINE - LIGHTNING -	- -		0
52419	KELLY PARK - ZELLWOOD 69KV (EP-3)	6/12/2015 14:56	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52726	OCCIDENTAL #1 115KV (0177)	6/22/2015 16:06	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52944	INGLIS MINING 115KV (0395)	7/1/2015 12:50	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
53061	CRYSTAL RIVER SOUTH - TWIN COUNTY RANCH 115KV (CRB-4)	7/7/2015 13:55	LINE - LIGHTNING -	- -		0
53877	LAKE LUNTZ 69KV (0419)	8/12/2015 9:11	SUB - PLANNED - MAINTENANCE AND CONSTRUCTION	SUB - HUMAN ERROR - WIRING	120542	120542
54216	HAVANA - HINSON TEC 69KV RADIAL (HH-1)	9/9/2015 6:54	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0	177375
54606	DISSTON - STARKEY ROAD 69KV (DLW-1)	10/11/2015 12:08	LINE - OPERATIONAL - EMERGENCY	LINE - EQUIPMENT - POLE ROT		0
54743	CRAWFORDVILLE 230KV (0147)	9/12/2015 10:29	LINE - CUSTOMER - DISTRIBUTION	LINE - CUSTOMER - DISTRIBUTION		0
52029	DELAND - DELTONA 69KV (TD-1)	6/1/2015 15:30	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52942	BEVERLY HILLS - CITRUS HILLS 115KV LINE (BI-2)	7/1/2015 11:47	LINE - LIGHTNING -	LINE - EQUIPMENT - INSULATOR		0
52988	OCCIDENTAL #1 115KV (0177)	7/4/2015 17:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52989	OCCIDENTAL #1 115KV (0177)	7/4/2015 17:33	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53004	ZEPHYRHILLS NORTH - DADE CITY (TECO) 69KV (BZ-6)	7/5/2015 16:41	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC	0	0
53025	ALAFAYA - OVIEDO 69KV (AO-1)	7/6/2015 6:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53026	WEST CHAPMAN - ALAFAYA 69KV (WCA-1)	7/6/2015 6:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53737	CRAWFORDVILLE - JACKSON BLUFF 69KV (JA-3)	8/7/2015 19:08	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53924	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/19/2015 10:09	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53987	OCCIDENTAL #1 115KV (0177)	8/22/2015 22:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54012	KELLY PARK - MT DORA 69KV (EP-5)	8/23/2015 22:41	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
54605	FORT GREEN #6 69KV (0437)	10/11/2015 10:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52628	FORT GREEN #11 69KV (0472)	6/19/2015 15:49	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52948	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	7/1/2015 21:31	LINE - LIGHTNING -	- -		0
52977	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	7/3/2015 19:40	LINE - WEATHER -	- -		0
53625	HOLDER - INVERNESS 69KV (HB-3)	8/3/2015 7:30	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53864	HOWEY SEC - OKAHUMPKA (CLL-3)	8/17/2015 17:57	LINE - WEATHER -	- -		0
53745	VANDOLAH - WHIDDON 230KV (VWX-1)	8/8/2015 15:33	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - -		0
53963	LITTLE PAYNE CREEK #1 69KV (0287)	8/21/2015 5:53	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
53973	DUNDEE - WEST LAKE WALES 230KV CKT1 (DWL-1)	8/21/2015 20:23	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53979	BROOKSVILLE - UNION HALL 69KV (BZ-1)	8/22/2015 16:21	LINE - LIGHTNING -	- -		0
53985	OCCIDENTAL #1 115KV (0177)	8/22/2015 22:15	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54078	BROOKRIDGE - BROOKSVILLE WEST 230KV (CC-7)	8/28/2015 4:36	SUB - EQUIPMENT - BUS - ARRESTER	SUB - EQUIPMENT - BUS - ARRESTER		0
54146	MEADWDS SOUTH - TAFT 69KV (TMS-2)	9/2/2015 19:30	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54220	LAKE BRANCH 115KV (0475)	9/9/2015 12:08	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54383	OCCIDENTAL #1 115KV (0177)	9/23/2015 12:17	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54444	OCCIDENTAL #1 115KV (0177)	9/28/2015 15:42	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54489	EATONVILLE - WINTER PARK 69KV (WO-3)	10/1/2015 9:46	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52288	OCCIDENTAL #1 115KV (0177)	6/4/2015 23:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52591	OAK RUN (SEC) REA 69KV (6889)	6/18/2015 16:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52818	PHILLIPS PLANT (TECO) 69KV (7933)	6/25/2015 18:07	SUB - UNKNOWN - UNDER INVESTIGATION	SUB - UNKNOWN - INVESTIGATION COMPLETE	0	0
52931	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	6/30/2015 17:48	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53443	FT WHITE - JASPER 69KV (JF-1)	7/22/2015 8:07	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM	0	10943.4
53491	TRENTON - WILCOX 69KV (376159801)	7/24/2015 15:07	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53547	CRYSTAL RIVER EAST 230KV (0168)	7/28/2015 20:42	SUB - EQUIPMENT - CCPD	SUB - EQUIPMENT - CCPD		0
53550	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/29/2015 8:19	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53600	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	7/30/2015 16:12	LINE - WEATHER - MAJOR STORM	LINE - WEATHER - MAJOR STORM		0
54372	FLORIDA GAS TRANSMISSION - ST MARKS EAST 230KV (CP-3)	9/22/2015 11:35	SUB - EQUIPMENT - CCPD	SUB - EQUIPMENT - CCPD		0
54737	FORT GREEN #10 69KV (0463)	10/21/2015 16:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54742	SOUTH FORT MEADE 115KV (0360)	10/22/2015 6:17	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52397	FISHEATING CREEK - SUN N LAKES 69KV (ALP-SUC-1)	6/10/2015 20:37	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52579	51ST STREET - PASADENA 230KV (FSP-2)	6/18/2015 1:46	LINE - WEATHER -	- -		0
52927	FT WHITE - NEWBERRY 230KV (CF-3)	6/30/2015 16:39	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53317	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	7/17/2015 14:14	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53741	OCCIDENTAL #1 115KV (0177)	8/8/2015 8:22	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54184	CRYSTAL RIVER EAST - INGLIS CKT2 115KV (IT-CKT2)	9/5/2015 16:47	LINE - WEATHER -	- -		0
54258	SOUTH FORT MEADE 115KV (0360)	9/11/2015 21:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54265	CRAWFORDVILLE - PORT ST JOE 230KV (CPS-1)	9/12/2015 9:04	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
54673	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	10/16/2015 12:11	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52528	MANLEY ROAD (CARGILL) 115KV (0004)	6/14/2015 12:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52634	MANLEY ROAD (CARGILL) 115KV (0004)	6/19/2015 16:48	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52764	LAKE BRANCH 115KV (0475)	6/23/2015 16:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52846	HOMELAND - MULBERRY 69KV (BH-2)	6/27/2015 13:59	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52870	MANLEY ROAD (CARGILL) 115KV (0004)	6/28/2015 14:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52872	OCCIDENTAL #1 115KV (0177)	6/28/2015 17:09	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52903	LIBERTY 69KV (0466)	6/30/2015 6:02	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
53081	ODESSA - TARPON SPRINGS 69KV (TZ-2)	7/8/2015 15:18	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53165	APALACHICOLA - CARRABELLE 69KV (JA-1)	7/12/2015 15:41	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53166	ROSS PRAIRIE - MARION OAKS SEC 69KV RADIAL (RPMX-1)	7/12/2015 16:59	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53209	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	7/13/2015 19:45	LINE - WEATHER -	LINE - WEATHER -		0
53458	FOUR CORNERS 69KV (0349)	7/10/2015 5:05	LINE - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - UNKNOWN	124990	124990
53585	HOLOPAW - WEST LAKE WALES 230KV (WLXF-3)	7/30/2015 4:32	SUB - EQUIPMENT - OTHER	SUB - EQUIPMENT - OTHER	0	0
53713	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	8/7/2015 3:49	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53748	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	8/9/2015 17:46	LINE - LIGHTNING -	- -		0
54330	TAVARES SEC - DEER ISLAND SEC 69KV (TDX-1)	9/21/2015 4:03	LINE - WEATHER -	- -		0
54560	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	10/6/2015 21:42	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52580	KENNETH 115KV (0174)	6/18/2015 1:46	RELAY - UNKNOWN -	RELAY - EQUIPMENT - RELAY PROBLEM		0
52645	PIEDMONT - PLYMOUTH 69KV (PP-1)	6/19/2015 20:18	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53483	BRADFORDVILLE WEST-HAVANA 115KV (BWH-1)	7/24/2015 8:49	LINE - UNKNOWN - INVESTIGATION COMPLETE	- - INVESTIGATION COMPLETE		0
53803	AVALON - CLERMONT EAST 69KV (CET-1)	8/13/2015 12:38	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54095	KELLY PARK - ZELLWOOD 69KV (EP-3)	8/29/2015 15:50	LINE - WEATHER -	- -		0
54103	FORT GREEN #6 69KV (0437)	8/29/2015 18:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54135	NORTH LONGWOOD - WINTER SPRINGS 69KV (WO-6)	9/1/2015 9:15	LINE - OPERATIONAL - EMERGENCY	- -		0
54157	BABSON PARK 69KV (0283)	7/22/2015 15:12	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
54197	FORT GREEN #6 69KV (0437)	9/7/2015 0:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52631	LAKE BRANCH 115KV (0475)	6/19/2015 16:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52665	MANLEY ROAD (CARGILL) 115KV (0004)	6/20/2015 17:05	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52773	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	6/24/2015 13:40	LINE - EQUIPMENT - CONDUCTOR/STATIC	- -		0
52774	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	6/24/2015 13:47	LINE - EQUIPMENT - CONDUCTOR/STATIC	- -		0
52795	HINES ENERGY COMPLEX PL - BARCOLA CKT1 230KV (HEB-1)	6/25/2015 1:30	RELAY - EQUIPMENT - OTHER	RELAY - EQUIPMENT - OTHER		0
52972	BARCOLA - FT MEADE 69KV (BF-1)	7/3/2015 17:48	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52983	EAST LAKE WALES - INDIAN LAKES ESTATES 69KV RADIAL (ELX-AL	7/3/2015 21:35	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53003	DALLAS - SILVER SPRINGS SHORES 69KV (DW-OCF-1)	7/5/2015 15:57	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53042	FISHEATING CREEK - LAKE PLACID 69KV (ALP-2)	7/6/2015 18:28	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53131	MARTIN WEST - REDDICK 69KV (SI-4)	7/11/2015 8:50	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53286	CROSS CITY - WILCOX 69KV (WCC-1)	7/15/2015 9:35	LINE - WEATHER -	- -		0
53488	GA PACIFIC - COUNTRY CLUB CFEC 69KV RADIAL (GPX-IS-1)	7/24/2015 11:52	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53732	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/7/2015 16:48	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53579	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	7/29/2015 19:12	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53613	MANLEY ROAD (CARGILL) 115KV (0004)	8/2/2015 5:22	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
53730	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/7/2015 16:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53953	EUSTIS SOUTH - TAVARES SEC 69KV (EST-1)	8/20/2015 17:34	LINE - UNKNOWN - UNDER INVESTIGATION	RELAY - HUMAN ERROR - SETTING ERROR	0	45953.4
54067	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	8/26/2015 21:02	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE	LINE - EQUIPMENT - POLE FAILURE - NON PREVENTABLE		0
54327	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	9/20/2015 9:27	LINE - CUSTOMER - INDUSTRIAL	- -		0
52577	APALACHICOLA - CARRABELLE 69KV (JA-1)	6/17/2015 20:43	LINE - CUSTOMER - DISTRIBUTION	LINE - CUSTOMER - DISTRIBUTION		0
52829	LITTLE PAYNE CREEK #1 69KV (0287)	6/26/2015 9:24	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53010	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	7/5/2015 18:18	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53078	CABBAGE ISLAND 69KV (0306)	6/9/2015 18:24	LINE - EQUIPMENT - SWITCH	LINE - EQUIPMENT - SWITCH	90720	90720
53408	SUWANNEE RIVER - LIVE OAK (FP&L) 115KV (SF-1)	7/20/2015 15:55	LINE - WEATHER -	LINE - -		0
53618	CELEBRATION 69KV (0414)	8/2/2015 12:18	SUB - LIGHTNING -	SUB - LIGHTNING -		0
53658	ULMERTON WEST 69KV (0337)	7/27/2015 18:10	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL		0
54278	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	9/13/2015 9:30	LINE - WEATHER -	- -		0
54513	COUNTRY OAKS - EAST LAKE WALES 69KV (LEL-1)	10/4/2015 13:22	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52553	RIO PINAR 230KV (0148)	6/4/2015 0:46	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER	136796	136796
52644	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	6/19/2015 20:06	LINE - LIGHTNING -	- -		0
52661	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	6/20/2015 16:30	LINE - LIGHTNING -	- -		0
52662	FORT GREEN #11 69KV (0472)	6/20/2015 16:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53039	DUNNELLON TOWN - RAINBOW LK EST SEC 69KV RADIAL (DR-1)	7/6/2015 14:21	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53965	AVON PARK NORTH - FROSTPROOF 69KV (AL-1)	8/21/2015 12:44	LINE - EQUIPMENT - INSULATOR	- -		0
54097	BROOKSVILLE - INVERNESS 69KV - CLEARWATER (HB-1)	8/29/2015 17:01	LINE - LIGHTNING -	- -		0
54111	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	8/30/2015 14:58	LINE - LIGHTNING -	- -		0
54126	CRYSTAL RIVER PL - CRYSTAL RIVER EAST 230KV (CC-4)	8/31/2015 16:40	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
54127	CRYSTAL RIVER SOUTH 115KV (0142)	8/31/2015 16:43	LINE - OPERATIONAL - EMERGENCY	- -		0
54329	LITTLE PAYNE CREEK #1 69KV (0287)	9/21/2015 1:42	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54640	MANLEY ROAD (CARGILL) 115KV (0004)	10/14/2015 7:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52411	EUSTIS SOUTH - TAVARES SEC 69KV (EST-1)	6/11/2015 17:35	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52575	HAINES CITY EAST - PONICIAN 69KV (HP-2)	6/17/2015 19:43	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
52639	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	6/19/2015 18:09	LINE - LIGHTNING -	- - INVESTIGATION COMPLETE		0
52738	NORTHEAST - ULMERTON CKT#2 230KV (NC-3)	6/22/2015 20:21	LINE - LIGHTNING -	LINE - EQUIPMENT - ARRESTER		0
53065	SOUTH FORT MEADE 115KV (0360)	7/7/2015 18:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53022	LAKE PLACID - LAKE PLACID NORTH 69KV (DLP-2)	7/5/2015 20:22	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53055	PALM HARBOR 230KV (0079)	7/4/2015 11:40	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	90401	90401
53423	DUNNELLON TOWN 69KV (0035)	7/20/2015 14:56	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - PT	63780	63780
54479	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/30/2015 11:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52635	LAKE BRANCH 115KV (0475)	6/19/2015 17:02	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53581	ANDERSEN 230KV (0245)	7/29/2015 19:29	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
53780	INGLIS MINING 115KV (0395)	8/11/2015 15:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53898	HOWEY SEC - OKAHUMPKA (CLL-3)	8/18/2015 21:40	LINE - LIGHTNING -	- -		0
53971	FORT GREEN SPRINGS 69KV (0439)	8/21/2015 19:07	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54090	BAYBORO - 16TH ST 115KV (BFE-1)	8/29/2015 16:19	SUB - EQUIPMENT - PT	SUB - EQUIPMENT - PT		0
54093	KELLY PARK - ZELLWOOD 69KV (EP-3)	8/29/2015 15:49	LINE - WEATHER -	- -		0
54096	CENTRAL PLAZA - MAXIMO 115KV (CPM-1)	8/29/2015 15:57	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
54100	CENTRAL FLA - COLEMAN 69KV (BCF-2)	8/29/2015 17:16	LINE - WEATHER -	- -		0
54104	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/29/2015 19:22	LINE - LIGHTNING -	- -		0
54106	CHAMPIONS GATE - DAVENPORT 69KV (ICLW-5)	8/29/2015 20:40	LINE - WEATHER -	- -		0
54109	ALAFAYA - OVIEDO 69KV (AO-1)	8/30/2015 13:49	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54228	LAKE PLACID NORTH 69KV (0476)	8/21/2015 17:11	SUB - LIGHTNING -	SUB - LIGHTNING -	38640	38640
54267	HIGH SPRINGS - HULL ROAD 69KV (GH-1)	9/12/2015 13:05	LINE - WEATHER -	- -		0
54320	CASSADAGA - DELTONA 115KV (DC-1)	9/18/2015 16:29	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE		0
54411	FROSTPROOF - LAKE WALES 69KV (AL-3)	9/25/2015 19:35	LINE - WEATHER -	- -		0
54421	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	9/27/2015 19:47	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54582	ARBUCKLE CREEK 69KV (0276)	10/8/2015 0:40	SUB - EQUIPMENT - BREAKER/DIST - TRIP COIL	SUB - EQUIPMENT - BREAKER/DIST - TRIP COIL	131312	131312
52915	OCCIDENTAL #1 115KV (0177)	6/30/2015 13:11	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52916	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/30/2015 13:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52918	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/30/2015 13:07	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53595	CENTRAL FLORIDA 500KV (0170)	7/30/2015 13:13	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
53805	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	8/13/2015 14:35	LINE - LIGHTNING -	- -		0
53810	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/13/2015 18:21	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53827	AVON PARK PL - SOUTH POLK 230KV (AF-1)	8/15/2015 18:16	LINE - UNKNOWN -	LINE - OTHER - CONTAMINATION		0
54604	INTERCESSION CITY PLANT 230KV (0166)	10/11/2015 8:19	LINE - CUSTOMER - INDUSTRIAL	- -		0
52396	OCCIDENTAL #1 115KV (0177)	6/10/2015 19:53	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52421	OCCIDENTAL #1 115KV (0177)	6/13/2015 6:27	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52595	OAK RUN (SEC) REA 69KV (6889)	6/18/2015 17:12	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52788	AVON PARK PL - WAUCHULA 69KV (APW-1)	6/24/2015 20:51	LINE - WEATHER -	- -		0
52868	CROSS BAYOU - DISSTON 69KV (LD-1)	6/28/2015 8:34	LINE - EQUIPMENT - POLE GROUND	SUB - EQUIPMENT - BREAKER/DIST - NON PREVENTABLE	32090	32090
52871	FT WHITE - JASPER 69KV (JF-1)	6/28/2015 16:54	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52994	OCCIDENTAL #1 115KV (0177)	7/4/2015 18:28	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52992	EUSTIS - EUSTIS SOUTH 69KV (EP-1)	7/4/2015 18:03	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	107762	107762
52896	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	6/29/2015 12:53	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53085	RIO PINAR PL - NARCOSSEE 69KV (WR-7)	7/8/2015 17:57	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53303	ALAFAYA 69KV (0375)	7/6/2015 2:35	SUB - CUSTOMER - DISTRIBUTION	SUB - CUSTOMER - DISTRIBUTION		0
53704	CABBAGE ISLAND - POINCIANA 69KV (ICP-2)	8/6/2015 15:52	LINE - EQUIPMENT - GROUND/GUY	SUB - EQUIPMENT - BREAKER/TRANS - ELECTRICAL	175820	175820
53952	CLERMONT EAST- LAKE LOUISA SEC 69KV (INACTIVE) (CEB-1)	8/20/2015 17:17	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54040	CROSSROADS - PASADENA UG 115KV (PXUG)	8/24/2015 18:16	LINE - CUSTOMER - DISTRIBUTION	RELAY - HUMAN ERROR - INCORRECT SETTING APPLIED	289983	289983
52732	SUWANNEE RIVER PL - MADISON 115KV (SP-SUM-1)	6/22/2015 17:45	LINE - EQUIPMENT - POLE GROUND	LINE - EQUIPMENT - POLE GROUND		0
52734	SUWANNEE RIVER PL - MADISON 115KV (SP-SUM-1)	6/22/2015 17:54	LINE - EQUIPMENT - POLE GROUND	LINE - EQUIPMENT - POLE GROUND		0
52735	SUWANNEE RIVER PL - MADISON 115KV (SP-SUM-1)	6/22/2015 17:57	LINE - EQUIPMENT - POLE GROUND	LINE - EQUIPMENT - POLE GROUND		0
52768	FROSTPROOF - LAKE WALES 69KV (AL-3)	6/23/2015 20:50	LINE - WEATHER -	LINE - WEATHER -		0
53310	MANLEY ROAD (CARGILL) 115KV (0004)	7/16/2015 20:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53477	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	7/24/2015 3:44	LINE - LIGHTNING -	- -		0
53580	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	7/29/2015 19:19	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53575	ARCHER - HULL ROAD 69KV (AUF-1)	7/29/2015 17:57	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE	0	184462.1
53622	HUDSON - NEW PORT RICHEY 115KV (BWR-HPNR-2)	8/3/2015 5:31	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53623	ODESSA - TARPON SPRINGS 69KV (TZ-2)	8/3/2015 6:25	LINE - WEATHER -	- -		0
53750	VANDOLAH - SEMINOLE ELEC 230KV TIE 2 (VX2-1)	8/9/2015 18:52	LINE - WEATHER -	LINE - CUSTOMER - REA/EMC		0
53855	INGLIS MINING 115KV (0395)	8/17/2015 8:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54039	MARTIN WEST - REDDICK 69KV (SI-4)	8/24/2015 17:02	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54295	WINTER GARDEN CITRUS 69KV (0090)	9/15/2015 11:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
54527	LAKE BRANCH 115KV (0475)	10/4/2015 17:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52589	CHIEFLAND - INGLIS 69KV (IS-1)	6/18/2015 15:20	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52636	ALTAMONTE - NORTH LONGWOOD CKT1 69KV (WO-2)	6/19/2015 17:40	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE		0
52923	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/30/2015 14:27	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53573	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	7/29/2015 16:08	LINE - LIGHTNING -	- -		0
53624	ANCLOTE PL - LARGO 230KV (ANL-1)	8/3/2015 6:39	LINE - WEATHER -	LINE - -		0
54038	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	8/24/2015 16:43	LINE - LIGHTNING -	- -		0
54533	BONNET CREEK 69KV (0244)	10/4/2015 19:44	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER	38746	38746
52941	ROSS PRAIRIE - MARION OAKS SEC 69KV RADIAL (RPMX-1)	7/1/2015 10:52	LINE - LIGHTNING -	LINE - CUSTOMER - REA/EMC		0
54141	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/2/2015 7:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52633	SOUTH FORT MEADE 115KV (0360)	6/19/2015 16:44	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52659	DUNNELLON TOWN - RAINBOW LK EST SEC 69KV RADIAL (DR-1)	6/20/2015 7:02	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52666	BAY RIDGE - SORRENTO 69KV (SB-1)	6/20/2015 17:46	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52787	AVON PARK PL - WAUCHULA 69KV (APW-1)	6/24/2015 20:36	LINE - LIGHTNING -	- -		0
52857	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/27/2015 18:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
53075	FERN PARK 69KV (0296)	6/18/2015 16:08	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER	120013	120013
53524	FORT GREEN #10 69KV (0463)	7/27/2015 11:59	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53544	OKAHUMPKA 69KV (0278)	7/28/2015 19:09	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53729	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/7/2015 16:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53991	FT WHITE - PERRY 69KV (FP-1)	8/23/2015 0:19	LINE - WEATHER -	- -		0
54073	INTERCESSION CITY PL - LAKE BRYAN CKT#1 230KV (ILB-1)	8/27/2015 12:25	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54074	LAKE BRYAN - DISNEY WORLD LAKE BUENA VISTA 69KV (LBV-1)	8/27/2015 13:38	LINE - NEIGHBORING UTILITY - OTHER	- -		0
52363	FORT GREEN #6 69KV (0437)	6/9/2015 9:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52873	LIBERTY 69KV (0466)	6/28/2015 18:45	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53428	OCOEE - HEMPLE 69KV (OH-1)	7/21/2015 14:59	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54823	SOUTH FORT MEADE 115KV (0360)	10/29/2015 7:59	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52725	DENHAM - CABBAGE HILL (TECO) 69KV (TZ-1)	6/22/2015 15:43	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52728	CRAWFORDVILLE - ST MARKS EAST 69KV (CS-1)	6/22/2015 16:45	LINE - WEATHER -	- - INVESTIGATION COMPLETE		0
54055	EAST LAKE WALES - INDIAN LAKES ESTATES 69KV RADIAL (ELX-AL	8/26/2015 16:49	LINE - WEATHER -	- -		0
53886	ZEPHYRHILLS - ZEPHYRHILLS NORTH 69KV (BZ-5)	8/18/2015 19:01	LINE - WEATHER -	- -		0
54059	U.C.F. NORTH 69KV (0008)	8/26/2015 17:43	LINE - WEATHER - WIND	LINE - WEATHER - WIND		0
54289	FLORA-MAR 115KV (0209)	9/14/2015 13:24	RELAY - HUMAN ERROR - EQUIPMENT MISAPPLICATION	RELAY - HUMAN ERROR - EQUIPMENT MISAPPLICATION	26505	26505
54373	FT WHITE - PERRY 69KV (FP-1)	9/22/2015 13:35	SUB - EQUIPMENT - CAPACITOR BANK	- -		0
54651	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	10/14/2015 11:57	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR	0	125994
52856	FORT GREEN #11 69KV (0472)	6/27/2015 17:44	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52965	LAKE BRYAN 230KV (0206)	7/2/2015 15:49	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC		0
53232	LAKE BRANCH 115KV (0475)	7/14/2015 6:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53466	OLD TOWN NORTH SW STA - WILCOX 69KV (376159701)	7/23/2015 11:54	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54030	INGLIS MINING 115KV (0395)	8/24/2015 8:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54140	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	9/2/2015 6:55	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54173	BARCOLA - FT MEADE 69KV (BF-1)	9/5/2015 1:46	RELAY - UNKNOWN -	- -		0
52033	CYPRESSWOOD - HAINES CITY 69KV (ICLW-2)	6/1/2015 19:18	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52777	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	6/24/2015 15:08	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	38634	38634
52778	HOLDER - DUNNELLON 69KV (HDT-1)	6/24/2015 15:07	LINE - OPERATIONAL - EMERGENCY	LINE - OPERATIONAL - EMERGENCY		0
52932	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	6/30/2015 17:49	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
53012	FROSTPROOF - LAKE WALES 69KV (AL-3)	7/5/2015 18:40	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53130	OCCIDENTAL #1 115KV (0177)	7/11/2015 6:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53268	JASPER - TWIN LAKES (GA PWR) 69KV (JV-1)	7/14/2015 15:30	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM	32964	115183.5
53591	OCCIDENTAL #1 115KV (0177)	7/30/2015 9:19	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53599	SOUTH FORT MEADE 115KV (0360)	7/30/2015 16:08	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53742	LAND O LAKES 69KV (0473)	8/8/2015 11:33	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53813	CARRABELLE - GUMBAY 69KV (GBC-1)	8/14/2015 2:02	LINE - LIGHTNING -	- -		0
53983	VANDOLAH - MYAKKA PREC 69KV RADIAL (VHC-1)	8/22/2015 18:06	LINE - LIGHTNING -	- -		0
54154	OCCIDENTAL #1 115KV (0177)	9/3/2015 9:09	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54268	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	9/12/2015 12:52	LINE - WEATHER -	- -		0
54307	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	9/16/2015 21:09	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	0	47685
54672	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	10/16/2015 12:11	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53326	DALLAS AIRPORT - WILDWOOD 69KV (AND-2)	7/17/2015 19:49	LINE - EQUIPMENT - CONDUCTOR/STATIC	LINE - EQUIPMENT - CONDUCTOR/STATIC	0	75576
53485	LITTLE PAYNE CREEK #1 69KV (0287)	7/24/2015 9:49	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53735	OCCIDENTAL #1 115KV (0177)	8/7/2015 17:20	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54056	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/26/2015 16:48	LINE - WEATHER -	- -		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
54112	DOUGLAS AVE - SPRING LAKE 69KV (ASL-2)	8/30/2015 15:38	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52562	PLYMOUTH - ZELLWOOD 69KV (EP-4)	6/16/2015 6:33	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52724	DUNNELLON TOWN - RAINBOW LK EST SEC 69KV RADIAL (DR-1)	6/22/2015 15:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52815	HAINES CITY EAST - PONICIAN 69KV (HP-2)	6/25/2015 16:40	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52978	AVON PARK PL - WAUCHULA 69KV (APW-1)	7/3/2015 20:21	LINE - LIGHTNING -	- -		0
52982	BARCOLA - WEST SUB (CITY OF LAKELAND) 230KV (BLX)	7/3/2015 21:34	LINE - ANIMAL - BIRD - CLEARANCE	LINE - ANIMAL - BIRD - CLEARANCE		0
53128	OCCIDENTAL #1 115KV (0177)	7/10/2015 20:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53290	MARICAMP 69KV (0432)	7/5/2015 15:33	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PROTECTION/CONTROL	47175	47175
53304	FT WHITE - JASPER 69KV (JF-1)	7/16/2015 11:35	LINE - PLANNED - MAINTENANCE AND CONSTRUCTION	LINE - PLANNED - MAINTENANCE AND CONSTRUCTION		0
53305	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	7/16/2015 11:50	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53422	NEW PORT RICHEY 115KV (0070)	7/19/2015 6:46	SUB - ANIMAL - SQUIRREL	SUB - ANIMAL - SQUIRREL	158655	158655
53427	CASSADAGA - DELTONA 115KV (DC-1)	7/21/2015 14:18	LINE - LIGHTNING -	- -		0
53489	CHIEFLAND-GA PACIFIC 69KV (CGP-1/IS-5)	7/24/2015 11:52	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53473	OCCIDENTAL #1 115KV (0177)	7/23/2015 21:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53597	HOWEY SEC - OKAHUMPKA (CLL-3)	7/30/2015 15:05	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53831	WEST CHAPMAN RADIAL - WINTER PARK EAST 69KV (WEWC-1)	8/15/2015 19:45	LINE - WEATHER -	- -		0
54348	SILVER SPRINGS SHORES 69KV (0054)	9/13/2015 4:50	LINE - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - BREAKER/TRANS - MECHANICAL	126198	126198
54784	VANDOLAH - WAUCHULA 69KV (VW-1)	10/27/2015 10:29	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52313	HOLOPAW - WEST LAKE WALES 230KV (WLXF-3)	6/6/2015 15:42	LINE - LIGHTNING -	- -		0
52390	HAINES CITY EAST - PONICIAN 69KV (HP-2)	6/10/2015 14:14	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52739	VANDOLAH - WAUCHULA 69KV (VW-1)	6/22/2015 22:51	LINE - LIGHTNING -	- -		0
52766	SOUTH FORT MEADE 115KV (0360)	6/23/2015 17:44	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52924	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	6/30/2015 14:28	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52968	MANLEY ROAD (CARGILL) 115KV (0004)	7/3/2015 8:33	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53262	FORT GREEN #11 69KV (0472)	7/14/2015 13:43	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53323	OCCIDENTAL #1 115KV (0177)	7/17/2015 18:21	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53694	FT GREEN SPRINGS - VANDOLAH #1 CKT 69KV (VFG-1)	8/6/2015 14:13	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53695	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/6/2015 14:11	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53743	OCCIDENTAL #1 115KV (0177)	8/8/2015 12:31	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54223	CONTINENTAL (SEC) REA 69KV (6784)	9/9/2015 15:27	LINE - WEATHER -	- -		0
54491	INTERCESSION CITY PLANT 230KV (0166)	10/1/2015 11:13	LINE - CUSTOMER - INDUSTRIAL	- -		0
52365	JACKSON BLUFF - TALLAHASSEE 69KV (JT-1)	6/9/2015 14:32	LINE - LIGHTNING -	- -		0
52162	LARGO - ULMERTON 230KV (UL-1)	6/2/2015 17:44	SUB - OPERATIONAL - EMERGENCY	SUB - OPERATIONAL - EMERGENCY		0
52412	DINNER LAKE - PHILLIPS 69KV (PDL-1)	6/11/2015 20:05	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52678	HAINES CREEK - SORRENTO 230KV (CFS-2)	6/20/2015 18:24	LINE - LIGHTNING -	- -		0
52679	MAITLAND - WINTER PARK 69KV (WO-5)	6/20/2015 20:41	LINE - LIGHTNING -	LINE - EQUIPMENT - GROUND/GUY		0
52816	LITTLE PAYNE CREEK #1 69KV (0287)	6/25/2015 17:25	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52963	TAYLOR AVE - WALSINGHAM 69KV (DL-LTW-1)	7/2/2015 13:56	LINE - EQUIPMENT - GROUND/GUY	RELAY - EQUIPMENT - RECLOSING		0
53164	BROOKSVILLE - INVERNESS 69KV - WILDWOOD (HB-2)	7/12/2015 13:33	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53308	CENTER HILL 69KV (0240)	7/16/2015 14:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53865	NEW RIVER - CABBAGE HILL (TECO) 69KV (TZ-3)	8/17/2015 19:25	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53486	DENHAM - CABBAGE HILL (TECO) 69KV (TZ-1)	7/24/2015 10:30	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
54752	HAVANA - HINSON TEC 69KV RADIAL (HH-1)	10/23/2015 14:58	LINE - TREE - NON-PREVENTABLE	- -		0
52305	FISHEATING CREEK - LAKE PLACID 69KV (ALP-2)	6/6/2015 11:26	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52626	FORT GREEN #4 69KV (0335)	6/19/2015 15:43	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52919	OCCIDENTAL #1 115KV (0177)	6/30/2015 13:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52925	OCCIDENTAL #1 115KV (0177)	6/30/2015 14:31	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53006	ALAFAYA - OVIEDO 69KV (AO-1)	7/5/2015 17:34	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53024	LAKE PLACID - LAKE PLACID NORTH 69KV (DLP-2)	7/5/2015 20:40	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53492	MULBERRY - NORTHWEST (CITY OF BARTOW) 69KV (MSW-NWSV	7/24/2015 15:19	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53693	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/6/2015 13:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53819	FORT GREEN #4 69KV (0335)	8/14/2015 12:03	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53858	JACKSON BLUFF-LIBERTY 69KV (JBL-1)	8/17/2015 13:43	LINE - WEATHER -	- -		0
53861	FROSTPROOF - LAKE WALES 69KV (AL-3)	8/17/2015 15:37	LINE - WEATHER -	- -		0
54089	BAYBORO - 16TH ST 115KV (BFE-1)	8/29/2015 16:02	SUB - EQUIPMENT - PT	SUB - EQUIPMENT - PT		0
54506	FORT GREEN #11 69KV (0472)	10/3/2015 21:16	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
54608	HOLOPAW 230KV (0161)	10/7/2015 7:16	SUB - ANIMAL - BIRD - CLEARANCE	SUB - ANIMAL - BIRD - CLEARANCE	101184	101184
54842	FORT GREEN #6 69KV (0437)	10/31/2015 19:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52527	AVON PARK PL - WAUCHULA 69KV (APW-1)	6/14/2015 0:41	SUB - EQUIPMENT - PT	SUB - EQUIPMENT - PT	0	73248
52555	ELFERS - SEVEN SPGS 115KV (SOUTH CKT) (SE-2)	6/15/2015 18:43	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52714	MYRTLE LAKE - NORTH LONGWOOD 230KV (NLP-1)	6/22/2015 8:31	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
53132	BOGGY MARSH - WESTRIDGE 69KV (ICB-2)	7/11/2015 17:28	LINE - WEATHER -	- -		0
53866	NEW RIVER - ZEPHYRHILLS NORTH 115KV (ZNR-1)	8/17/2015 19:35	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53909	FT GREEN SPRINGS - VANDOLAH #1 CKT 69KV (VFG-1)	8/18/2015 22:38	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
53910	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	8/18/2015 22:42	LINE - WEATHER -	LINE - WEATHER - WIND		0
53955	AVALON - CAMP LAKE 230KV - WILDWOOD (CFW-3)	8/20/2015 17:55	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54071	VANDOLAH - WHIDDON 230KV (VWX-1)	8/27/2015 10:41	LINE - WEATHER -	- -		0
54072	COUNTRY OAKS - EAST LAKE WALES 69KV (LEL-1)	8/27/2015 13:01	LINE - WEATHER -	- -		0
52027	MANLEY ROAD (CARGILL) 115KV (0004)	6/1/2015 15:34	SUB - CUSTOMER - INDUSTRIAL	- -		0
53487	ODESSA - TARPON SPRINGS 69KV (TZ-2)	7/24/2015 10:53	LINE - WEATHER -	- -		0
54156	FORT GREEN #6 69KV (0437)	9/3/2015 12:41	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54832	BROOKRIDGE - CRYSTAL RIVER EAST 230KV (CC-1)	10/30/2015 0:08	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54833	BROOKSVILLE WEST - SILVERTHORNE WREC 115KV RADIAL (BWS	10/30/2015 0:08	SUB - EQUIPMENT - CT	SUB - EQUIPMENT - CT	91608	628987.5
54843	HAVANA - TALLAHASSEE 69KV (TQ-HH-1)	11/1/2015 7:29	LINE - CUSTOMER - REA/EMC	- -		0
52039	NORTH BARTOW - PEBBLEDALE (TECO) 230KV (WLXT-1)	6/1/2015 21:07	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
52789	FROSTPROOF - LAKE WALES 69KV (AL-3)	6/24/2015 22:22	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
52926	OCCIDENTAL #1 115KV (0177)	6/30/2015 14:31	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53828	BOGGY MARSH - LAKE LOUISA SEC 69KV (CEB-2)	8/15/2015 18:45	LINE - LIGHTNING -	- -		0
53888	KATHLEEN - ZEPHYRHILLS NORTH 230KV (KZN-1)	8/18/2015 19:34	LINE - WEATHER -	LINE - WEATHER -		0
53978	RIO PINAR PL - FLORIDA GAS TRANSMISSION EAST 69KV (RW-4)	8/22/2015 15:45	LINE - WEATHER -	- -		0
54211	EUSTIS SOUTH - TAVARES SEC 69KV (EST-1)	9/8/2015 13:38	LINE - LIGHTNING -	LINE - LIGHTNING -	0	3451.5
54382	OCCIDENTAL #2 115KV (0187)	9/23/2015 11:36	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
52389	HOWEY SEC - OKAHUMPKA (CLL-3)	6/10/2015 13:44	LINE - LIGHTNING -	LINE - EQUIPMENT - CONDUCTOR/STATIC	0	401
52646	OCCIDENTAL #1 115KV (0177)	6/20/2015 4:37	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53656	MANLEY ROAD (CARGILL) 115KV (0004)	8/4/2015 8:46	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53912	FT GREEN SPRINGS - VANDOLAH #2 CKT 69KV (VFGS-1)	8/18/2015 22:52	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53954	CENTRAL FLA - CLERMONT EAST - METROWEST (OUC) 230KV - W	8/20/2015 17:55	LINE - LIGHTNING -	LINE - LIGHTNING -		0
54010	BAY RIDGE - KELLY PK 69KV (BK-1)	8/23/2015 21:10	LINE - WEATHER -	- -		0
52779	NORTH BARTOW - ORANGE SWITCHING STA 69KV (FMB-3)	6/24/2015 16:13	LINE - LIGHTNING -	LINE - LIGHTNING -		0
52780	FORT MEADE 230KV (0504)	6/24/2015 17:15	SUB - UNKNOWN - INVESTIGATION COMPLETE	SUB - UNKNOWN - INVESTIGATION COMPLETE		0
53263	DENHAM - ODESSA 69KV (TZ-6)	7/14/2015 13:57	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53542	UMATILLA (SECO) (6055)	7/28/2015 17:10	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - UNDER INVESTIGATION		0
53927	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	8/19/2015 16:03	LINE - LIGHTNING -	- -		0
53951	HORSE CREEK 69KV (0006)	8/20/2015 16:58	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
52783	AVON PARK PL - DESOTO CITY 69KV (AD-1)	6/24/2015 20:09	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53048	SILVER SPRINGS - SILVER SPRINGS SHORES 69KV (OCF-1)	7/7/2015 8:29	LINE - ANIMAL - BIRD - CLEARANCE	LINE - ANIMAL - BIRD - CLEARANCE		0
53126	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	7/10/2015 10:18	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53446	FORT GREEN #11 69KV (0472)	7/22/2015 14:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53778	FORT GREEN #6 69KV (0437)	8/11/2015 10:44	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53928	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	8/19/2015 16:14	LINE - LIGHTNING -	- -		0
53929	PIEDMONT - SPRING LAKE 69KV (PSL-1)	8/19/2015 18:19	LINE - LIGHTNING -	LINE - LIGHTNING -		0
53986	OCCIDENTAL #1 115KV (0177)	8/22/2015 22:38	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53990	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	8/22/2015 22:48	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54057	AVON PARK PL - WAUCHULA 69KV (APW-1)	8/26/2015 17:02	LINE - WEATHER -	- -		0
54528	OCCIDENTAL #1 115KV (0177)	10/4/2015 17:38	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54675	OCC SWIFT CREEK #1 - SUWANNEE RIVER 115KV (SSC-1)	10/16/2015 18:18	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54731	ULMERTON 230KV (0126)	10/14/2015 21:30	SUB - EQUIPMENT - STATION SERVICE - FUSE	SUB - EQUIPMENT - STATION SERVICE - FUSE	219313	219313
52791	OCCIDENTAL #1 115KV (0177)	6/24/2015 22:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
52869	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	6/28/2015 11:52	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL	0	0
53361	EUSTIS SOUTH - TAVARES SEC 69KV (EST-1)	7/19/2015 19:58	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53424	LITTLE PAYNE CREEK #1 69KV (0287)	7/21/2015 7:54	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53815	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	8/14/2015 5:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53824	DUNNELLON TOWN - HOLDER 69KV (HDU-1)	8/15/2015 17:12	LINE - WEATHER -	- -		0
53825	COUNTRY OAKS - DUNDEE 69KV (DCO-1)	8/15/2015 17:15	LINE - LIGHTNING -	- -		0
53932	LITTLE PAYNE CREEK #1 69KV (0287)	8/19/2015 19:54	SUB - CUSTOMER - INDUSTRIAL	SUB - CUSTOMER - INDUSTRIAL		0
53977	BROOKRIDGE - BROOKSVILLE WEST 230KV (CC-7)	8/22/2015 10:01	SUB - EQUIPMENT - LIGHTNING ARRESTER	SUB - EQUIPMENT - LIGHTNING ARRESTER		0
54076	OCCIDENTAL #1 115KV (0177)	8/27/2015 18:21	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54161	CLARCONA - OCOEE 69KV (OCC-1)	9/4/2015 16:10	LINE - WEATHER -	- -		0
54269	MANLEY ROAD (CARGILL) 115KV (0004)	9/12/2015 15:17	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54306	ALTAMONTE - NORTH LONGWOOD CKT2 69KV (NLA-1)	9/16/2015 18:17	LINE - TREE - NON-PREVENTABLE	LINE - TREE - NON-PREVENTABLE		0
52736	SUWANNEE RIVER PL - MADISON 115KV (SP-SUM-1)	6/22/2015 18:02	LINE - EQUIPMENT - POLE GROUND	LINE - EQUIPMENT - POLE GROUND	142872	142872
52769	BOGGY MARSH 69KV (0224)	6/23/2015 21:40	LINE - LIGHTNING -	- -		0

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
52936	MONTICELLO - BOSTON (GA PWR) 69KV (DB-2)	6/30/2015 18:38	LINE - TREE - NON-PREVENTABLE	LINE - OTHER - CONTACT OF LINES		0
53281	PORT ST JOE - PORT ST JOE IND 69KV RADIAL (PPS-1)	7/15/2015 9:10	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53523	FORT GREEN #10 69KV (0463)	7/27/2015 11:31	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
53661	QUINCY 115KV (0129)	8/4/2015 15:20	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
53674	FORT GREEN #6 69KV (0437)	8/5/2015 11:43	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54159	OCCIDENTAL #1 115KV (0177)	9/3/2015 15:06	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54392	PILSBURY 115KV (0157)	9/20/2015 7:30	SUB - UNKNOWN - INVESTIGATION COMPLETE	SUB - EQUIPMENT - BREAKER/DIST - NON PREVENTABLE	75999	75999
54419	HEMPLE - LAKE LUNTZ 69KV (AH-2)	9/27/2015 18:50	LINE - LIGHTNING -	- -		0
54420	OCCIDENTAL #1 115KV (0177)	9/27/2015 18:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54557	ELFERS 115KV (0197)	10/2/2015 1:01	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - PT	98684	98684
54738	SOUTH FORT MEADE 115KV (0360)	10/22/2015 2:47	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55152	DESOTO CITY - PHILLIPS PL (TECO) 69KV (AD-2)	11/21/2015 7:35	RELAY - HUMAN ERROR - SETTING ERROR	- -		0
55355	OCCIDENTAL #1 115KV (0177)	12/22/2015 9:54	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54938	OCCIDENTAL #1 115KV (0177)	11/9/2015 12:43	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54958	OCCIDENTAL #1 115KV (0177)	11/10/2015 11:26	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55028	FT WHITE - JASPER EAST CKT 115KV (IJ-1)	11/17/2015 11:48	LINE - PLANNED - EMERGENT	- -		0
55029	FT WHITE - JASPER WEST CKT 115KV (IJ-2)	11/17/2015 11:48	LINE - PLANNED - EMERGENT	- -		0
55030	JASPER - PINE GROVE (GA PWR) 115KV (JX-1)	11/17/2015 11:48	LINE - PLANNED - EMERGENT	- -		0
55088	LAKE BRANCH 115KV (0475)	11/21/2015 20:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55267	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	12/10/2015 17:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55179	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	12/2/2015 20:50	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55196	CRYSTAL RIVER SOUTH 115KV - LECANTO (CSB-1)	12/4/2015 7:43	LINE - NEIGHBORING UTILITY - OTHER	LINE - NEIGHBORING UTILITY - OTHER		0
55323	ANCLOTE PLANT 230KV (0183)	11/10/2015 11:55	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - ELECTRICAL	94389	94389
55340	FT GREEN SPRINGS - DUETTE PREC 69KV RADIAL (FSD-1)	12/19/2015 4:18	LINE - NEIGHBORING UTILITY - EQUIPMENT	LINE - NEIGHBORING UTILITY - EQUIPMENT	0	249.9
55093	OCCIDENTAL #1 115KV (0177)	11/22/2015 10:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55238	FORT GREEN #4 69KV (0335)	12/8/2015 17:49	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55240	(DCP-1) DESOTO CITY - PHILLIPS (DCP-1)	12/9/2015 6:23	LINE - TREE - PREVENTABLE	LINE - TREE - PREVENTABLE		0
55336	BAYBORO 115KV (0010)	12/18/2015 3:14	SUB - EQUIPMENT - INSULATOR	SUB - EQUIPMENT - INSULATOR		0
54926	JACKSON BLUFF 69KV (0078)	11/9/2015 8:06	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
55292	PIEDMONT - WELCH ROAD 230KV (PS-1)	12/14/2015 9:43	SUB - EQUIPMENT - DISCONNECT	SUB - EQUIPMENT - DISCONNECT		0
54925	JACKSON BLUFF 69KV (0078)	11/9/2015 5:20	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
54946	LAKE BRANCH 115KV (0475)	11/9/2015 19:06	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54981	FORT GREEN #6 69KV (0437)	11/11/2015 17:14	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54986	OCCIDENTAL #1 115KV (0177)	11/12/2015 7:50	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55076	SUWANNEE RIVER PL - FT WHITE 115KV (SF-2)	11/20/2015 0:29	LINE - EQUIPMENT - CROSSARM	LINE - EQUIPMENT - CROSSARM	0	82460.8
55087	FORT GREEN #6 69KV (0437)	11/21/2015 16:58	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55089	MANLEY ROAD (CARGILL) 115KV (0004)	11/22/2015 5:33	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55096	WINDERMERE - WOODSMERE 69KV (WWW-1)	11/23/2015 0:07	LINE - HUMAN ERROR - ENGINEERING	- -		0
55097	WINDERMERE - WOODSMERE 69KV (WWW-1)	11/23/2015 1:53	LINE - HUMAN ERROR - ENGINEERING	LINE - HUMAN ERROR - ENGINEERING		0
54897	OCCIDENTAL #1 115KV (0177)	11/5/2015 10:40	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54961	SOUTH FORT MEADE 115KV (0360)	11/10/2015 12:59	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55001	OCCIDENTAL #1 115KV (0177)	11/14/2015 8:32	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55085	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	11/20/2015 19:24	LINE - PUBLIC INTERFERENCE - VEHICLE	LINE - PUBLIC INTERFERENCE - VEHICLE	684533	1508459.7
55086	DESOTO CITY - LAKE PLACID NORTH 69KV (DLP-1)	11/21/2015 7:35	LINE - ANIMAL - OTHER	- -		0
55162	FORT GREEN #4 69KV (0335)	12/1/2015 16:48	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55181	SOUTH FORT MEADE 115KV (0360)	12/3/2015 0:22	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55203	DEBARY PLANT 230KV (0246)	12/5/2015 8:22	SUB - OPERATIONAL -	- -		0
55515	HOMOSASSA 115KV (0390)	11/25/2015 14:51	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	97546	97546
55222	CLEARWATER - HIGHLANDS 69KV (HCL-1)	12/7/2015 17:23	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
55333	MICCOSUKEE TALQUIN CO-OP 115KV (6868)	12/17/2015 17:44	LINE - EQUIPMENT - SWITCH	LINE - EQUIPMENT - SWITCH	45048	99678
55351	ECON - WINTER PARK EAST 230KV (NR-1)	12/21/2015 22:56	LINE - EQUIPMENT - INSULATOR	LINE - EQUIPMENT - INSULATOR		0
55438	FORT GREEN #6 69KV (0437)	12/28/2015 17:15	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55463	FT MEADE - VANDOLAH 230KV (FV-1)	12/30/2015 5:32	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
54902	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	11/6/2015 6:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54980	FORT GREEN #11 69KV (0472)	11/11/2015 16:02	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55031	JASPER - OCC SWIFT CREEK #1 115KV (JS-1)	11/17/2015 11:48	LINE - PLANNED - EMERGENT	- -		0
55148	LAKE BRANCH 115KV (0475)	12/1/2015 1:24	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55322	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	12/17/2015 7:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55331	RIO PINAR PL - STANTON (OUC) 230KV (RX2-1)	12/17/2015 16:39	LINE - EQUIPMENT - OTHER	- -		0
55465	FT GREEN SPRINGS - FT MEADE 69KV (FFG-1)	12/30/2015 7:15	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
55518	SILVER SPRINGS SHORES 69KV (0054)	12/17/2015 8:14	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	54150	54150

OUTAGE_ID	LOCATION	OUTAGE_START_TIME	INITIATINGCAUSE	SUSTAINEDCAUSE	RETAIL_CMI	GRID_CMI
54907	WALSINGHAM 69KV (0071)	11/5/2015 17:18	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54912	CASSELBERRY - LAKE ALOMA 69KV (CLA-1)	11/7/2015 21:58	SUB - EQUIPMENT - PT	SUB - EQUIPMENT - BREAKER/DIST - OTHER		0
54999	WINDERMERE - WOODSMERE 69KV (WWW-1)	11/14/2015 6:24	LINE - UNKNOWN - INVESTIGATION COMPLETE	LINE - UNKNOWN - INVESTIGATION COMPLETE		0
55002	AVON PARK PL - FT MEADE 230KV (AF2-1)	11/14/2015 23:12	LINE - UNKNOWN - UNDER INVESTIGATION	LINE - UNKNOWN - UNDER INVESTIGATION		0
55063	OTTER CREEK CENTRAL FLA CO-OP 69KV (6826)	11/19/2015 9:01	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
55410	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	12/27/2015 6:19	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54919	QUINCY - GRETNA TEC 69KV RADIAL (QX-3)	11/8/2015 12:05	LINE - CUSTOMER - REA/EMC	LINE - CUSTOMER - REA/EMC		0
55077	KATHLEEN - WEST SUB (CITY OF LAKELAND) 230KV (KWX-1)	11/20/2015 4:00	SUB - EQUIPMENT - METERING	SUB - EQUIPMENT - METERING		0
54949	OCCIDENTAL #1 115KV (0177)	11/10/2015 8:10	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55075	MANLEY ROAD (CARGILL) 115KV (0004)	11/19/2015 23:06	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55078	KATHLEEN - ZEPHYRHILLS NORTH 230KV (KZN-1)	11/20/2015 4:00	SUB - EQUIPMENT - METERING	SUB - EQUIPMENT - METERING		0
55079	KATHLEEN - ZEPHYRHILLS NORTH CKT #2 230KV (KZN-2)	11/20/2015 4:00	SUB - EQUIPMENT - METERING	SUB - EQUIPMENT - METERING		0
55094	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	11/22/2015 12:22	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55141	BROOKSVILLE 115KV (0026)	11/28/2015 13:39	RELAY - HUMAN ERROR - INADVERTENT TRIP	RELAY - HUMAN ERROR - INADVERTENT TRIP	153954	153954
54911	LAKE BRANCH 115KV (0475)	11/7/2015 19:09	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55312	FORT GREEN #10 69KV (0463)	12/15/2015 15:39	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55334	MANLEY ROAD (CARGILL) 115KV (0004)	12/17/2015 21:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54985	FORT GREEN #6 69KV (0437)	11/12/2015 6:57	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54994	FORT GREEN #6 69KV (0437)	11/13/2015 8:35	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55321	NORTH BARTOW - SOUTH ELOISE (TECO) 230KV (WLXT-2)	12/17/2015 6:36	LINE - UNKNOWN - UNDER INVESTIGATION	- -		0
54860	INTERCESSION CITY - DUNDEE 230KV CKT #1 (ICD-1)	11/3/2015 6:39	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
55451	LAKE WALES - WEST LAKE WALES CKT#1 69KV (WLLW-1)	8/13/2015 14:47	RELAY - UNKNOWN - UNDER INVESTIGATION	- -		0
54858	MYRTLE LAKE - WEKIVA 230KV (NLP-2)	11/2/2015 23:08	LINE - UNKNOWN - INVESTIGATION COMPLETE	- -		0
54931	FORT GREEN #4 69KV (0335)	11/9/2015 9:00	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54995	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	11/13/2015 16:29	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55070	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	11/19/2015 14:54	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
54945	OCCIDENTAL #1 115KV (0177)	11/9/2015 15:52	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55061	OCCIDENTAL SWIFT CREEK #2 115KV (0272)	11/19/2015 6:56	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55082	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	11/20/2015 9:17	LINE - UNKNOWN - UNDER INVESTIGATION	RELAY - HUMAN ERROR - SETTING ERROR	0	122
55104	BITHLO 230KV (0101)	11/22/2015 6:46	SUB - ANIMAL - OTHER	SUB - ANIMAL - OTHER	121936	121936
55172	LAKE BRANCH 115KV (0475)	12/2/2015 13:34	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0
55450	LAKE WALES 69KV (0318)	8/13/2015 14:48	LINE - LIGHTNING -	SUB - EQUIPMENT - BREAKER/TRANS - OTHER		0
55516	MADEIRA BEACH 69KV (0119)	11/26/2015 12:03	LINE - CUSTOMER - DISTRIBUTION	SUB - EQUIPMENT - BREAKER/DIST - PREVENTABLE	101984	101984
55197	CRYSTAL RIVER SOUTH 115KV (0142)	12/4/2015 7:43	RELAY - EQUIPMENT - OTHER	RELAY - EQUIPMENT - OTHER	30536	30536
55328	CROSS CITY 69KV (0081)	7/18/2015 19:01	LINE - CUSTOMER - DISTRIBUTION	RELAY - EQUIPMENT - UNDERFREQUENCY	392	392
55265	OCCIDENTAL SWIFT CREEK #1 115KV (0260)	12/10/2015 14:17	LINE - CUSTOMER - INDUSTRIAL	LINE - CUSTOMER - INDUSTRIAL		0

ATTACHMENT B

DEF Transmission Outages -Major Events Only

For Reporting Year: **2015**

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 2015***

ATTACHMENT C

Distribution
Exclusion Summary - 2015

Cause Code Types		C	CMI	CI	Duration	L-Bar	N
Reported Actual Data		1,724,120	170,005,135	2,381,047	6,639,381	123.4	53,818
Exclusions:							
Severe Weather (Distribution)	(Tornados & Named Storms)		260,028	3,070	32,794	157.7	208
Distribution (Non Severe Weather)			6,958	43,560	6,560	1.3	4,896
Transmission (Severe Weather)			-	-	-	-	-
Transmission (Non Severe Weather)			14,069,157	278,824	15,625	71.7	218
Emergency Shutdowns (Severe Weather)	(DEF/Govt/Customer Decisions)		1,532,765	6,187	50,731	818.2	62
Emergency Shutdowns (Non Severe Weather	(DEF/Govt/Customer Decisions)		8,935,871	303,549	249,858	97.4	2,564
Prearranged (Severe Weather)			61,011	330	3,876	176.2	22
Prearranged (Non Severe Weather)			7,718,073	48,965	916,118	157.0	5,837
Adjusted Data		1,724,120	137,421,272	1,696,562	5,363,819	134.1	40,011

Summary of Severe Weather Dates **2015**

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
August 3-6	Pasco County EOC Activation	Anclote River 5.1 above	CLEARWATER	Pasco County EOC	See response to
		flood stage of 20 feet.	SEVEN SPRINGS		Section (d) - pg. 10 of
			ST. PETERSBURG		Reliability Report
			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 2014, please explain the changes and provide the CMI and CI for 2015 using the prior method.

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

d. (Appendix) Provide the 2015 service reliability data for each extreme weather outage event that is excluded from your Company's 2015 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
August 3rd to 6th	Overhead	670,743	446,156	8,313	21,911	158.8	138
	Underground		1,407,648	1,274	65,490	425.3	154

Actual Data: Customer Minutes of Interruption (CMI), Customer Interruptions (CI) and Documented Exclusions

Year	Customer minutes of Interruption (CMI)		Customer Interruptions (CI)	
	Value	% of Actual	Value	% of Actual
Reported Actual Data	170,005,135	100%	2,381,047	100%
Documented Exclusions				
Planned Service Interruptions	16,660,902	9.80%	396,074	16.63%
Named Storm	0	0%	0	0%
Tornadoes	0	0%	0	0%
Ice on Lines	0	0%	0	0%
Planned Load Management Events	0	0%	0	0%
Generation/Transmission Events	14,069,157	8.28%	278,824	11.71%
Extreme Weather (EOC Activation/Fire)	1,853,804	1%	9,587	0%
Reported Adjusted Data	137,421,272	80.83%	1,696,562	71.25%

ATTACHMENT D

CAUSES OF OUTAGE EVENTS – ADJUSTED

Utility Name: Duke Energy Florida Years: **2011 to 2015**

	2015			**2014**			**2013**			**2012**			**2011**		
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	5,321	74.7	63.6	5,020	75.4	64.7	5,967	73.0	62.9	6,637	71.0	58.6	7,686	70.0	58.7
2. Vegetation	8,240	136.1	83.1	9,816	137.0	85.4	9,143	140.7	86.9	7,667	137.7	82.8	9,826	162.0	94.5
3. Lightning	1,201	144.5	80.7	1,647	166.3	69.3	1,344	178.4	82.8	980	191.5	78.7	1,093	215.9	96.0
4. Other Weather	7,141	133.6	88.7	5,875	107.5	76.8	4,920	116.2	104.5	3,994	104.1	86.5	4,613	131.2	112.4
5. Vehicle	412	227.2	100.2	420	240.9	88.8	392	222.0	88.7	303	239.2	84.6	316	227.1	78.2
6. Defective Equipment	8,572	141.6	76.7	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. Unknown	1,224	77.2	57.9	2,867	81.5	65.6	3,333	83.6	71.4	2,909	80.1	56.4	3,429	81.0	63.5
All Other Causes	7,900	166.6	79.8	8,073	170.3	73.6	8,232	176.0	75.1	7,845	175.5	69.2	8,510	171.8	66.2
System Totals:	40,011	134.1	81.0	40,939	132.5	78.4	39,867	132.8	81.6	36,520	129.3	76.8	41,923	137.0	81.4

ATTACHMENT E

DUKE ENERGY.

2016 PROGRAM BUDGET

CAPITAL													
	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Annual
AUTO TRANS SWITCH-CAP				85,008					85,008	170,017	170,017		510,050
AUTOMATION		51,277	51,277	51,277					102,554	102,554			358,940
CAPACITOR REPLACEMENT	151,576	102,924	96,293	92,480	94,084	60,917	87,451	133,887	85,846	118,403	120,614	87,482	1,231,956
DISC SWITCH				12,644	6,329	18,960	18,960	31,605	25,289	25,276	18,960		158,023
ELECTRONIC RECLOSER NEW	14,693	14,693	45,232	37,309	27,781	27,781	1,605	10,330	19,858	14,693	1,605	1,648	217,228
ELECTRONIC RECLOSER REPLACE	25,352	152	25,352	25,428	50,552	25,352	50,552	100,952	50,628	25,352	152	156	379,977
FEEDER STANDARDIZATION	543,601	696,924	892,063	522,693	128,931	219,531	209,077	616,778	696,924	822,371	313,616		5,662,511
HYDRAULIC RECLOSER REPLACE	268,474	245,558	261,930	255,384	225,920	180,082	255,382	225,909	209,538	301,209	268,478	248,832	2,946,695
IR SCAN MAINT						17,158				34,580			51,738
LINE SENSOR INTALL AND REPL							142	2,700	4,121	3,975	5,397	1,563	17,899
NETWORK REPLACEMENT	66,339	79,607	72,973	69,656	66,339	29,853	29,853	13,268	33,170	66,339	79,607	66,339	673,345
PADMOUNT 1PHMODEF	162,550	133,865	191,236	143,427	157,769	191,236	234,264	272,511	138,646	119,522	138,646	114,741	1,998,412
PADMOUNT 3PHMODEF	196,725	163,937	262,300	163,937	147,543	213,118	213,118	442,630	147,544	131,150	229,512	147,544	2,459,058
PADMOUNT REPL 1PH-CAP	30,094	87,270	303,993	84,259	300,967	400,293	382,243	376,217	102,335	135,430	114,369	30,096	2,347,567
PADMOUNT REPL 3PH-CAP		43,014	301,100	415,804	243,744	200,733	301,102	487,497	143,382	172,059	200,733		2,509,168
POLE REINFORCEMENTS											200,000		200,000
POLE REPLACEMENTS	2,539,607	2,593,029	2,539,607	2,539,607	2,593,029	2,539,607	2,539,607	2,521,799	2,503,992	2,503,992	2,503,992	2,503,992	30,421,859
RISER POLE RETROFIT	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,335	100,000
SMALL WIRE UPGRADE	400,322	417,357	425,874	374,769	107,891	59,622	68,140	391,804	383,287	468,462	451,427		3,548,955
STORM HARDENING	428,519	428,519	428,505	428,505	219,636	282,571	208,833	340,141	491,454	459,993	453,961	114,468	4,285,104
SUBAQUEOUS CABLE								1,248,163		748,898			1,997,062
TARGETRELIABILITY		292,005	291,597	83,139					208,458	124,505	41,773		1,041,477
TRANSFORMER RETROFIT FL			264,913	215,154	105,124	42,050							627,241
UG CABLE LG-CAP	503,584		503,584	503,584	503,584	503,584		503,584	503,584	503,584	503,584	503,584	5,035,842
UG CABLE SM-CAP	1,028,191	18,682	1,028,061	1,028,061	1,028,061	1,028,061	1,028,061	18,682	1,028,061	1,028,061	1,027,906	18,682	9,308,567
UG CABLE TEST/REHAB	1,187,204								791,470				1,978,674
UG SWITCHGEAR REPL	127,463	127,463	467,318	424,822	297,414		42,488		382,334	212,430	424,844	254,926	2,761,502
VOLTAGE REGULATORS	36,479	72,957	72,957	60,798	24,319		12,160	12,160	12,160	60,798	68,904		433,690
Sum:	7,719,106	5,577,567	8,534,498	7,626,080	6,337,351	6,048,840	5,691,369	7,758,951	8,157,977	8,361,986	7,346,430	4,102,388	83,262,543

O&M													
	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Sum:
ATS INSPECTIONS	17,038	28,397	30,669	31,426	29,912	26,883	24,611	26,883	27,640	28,397	24,611	40,878	337,345
AUTOMATION			5,094	6,113	6,113	5,094	5,094	12,226	11,208	11,208	45,849		108,000
CAP INSPECT/MAINT-O&M	53,106	59,269	55,163	93,585	71,588	73,648	60,149	46,066	46,357	67,487	58,974	48,120	733,511
ENV-ENVIRONMENTAL	95,178	81,829	103,884	128,725	136,960	142,300	136,960	136,960	136,960	136,960	136,960	136,960	1,510,639
FAULT INDICATOR	18,733	22,495	26,246	22,495	22,495	15,004	18,744	18,744	11,253	14,993	29,997	11,253	232,454
FEEDER STANDARIZATION OM	12,330	12,330	12,330	12,330	10,569	3,929	3,929	13,008	3,378	12,330	10,162	5,013	111,641
IR SCAN INSP/MAINT-O&M						104,330	104,330	16,024	16,051	47,983	72,049	43,936	404,704
NETWORK MAINT-O&M	40,420	47,450	35,148	47,450	19,331	19,331	19,331	19,331	45,692	45,692	49,207	45,692	434,075
PADMOUNT1PHREMED-O&M	97,480	80,277	111,818	88,878	97,480	120,416	140,483	154,820	83,146	71,677	83,146	68,808	1,198,426
PADMOUNT3PHREMED-O&M	145,712	120,256	196,649	120,256	105,763	163,768	167,331	331,406	83,410	87,374	167,656	109,292	1,798,874
POLE INSPECT&TREAT-O&M	199,907	193,241	193,241	193,241	193,241	193,241	193,241	193,241	58,736	193,241	193,241		1,997,812
POLE REPLACE-VEG TRIMMING	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	2,000,000
RECLOSR MAINT-O&M	29,193	29,188	22,705	29,193	29,193	22,699	25,949	32,432	29,193	19,460	29,193	25,949	324,347
SUBAQUEOUS CABLE OM							53,336		53,336	53,336		53,336	213,346
SWITCHGEAR INSP/MAINT	1,064	8,500	18,063	21,248	20,717	2,125	2,125	24,432	25,492	23,370	8,496	3,714	159,346
TRANSFORMER PAINT/REPAIR				8,502	21,255	10,391	13,225	7,557	18,893	9,919	12,753		102,495
VOLTAGE REG INSP	26,527	33,762	30,064	27,974	24,598				17,846	33,280	34,244	28,939	257,234
Sum:	903,355	883,661	1,007,741	998,083	955,882	1,069,827	1,135,506	1,199,799	835,258	1,023,374	1,123,204	788,558	11,924,247

ATTACHMENT F

SYSTEM RELIABILITY INDICES – ADJUSTED

Utility Name: Duke Energy Florida Year: **2011 to 2015**

	2015					2014					2013					2012					2011				
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	144.9	98.9	1.47	7.1	3.96%	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%
South Coastal Region	71.5	73.7	0.97	11.2	0.43%	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%
North Central Region	71.5	84.1	0.85	8.3	0.32%	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%
South Central Region	70.7	77.3	0.91	8.1	0.64%	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%
System Averages	79.7	81.0	0.98	9.2	0.87%	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%

ATTACHMENT G

2015 Feeder Specific on CD

2015 Summer Feeder Peaks

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	ALDERMAN	C5000	1	7.3
SOUTH COASTAL	ALDERMAN	C5001	1	5.2
SOUTH COASTAL	ALDERMAN	C5003	1	7.4
SOUTH COASTAL	ALDERMAN	C5008	2	8.2
SOUTH COASTAL	ALDERMAN	C5009	2	9.3
SOUTH COASTAL	ALDERMAN	C5010	3	4.4
SOUTH COASTAL	ALDERMAN	C5011	3	6.0
SOUTH COASTAL	ALDERMAN	C5012	3	10.9
SOUTH COASTAL	ALDERMAN	C5013	2	7.9
SOUTH COASTAL	ANCLOTE	C4201	8	8.9
SOUTH COASTAL	ANCLOTE	C4202	8	7.8
SOUTH COASTAL	ANCLOTE	C4203	8	9.4
SOUTH COASTAL	ANCLOTE	C4204	8	7.2
SOUTH COASTAL	ANCLOTE	C4206	7	5.2
SOUTH COASTAL	ANCLOTE	C4207	7	10.8
SOUTH COASTAL	ANCLOTE	C4208	7	11.8
SOUTH COASTAL	BAYBORO PLANT	X0009	2	6.8
SOUTH COASTAL	BAYBORO PLANT	X0010	1	0.5
SOUTH COASTAL	BAYBORO PLANT	X0012	1	0.0
SOUTH COASTAL	BAYBORO PLANT	X0013	2	3.2
SOUTH COASTAL	BAYBORO PLANT	X0014	2	0.0
SOUTH COASTAL	BAYBORO PLANT	X0015	1	3.6
SOUTH COASTAL	BAYBORO PLANT	X0016	2	9.5
SOUTH COASTAL	BAYBORO PLANT	X0017	1	1.6
SOUTH COASTAL	BAYBORO PLANT	X0018	2	6.1
SOUTH COASTAL	BAYBORO PLANT	X0019	1	8.0
SOUTH COASTAL	BAYBORO PLANT	X0020	1	3.9
SOUTH COASTAL	BAYBORO PLANT	X0021	2	6.5
SOUTH COASTAL	BAYVIEW	C0651	1	11.7
SOUTH COASTAL	BAYVIEW	C0652	1	9.3
SOUTH COASTAL	BAYVIEW	C0653	1	9.1
SOUTH COASTAL	BAYVIEW	C0654	1	10.6
SOUTH COASTAL	BAYVIEW	C0655	2	7.6
SOUTH COASTAL	BAYVIEW	C0656	2	9.6
SOUTH COASTAL	BAYVIEW	C0657	2	10.0
SOUTH COASTAL	BAYVIEW	C0658	2	6.7
SOUTH COASTAL	BAYWAY	X0096	2	8.6
SOUTH COASTAL	BAYWAY	X0097	2	10.8
SOUTH COASTAL	BAYWAY	X0098	2	0.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	BAYWAY	X0099	2	10.9
SOUTH COASTAL	BAYWAY	X0100	2	3.0
SOUTH COASTAL	BELLEAIR	C1002	1	10.6
SOUTH COASTAL	BELLEAIR	C1003	1	10.2
SOUTH COASTAL	BELLEAIR	C1004	1	2.0
SOUTH COASTAL	BELLEAIR	C1005	2	10.6
SOUTH COASTAL	BELLEAIR	C1006	2	0.0
SOUTH COASTAL	BELLEAIR	C1007	2	6.9
SOUTH COASTAL	BELLEAIR	C1008	2	11.1
SOUTH COASTAL	BELLEAIR	J1001	1	8.6
SOUTH COASTAL	BEXLEY	C800	1	0.0
SOUTH COASTAL	BROOKER CREEK	C5400	1	9.0
SOUTH COASTAL	BROOKER CREEK	C5401	1	3.7
SOUTH COASTAL	BROOKER CREEK	C5402	1	7.6
SOUTH COASTAL	BROOKER CREEK	C5404	2	7.9
SOUTH COASTAL	BROOKER CREEK	C5405	2	11.1
SOUTH COASTAL	BROOKER CREEK	C5406	2	10.4
SOUTH COASTAL	CENTRAL PLAZA	X0262	1	10.0
SOUTH COASTAL	CENTRAL PLAZA	X0263	2	0.9
SOUTH COASTAL	CENTRAL PLAZA	X0265	2	5.1
SOUTH COASTAL	CENTRAL PLAZA	X0266	1	1.3
SOUTH COASTAL	CENTRAL PLAZA	X0267	2	10.1
SOUTH COASTAL	CENTRAL PLAZA	X0268	1	10.4
SOUTH COASTAL	CLEARWATER	C0004	1	7.0
SOUTH COASTAL	CLEARWATER	C0005	1	11.3
SOUTH COASTAL	CLEARWATER	C0006	1	2.6
SOUTH COASTAL	CLEARWATER	C0007	1	5.3
SOUTH COASTAL	CLEARWATER	C0008	2	0.0
SOUTH COASTAL	CLEARWATER	C0009	2	3.0
SOUTH COASTAL	CLEARWATER	C0010	2	9.0
SOUTH COASTAL	CLEARWATER	C0011	2	6.5
SOUTH COASTAL	CLEARWATER	C0012	3	9.3
SOUTH COASTAL	CLEARWATER	C0013	3	4.0
SOUTH COASTAL	CLEARWATER	C0014	3	6.1
SOUTH COASTAL	CLEARWATER	C0015	3	6.2
SOUTH COASTAL	CLEARWATER	C0016	4	8.9
SOUTH COASTAL	CLEARWATER	C0017	4	9.4
SOUTH COASTAL	CLEARWATER	C0018	4	6.3
SOUTH COASTAL	CLEARWATER	C0019	4	3.2
SOUTH COASTAL	CROSS BAYOU	J0140	3	6.2
SOUTH COASTAL	CROSS BAYOU	J0141	3	11.8
SOUTH COASTAL	CROSS BAYOU	J0142	1	11.7
SOUTH COASTAL	CROSS BAYOU	J0143	1	9.7

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	CROSS BAYOU	J0144	1	2.6
SOUTH COASTAL	CROSS BAYOU	J0145	1	8.2
SOUTH COASTAL	CROSS BAYOU	J0146	2	8.3
SOUTH COASTAL	CROSS BAYOU	J0147	2	10.6
SOUTH COASTAL	CROSS BAYOU	J0148	2	10.1
SOUTH COASTAL	CROSS BAYOU	J0150	3	9.7
SOUTH COASTAL	CROSS BAYOU	J0151	3	0.0
SOUTH COASTAL	CROSSROADS	X0132	1	9.1
SOUTH COASTAL	CROSSROADS	X0133	1	8.7
SOUTH COASTAL	CROSSROADS	X0134	1	7.6
SOUTH COASTAL	CROSSROADS	X0135	2	9.6
SOUTH COASTAL	CROSSROADS	X0136	2	2.4
SOUTH COASTAL	CROSSROADS	X0137	2	3.4
SOUTH COASTAL	CROSSROADS	X0138	2	6.6
SOUTH COASTAL	CURLEW	C4972	3	7.7
SOUTH COASTAL	CURLEW	C4973	3	8.3
SOUTH COASTAL	CURLEW	C4976	2	5.9
SOUTH COASTAL	CURLEW	C4985	2	5.2
SOUTH COASTAL	CURLEW	C4986	2	10.9
SOUTH COASTAL	CURLEW	C4987	3	5.9
SOUTH COASTAL	CURLEW	C4988	3	8.9
SOUTH COASTAL	CURLEW	C4989	1	8.8
SOUTH COASTAL	CURLEW	C4990	1	9.0
SOUTH COASTAL	CURLEW	C4991	1	11.2
SOUTH COASTAL	DENHAM	C0151	1	9.1
SOUTH COASTAL	DENHAM	C0152	1	8.3
SOUTH COASTAL	DENHAM	C0153	2	9.6
SOUTH COASTAL	DENHAM	C0154	2	6.6
SOUTH COASTAL	DENHAM	C0155	2	8.7
SOUTH COASTAL	DENHAM	C0156	3	10.2
SOUTH COASTAL	DENHAM	C0157	3	10.0
SOUTH COASTAL	DENHAM	C0158	3	12.0
SOUTH COASTAL	DENHAM	C0159	1	10.2
SOUTH COASTAL	DISSTON	X0060	1	10.3
SOUTH COASTAL	DISSTON	X0061	1	4.3
SOUTH COASTAL	DISSTON	X0062	1	11.1
SOUTH COASTAL	DISSTON	X0063	1	10.3
SOUTH COASTAL	DISSTON	X0064	2	9.3
SOUTH COASTAL	DISSTON	X0065	2	2.6
SOUTH COASTAL	DISSTON	X0066	2	11.2
SOUTH COASTAL	DISSTON	X0067	2	8.6
SOUTH COASTAL	DUNEDIN	C0102	1	8.4
SOUTH COASTAL	DUNEDIN	C0103	1	10.7

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	DUNEDIN	C0104	2	8.2
SOUTH COASTAL	DUNEDIN	C0106	2	5.8
SOUTH COASTAL	DUNEDIN	C0107	3	9.7
SOUTH COASTAL	DUNEDIN	C0108	3	8.2
SOUTH COASTAL	EAST CLEARWATER	C0900	1	10.3
SOUTH COASTAL	EAST CLEARWATER	C0901	1	6.5
SOUTH COASTAL	EAST CLEARWATER	C0902	1	9.7
SOUTH COASTAL	EAST CLEARWATER	C0903	1	6.8
SOUTH COASTAL	EAST CLEARWATER	C0904	2	10.1
SOUTH COASTAL	EAST CLEARWATER	C0905	2	8.0
SOUTH COASTAL	EAST CLEARWATER	C0906	2	10.3
SOUTH COASTAL	EAST CLEARWATER	C0907	2	10.1
SOUTH COASTAL	EAST CLEARWATER	C0908	3	7.8
SOUTH COASTAL	EAST CLEARWATER	C0909	3	8.3
SOUTH COASTAL	EAST CLEARWATER	C0910	3	9.2
SOUTH COASTAL	EAST CLEARWATER	C0911	3	8.1
SOUTH COASTAL	ELFERS	C0950	2	7.6
SOUTH COASTAL	ELFERS	C0951	2	6.4
SOUTH COASTAL	ELFERS	C0952	2	6.5
SOUTH COASTAL	ELFERS	C0953	2	6.7
SOUTH COASTAL	ELFERS	C0954	1	4.7
SOUTH COASTAL	ELFERS	C0955	1	9.6
SOUTH COASTAL	ELFERS	C0956	1	9.8
SOUTH COASTAL	ELFERS	C0957	1	9.0
SOUTH COASTAL	FIFTY FIRST STREET	X0101	2	6.1
SOUTH COASTAL	FIFTY FIRST STREET	X0102	1	9.8
SOUTH COASTAL	FIFTY FIRST STREET	X0103	2	9.6
SOUTH COASTAL	FIFTY FIRST STREET	X0104	1	5.7
SOUTH COASTAL	FIFTY FIRST STREET	X0105	2	7.3
SOUTH COASTAL	FIFTY FIRST STREET	X0106	1	4.0
SOUTH COASTAL	FIFTY FIRST STREET	X0107	2	7.3
SOUTH COASTAL	FIFTY FIRST STREET	X0108	1	6.3
SOUTH COASTAL	FLORA-MAR	C4000	1	7.8
SOUTH COASTAL	FLORA-MAR	C4001	1	8.3
SOUTH COASTAL	FLORA-MAR	C4002	1	9.5
SOUTH COASTAL	FLORA-MAR	C4003	1	8.5
SOUTH COASTAL	FLORA-MAR	C4006	2	9.8
SOUTH COASTAL	FLORA-MAR	C4007	2	7.9
SOUTH COASTAL	FLORA-MAR	C4008	2	7.0
SOUTH COASTAL	FLORA-MAR	C4009	2	8.7
SOUTH COASTAL	FORTIETH STREET	X0081	1	5.1
SOUTH COASTAL	FORTIETH STREET	X0082	1	8.4
SOUTH COASTAL	FORTIETH STREET	X0083	2	7.2

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	FORTIETH STREET	X0084	2	7.8
SOUTH COASTAL	FORTIETH STREET	X0085	2	6.9
SOUTH COASTAL	G E PINELLAS	J0231	1	0.0
SOUTH COASTAL	G E PINELLAS	J0234	2	4.9
SOUTH COASTAL	G E PINELLAS	J0235	2	0.0
SOUTH COASTAL	GATEWAY	X0111	1	12.2
SOUTH COASTAL	GATEWAY	X0112	1	7.1
SOUTH COASTAL	GATEWAY	X0113	1	8.7
SOUTH COASTAL	GATEWAY	X0114	1	3.4
SOUTH COASTAL	GATEWAY	X0118	2	8.2
SOUTH COASTAL	GATEWAY	X0119	2	8.1
SOUTH COASTAL	GATEWAY	X0120	2	7.6
SOUTH COASTAL	GATEWAY	X0121	3	9.3
SOUTH COASTAL	GATEWAY	X0122	3	0.0
SOUTH COASTAL	GATEWAY	X0123	3	6.7
SOUTH COASTAL	GATEWAY	X0125	3	6.4
SOUTH COASTAL	HIGHLANDS	C2801	2	0.0
SOUTH COASTAL	HIGHLANDS	C2802	2	8.8
SOUTH COASTAL	HIGHLANDS	C2803	2	5.8
SOUTH COASTAL	HIGHLANDS	C2804	2	7.1
SOUTH COASTAL	HIGHLANDS	C2805	1	8.8
SOUTH COASTAL	HIGHLANDS	C2806	1	10.9
SOUTH COASTAL	HIGHLANDS	C2807	1	5.6
SOUTH COASTAL	HIGHLANDS	C2808	2	6.8
SOUTH COASTAL	KENNETH	X0050	1	10.6
SOUTH COASTAL	KENNETH	X0051	1	4.9
SOUTH COASTAL	KENNETH	X0052	1	0.0
SOUTH COASTAL	KENNETH	X0053	1	10.8
SOUTH COASTAL	KENNETH	X0054	2	0.0
SOUTH COASTAL	KENNETH	X0055	2	6.1
SOUTH COASTAL	KENNETH	X0056	2	11.7
SOUTH COASTAL	KENNETH	X0057	2	10.4
SOUTH COASTAL	LAND-O-LAKES	C0140	1	11.0
SOUTH COASTAL	LAND-O-LAKES	C0141	1	6.9
SOUTH COASTAL	LAND-O-LAKES	C0142	1	0.0
SOUTH COASTAL	LAND-O-LAKES	C0143	1	13.7
SOUTH COASTAL	LAND-O-LAKES	C0146	2	0.0
SOUTH COASTAL	LAND-O-LAKES	C0148	2	0.0
SOUTH COASTAL	LARGO	J0402	1	3.3
SOUTH COASTAL	LARGO	J0403	1	8.2
SOUTH COASTAL	LARGO	J0404	1	8.3
SOUTH COASTAL	LARGO	J0405	1	6.8
SOUTH COASTAL	LARGO	J0406	2	6.3

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	LARGO	J0407	2	11.3
SOUTH COASTAL	LARGO	J0408	2	4.9
SOUTH COASTAL	LARGO	J0409	2	6.4
SOUTH COASTAL	MAXIMO	X0140	3	9.5
SOUTH COASTAL	MAXIMO	X0141	3	8.8
SOUTH COASTAL	MAXIMO	X0142	3	9.0
SOUTH COASTAL	MAXIMO	X0143	1	10.7
SOUTH COASTAL	MAXIMO	X0144	1	0.1
SOUTH COASTAL	MAXIMO	X0145	1	0.0
SOUTH COASTAL	MAXIMO	X0146	1	6.8
SOUTH COASTAL	MAXIMO	X0147	1	10.2
SOUTH COASTAL	MAXIMO	X0149	2	10.2
SOUTH COASTAL	MAXIMO	X0150	2	8.4
SOUTH COASTAL	MAXIMO	X0151	2	10.9
SOUTH COASTAL	MAXIMO	X0152	2	0.3
SOUTH COASTAL	NEW PORT RICHEY	C0441	1	7.2
SOUTH COASTAL	NEW PORT RICHEY	C0442	1	6.3
SOUTH COASTAL	NEW PORT RICHEY	C0443	2	9.5
SOUTH COASTAL	NEW PORT RICHEY	C0444	2	7.1
SOUTH COASTAL	NORTHEAST	X0282	1	6.6
SOUTH COASTAL	NORTHEAST	X0283	1	5.0
SOUTH COASTAL	NORTHEAST	X0284	1	11.6
SOUTH COASTAL	NORTHEAST	X0285	1	8.5
SOUTH COASTAL	NORTHEAST	X0286	1	8.5
SOUTH COASTAL	NORTHEAST	X0287	2	10.3
SOUTH COASTAL	NORTHEAST	X0288	2	7.8
SOUTH COASTAL	NORTHEAST	X0289	2	9.2
SOUTH COASTAL	NORTHEAST	X0290	2	6.6
SOUTH COASTAL	NORTHEAST	X0291	2	3.6
SOUTH COASTAL	NORTHEAST	X0293	0	0.0
SOUTH COASTAL	NORTHEAST	X0294	0	0.0
SOUTH COASTAL	OAKHURST	J0221	1	8.3
SOUTH COASTAL	OAKHURST	J0223	3	8.9
SOUTH COASTAL	OAKHURST	J0224	3	9.7
SOUTH COASTAL	OAKHURST	J0225	3	0.0
SOUTH COASTAL	OAKHURST	J0226	2	10.9
SOUTH COASTAL	OAKHURST	J0227	2	9.3
SOUTH COASTAL	OAKHURST	J0228	1	9.8
SOUTH COASTAL	OAKHURST	J0229	1	8.4
SOUTH COASTAL	ODESSA	C4320	2	0.0
SOUTH COASTAL	ODESSA	C4322	1	10.9
SOUTH COASTAL	ODESSA	C4323	2	9.6
SOUTH COASTAL	ODESSA	C4329	1	7.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	OLDSMAR	C0603	1	0.4
SOUTH COASTAL	OLDSMAR	C0604	2	1.4
SOUTH COASTAL	PALM HARBOR	C0752	1	7.4
SOUTH COASTAL	PALM HARBOR	C0753	1	8.4
SOUTH COASTAL	PALM HARBOR	C0755	2	8.8
SOUTH COASTAL	PALM HARBOR	C0756	2	7.5
SOUTH COASTAL	PALM HARBOR	C0757	2	10.1
SOUTH COASTAL	PASADENA	X0211	2	10.2
SOUTH COASTAL	PASADENA	X0212	2	5.6
SOUTH COASTAL	PASADENA	X0213	2	5.7
SOUTH COASTAL	PASADENA	X0214	2	8.9
SOUTH COASTAL	PASADENA	X0215	2	3.4
SOUTH COASTAL	PASADENA	X0216	1	6.0
SOUTH COASTAL	PASADENA	X0217	1	4.3
SOUTH COASTAL	PASADENA	X0219	1	8.8
SOUTH COASTAL	PASADENA	X0220	1	6.0
SOUTH COASTAL	PILSBURY	X0252	1	11.4
SOUTH COASTAL	PILSBURY	X0253	1	10.6
SOUTH COASTAL	PILSBURY	X0254	1	9.8
SOUTH COASTAL	PILSBURY	X0255	1	9.1
SOUTH COASTAL	PILSBURY	X0256	2	11.0
SOUTH COASTAL	PILSBURY	X0257	2	10.3
SOUTH COASTAL	PILSBURY	X0258	2	9.8
SOUTH COASTAL	PILSBURY	X0259	2	12.6
SOUTH COASTAL	PINELLAS WELL FIELD	C801	1	1.2
SOUTH COASTAL	PINELLAS WELL FIELD	C802	1	0.0
SOUTH COASTAL	PORT RICHEY WEST	C0202	2	8.9
SOUTH COASTAL	PORT RICHEY WEST	C0203	2	7.9
SOUTH COASTAL	PORT RICHEY WEST	C0205	1	4.9
SOUTH COASTAL	PORT RICHEY WEST	C0206	1	10.4
SOUTH COASTAL	PORT RICHEY WEST	C0207	1	6.9
SOUTH COASTAL	PORT RICHEY WEST	C0208	3	6.9
SOUTH COASTAL	PORT RICHEY WEST	C0209	3	9.9
SOUTH COASTAL	PORT RICHEY WEST	C0210	3	8.1
SOUTH COASTAL	SAFETY HARBOR	C3518	1	6.4
SOUTH COASTAL	SAFETY HARBOR	C3521	2	8.7
SOUTH COASTAL	SAFETY HARBOR	C3523	2	7.5
SOUTH COASTAL	SAFETY HARBOR	C3524	2	7.6
SOUTH COASTAL	SAFETY HARBOR	C3525	1	9.1
SOUTH COASTAL	SAFETY HARBOR	C3527	1	9.2
SOUTH COASTAL	SAFETY HARBOR	C3528	1	7.6
SOUTH COASTAL	SEMINOLE	J0889	2	10.7
SOUTH COASTAL	SEMINOLE	J0890	2	11.4

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	SEMINOLE	J0891	2	4.6
SOUTH COASTAL	SEMINOLE	J0892	1	11.5
SOUTH COASTAL	SEMINOLE	J0893	1	7.6
SOUTH COASTAL	SEMINOLE	J0894	1	12.1
SOUTH COASTAL	SEMINOLE	J0895	1	11.2
SOUTH COASTAL	SEMINOLE	J888	2	9.7
SOUTH COASTAL	SEVEN SPRINGS	C4500	4	6.8
SOUTH COASTAL	SEVEN SPRINGS	C4501	4	9.5
SOUTH COASTAL	SEVEN SPRINGS	C4502	6	10.3
SOUTH COASTAL	SEVEN SPRINGS	C4507	5	7.5
SOUTH COASTAL	SEVEN SPRINGS	C4508	5	10.2
SOUTH COASTAL	SEVEN SPRINGS	C4509	5	8.0
SOUTH COASTAL	SEVEN SPRINGS	C4510	4	7.2
SOUTH COASTAL	SEVEN SPRINGS	C4512	6	7.6
SOUTH COASTAL	SIXTEENTH STREET	X0031	1	10.5
SOUTH COASTAL	SIXTEENTH STREET	X0032	2	2.0
SOUTH COASTAL	SIXTEENTH STREET	X0033	1	3.7
SOUTH COASTAL	SIXTEENTH STREET	X0034	2	8.0
SOUTH COASTAL	SIXTEENTH STREET	X0035	1	3.6
SOUTH COASTAL	SIXTEENTH STREET	X0036	2	7.4
SOUTH COASTAL	SIXTEENTH STREET	X0042	2	6.8
SOUTH COASTAL	SIXTEENTH STREET	X0043	1	4.6
SOUTH COASTAL	SIXTEENTH STREET	X0045	1	9.1
SOUTH COASTAL	SIXTEENTH STREET	X0046	2	7.3
SOUTH COASTAL	STARKEY ROAD	J0112	1	7.8
SOUTH COASTAL	STARKEY ROAD	J0113	1	6.8
SOUTH COASTAL	STARKEY ROAD	J0114	1	7.5
SOUTH COASTAL	STARKEY ROAD	J0115	2	8.1
SOUTH COASTAL	STARKEY ROAD	J0116	2	11.1
SOUTH COASTAL	STARKEY ROAD	J0117	2	7.6
SOUTH COASTAL	STARKEY ROAD	J0118	2	9.3
SOUTH COASTAL	TARPON SPRINGS	C0301	1	6.5
SOUTH COASTAL	TARPON SPRINGS	C0302	1	8.2
SOUTH COASTAL	TARPON SPRINGS	C0303	1	8.6
SOUTH COASTAL	TARPON SPRINGS	C0304	1	9.4
SOUTH COASTAL	TARPON SPRINGS	C0305	2	9.5
SOUTH COASTAL	TARPON SPRINGS	C0306	2	6.4
SOUTH COASTAL	TARPON SPRINGS	C0307	2	10.0
SOUTH COASTAL	TARPON SPRINGS	C0308	2	8.8
SOUTH COASTAL	TAYLOR AVENUE	J2902	2	8.1
SOUTH COASTAL	TAYLOR AVENUE	J2903	2	9.1
SOUTH COASTAL	TAYLOR AVENUE	J2904	2	9.0
SOUTH COASTAL	TAYLOR AVENUE	J2905	1	8.5

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	TAYLOR AVENUE	J2906	1	8.7
SOUTH COASTAL	TAYLOR AVENUE	J2907	1	10.9
SOUTH COASTAL	THIRTY SECOND STREET	X0022	1	9.4
SOUTH COASTAL	THIRTY SECOND STREET	X0023	1	5.1
SOUTH COASTAL	THIRTY SECOND STREET	X0024	1	5.0
SOUTH COASTAL	THIRTY SECOND STREET	X0025	1	7.9
SOUTH COASTAL	THIRTY SECOND STREET	X0026	2	7.6
SOUTH COASTAL	THIRTY SECOND STREET	X0027	2	11.5
SOUTH COASTAL	THIRTY SECOND STREET	X0028	2	8.8
SOUTH COASTAL	TRI-CITY	J5030	3	7.2
SOUTH COASTAL	TRI-CITY	J5032	3	9.4
SOUTH COASTAL	TRI-CITY	J5034	2	8.9
SOUTH COASTAL	TRI-CITY	J5036	2	4.0
SOUTH COASTAL	TRI-CITY	J5038	2	7.3
SOUTH COASTAL	TRI-CITY	J5040	3	7.7
SOUTH COASTAL	ULMERTON	J0240	1	8.5
SOUTH COASTAL	ULMERTON	J0241	1	8.5
SOUTH COASTAL	ULMERTON	J0242	1	6.1
SOUTH COASTAL	ULMERTON	J0243	1	10.5
SOUTH COASTAL	ULMERTON	J0244	2	8.5
SOUTH COASTAL	ULMERTON	J0245	2	9.9
SOUTH COASTAL	ULMERTON	J0246	2	8.9
SOUTH COASTAL	ULMERTON	J0247	2	9.2
SOUTH COASTAL	ULMERTON WEST	J0680	1	5.7
SOUTH COASTAL	ULMERTON WEST	J0682	1	10.1
SOUTH COASTAL	ULMERTON WEST	J0684	1	8.7
SOUTH COASTAL	ULMERTON WEST	J0689	2	5.3
SOUTH COASTAL	ULMERTON WEST	J0690	2	8.6
SOUTH COASTAL	ULMERTON WEST	J0691	2	8.3
SOUTH COASTAL	ULMERTON WEST	J0692	2	9.7
SOUTH COASTAL	VINOY	X0070	1	9.8
SOUTH COASTAL	VINOY	X0071	2	6.2
SOUTH COASTAL	VINOY	X0072	2	10.6
SOUTH COASTAL	VINOY	X0073	2	3.2
SOUTH COASTAL	VINOY	X0074	2	3.2
SOUTH COASTAL	VINOY	X0075	2	3.5
SOUTH COASTAL	VINOY	X0076	1	4.0
SOUTH COASTAL	VINOY	X0077	1	5.3
SOUTH COASTAL	VINOY	X0078	1	11.3
SOUTH COASTAL	VINOY	X0079	1	3.1
SOUTH COASTAL	VINOY	X0080	1	6.6
SOUTH COASTAL	WALSINGHAM	J0551	2	10.7
SOUTH COASTAL	WALSINGHAM	J0552	2	9.7

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH COASTAL	WALSINGHAM	J0553	2	7.3
SOUTH COASTAL	WALSINGHAM	J0554	2	10.7
SOUTH COASTAL	WALSINGHAM	J0555	1	7.5
SOUTH COASTAL	WALSINGHAM	J0556	1	11.2
SOUTH COASTAL	WALSINGHAM	J0557	1	10.6
SOUTH COASTAL	WALSINGHAM	J0558	1	10.5
SOUTH COASTAL	ZEPHYRHILLS	C0851	2	9.4
SOUTH COASTAL	ZEPHYRHILLS	C0852	2	7.8
SOUTH COASTAL	ZEPHYRHILLS	C0853	2	4.0
SOUTH COASTAL	ZEPHYRHILLS	C0854	1	4.7
SOUTH COASTAL	ZEPHYRHILLS	C0855	1	9.5
SOUTH COASTAL	ZEPHYRHILLS	C0856	1	7.8
SOUTH COASTAL	ZEPHYRHILLS	C0857	1	3.6
SOUTH COASTAL	ZEPHYRHILLS NORTH	C0340	2	3.2
SOUTH COASTAL	ZEPHYRHILLS NORTH	C0341	2	7.9
SOUTH COASTAL	ZEPHYRHILLS NORTH	C0342	1	7.3
SOUTH COASTAL	ZEPHYRHILLS NORTH	C0343	1	11.0
SOUTH COASTAL	ZEPHYRHILLS NORTH	C0344	1	7.0
SOUTH COASTAL	ZEPHYRHILLS NORTH	C0345	2	3.7
SOUTH CENTRAL	AGRICOLA #4	K151	3	0.0
SOUTH CENTRAL	ARBUCKLE CREEK	K1361	1	0.0
SOUTH CENTRAL	AVALON	AVAL001	1	0.0
SOUTH CENTRAL	AVON PARK NORTH	K0891	2	5.8
SOUTH CENTRAL	AVON PARK NORTH	K0892	2	2.3
SOUTH CENTRAL	AVON PARK NORTH	K0893	1	7.1
SOUTH CENTRAL	AVON PARK NORTH	K0894	1	5.2
SOUTH CENTRAL	AVON PARK PLANT	K0116	5	4.9
SOUTH CENTRAL	AVON PARK PLANT	K0117	5	5.0
SOUTH CENTRAL	AVON PARK PLANT	K0118	4	5.2
SOUTH CENTRAL	AVON PARK PLANT	K0119	4	8.9
SOUTH CENTRAL	BABSON PARK	K1195	1	3.5
SOUTH CENTRAL	BABSON PARK	K1196	1	3.8
SOUTH CENTRAL	BALBOA	BALB001	1	0.0
SOUTH CENTRAL	BARNUM CITY	K1501	1	5.7
SOUTH CENTRAL	BARNUM CITY	K1503	2	9.2
SOUTH CENTRAL	BARNUM CITY	K3360	1	10.4
SOUTH CENTRAL	BARNUM CITY	K3362	2	11.6
SOUTH CENTRAL	BARNUM CITY	K3364	1	1.8
SOUTH CENTRAL	BAY HILL	K67	3	6.1
SOUTH CENTRAL	BAY HILL	K68	3	11.0
SOUTH CENTRAL	BAY HILL	K72	1	7.2
SOUTH CENTRAL	BAY HILL	K73	1	11.3
SOUTH CENTRAL	BAY HILL	K74	1	8.2

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	BAY HILL	K75	2	6.4
SOUTH CENTRAL	BAY HILL	K76	2	8.6
SOUTH CENTRAL	BAY HILL	K77	2	3.2
SOUTH CENTRAL	BAY HILL	K79	3	9.2
SOUTH CENTRAL	BOGGY MARSH	K957	2	7.5
SOUTH CENTRAL	BOGGY MARSH	K958	1	8.0
SOUTH CENTRAL	BOGGY MARSH	K959	1	6.6
SOUTH CENTRAL	BOGGY MARSH	K960	2	8.2
SOUTH CENTRAL	BOGGY MARSH	K961	2	9.9
SOUTH CENTRAL	BOGGY MARSH	K964	1	7.4
SOUTH CENTRAL	BONNET CREEK	K1230	2	2.2
SOUTH CENTRAL	BONNET CREEK	K1231	2	12.6
SOUTH CENTRAL	BONNET CREEK	K1232	2	5.0
SOUTH CENTRAL	BONNET CREEK	K1234	2	4.5
SOUTH CENTRAL	BONNET CREEK	K973	1	3.3
SOUTH CENTRAL	BONNET CREEK	K974	1	2.5
SOUTH CENTRAL	BONNET CREEK	K975	1	7.1
SOUTH CENTRAL	BONNET CREEK	K976	1	2.4
SOUTH CENTRAL	BOWEN	OWE00	1	0.0
SOUTH CENTRAL	CABBAGE ISLAND	K1613	3	5.5
SOUTH CENTRAL	CABBAGE ISLAND	K1614	2	6.2
SOUTH CENTRAL	CABBAGE ISLAND	K1615	3	1.9
SOUTH CENTRAL	CABBAGE ISLAND	K1616	2	6.8
SOUTH CENTRAL	CABBAGE ISLAND	K1618	2	4.3
SOUTH CENTRAL	CANOE CREEK	W0105	1	3.7
SOUTH CENTRAL	CELEBRATION	K2701	2	8.9
SOUTH CENTRAL	CELEBRATION	K2703	3	6.8
SOUTH CENTRAL	CELEBRATION	K2704	2	3.7
SOUTH CENTRAL	CELEBRATION	K2706	3	10.7
SOUTH CENTRAL	CENTRAL PARK	K0495	1	5.8
SOUTH CENTRAL	CENTRAL PARK	K499	2	10.9
SOUTH CENTRAL	CENTRAL PARK	K800	3	8.3
SOUTH CENTRAL	CENTRAL PARK	W0493	1	8.9
SOUTH CENTRAL	CENTRAL PARK	W0494	1	5.7
SOUTH CENTRAL	CENTRAL PARK	W0496	2	5.8
SOUTH CENTRAL	CENTRAL PARK	W0497	2	8.6
SOUTH CENTRAL	CENTRAL PARK	W0498	2	6.7
SOUTH CENTRAL	CENTRAL PARK	W0500	3	8.9
SOUTH CENTRAL	CENTRAL PARK	W0501	3	6.0
SOUTH CENTRAL	CHAMPIONS GATE	K1761	2	1.2
SOUTH CENTRAL	CHAMPIONS GATE	K1762	1	11.8
SOUTH CENTRAL	CHAMPIONS GATE	K1763	2	8.0
SOUTH CENTRAL	CHAMPIONS GATE	K1764	1	5.7

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	CITRUSVILLE	K0035	1	5.8
SOUTH CENTRAL	CITRUSVILLE	K0061	1	8.9
SOUTH CENTRAL	CITRUSVILLE	K0062	1	7.0
SOUTH CENTRAL	CLARCONA	M0337	1	8.9
SOUTH CENTRAL	CLARCONA	M0339	2	2.8
SOUTH CENTRAL	CLARCONA	M0340	2	5.8
SOUTH CENTRAL	CLARCONA	M0342	3	9.0
SOUTH CENTRAL	CLARCONA	M0343	1	8.0
SOUTH CENTRAL	CLARCONA	M0345	2	9.1
SOUTH CENTRAL	CLARCONA	M0346	2	7.1
SOUTH CENTRAL	CLARCONA	M0348	3	6.2
SOUTH CENTRAL	CLARCONA	M0351	3	5.2
SOUTH CENTRAL	CLERMONT	K601	1	11.0
SOUTH CENTRAL	CLERMONT	K602	1	7.9
SOUTH CENTRAL	CLERMONT	K603	1	9.3
SOUTH CENTRAL	CLERMONT	K605	2	6.9
SOUTH CENTRAL	CLERMONT	K606	2	9.3
SOUTH CENTRAL	CLERMONT	K607	2	7.8
SOUTH CENTRAL	COLONIAL	K2476	1	10.1
SOUTH CENTRAL	COLONIAL	K2477	1	11.2
SOUTH CENTRAL	CONWAY	W0404	2	7.8
SOUTH CENTRAL	CONWAY	W0405	2	8.3
SOUTH CENTRAL	CONWAY	W0407	1	7.1
SOUTH CENTRAL	CONWAY	W0408	1	9.3
SOUTH CENTRAL	COUNTRY OAKS	K1443	1	4.2
SOUTH CENTRAL	COUNTRY OAKS	K1445	2	0.0
SOUTH CENTRAL	COUNTRY OAKS	K1446	1	1.9
SOUTH CENTRAL	COUNTRY OAKS	K1447	2	10.5
SOUTH CENTRAL	CROOKED LAKE	1569-1	2	0.0
SOUTH CENTRAL	CROOKED LAKE	K1772	1	8.5
SOUTH CENTRAL	CROWN POINT	K278	1	7.1
SOUTH CENTRAL	CROWN POINT	K279	1	5.1
SOUTH CENTRAL	CURRY FORD	W0595	1	3.8
SOUTH CENTRAL	CURRY FORD	W0597	1	9.5
SOUTH CENTRAL	CURRY FORD	W0601	1	12.3
SOUTH CENTRAL	CURRY FORD	W596	2	11.2
SOUTH CENTRAL	CURRY FORD	W598	2	7.2
SOUTH CENTRAL	CYPRESSWOOD	K0317	1	3.7
SOUTH CENTRAL	CYPRESSWOOD	K0561	2	3.3
SOUTH CENTRAL	CYPRESSWOOD	K0562	2	9.0
SOUTH CENTRAL	CYPRESSWOOD	K0563	1	5.5
SOUTH CENTRAL	DAVENPORT	K0007	1	3.3
SOUTH CENTRAL	DAVENPORT	K0008	1	4.8

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	DAVENPORT	K0009	1	7.0
SOUTH CENTRAL	DESOTO CITY	K3220	1	5.6
SOUTH CENTRAL	DESOTO CITY	K3221	1	1.0
SOUTH CENTRAL	DESOTO CITY	K3222	2	2.0
SOUTH CENTRAL	DINNER LAKE	K1684	2	1.7
SOUTH CENTRAL	DINNER LAKE	K1685	2	7.0
SOUTH CENTRAL	DINNER LAKE	K1686	2	0.0
SOUTH CENTRAL	DINNER LAKE	K1687	2	2.1
SOUTH CENTRAL	DINNER LAKE	K1688	2	4.3
SOUTH CENTRAL	DINNER LAKE	K1689	2	5.1
SOUTH CENTRAL	DINNER LAKE	K1690	1	6.9
SOUTH CENTRAL	DINNER LAKE	K1691	1	7.9
SOUTH CENTRAL	DUNDEE	K3244	2	7.5
SOUTH CENTRAL	DUNDEE	K3245	2	6.7
SOUTH CENTRAL	DUNDEE	K3246	2	1.7
SOUTH CENTRAL	EAST LAKE WALES	K1030	1	4.8
SOUTH CENTRAL	EAST LAKE WALES	K1031	2	11.6
SOUTH CENTRAL	EAST LAKE WALES	K1032	1	4.0
SOUTH CENTRAL	FISHEATING CREEK	K1560	1	8.9
SOUTH CENTRAL	FORT GREEN #11	ORT00	1	0.0
SOUTH CENTRAL	FORT MEADE	K0170	3	0.0
SOUTH CENTRAL	FORT MEADE	K0171	3	3.6
SOUTH CENTRAL	FOUR CORNERS	K1404	1	8.8
SOUTH CENTRAL	FOUR CORNERS	K1406	2	6.7
SOUTH CENTRAL	FOUR CORNERS	K1407	1	7.4
SOUTH CENTRAL	FOUR CORNERS	K1409	2	4.6
SOUTH CENTRAL	FOUR CORNERS	K1411	3	9.8
SOUTH CENTRAL	FOUR CORNERS	K1412	2	0.0
SOUTH CENTRAL	FOUR CORNERS	K1414	3	4.1
SOUTH CENTRAL	FOUR CORNERS	K1416	3	7.0
SOUTH CENTRAL	FROSTPROOF	K0100	1	4.6
SOUTH CENTRAL	FROSTPROOF	K0101	1	4.7
SOUTH CENTRAL	FROSTPROOF	K0102	1	5.3
SOUTH CENTRAL	FROSTPROOF	K0103	2	1.8
SOUTH CENTRAL	FROSTPROOF	K0104	2	4.6
SOUTH CENTRAL	GIFFORD	GIFF001	1	0.0
SOUTH CENTRAL	GREEN ISLAND	VNEW-1	1	0.0
SOUTH CENTRAL	GREEN ISLAND	VNEW-2	1	0.0
SOUTH CENTRAL	GREEN ISLAND	VNEW-3	1	0.0
SOUTH CENTRAL	GREEN ISLAND	VNEW-4	1	0.0
SOUTH CENTRAL	GROVELAND	K673	1	4.8
SOUTH CENTRAL	GROVELAND	K674	1	8.2
SOUTH CENTRAL	GROVELAND	K675	2	7.1

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	HAINES CITY	K0016	2	9.9
SOUTH CENTRAL	HAINES CITY	K0017	2	8.5
SOUTH CENTRAL	HAINES CITY	K0018	1	10.9
SOUTH CENTRAL	HAINES CITY	K0019	1	5.2
SOUTH CENTRAL	HAINES CITY	K0020	2	6.0
SOUTH CENTRAL	HAINES CITY	K0021	1	8.8
SOUTH CENTRAL	HAINES CITY	K0022	1	7.2
SOUTH CENTRAL	HAINES CITY EAST	HAIN001	1	0.0
SOUTH CENTRAL	HARTWOOD	HART00	1	0.0
SOUTH CENTRAL	HEMPLE	K2244	2	6.6
SOUTH CENTRAL	HEMPLE	K2246	3	6.6
SOUTH CENTRAL	HEMPLE	K2247	2	9.2
SOUTH CENTRAL	HEMPLE	K2249	3	7.1
SOUTH CENTRAL	HEMPLE	K2250	1	10.3
SOUTH CENTRAL	HEMPLE	K2252	2	2.4
SOUTH CENTRAL	HEMPLE	K2253	3	8.3
SOUTH CENTRAL	HEMPLE	K2255	1	9.9
SOUTH CENTRAL	HOLOPAW	W0629	2	7.6
SOUTH CENTRAL	HOLOPAW	W0630	1	4.8
SOUTH CENTRAL	HOWEY	K564	1	6.0
SOUTH CENTRAL	HOWEY	K565	1	6.1
SOUTH CENTRAL	HUNTERS CREEK	K40	1	11.4
SOUTH CENTRAL	HUNTERS CREEK	K42	2	11.2
SOUTH CENTRAL	HUNTERS CREEK	K43	2	9.6
SOUTH CENTRAL	HUNTERS CREEK	K45	3	10.4
SOUTH CENTRAL	HUNTERS CREEK	K46	2	0.0
SOUTH CENTRAL	HUNTERS CREEK	K48	3	7.1
SOUTH CENTRAL	HUNTERS CREEK	K49	3	6.3
SOUTH CENTRAL	HUNTERS CREEK	K51	1	8.6
SOUTH CENTRAL	INTERCESSION CITY	K0966	1	10.0
SOUTH CENTRAL	INTERCESSION CITY	K0967	1	9.5
SOUTH CENTRAL	INTERNATIONAL DRIVE	K4815	3	6.3
SOUTH CENTRAL	INTERNATIONAL DRIVE	K4817	2	6.3
SOUTH CENTRAL	INTERNATIONAL DRIVE	K4818	3	8.1
SOUTH CENTRAL	INTERNATIONAL DRIVE	K4820	2	5.9
SOUTH CENTRAL	ISLEWORTH	K779	2	10.8
SOUTH CENTRAL	ISLEWORTH	K781	3	7.8
SOUTH CENTRAL	ISLEWORTH	K782	3	8.2
SOUTH CENTRAL	ISLEWORTH	K784	2	9.2
SOUTH CENTRAL	ISLEWORTH	K789	3	8.3
SOUTH CENTRAL	ISLEWORTH	K792	2	9.2
SOUTH CENTRAL	LAKE BRYAN	K230	3	8.9
SOUTH CENTRAL	LAKE BRYAN	K231	3	6.3

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	LAKE BRYAN	K232	3	9.4
SOUTH CENTRAL	LAKE BRYAN	K238	2	11.2
SOUTH CENTRAL	LAKE BRYAN	K239	2	3.9
SOUTH CENTRAL	LAKE BRYAN	K240	1	1.7
SOUTH CENTRAL	LAKE BRYAN	K242	1	3.3
SOUTH CENTRAL	LAKE BRYAN	K244	2	9.2
SOUTH CENTRAL	LAKE LUNTZ	K3282	1	12.0
SOUTH CENTRAL	LAKE LUNTZ	K3283	2	12.8
SOUTH CENTRAL	LAKE LUNTZ	K3284	1	10.4
SOUTH CENTRAL	LAKE LUNTZ	K3285	2	11.2
SOUTH CENTRAL	LAKE LUNTZ	K3286	2	8.0
SOUTH CENTRAL	LAKE LUNTZ	K3287	1	4.5
SOUTH CENTRAL	LAKE MARION	K1286	1	6.5
SOUTH CENTRAL	LAKE MARION	K1287	2	11.4
SOUTH CENTRAL	LAKE MARION	K1288	1	5.2
SOUTH CENTRAL	LAKE OF THE HILLS	K1884	1	8.4
SOUTH CENTRAL	LAKE OF THE HILLS	K1885	1	4.3
SOUTH CENTRAL	LAKE PLACID	K0757	1	3.2
SOUTH CENTRAL	LAKE PLACID	K0758	1	4.8
SOUTH CENTRAL	LAKE PLACID	K1066	2	7.4
SOUTH CENTRAL	LAKE PLACID	K1320	2	5.4
SOUTH CENTRAL	LAKE PLACID NORTH	K0024	1	3.7
SOUTH CENTRAL	LAKE PLACID NORTH	K0027	2	2.2
SOUTH CENTRAL	LAKE WALES	K0053	1	4.9
SOUTH CENTRAL	LAKE WALES	K0054	1	7.7
SOUTH CENTRAL	LAKE WALES	K0055	1	7.1
SOUTH CENTRAL	LAKE WALES	K0056	2	2.5
SOUTH CENTRAL	LAKE WALES	K0057	2	4.2
SOUTH CENTRAL	LAKE WALES	K0058	2	7.1
SOUTH CENTRAL	LAKE WILSON	K881	1	5.7
SOUTH CENTRAL	LAKE WILSON	K882	1	8.1
SOUTH CENTRAL	LAKE WILSON	K883	2	9.1
SOUTH CENTRAL	LAKE WILSON	K884	2	7.8
SOUTH CENTRAL	LAKEWOOD	K1693	1	6.8
SOUTH CENTRAL	LAKEWOOD	K1694	1	4.7
SOUTH CENTRAL	LAKEWOOD	K1695	1	6.4
SOUTH CENTRAL	LAKEWOOD	K1705	2	5.6
SOUTH CENTRAL	LAKEWOOD	K1706	2	7.5
SOUTH CENTRAL	LEISURE LAKES	K1415	1	5.9
SOUTH CENTRAL	LOUGHMAN	K5078	1	0.0
SOUTH CENTRAL	LOUGHMAN	K5079	1	0.0
SOUTH CENTRAL	MAGNOLIA RANCH	W0502	2	6.7
SOUTH CENTRAL	MAGNOLIA RANCH	W0503	2	6.3

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	MAGNOLIA RANCH	W0504	1	8.8
SOUTH CENTRAL	MAGNOLIA RANCH	W0505	1	0.0
SOUTH CENTRAL	MARLEY ROAD	K0120	1	0.0
SOUTH CENTRAL	MEADOW WOODS EAST	K1060	1	7.5
SOUTH CENTRAL	MEADOW WOODS EAST	K1061	1	12.2
SOUTH CENTRAL	MEADOW WOODS EAST	EO_L_14	1	0.0
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1775	2	8.9
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1777	3	7.2
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1778	2	9.5
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1780	3	5.5
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1781	2	10.3
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1783	1	7.8
SOUTH CENTRAL	MEADOW WOODS SOUTH	K1789	1	2.9
SOUTH CENTRAL	MIDWAY	K1472	1	7.1
SOUTH CENTRAL	MIDWAY	K1473	1	6.4
SOUTH CENTRAL	MIDWAY	K1475	1	10.0
SOUTH CENTRAL	MINNEOLA	K945	2	0.0
SOUTH CENTRAL	MINNEOLA	K946	1	4.9
SOUTH CENTRAL	MINNEOLA	K948	2	7.2
SOUTH CENTRAL	MINNEOLA	K949	1	4.4
SOUTH CENTRAL	MONTVERDE	K4831	1	6.7
SOUTH CENTRAL	MONTVERDE	K4833	2	5.5
SOUTH CENTRAL	MONTVERDE	K4834	1	4.8
SOUTH CENTRAL	MONTVERDE	K4836	2	7.9
SOUTH CENTRAL	MONTVERDE	K4837	1	7.2
SOUTH CENTRAL	MONTVERDE	K4840	2	10.4
SOUTH CENTRAL	MONTVERDE	K4841	1	8.9
SOUTH CENTRAL	MONTVERDE	K4845	2	6.1
SOUTH CENTRAL	MOSAIC	MOSA00	1	0.0
SOUTH CENTRAL	NARCOOSSEE	W0212	1	10.7
SOUTH CENTRAL	NARCOOSSEE	W0213	1	10.4
SOUTH CENTRAL	NARCOOSSEE	W0214	1	6.4
SOUTH CENTRAL	NARCOOSSEE	W0215	2	9.3
SOUTH CENTRAL	NARCOOSSEE	W0216	2	0.0
SOUTH CENTRAL	NARCOOSSEE	W0217	2	10.1
SOUTH CENTRAL	NARCOOSSEE	W0219	3	11.1
SOUTH CENTRAL	NARCOOSSEE	W0220	3	8.4
SOUTH CENTRAL	NORTHRIDGE	K1822	1	6.6
SOUTH CENTRAL	NORTHRIDGE	K1825	1	3.5
SOUTH CENTRAL	OAK HILLS	1220-1	1	0.0
SOUTH CENTRAL	OAK HILLS	1220-2	1	0.0
SOUTH CENTRAL	OCOEE	M1086	3	3.3
SOUTH CENTRAL	OCOEE	M1087	3	7.1

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	OCOEE	M1088	3	9.6
SOUTH CENTRAL	OCOEE	M1090	1	9.9
SOUTH CENTRAL	OCOEE	M1091	1	5.9
SOUTH CENTRAL	OCOEE	M1092	1	9.7
SOUTH CENTRAL	OCOEE	M1094	2	8.2
SOUTH CENTRAL	OCOEE	M1095	2	4.2
SOUTH CENTRAL	OCOEE	M1096	2	9.9
SOUTH CENTRAL	OKAHUMPKA	K284	1	6.4
SOUTH CENTRAL	OKAHUMPKA	K285	2	5.8
SOUTH CENTRAL	OKAHUMPKA	K286	2	1.8
SOUTH CENTRAL	ORANGEWOOD	K217	1	3.8
SOUTH CENTRAL	ORANGEWOOD	K218	2	4.0
SOUTH CENTRAL	ORANGEWOOD	K220	1	2.8
SOUTH CENTRAL	ORANGEWOOD	K221	1	5.0
SOUTH CENTRAL	ORANGEWOOD	K222	1	10.1
SOUTH CENTRAL	ORANGEWOOD	K223	1	3.7
SOUTH CENTRAL	ORANGEWOOD	K224	1	3.5
SOUTH CENTRAL	ORANGEWOOD	K225	2	4.0
SOUTH CENTRAL	ORANGEWOOD	K226	2	7.5
SOUTH CENTRAL	ORANGEWOOD	K227	2	3.4
SOUTH CENTRAL	ORANGEWOOD	K228	2	8.7
SOUTH CENTRAL	ORANGEWOOD	K229	2	2.8
SOUTH CENTRAL	PARKWAY	K408	1	0.0
SOUTH CENTRAL	PARKWAY	K409	1	0.0
SOUTH CENTRAL	PEMBROKE	K3205	1	0.0
SOUTH CENTRAL	PINECASTLE	K0396	2	8.2
SOUTH CENTRAL	PINECASTLE	W0391	1	3.1
SOUTH CENTRAL	PINECASTLE	W0392	1	9.2
SOUTH CENTRAL	PINECASTLE	W0394	2	0.0
SOUTH CENTRAL	PINECASTLE	W0395	2	10.6
SOUTH CENTRAL	POINCIANA	K1236	1	10.5
SOUTH CENTRAL	POINCIANA	K1237	1	9.2
SOUTH CENTRAL	POINCIANA	K1508	2	9.9
SOUTH CENTRAL	POINCIANA	K1509	2	11.0
SOUTH CENTRAL	POINCIANA	K1556	2	8.1
SOUTH CENTRAL	POINCIANA	K1558	1	9.6
SOUTH CENTRAL	POINCIANA	K1561	2	11.0
SOUTH CENTRAL	POINCIANA NORTH	K629	3	3.9
SOUTH CENTRAL	POINCIANA NORTH	K631	3	6.1
SOUTH CENTRAL	REEDY LAKE	K1102	2	1.9
SOUTH CENTRAL	REEDY LAKE	K1104	1	7.7
SOUTH CENTRAL	REEDY LAKE	K1108	2	0.4
SOUTH CENTRAL	REEDY LAKE	K1110	1	9.9

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	RIO PINAR	W0968	1	9.2
SOUTH CENTRAL	RIO PINAR	W0969	1	6.3
SOUTH CENTRAL	RIO PINAR	W0970	1	11.6
SOUTH CENTRAL	RIO PINAR	W0971	4	5.0
SOUTH CENTRAL	RIO PINAR	W0972	4	10.8
SOUTH CENTRAL	RIO PINAR	W0973	4	8.9
SOUTH CENTRAL	RIO PINAR	W0974	4	10.0
SOUTH CENTRAL	RIO PINAR	W0975	1	8.6
SOUTH CENTRAL	RUBY	RUBY00	1	0.0
SOUTH CENTRAL	SAND LAKE	K920	1	3.4
SOUTH CENTRAL	SAND LAKE	K922	2	5.4
SOUTH CENTRAL	SAND LAKE	K923	2	2.6
SOUTH CENTRAL	SAND LAKE	K925	1	4.5
SOUTH CENTRAL	SAND LAKE	K926	1	4.1
SOUTH CENTRAL	SAND LAKE	K928	2	4.7
SOUTH CENTRAL	SAND LAKE	K929	2	6.5
SOUTH CENTRAL	SAND LAKE	K931	1	3.7
SOUTH CENTRAL	SAND LAKE	K932	1	3.6
SOUTH CENTRAL	SAND LAKE	K934	2	6.9
SOUTH CENTRAL	SAND MOUNTAIN	K3201	1	0.3
SOUTH CENTRAL	SEBRING EAST	K0541	1	0.0
SOUTH CENTRAL	SEBRING EAST	K0542	1	0.0
SOUTH CENTRAL	SHINGLE CREEK	K855	2	8.3
SOUTH CENTRAL	SHINGLE CREEK	K857	1	9.4
SOUTH CENTRAL	SHINGLE CREEK	K858	2	6.8
SOUTH CENTRAL	SHINGLE CREEK	K860	1	7.8
SOUTH CENTRAL	SHINGLE CREEK	K861	1	7.5
SOUTH CENTRAL	SHINGLE CREEK	K863	2	8.4
SOUTH CENTRAL	SHINGLE CREEK	K864	1	0.0
SOUTH CENTRAL	SHINGLE CREEK	K868	2	9.2
SOUTH CENTRAL	SKY LAKE	W0362	1	6.9
SOUTH CENTRAL	SKY LAKE	W0363	1	10.6
SOUTH CENTRAL	SKY LAKE	W0364	1	7.3
SOUTH CENTRAL	SKY LAKE	W0365	2	8.9
SOUTH CENTRAL	SKY LAKE	W0366	2	6.4
SOUTH CENTRAL	SKY LAKE	W0367	3	8.7
SOUTH CENTRAL	SKY LAKE	W0368	3	7.0
SOUTH CENTRAL	SKY LAKE	W0369	3	9.7
SOUTH CENTRAL	SOUTH BARTOW	K0154	1	0.0
SOUTH CENTRAL	SUN'N LAKES	K1135	2	4.6
SOUTH CENTRAL	SUN'N LAKES	K1136	2	5.8
SOUTH CENTRAL	SUN'N LAKES	K1137	2	3.3
SOUTH CENTRAL	SUN'N LAKES	K1296	1	9.4

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	SUN'N LAKES	K1297	1	5.5
SOUTH CENTRAL	SUN'N LAKES	K1300	1	7.0
SOUTH CENTRAL	TAFT	K1023	2	2.3
SOUTH CENTRAL	TAFT	K1024	2	9.0
SOUTH CENTRAL	TAFT	K1025	2	6.5
SOUTH CENTRAL	TAFT	K1026	1	7.7
SOUTH CENTRAL	TAFT	K1027	1	5.9
SOUTH CENTRAL	TAFT	K1028	1	8.0
SOUTH CENTRAL	TAFT INDUSTRIAL	K3432	1	0.0
SOUTH CENTRAL	TAUNTON ROAD	K1081	1	5.1
SOUTH CENTRAL	TAUNTON ROAD	K1083	1	3.0
SOUTH CENTRAL	VINELAND	K901	1	5.9
SOUTH CENTRAL	VINELAND	K903	2	11.4
SOUTH CENTRAL	VINELAND	K904	2	10.8
SOUTH CENTRAL	VINELAND	K906	3	9.1
SOUTH CENTRAL	VINELAND	K907	1	5.0
SOUTH CENTRAL	VINELAND	K909	2	3.5
SOUTH CENTRAL	VINELAND	K910	2	7.8
SOUTH CENTRAL	VINELAND	K912	3	9.3
SOUTH CENTRAL	VINELAND	K913	1	6.9
SOUTH CENTRAL	VINELAND	K915	3	7.3
SOUTH CENTRAL	VISTA	1359-1	1	0.0
SOUTH CENTRAL	VISTA	1359-2	1	0.0
SOUTH CENTRAL	WAUCHULA	K0245	1	4.0
SOUTH CENTRAL	WAUCHULA	K0246	2	5.8
SOUTH CENTRAL	WEST DAVENPORT	K1521	2	9.7
SOUTH CENTRAL	WEST DAVENPORT	K1523	1	6.4
SOUTH CENTRAL	WEST DAVENPORT	K1524	1	7.9
SOUTH CENTRAL	WEST DAVENPORT	K1526	2	7.4
SOUTH CENTRAL	WEST LAKE WALES	K0866	2	4.3
SOUTH CENTRAL	WESTRIDGE	K0420	1	12.7
SOUTH CENTRAL	WESTRIDGE	K0421	2	7.4
SOUTH CENTRAL	WESTRIDGE	K0425	1	3.9
SOUTH CENTRAL	WESTRIDGE	K0426	2	8.8
SOUTH CENTRAL	WESTRIDGE	K0428	2	4.9
SOUTH CENTRAL	WEWAHOOTEE	W1197	1	0.0
SOUTH CENTRAL	WEWAHOOTEE	W1198	1	2.1
SOUTH CENTRAL	WINDERMERE	K302	3	8.8
SOUTH CENTRAL	WINDERMERE	K303	1	7.8
SOUTH CENTRAL	WINDERMERE	K304	1	8.0
SOUTH CENTRAL	WINTER GARDEN	K201	2	10.7
SOUTH CENTRAL	WINTER GARDEN	K202	2	8.3
SOUTH CENTRAL	WINTER GARDEN	K203	2	7.8

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
SOUTH CENTRAL	WINTER GARDEN	K204	1	10.4
SOUTH CENTRAL	WINTER GARDEN	K205	1	8.3
SOUTH CENTRAL	WINTER GARDEN	K206	1	10.0
SOUTH CENTRAL	WINTER GARDEN	K207	1	9.7
SOUTH CENTRAL	WOODSMERE	M0252	3	5.8
SOUTH CENTRAL	WOODSMERE	M0253	3	4.0
SOUTH CENTRAL	WOODSMERE	M0254	3	5.0
SOUTH CENTRAL	WOODSMERE	M0255	4	6.5
SOUTH CENTRAL	WOODSMERE	M0256	4	8.1
SOUTH CENTRAL	WORLD GATEWAY	K187	1	7.1
SOUTH CENTRAL	WORLD GATEWAY	K189	1	7.3
NORTH COASTAL	ADAMS	A0199	1	0.0
NORTH COASTAL	ADAMS	A0200	1	0.0
NORTH COASTAL	ALACHUA	A0143	1	0.0
NORTH COASTAL	ALACHUA	A0144	1	0.0
NORTH COASTAL	APALACHICOLA	N58	1	0.0
NORTH COASTAL	APALACHICOLA	N59	1	0.0
NORTH COASTAL	ARCHER	A0195	1	0.0
NORTH COASTAL	ARCHER	A0196	2	0.0
NORTH COASTAL	BEACON HILL	N515	2	2.1
NORTH COASTAL	BEACON HILL	N516	1	7.6
NORTH COASTAL	BEACON HILL	N527	2	5.3
NORTH COASTAL	BELLEVIEW	A0001	1	0.0
NORTH COASTAL	BELLEVIEW	A0002	2	0.0
NORTH COASTAL	BELLEVIEW	A0003	1	0.0
NORTH COASTAL	BELLEVIEW	A0004	2	0.0
NORTH COASTAL	BELLEVIEW	A0006	2	0.0
NORTH COASTAL	BEVERLY HILLS	A0072	2	0.0
NORTH COASTAL	BEVERLY HILLS	A0073	2	4.5
NORTH COASTAL	BEVERLY HILLS	A0074	1	0.0
NORTH COASTAL	BEVERLY HILLS	A0075	1	6.4
NORTH COASTAL	BEVILLES CORNER	A0561	1	0.0
NORTH COASTAL	BEVILLES CORNER	A0562	1	0.0
NORTH COASTAL	BROOKSVILLE	A0095	3	0.0
NORTH COASTAL	BROOKSVILLE	A0096	3	0.0
NORTH COASTAL	BROOKSVILLE	A0097	2	0.0
NORTH COASTAL	BROOKSVILLE	A0098	2	5.6
NORTH COASTAL	BUSHNELL EAST	A170	1	6.8
NORTH COASTAL	CARRABELLE	N42	1	2.2
NORTH COASTAL	CARRABELLE	N43	1	6.3
NORTH COASTAL	CARRABELLE BEACH	N48	1	2.5
NORTH COASTAL	CIRCLE SQUARE	A0250	2	0.0
NORTH COASTAL	CIRCLE SQUARE	A0251	1	0.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH COASTAL	CIRCLE SQUARE	A0253	1	0.0
NORTH COASTAL	CITRUS HILLS	A0282	2	6.0
NORTH COASTAL	CITRUS HILLS	A0283	3	4.0
NORTH COASTAL	CITRUS HILLS	A0284	2	7.3
NORTH COASTAL	CITRUS HILLS	A0285	3	4.8
NORTH COASTAL	CITRUS HILLS	A0286	2	5.6
NORTH COASTAL	COLEMAN	A0105	1	2.0
NORTH COASTAL	COLEMAN	A0106	1	4.2
NORTH COASTAL	COLEMAN	A0107	2	5.3
NORTH COASTAL	COLEMAN	A0108	2	0.0
NORTH COASTAL	CRAWFORDVILLE	N35	3	0.0
NORTH COASTAL	CRAWFORDVILLE	N36	2	0.0
NORTH COASTAL	CROSS CITY	A0118	1	0.0
NORTH COASTAL	CROSS CITY	A0119	1	0.0
NORTH COASTAL	CROSS CITY INDUSTRIAL	A0046	1	0.0
NORTH COASTAL	CRYSTAL RIVER NORTH	A0161	1	0.0
NORTH COASTAL	CRYSTAL RIVER NORTH	A0162	1	0.0
NORTH COASTAL	CRYSTAL RIVER PLANT	A0300	11	0.0
NORTH COASTAL	CRYSTAL RIVER PLANT	A0308	11	0.0
NORTH COASTAL	CRYSTAL RIVER SOUTH	A0158	1	0.0
NORTH COASTAL	CRYSTAL RIVER SOUTH	A0159	1	0.0
NORTH COASTAL	DUNNELLON TOWN	A0068	2	0.0
NORTH COASTAL	DUNNELLON TOWN	A0069	2	6.0
NORTH COASTAL	DUNNELLON TOWN	A0070	1	5.6
NORTH COASTAL	DUNNELLON TOWN	A0071	1	4.8
NORTH COASTAL	EAGLES NEST	A0224	2	6.2
NORTH COASTAL	EAGLES NEST	A0228	1	6.3
NORTH COASTAL	EAST POINT	N230	1	2.8
NORTH COASTAL	EAST POINT	N231	1	4.9
NORTH COASTAL	FLORAL CITY	A0087	1	0.0
NORTH COASTAL	FLORAL CITY	A0088	1	0.0
NORTH COASTAL	FOLEY	N18	1	0.0
NORTH COASTAL	FOLEY	N19	2	0.0
NORTH COASTAL	FOLEY	N20	2	0.0
NORTH COASTAL	FORT WHITE	A0020	2	4.0
NORTH COASTAL	G.E. ALACHUA	A0185	1	0.0
NORTH COASTAL	G.E. ALACHUA	A0186	1	0.0
NORTH COASTAL	GAINESVILLE	A1539	2	0.0
NORTH COASTAL	GAINESVILLE	A1540	2	0.0
NORTH COASTAL	GAINESVILLE	A1546	2	0.0
NORTH COASTAL	GEORGIA PACIFIC	A0045	1	0.0
NORTH COASTAL	HERNANDO AIRPORT	A0430	1	9.6
NORTH COASTAL	HERNANDO AIRPORT	A0431	1	7.7

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH COASTAL	HIGH SPRINGS	A0015	1	8.6
NORTH COASTAL	HIGH SPRINGS	A0016	2	6.9
NORTH COASTAL	HOLDER	A0047	1	0.0
NORTH COASTAL	HOLDER	A0048	2	0.0
NORTH COASTAL	HOLDER	A0049	1	0.0
NORTH COASTAL	HOMOSASSA	A0271	3	0.0
NORTH COASTAL	HOMOSASSA	A0272	3	0.0
NORTH COASTAL	HULL ROAD	A0404	1	0.0
NORTH COASTAL	HULL ROAD	A0405	2	0.0
NORTH COASTAL	HULL ROAD	A0406	2	0.0
NORTH COASTAL	INDIAN PASS	N556	1	10.4
NORTH COASTAL	INGLIS	A0078	2	4.5
NORTH COASTAL	INVERNESS	A0081	1	0.0
NORTH COASTAL	INVERNESS	A0082	1	0.0
NORTH COASTAL	INVERNESS	A0083	1	0.0
NORTH COASTAL	INVERNESS	A0084	2	0.0
NORTH COASTAL	INVERNESS	A0085	2	0.0
NORTH COASTAL	JASPER	N191	2	0.0
NORTH COASTAL	JASPER	N192	2	0.0
NORTH COASTAL	JENNINGS	N195	1	0.0
NORTH COASTAL	LADY LAKE	A0243	1	8.2
NORTH COASTAL	LADY LAKE	A0244	2	5.2
NORTH COASTAL	LADY LAKE	A0245	2	6.8
NORTH COASTAL	LADY LAKE	A0246	1	9.0
NORTH COASTAL	LAKE WEIR	A0061	1	5.2
NORTH COASTAL	LAKE WEIR	A0064	2	6.9
NORTH COASTAL	LEBANON	A0132	1	0.0
NORTH COASTAL	LURAVILLE	A0192	1	0.0
NORTH COASTAL	MADISON	N1	2	0.0
NORTH COASTAL	MADISON	N2	2	0.0
NORTH COASTAL	MADISON	N3	1	7.4
NORTH COASTAL	MADISON	N4	1	3.5
NORTH COASTAL	MARICAMP	A0333	1	9.4
NORTH COASTAL	MARICAMP	A0334	2	0.0
NORTH COASTAL	MARICAMP	A0335	1	0.0
NORTH COASTAL	MARICAMP	A0336	2	0.0
NORTH COASTAL	MARTIN	A0038	1	0.0
NORTH COASTAL	MARTIN	A0039	1	0.0
NORTH COASTAL	MCINTOSH	A0050	1	0.0
NORTH COASTAL	MCINTOSH	A0051	2	0.0
NORTH COASTAL	MONTICELLO	N66	1	0.0
NORTH COASTAL	MONTICELLO	N67	1	0.0
NORTH COASTAL	MONTICELLO	N68	2	0.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH COASTAL	MONTICELLO	N69	2	0.0
NORTH COASTAL	NEWBERRY	A0094	1	8.9
NORTH COASTAL	OBRIEN	A0379	1	0.0
NORTH COASTAL	OCHLOCKONEE	N37	2	0.0
NORTH COASTAL	OCHLOCKONEE	N38	1	4.4
NORTH COASTAL	ORANGE BLOSSOM	A0309	2	5.4
NORTH COASTAL	ORANGE BLOSSOM	A0310	1	8.9
NORTH COASTAL	ORANGE BLOSSOM	A0388	2	7.4
NORTH COASTAL	ORANGE BLOSSOM	A0389	1	6.7
NORTH COASTAL	ORANGE BLOSSOM	A0392	1	7.2
NORTH COASTAL	ORANGE BLOSSOM	A0394	2	8.1
NORTH COASTAL	PERRY	N10	2	0.0
NORTH COASTAL	PERRY	N7	1	0.0
NORTH COASTAL	PERRY	N8	1	0.0
NORTH COASTAL	PERRY	N9	2	0.0
NORTH COASTAL	PERRY NORTH	N14	1	0.0
NORTH COASTAL	PERRY NORTH	N15	1	0.0
NORTH COASTAL	PINE RIDGE	A0422	1	0.0
NORTH COASTAL	PINE RIDGE	A0423	1	0.0
NORTH COASTAL	PINE RIDGE	A0425	1	0.0
NORTH COASTAL	PORT ST. JOE	N52	2	0.0
NORTH COASTAL	PORT ST. JOE	N53	2	0.0
NORTH COASTAL	PORT ST. JOE	N54	2	4.7
NORTH COASTAL	PORT ST. JOE	N55	2	0.0
NORTH COASTAL	PORT ST. JOE INDUSTRIAL	N201	1	0.0
NORTH COASTAL	PORT ST. JOE INDUSTRIAL	N202	1	0.0
NORTH COASTAL	PORT ST. JOE INDUSTRIAL	N203	1	0.0
NORTH COASTAL	RAINBOW SPRINGS	A0368	1	0.0
NORTH COASTAL	RAINBOW SPRINGS	A0369	2	0.0
NORTH COASTAL	REDDICK	A0034	2	0.0
NORTH COASTAL	REDDICK	A0035	2	0.0
NORTH COASTAL	REDDICK	A0036	1	0.0
NORTH COASTAL	ROSS PRAIRIE	A0112	3	0.0
NORTH COASTAL	SANTOS	A0230	1	0.0
NORTH COASTAL	SANTOS	A0231	2	0.0
NORTH COASTAL	SANTOS	A0233	1	0.0
NORTH COASTAL	SILVER SPRINGS	A0153	3	0.0
NORTH COASTAL	SILVER SPRINGS	A0154	3	0.0
NORTH COASTAL	SILVER SPRINGS SHORES	A0128	2	0.0
NORTH COASTAL	SILVER SPRINGS SHORES	A0129	1	8.8
NORTH COASTAL	SILVER SPRINGS SHORES	A0130	1	5.9
NORTH COASTAL	SILVER SPRINGS SHORES	A0131	2	10.8
NORTH COASTAL	SOPCHOPPY	N327	1	5.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH COASTAL	ST MARKS WEST	N331W	2	0.0
NORTH COASTAL	ST MARKS WEST	N332W	1	0.0
NORTH COASTAL	ST MARKS WEST	N336	2	0.0
NORTH COASTAL	ST. GEORGE ISLAND	N233	1	8.6
NORTH COASTAL	ST. GEORGE ISLAND	N234	1	4.0
NORTH COASTAL	SUWANNEE RIVER PLANT	N0324	5	0.0
NORTH COASTAL	SUWANNEE RIVER PLANT	N323	4	0.0
NORTH COASTAL	SUWANNEE RIVER PLANT	N325	5	0.0
NORTH COASTAL	TANGERINE	A0262	3	10.7
NORTH COASTAL	TANGERINE	A0263	3	0.0
NORTH COASTAL	TANGERINE	A0264	3	0.0
NORTH COASTAL	TRENTON	A0090	1	0.0
NORTH COASTAL	TRENTON	A0091	1	0.0
NORTH COASTAL	TROPIC TERRACE	A0207	2	0.0
NORTH COASTAL	TROPIC TERRACE	A0208	2	0.0
NORTH COASTAL	TROPIC TERRACE	A0212	1	0.0
NORTH COASTAL	TWIN COUNTY RANCH	A0216	1	5.2
NORTH COASTAL	TWIN COUNTY RANCH	A0218	2	5.5
NORTH COASTAL	TWIN COUNTY RANCH	A0219	2	4.0
NORTH COASTAL	TWIN COUNTY RANCH	A0221	1	5.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0026	3	0.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0027	1	0.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0028	3	0.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0956	2	0.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0957	2	0.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0958	1	0.0
NORTH COASTAL	UNIVERSITY OF FLORIDA	A0959	1	0.0
NORTH COASTAL	WAUKEENAH	N64	1	0.0
NORTH COASTAL	WAUKEENAH	N65	1	0.0
NORTH COASTAL	WEIRSDALE	A0321	1	6.4
NORTH COASTAL	WEIRSDALE	A0322	2	0.0
NORTH COASTAL	WHITE SPRINGS	N375	2	0.0
NORTH COASTAL	WILDWOOD CITY	A0395	1	0.0
NORTH COASTAL	WILDWOOD CITY	A0396	1	0.0
NORTH COASTAL	WILDWOOD CITY	A0397	2	0.0
NORTH COASTAL	WILDWOOD CITY	A0398	2	0.0
NORTH COASTAL	WILLISTON	A0124	1	0.0
NORTH COASTAL	WILLISTON	A0125	2	0.0
NORTH COASTAL	ZUBER	A0202	1	0.0
NORTH COASTAL	ZUBER	A0203	1	0.0
NORTH COASTAL	ZUBER	A0204	2	0.0
NORTH COASTAL	ZUBER	A0205	2	0.0
NORTH CENTRAL	ALAFAYA	W0289	2	9.1

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	ALAFAYA	W0290	2	8.7
NORTH CENTRAL	ALAFAYA	W0297	3	9.7
NORTH CENTRAL	ALAFAYA	W0298	3	10.4
NORTH CENTRAL	ALTAMONTE	M0571	1	5.0
NORTH CENTRAL	ALTAMONTE	M0572	1	9.0
NORTH CENTRAL	ALTAMONTE	M0573	1	2.9
NORTH CENTRAL	ALTAMONTE	M0574	1	5.9
NORTH CENTRAL	ALTAMONTE	M0575	2	6.5
NORTH CENTRAL	ALTAMONTE	M0576	2	8.3
NORTH CENTRAL	ALTAMONTE	M0578	2	9.0
NORTH CENTRAL	ALTAMONTE	M0579	2	10.5
NORTH CENTRAL	APOPKA SOUTH	M0720	3	9.5
NORTH CENTRAL	APOPKA SOUTH	M0721	3	9.9
NORTH CENTRAL	APOPKA SOUTH	M0723	1	7.0
NORTH CENTRAL	APOPKA SOUTH	M0724	1	4.6
NORTH CENTRAL	APOPKA SOUTH	M0725	2	9.5
NORTH CENTRAL	APOPKA SOUTH	M0726	2	6.7
NORTH CENTRAL	APOPKA SOUTH	M0727	2	5.2
NORTH CENTRAL	BARBERVILLE	W0901	1	0.0
NORTH CENTRAL	BARBERVILLE	W0902	1	6.2
NORTH CENTRAL	BARBERVILLE	W0903	2	1.7
NORTH CENTRAL	BARBERVILLE	W0904	2	4.0
NORTH CENTRAL	BAY RIDGE	M0445	2	3.3
NORTH CENTRAL	BAY RIDGE	M0447	1	7.2
NORTH CENTRAL	BAY RIDGE	M0451	2	8.2
NORTH CENTRAL	BAY RIDGE	M0453	1	6.5
NORTH CENTRAL	BITHLO	W0951	1	9.5
NORTH CENTRAL	BITHLO	W0952	1	4.4
NORTH CENTRAL	BITHLO	W0953	1	8.7
NORTH CENTRAL	BITHLO	W0954	2	8.8
NORTH CENTRAL	BITHLO	W0955	2	8.9
NORTH CENTRAL	BITHLO	W0956	2	8.6
NORTH CENTRAL	CASSADAGA	W0515	3	4.8
NORTH CENTRAL	CASSADAGA	W0516	3	7.3
NORTH CENTRAL	CASSADAGA	W0517	3	5.3
NORTH CENTRAL	CASSADAGA	W0523	2	4.4
NORTH CENTRAL	CASSADAGA	W0524	2	7.5
NORTH CENTRAL	CASSADAGA	W0525	2	0.0
NORTH CENTRAL	CASSELBERRY	W0017	1	6.3
NORTH CENTRAL	CASSELBERRY	W0018	1	4.5
NORTH CENTRAL	CASSELBERRY	W0019	1	8.1
NORTH CENTRAL	CASSELBERRY	W0020	1	9.3
NORTH CENTRAL	CASSELBERRY	W0021	2	4.8

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	CASSELBERRY	W0022	2	9.9
NORTH CENTRAL	CASSELBERRY	W0025	2	5.7
NORTH CENTRAL	CASSELBERRY	W0026	2	9.2
NORTH CENTRAL	CASSELBERRY	W0027	3	10.7
NORTH CENTRAL	CASSELBERRY	W0028	3	4.7
NORTH CENTRAL	CASSELBERRY	W0029	3	4.6
NORTH CENTRAL	CHRISTMAS	1282-1	1	0.0
NORTH CENTRAL	CHRISTMAS	1282-2	1	0.0
NORTH CENTRAL	DELAND	W0803	1	7.1
NORTH CENTRAL	DELAND	W0804	1	5.5
NORTH CENTRAL	DELAND	W0805	1	6.4
NORTH CENTRAL	DELAND	W0806	2	7.5
NORTH CENTRAL	DELAND	W0807	2	7.0
NORTH CENTRAL	DELAND	W0808	2	6.8
NORTH CENTRAL	DELAND	W0809	2	9.2
NORTH CENTRAL	DELAND EAST	W1102	3	6.4
NORTH CENTRAL	DELAND EAST	W1103	3	6.8
NORTH CENTRAL	DELAND EAST	W1104	3	6.2
NORTH CENTRAL	DELAND EAST	W1105	2	5.8
NORTH CENTRAL	DELAND EAST	W1106	2	5.4
NORTH CENTRAL	DELAND EAST	W1107	2	7.2
NORTH CENTRAL	DELAND EAST	W1108	1	8.3
NORTH CENTRAL	DELAND EAST	W1109	1	4.6
NORTH CENTRAL	DELAND EAST	W1110	1	9.0
NORTH CENTRAL	DELEON SPRINGS	W0032	1	7.6
NORTH CENTRAL	DELEON SPRINGS	W0034	1	4.9
NORTH CENTRAL	DELTONA	W4550	3	9.2
NORTH CENTRAL	DELTONA	W4553	3	7.3
NORTH CENTRAL	DELTONA	W4555	1	6.7
NORTH CENTRAL	DELTONA	W4556	3	8.0
NORTH CENTRAL	DELTONA	W4558	2	7.6
NORTH CENTRAL	DELTONA	W4559	2	0.0
NORTH CENTRAL	DELTONA	W4561	1	4.3
NORTH CENTRAL	DELTONA	W4562	3	9.0
NORTH CENTRAL	DELTONA	W4564	2	9.5
NORTH CENTRAL	DELTONA	W4565	2	5.8
NORTH CENTRAL	DELTONA	W4567	1	6.7
NORTH CENTRAL	DELTONA EAST	W0121	3	7.0
NORTH CENTRAL	DELTONA EAST	W0123	2	7.2
NORTH CENTRAL	DELTONA EAST	W0124	3	9.2
NORTH CENTRAL	DELTONA EAST	W0126	2	5.0
NORTH CENTRAL	DELTONA EAST	W0130	3	8.4
NORTH CENTRAL	DELTONA EAST	W0132	2	7.7

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	DOUGLAS AVENUE	M1704	1	5.0
NORTH CENTRAL	DOUGLAS AVENUE	M1706	2	6.4
NORTH CENTRAL	DOUGLAS AVENUE	M1707	1	5.5
NORTH CENTRAL	DOUGLAS AVENUE	M1709	2	8.9
NORTH CENTRAL	DOUGLAS AVENUE	M1710	1	0.0
NORTH CENTRAL	DOUGLAS AVENUE	M1712	2	6.4
NORTH CENTRAL	EAST ORANGE	W0250	2	12.1
NORTH CENTRAL	EAST ORANGE	W0252	3	8.6
NORTH CENTRAL	EAST ORANGE	W0253	2	8.1
NORTH CENTRAL	EAST ORANGE	W0255	3	6.1
NORTH CENTRAL	EAST ORANGE	W0265	2	7.7
NORTH CENTRAL	EAST ORANGE	W0270	3	0.0
NORTH CENTRAL	EAST ORANGE	W0271	2	6.6
NORTH CENTRAL	EAST ORANGE	W0273	1	3.3
NORTH CENTRAL	EAST ORANGE	W0274	3	10.4
NORTH CENTRAL	EAST ORANGE	W0276	1	3.9
NORTH CENTRAL	EAST ORANGE	W0279	1	0.0
NORTH CENTRAL	EAST ORANGE	W0281	3	11.7
NORTH CENTRAL	EATONVILLE	M1131	1	5.2
NORTH CENTRAL	EATONVILLE	M1132	1	9.4
NORTH CENTRAL	EATONVILLE	M1133	1	5.1
NORTH CENTRAL	EATONVILLE	M1135	2	9.6
NORTH CENTRAL	EATONVILLE	M1136	2	8.8
NORTH CENTRAL	EATONVILLE	M1137	2	7.4
NORTH CENTRAL	EATONVILLE	M1138	3	6.3
NORTH CENTRAL	EATONVILLE	M1139	3	8.4
NORTH CENTRAL	ECON	W0318	2	5.5
NORTH CENTRAL	ECON	W0320	1	8.9
NORTH CENTRAL	ECON	W0321	2	8.1
NORTH CENTRAL	ECON	W0324	2	8.5
NORTH CENTRAL	ECON	W0326	1	9.5
NORTH CENTRAL	ECON	W0327	2	10.1
NORTH CENTRAL	ECON	W0329	1	10.0
NORTH CENTRAL	EUSTIS	M0499	2	6.5
NORTH CENTRAL	EUSTIS	M0500	2	4.7
NORTH CENTRAL	EUSTIS	M0501	2	3.9
NORTH CENTRAL	EUSTIS	M0502	1	0.0
NORTH CENTRAL	EUSTIS	M0503	1	5.5
NORTH CENTRAL	EUSTIS	M0504	1	9.4
NORTH CENTRAL	EUSTIS SOUTH	M1054	2	4.8
NORTH CENTRAL	EUSTIS SOUTH	M1055	2	8.7
NORTH CENTRAL	EUSTIS SOUTH	M1056	2	6.2
NORTH CENTRAL	EUSTIS SOUTH	M1057	1	6.2

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	EUSTIS SOUTH	M1058	1	7.3
NORTH CENTRAL	EUSTIS SOUTH	M1059	1	6.3
NORTH CENTRAL	FERN PARK	1807-1	2	0.0
NORTH CENTRAL	FERN PARK	M0907	1	6.6
NORTH CENTRAL	FERN PARK	M0908	1	5.2
NORTH CENTRAL	FERN PARK	M0909	1	5.6
NORTH CENTRAL	HIGHBANKS	1123-1	1	0.0
NORTH CENTRAL	HIGHBANKS	1123-2	1	0.0
NORTH CENTRAL	KELLER ROAD	M0001	1	9.0
NORTH CENTRAL	KELLER ROAD	M0002	2	2.4
NORTH CENTRAL	KELLER ROAD	M0003	1	9.3
NORTH CENTRAL	KELLER ROAD	M0004	2	4.2
NORTH CENTRAL	KELLY PARK	M0821	2	4.9
NORTH CENTRAL	KELLY PARK	M0822	2	4.0
NORTH CENTRAL	LAKE ALOMA	W0151	1	6.0
NORTH CENTRAL	LAKE ALOMA	W0153	1	7.0
NORTH CENTRAL	LAKE ALOMA	W0158	2	3.5
NORTH CENTRAL	LAKE ALOMA	W0161	2	9.0
NORTH CENTRAL	LAKE EMMA	M0421	2	6.0
NORTH CENTRAL	LAKE EMMA	M0422	2	6.1
NORTH CENTRAL	LAKE EMMA	M0423	2	4.1
NORTH CENTRAL	LAKE EMMA	M0424	2	4.3
NORTH CENTRAL	LAKE EMMA	M0425	1	3.6
NORTH CENTRAL	LAKE EMMA	M0426	1	6.2
NORTH CENTRAL	LAKE EMMA	M0427	1	5.4
NORTH CENTRAL	LAKE EMMA	M0428	1	7.5
NORTH CENTRAL	LAKE HELEN	W1700	1	7.6
NORTH CENTRAL	LAKE HELEN	W1701	2	4.6
NORTH CENTRAL	LAKE HELEN	W1703	1	6.7
NORTH CENTRAL	LAKE HELEN	W1704	2	7.3
NORTH CENTRAL	LAKE WINNEMISSETT	1099-1	1	0.0
NORTH CENTRAL	LAKE WINNEMISSETT	1099-2	1	0.0
NORTH CENTRAL	LISBON	M1517	2	8.2
NORTH CENTRAL	LISBON	M1518	1	5.7
NORTH CENTRAL	LISBON	M1519	2	6.5
NORTH CENTRAL	LISBON	M1520	1	5.8
NORTH CENTRAL	LOCKHART	M0400	1	9.6
NORTH CENTRAL	LOCKHART	M0402	2	10.5
NORTH CENTRAL	LOCKHART	M0406	1	7.7
NORTH CENTRAL	LOCKHART	M0408	2	4.0
NORTH CENTRAL	LOCKHART	M0412	1	9.2
NORTH CENTRAL	LOCKHART	M0414	2	5.1
NORTH CENTRAL	LOCKHART	M0415	1	0.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	LOCKHART	M0417	2	14.4
NORTH CENTRAL	LOCKWOOD	1759-1	2	0.0
NORTH CENTRAL	LOCKWOOD	W0480	1	8.3
NORTH CENTRAL	LOCKWOOD	W0481	1	7.6
NORTH CENTRAL	LOCKWOOD	W0482	1	8.1
NORTH CENTRAL	LONGWOOD	M0142	1	10.2
NORTH CENTRAL	LONGWOOD	M0143	1	7.1
NORTH CENTRAL	LONGWOOD	M0144	2	7.0
NORTH CENTRAL	LONGWOOD	M0145	2	6.7
NORTH CENTRAL	MAITLAND	M0080	3	9.2
NORTH CENTRAL	MAITLAND	M0081	1	5.4
NORTH CENTRAL	MAITLAND	M0082	1	8.2
NORTH CENTRAL	MAITLAND	M0084	1	3.5
NORTH CENTRAL	MAITLAND	M0085	2	7.1
NORTH CENTRAL	MAITLAND	W0079	3	10.6
NORTH CENTRAL	MAITLAND	W0086	2	5.4
NORTH CENTRAL	MAITLAND	W0087	2	9.6
NORTH CENTRAL	MONASTERY	W0201	1	5.7
NORTH CENTRAL	MONASTERY	W0202	1	6.5
NORTH CENTRAL	MONASTERY	W0203	1	8.2
NORTH CENTRAL	MYRTLE LAKE	M0648	2	8.1
NORTH CENTRAL	MYRTLE LAKE	M0649	2	9.0
NORTH CENTRAL	MYRTLE LAKE	M0650	2	6.5
NORTH CENTRAL	MYRTLE LAKE	M0651	2	7.4
NORTH CENTRAL	MYRTLE LAKE	M0656	3	0.0
NORTH CENTRAL	MYRTLE LAKE	M0657	3	8.4
NORTH CENTRAL	MYRTLE LAKE	M0658	3	6.0
NORTH CENTRAL	MYRTLE LAKE	M0659	3	7.8
NORTH CENTRAL	NORTH LONGWOOD	M1749	6	8.1
NORTH CENTRAL	NORTH LONGWOOD	M1751	7	9.8
NORTH CENTRAL	NORTH LONGWOOD	M1755	6	6.2
NORTH CENTRAL	NORTH LONGWOOD	M1757	7	5.8
NORTH CENTRAL	NORTH LONGWOOD	M1758	6	5.6
NORTH CENTRAL	NORTH LONGWOOD	M1760	7	5.8
NORTH CENTRAL	NORTH LONGWOOD	M1761	6	12.3
NORTH CENTRAL	NORTH LONGWOOD	M1763	7	8.7
NORTH CENTRAL	ORANGE CITY	W0370	3	6.8
NORTH CENTRAL	ORANGE CITY	W0372	2	7.6
NORTH CENTRAL	ORANGE CITY	W0376	3	8.5
NORTH CENTRAL	ORANGE CITY	W0378	2	3.8
NORTH CENTRAL	ORANGE CITY	W0382	3	6.8
NORTH CENTRAL	ORANGE CITY WEST	1662-1	1	0.0
NORTH CENTRAL	ORANGE CITY WEST	1662-2	1	0.0

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	OVIEDO	W0171	1	8.4
NORTH CENTRAL	OVIEDO	W0172	1	8.9
NORTH CENTRAL	OVIEDO	W0174	2	7.7
NORTH CENTRAL	OVIEDO	W0175	2	5.6
NORTH CENTRAL	OVIEDO	W0176	3	8.2
NORTH CENTRAL	OVIEDO	W0181	3	6.2
NORTH CENTRAL	PIEDMONT	M0471	2	9.0
NORTH CENTRAL	PIEDMONT	M0472	2	7.7
NORTH CENTRAL	PIEDMONT	M0473	2	10.5
NORTH CENTRAL	PIEDMONT	M0474	2	9.6
NORTH CENTRAL	PIEDMONT	M0475	1	8.3
NORTH CENTRAL	PIEDMONT	M0476	1	6.1
NORTH CENTRAL	PIEDMONT	M0477	1	8.1
NORTH CENTRAL	PIEDMONT	M0478	1	9.3
NORTH CENTRAL	PLYMOUTH	M0702	1	0.5
NORTH CENTRAL	PLYMOUTH	M0704	1	9.7
NORTH CENTRAL	PLYMOUTH	M0706	2	3.1
NORTH CENTRAL	PLYMOUTH	M0707	2	5.6
NORTH CENTRAL	SPRING LAKE	M0662	2	6.7
NORTH CENTRAL	SPRING LAKE	M0663	2	5.8
NORTH CENTRAL	SPRING LAKE	M0664	2	10.0
NORTH CENTRAL	SPRING LAKE	M0666	1	4.8
NORTH CENTRAL	SPRING LAKE	M0667	1	5.8
NORTH CENTRAL	SPRING LAKE	M0668	1	9.7
NORTH CENTRAL	SPRING LAKE	M0669	3	7.1
NORTH CENTRAL	SPRING LAKE	M0670	3	7.1
NORTH CENTRAL	SUNFLOWER	W0469	1	13.3
NORTH CENTRAL	SUNFLOWER	W0470	1	10.3
NORTH CENTRAL	SUNFLOWER	W0471	1	8.2
NORTH CENTRAL	SUNFLOWER	W0472	2	12.4
NORTH CENTRAL	SUNFLOWER	W0473	2	9.3
NORTH CENTRAL	SUNFLOWER	W0474	2	9.8
NORTH CENTRAL	SUNFLOWER	W0475	1	0.0
NORTH CENTRAL	SUNFLOWER	W0476	2	0.0
NORTH CENTRAL	TAVARES EAST	M0580	1	5.5
NORTH CENTRAL	TAVARES EAST	M0581	1	6.0
NORTH CENTRAL	TURNER PLANT	W0761	8	7.9
NORTH CENTRAL	TURNER PLANT	W0762	8	6.1
NORTH CENTRAL	TURNER PLANT	W0763	10	6.5
NORTH CENTRAL	TURNER PLANT	W0764	10	5.2
NORTH CENTRAL	UCF	0976-1	1	0.0
NORTH CENTRAL	UCF	W1012	1	10.8
NORTH CENTRAL	UCF	W1013	1	7.3

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	UCF	W1014	1	10.8
NORTH CENTRAL	UCF	W1015	2	7.7
NORTH CENTRAL	UCF	W1016	2	4.2
NORTH CENTRAL	UCF	W1017	2	10.0
NORTH CENTRAL	UCF	W1018	2	7.4
NORTH CENTRAL	UCF NORTH	W0940	3	0.0
NORTH CENTRAL	UCF NORTH	W0942	1	2.5
NORTH CENTRAL	UCF NORTH	W0980	1	10.1
NORTH CENTRAL	UCF NORTH	W0981	2	8.6
NORTH CENTRAL	UCF NORTH	W0982	2	7.1
NORTH CENTRAL	UCF NORTH	W0983	1	11.3
NORTH CENTRAL	UCF NORTH	W0988	3	11.2
NORTH CENTRAL	UCF NORTH	W0989	1	6.8
NORTH CENTRAL	UCF NORTH	W0992	2	0.0
NORTH CENTRAL	UCF NORTH	W0994	3	9.8
NORTH CENTRAL	UMATILLA	M4405	2	6.2
NORTH CENTRAL	UMATILLA	M4407	1	6.6
NORTH CENTRAL	UMATILLA	M4408	1	4.5
NORTH CENTRAL	WEKIVA	M0101	1	5.2
NORTH CENTRAL	WEKIVA	M0103	2	4.7
NORTH CENTRAL	WEKIVA	M0104	2	5.0
NORTH CENTRAL	WEKIVA	M0106	1	6.6
NORTH CENTRAL	WEKIVA	M0107	1	6.9
NORTH CENTRAL	WEKIVA	M0109	2	4.9
NORTH CENTRAL	WEKIVA	M0110	2	7.8
NORTH CENTRAL	WEKIVA	M0112	1	6.1
NORTH CENTRAL	WEKIVA	M0113	2	6.9
NORTH CENTRAL	WEKIVA	M0115	1	4.9
NORTH CENTRAL	WELCH ROAD	M0542	1	8.9
NORTH CENTRAL	WELCH ROAD	M0543	1	4.8
NORTH CENTRAL	WELCH ROAD	M0545	3	9.5
NORTH CENTRAL	WELCH ROAD	M0548	3	6.3
NORTH CENTRAL	WELCH ROAD	M0550	1	8.3
NORTH CENTRAL	WELCH ROAD	M0552	1	5.3
NORTH CENTRAL	WELCH ROAD	M0554	3	7.1
NORTH CENTRAL	WELCH ROAD	M0560	3	0.0
NORTH CENTRAL	WEST CHAPMAN	W0700	3	9.1
NORTH CENTRAL	WEST CHAPMAN	W0702	2	5.5
NORTH CENTRAL	WEST CHAPMAN	W0703	3	8.2
NORTH CENTRAL	WEST CHAPMAN	W0705	2	4.3
NORTH CENTRAL	WEST CHAPMAN	W0706	2	0.0
NORTH CENTRAL	WEST CHAPMAN	W0708	3	9.4
NORTH CENTRAL	WINTER PARK	W0014	4	2.2
NORTH CENTRAL	WINTER PARK	W0015	4	7.2
NORTH CENTRAL	WINTER PARK	W0016	4	5.0
NORTH CENTRAL	WINTER PARK EAST	0976D5	3	0.0
NORTH CENTRAL	WINTER PARK EAST	W0924	1	11.2
NORTH CENTRAL	WINTER PARK EAST	W0925	1	11.0
NORTH CENTRAL	WINTER PARK EAST	W0926	1	8.9
NORTH CENTRAL	WINTER PARK EAST	W0927	1	8.3

Load Area	NAME	BANK	FEEDER NAME	PLANNER PEAK MVA
NORTH CENTRAL	WINTER PARK EAST	W0928	3	9.1
NORTH CENTRAL	WINTER PARK EAST	W0929	3	10.4
NORTH CENTRAL	WINTER PARK EAST	W0930	3	5.9
NORTH CENTRAL	WINTER PARK EAST	W0931	3	10.3
NORTH CENTRAL	WINTER SPRINGS	W0187	3	7.5
NORTH CENTRAL	WINTER SPRINGS	W0188	3	7.9
NORTH CENTRAL	WINTER SPRINGS	W0189	3	8.1
NORTH CENTRAL	WINTER SPRINGS	W0192	1	8.4
NORTH CENTRAL	WINTER SPRINGS	W0194	1	7.1
NORTH CENTRAL	WINTER SPRINGS	W0195	2	9.0
NORTH CENTRAL	WINTER SPRINGS	W0196	2	8.7
NORTH CENTRAL	WOLF LAKE	M0563	1	0.0
NORTH CENTRAL	WOLF LAKE	M0564	1	0.0
NORTH CENTRAL	ZELLWOOD	M0031	1	7.6
NORTH CENTRAL	ZELLWOOD	M0032	1	9.9
NORTH CENTRAL	ZELLWOOD	M0033	2	7.8
NORTH CENTRAL	ZELLWOOD	M0034	2	7.6

ATTACHMENT H

Received Jan 1 to Dec 31, 2015

75 Complaints

DEF logged as Power Quality & Reliability

Date Received	PSC Complaint #	DEF Category	PSC Ruling	PSC Closure Code
2/17/2015	1174424	Outages - Frequent	Non Infraction	GI-15 OUTAGES
1/28/2015	1170488E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
1/13/2015	1171205E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
2/3/2015	1173194E	Voltage Issues	Non Infraction	GI-17 SAFETY ISSUES
2/3/2015	1173211E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
2/4/2015	1173376E	Equipment/Facilities Issues	Non Infraction	GI-17 SAFETY ISSUES
2/13/2015	1174207E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
2/17/2015	1174455E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
3/2/2015	1175584E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
3/4/2015	1175770E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
3/10/2015	1176341E	Equipment/Facilities Issues	Non Infraction	GI-17 SAFETY ISSUES
4/28/2015	1180150E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/7/2015	1180871E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/7/2015	1180888E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/21/2015	1181954E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/22/2015	1182108E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/26/2015	1182153E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/26/2015	1182161E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
5/26/2015	1182283E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
5/27/2015	1182298E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
6/1/2015	1182647E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/1/2015	1182694E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
6/2/2015	1182724E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/12/2015	1183567E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/16/2015	1183813E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/16/2015	1183816E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/18/2015	1184062E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/22/2015	1184445E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/24/2015	1184661E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
6/25/2015	1184780E	Equipment/Facilities Issues	Non Infraction	GI-11 REPAIR SERVICE
6/29/2015	1184937E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
6/29/2015	1185010E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
7/7/2015	1185625E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/9/2015	1185790E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/9/2015	1185845E	Voltage Issues	Non Infraction	GI-11 REPAIR SERVICE
7/13/2015	1186104E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
7/13/2015	1186109E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
7/13/2015	1186126E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
7/14/2015	1186170E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/16/2015	1186490E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
7/20/2015	1186645E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
7/20/2015	1186705E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
7/22/2015	1186968E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
7/27/2015	1187290E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
7/29/2015	1187580E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
7/31/2015	1187876E	Tree Trimming	Non Infraction	GI-18 TREE TRIMMING
8/17/2015	1189278E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/19/2015	1189526E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
8/24/2015	1189877E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
8/25/2015	1190024E	Outages - Frequent	Non Infraction	GI-15 OUTAGES

8/28/2015	1190439E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
8/31/2015	1190483E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/1/2015	1190727E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/1/2015	1190770E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
9/2/2015	1190804E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/8/2015	1191154E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/9/2015	1191410E	Tree Trimming	Non Infraction	GI-30 QUALITY OF SERVICE
9/16/2015	1192107E	Outages - Delay in Restoring Service	Non Infraction	GI-15 OUTAGES
9/21/2015	1192463E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/21/2015	1192612E	Outages - Momentary	Non Infraction	GI-15 OUTAGES
9/22/2015	1192724E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/24/2015	1192956E	Equipment/Facilities Issues	Non Infraction	GI-11 REPAIR SERVICE
9/29/2015	1193448E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
9/29/2015	1193527E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/2/2015	1193824E	Voltage Issues	Non Infraction	GI-11 REPAIR SERVICE
10/6/2015	1194191E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
10/19/2015	1195265E	Outages - Momentary	Non Infraction	GI-19 MOMENTARY ELECTRIC OUTAGES
10/30/2015	1196484E	Outages - Momentary		
11/4/2015	1196832E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
11/9/2015	1197228E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
11/12/2015	1197511E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
11/16/2015	1197792E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
12/3/2015	1198945E	Outages - Frequent	Non Infraction	GI-15 OUTAGES
12/7/2015	1199121E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE
12/8/2015	1199344E	Street Lights/Area Lights-Repair	Non Infraction	GI-11 REPAIR SERVICE

Received Jan 1 to Dec 31, 2015

75 Complaints

PSC Service Reliability Only Closure Codes

Date Received	PSC Complaint #	DEF Category	PSC Closure Code
2/17/2015	1174424	Outages - Frequent	GI-15 OUTAGES
1/28/2015	1170488E	Outages - Frequent	GI-15 OUTAGES
1/13/2015	1171205E	Outages - Frequent	GI-15 OUTAGES
2/3/2015	1173194E	Voltage Issues	GI-17 SAFETY ISSUES
2/3/2015	1173211E	Tree Trimming	GI-18 TREE TRIMMING
2/4/2015	1173376E	Equipment/Facilities Issues	GI-17 SAFETY ISSUES
2/13/2015	1174207E	Outages - Momentary	GI-15 OUTAGES
2/17/2015	1174455E	Outages - Frequent	GI-15 OUTAGES
3/2/2015	1175580E	Claims	GI-17 SAFETY ISSUES
3/2/2015	1175584E	Outages - Frequent	GI-15 OUTAGES
3/4/2015	1175770E	Tree Trimming	GI-18 TREE TRIMMING
3/10/2015	1176341E	Equipment/Facilities Issues	GI-17 SAFETY ISSUES
4/28/2015	1180150E	Outages - Frequent	GI-15 OUTAGES
5/7/2015	1180871E	Outages - Frequent	GI-15 OUTAGES
5/7/2015	1180888E	Outages - Frequent	GI-15 OUTAGES
5/21/2015	1181954E	Outages - Frequent	GI-15 OUTAGES
5/22/2015	1182108E	Outages - Frequent	GI-15 OUTAGES
5/26/2015	1182153E	Outages - Frequent	GI-15 OUTAGES
5/26/2015	1182161E	Outages - Frequent	GI-15 OUTAGES
5/26/2015	1182283E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE
5/27/2015	1182298E	Outages - Momentary	GI-15 OUTAGES
6/1/2015	1182647E	Outages - Frequent	GI-15 OUTAGES
6/1/2015	1182694E	Tree Trimming	GI-18 TREE TRIMMING
6/2/2015	1182724E	Outages - Frequent	GI-15 OUTAGES
6/12/2015	1183567E	Outages - Frequent	GI-15 OUTAGES
6/16/2015	1183813E	Outages - Frequent	GI-15 OUTAGES
6/16/2015	1183816E	Outages - Frequent	GI-15 OUTAGES
6/18/2015	1184062E	Outages - Frequent	GI-15 OUTAGES
6/22/2015	1184445E	Outages - Frequent	GI-15 OUTAGES
6/24/2015	1184661E	Outages - Frequent	GI-15 OUTAGES
6/25/2015	1184780E	Equipment/Facilities Issues	GI-11 REPAIR SERVICE
6/29/2015	1184937E	Outages - Momentary	GI-15 OUTAGES
6/29/2015	1185010E	Outages - Delay in Restoring Service	GI-15 OUTAGES
7/7/2015	1185625E	Outages - Frequent	GI-15 OUTAGES
7/9/2015	1185790E	Outages - Frequent	GI-15 OUTAGES
7/9/2015	1185845E	Voltage Issues	GI-11 REPAIR SERVICE
7/13/2015	1186104E	Outages - Momentary	GI-15 OUTAGES
7/13/2015	1186109E	Outages - Momentary	GI-15 OUTAGES
7/13/2015	1186126E	Outages - Delay in Restoring Service	GI-15 OUTAGES
7/14/2015	1186170E	Outages - Frequent	GI-15 OUTAGES
7/16/2015	1186490E	Outages - Delay in Restoring Service	GI-15 OUTAGES
7/20/2015	1186645E	Outages - Momentary	GI-15 OUTAGES
7/20/2015	1186705E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE
7/22/2015	1186968E	Outages - Frequent	GI-15 OUTAGES
7/27/2015	1187290E	Tree Trimming	GI-18 TREE TRIMMING
7/29/2015	1187580E	Outages - Momentary	GI-15 OUTAGES
7/31/2015	1187876E	Tree Trimming	GI-18 TREE TRIMMING
8/17/2015	1189278E	Outages - Frequent	GI-15 OUTAGES
8/19/2015	1189526E	Outages - Momentary	GI-15 OUTAGES
8/24/2015	1189877E	Outages - Frequent	GI-15 OUTAGES

8/25/2015	1190024E	Outages - Frequent	GI-15 OUTAGES
8/28/2015	1190439E	Outages - Delay in Restoring Service	GI-15 OUTAGES
8/31/2015	1190483E	Outages - Frequent	GI-15 OUTAGES
9/1/2015	1190727E	Outages - Frequent	GI-15 OUTAGES
9/1/2015	1190770E	Outages - Momentary	GI-15 OUTAGES
9/2/2015	1190804E	Outages - Frequent	GI-15 OUTAGES
9/8/2015	1191154E	Outages - Frequent	GI-15 OUTAGES
9/8/2015	1191174E	Service Delays	ES-01 SAFETY PROBLEM 25.6034 & 6.039
9/16/2015	1192107E	Outages - Delay in Restoring Service	GI-15 OUTAGES
9/21/2015	1192463E	Outages - Frequent	GI-15 OUTAGES
9/21/2015	1192612E	Outages - Momentary	GI-15 OUTAGES
9/22/2015	1192724E	Outages - Frequent	GI-15 OUTAGES
9/24/2015	1192956E	Equipment/Facilities Issues	GI-11 REPAIR SERVICE
9/29/2015	1193448E	Outages - Frequent	GI-15 OUTAGES
9/29/2015	1193527E	Outages - Frequent	GI-15 OUTAGES
10/2/2015	1193824E	Voltage Issues	GI-11 REPAIR SERVICE
10/6/2015	1194191E	Outages - Frequent	GI-15 OUTAGES
10/19/2015	1195265E	Outages - Momentary	GI-19 MOMENTARY ELECTRIC OUTAGES
11/4/2015	1196832E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE
11/9/2015	1197228E	Outages - Frequent	GI-15 OUTAGES
11/12/2015	1197511E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE
11/16/2015	1197792E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE
12/3/2015	1198945E	Outages - Frequent	GI-15 OUTAGES
12/7/2015	1199121E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE
12/8/2015	1199344E	Street Lights/Area Lights-Repair	GI-11 REPAIR SERVICE

FPSC Formal (15 day/logged) complaints

Complaint Category																			2015 Month End Total						2015 YR End
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Outages - Momentary	9	22	16	14	21	24	18	10	27	15	12			1			1	1	4	1	2	2			12
Outages - Frequent	40	46	44	62	35	46	21	29	35	53	38		2	2	1	1	6	8	4	4	7	1	1	1	38
Outages - Delay in Restoring	1	1	0	7	7	4	12	2	2	5	5							1	2	1	1				5
Voltage	10	7	8	3	9	2	4	0	3	2	3			1					1			1			3
Equipment/Facilities	10	18	18	13	15	7	12	9	6	5	4			1	1			1			1				4
Tree Trimming	6	5	7	9	11	10	11	8	9	9	6			1	1			1	2		1				6
Safety	2	12	4	9	1	2	1	0	2	1	0														0
Total	**78**	**111**	**97**	**117**	**99**	**95**	**79**	**58**	**84**	**90**	**68**		**2**	**6**	**3**	**1**	**7**	**12**	**13**	**6**	**12**	**4**	**1**	**1**	**68**

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	Completed April 2015	North Central
Buena Vista	Reams Feeder Tie K1110 to K789	Feeder Tie	Planned March 2016 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	Completed May 2015	North Central
Deland	Lake Helen W1701 Feeder Tie	Feeder Tie	Completed March 2015	North Central
Seven Springs	Land O'Lakes - Denham Feeder Tie - Phase 1 of 3	Feeder Tie	Planned March 2016 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	Completed April 2015	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	Completed June 2015	North Central
Apopka	Reconductor Plymouth M707 feeder from 1/0 Al to 795 AAC(tie to M32)	Small Wire Upgrade	Completed December 2015	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	Completed November 2015	South Coastal
Clermont	Change conductor size from 336 to 795 between switch K5330622 and K2227	Small Wire Upgrade	Completed November 2015	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 August 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	Completed August 2015	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.

<u>25-6.0342(3)(b)</u>: *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.*

<u>New Construction</u>:

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 <u>does not call</u> 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.

25-6.0342(3)(c): *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.

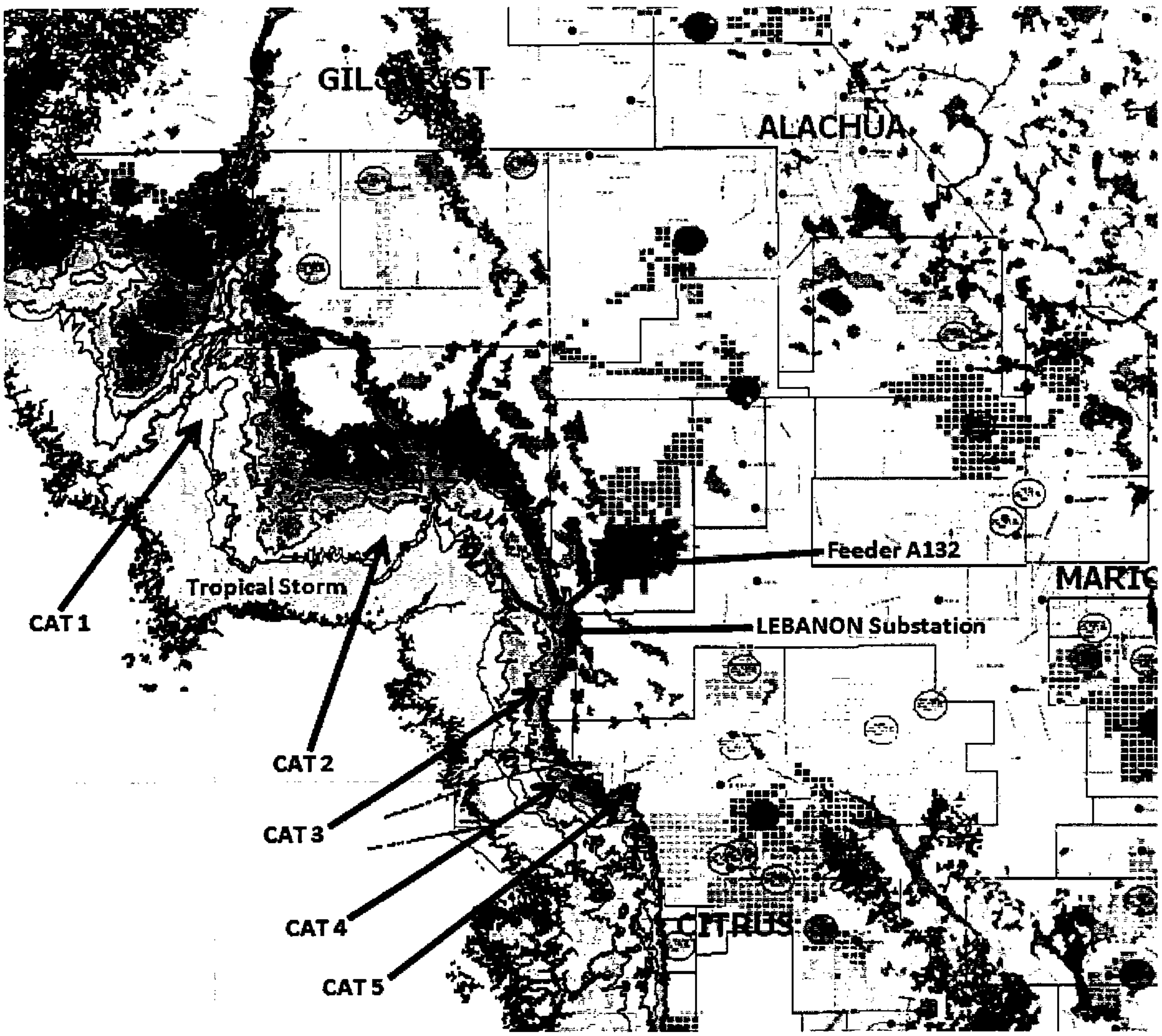
In areas where underground equipment may be exposed to minor storm surge and/or shorter term water intrusion, DEF has used its prioritization model (discussed in detail below) to identify areas where certain mitigation projects will be put into place to test whether flood mitigation techniques and devices 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
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Clermont	Minneola Feeder Tie - Phase 1 of 2	Feeder Tie
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Winter Garden	Orlavista	Feeder Tie
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Apopka	Reconductor Plymouth M707 feeder from 1/0 Al to 795 AAC(tie to M32)	Small Wire Upgrade

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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.

Transmission:

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_Norteast 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

25-6.0342(4)(c): *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.

25-6.0342(4)(d): *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.

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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) <u>Structural Integrity Evaluation</u>

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). <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. 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). Analysis of Existing Joint Use Attachments On Distribution Poles

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). Analysis of Existing Joint Use Attachments On Transmission Poles

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). Records and Reporting

A pole inspection report will be filed with the Division of Economic Regulation by March 1^{st} 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	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
No. of WRs		349	1	-	3	6	9	57	10	42	42	40	43	26	51	19
Manhour Estimate		181,285	302	-	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)		384,004	5,422	-	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)		73	1.03	-	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		20,384,116	41,459	-	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		15,831,128	39,958	-	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%	206	1	-	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%	14,106,658	41,459	-	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%	96%	0%	102%	57%	192%	211%	128%	73%	163%	92%	135%	99%	65%	66%
CIAC Ratio Overall		78%	96%	0%	102%	57%	182%	114%	118%	56%	104%	70%	61%	81%	41%	46%
Based on Units >50																
No of WRs with >50 Units	59%	206	1	0	2	6	6	36	9	30	32	32	23	13	14	2
Est Cost of WRs with >50 units	88%	$ 18,039,599	$ 41,459	$ -	$ 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%	158,613	302	-	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%	383,854	5,422	-	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		72.70	1.03	-	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		$ 113.73	$ 137.27	$ -	$ 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		$ 120.48	$ -	$ -	$ 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		$ 47.00	$ 7.65	$ -	$ 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		$ 53.08	$ 7.65	$ -	$ 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		$ 248,139	$ 40,374	$ -	$ 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		$ 280,279	$ 40,374	$ -	$ 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		0.41	0.06	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		0.44	0.00	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		2,182	294	-	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		2,326	-	-	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	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
No. of Units (Miles)	0.32	2.67	2.67	2.11	10.43	10.00	9.13	14.10	0.94	16.27	1.35	3.07	1.30	-	1.03
Estimated Cost	$ 169,334	$ 914,825	$ 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	$ -	$ 41,459
Cost per Unit (Ft) of WRs with >50 Units	$ 29.46	$ 28.39	$ 28.39	$ 56.44	$ 46.55	$ 54.87	$ 65.93	$ 58.98	$ 76.69	$ 21.06	$ 48.32	$ 70.12	$ 32.71	$ -	$ 7.65

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ATTACHMENT M

Document title:	Document number:
Transmission Line Material Condition Assessment Procedure; Ground Patrols	TECP-MIM-TRM-00026 Revision No.: 001
Keywords: TEEM-EE; transmission, line patrols, inspections	Applies to: Transmission – All Regions

1.0 Introduction

1.1 The material condition of the transmission line structures must be periodically inspected to ensure the assets are in optimum condition. The primary goal of the line assessment is to inspect transmission line structures and their associated components with the purpose of documenting any material deficiencies so corrective work orders are written.

1.2 Ground patrols are to be completed on an entire line, from substation to substation and are to include any connected taps. When a wood line is patrolled it is expected that ALL structures on that line will also be inspected. During ground patrols these additional structure types only require a visual inspection. Detailed lattice tower inspections and groundline steel assessments will utilize separate procedures that are outside the scope of this document. Generally, wood pole lines are inspected at a greater frequency than concrete, steel, or lattice towers.

1.2.1 All wood poles inspected by the Duke Energy contractors shall utilize inspection techniques as detailed on other procedures included in the bid documentation including sound & bore, excavation, and treatment requirements.

1.2.2 The definitions contained herein are not only to be utilized by contractors but are also a useful guide for Duke Energy line technicians, field supervision, and other field personnel. This procedure is also intended to be used as a reference for aerial helicopter patrols; (GDLP-MNT-TRM-00008)

1.2.3 In some Duke Energy jurisdictions regulatory requirements are more stringent than what is contained in this document; when that is the case the regulatory criteria shall be followed.

1.2.4 Inspection of ALL transmission structure components on a line, including poles, insulators, crossarms, guying, bonding, conductors, statics, and grounding systems is expected. Any attached distribution underbuild is also to be inspected for signs of obvious defects.

1.2.5 The intent of this guidance procedure is to capture component deficiencies in a consistent manner acrosse the entire Duke Energy System. Included are conditions that necessitate Priority 1 and 2 component replacements and some Priority 3 repairs. These conditions will be used to create corrective work orders using Duke Energy software.

2.0 Simplified Component Assessment Definitions

2.1 **PRIORITY 3** has some maintenance issues requiring repair, primarily consisting of non-critical work, but the component is in otherwise good condition.

2.2 **PRIORITY 2** components are deteriorated and in need of replacement. A Priority 2 corrective work order will be written when this condition is reported.

2.3 **PRIORITY 1** components are deteriorated and require attention, but does not pose an immediate threat to safety or the system. Depending on specific regional instuctions, a phone call may be required to the field supervison when this condition is found (expectations vary between regions). A Priority 1 corrective work order will be written when this condition is reported.

2.4 **EMINENT DANGER** is a condition that poses an immediate threat to either safety or system integrity. When this condition is encountered, a phone call to field supervision shall be made and the contractor must stay on site until Duke Energy personnel arrives and the area is secured.

3.0 Critical/Major System Components & State Codes

3.1 Transmission Wood Poles

3.1.1 **Priority 3** is described as meeting ANY of the conditions listed below and should be scheduled to be repaired:

- Woodpecker holes are present but can be patched and repaired
- Woodpecker holes are not located in critical pole locations
- Woodpecker holes are limited to “baseball” size in diameter, they do not extend into the pole more than 4 inches, and will not hold water
- Earth washout at pole base requires mitigation

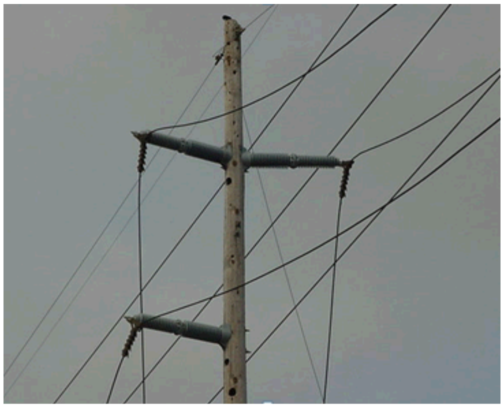
Priority 3 Woodpecker Holes
(Not in critical locations)

Priority 3 Woodpecker Hole
(Does not hold water & can be repaired)

3.1.2 **Priority 2** is described as meeting ANY of the conditions listed below and should be scheduled to be replaced:

- Hammer reveals significant groundline decay pockets that are greater than 6 inches wide and 3 inches deep extending over more than one-quarter of the pole circumference
- Pole is hollow with less than 4 inches of shell thickness extending over more than one-quarter of the pole circumference
- Hammer reveals significant shell cracking or soft wood, indicated by sound or caving of the wood
- Woodpecker holes are extensive and generally at least “softball” sized or greater and extend to the pole center, severely affecting the pole integrity
- Woodpecker holes contain extensive nesting cavities in critical locations. including vicinity of crossarm, plankarm, crossbrace, guy, or insulator connections
- Woodpecker holes contain nesting cavities, or can be seen to hold water
- Pole checks reveal significant evidence of decay, insect damage, or shell seperation, as indicated by caving the pole, sawdust, or sound
- Longitudinal pole top deflection is between 3 to 5 feet
- Transverse pole deflection of more than 20 degrees
- Earth washout at pole base is so substantial it requires replacement
- Pole top decay shall be identified as a pole replacement **ONLY** if the hardware supporting the static has moved or has been jeopardized, the pole top has a significant split, or woodpecker holes are evaluated to be extensive. ***Duke Energy employees are responsible for accessing pole top decay during routine aerial inspections.***

Priority 2 Split Pole Top & Vertical Woodpecker Holes



Priority 2 Woodpecker Holes
(located in critical spots)

Priority 2 Woodpecker Holes
(Quantity and orientation indicates
significant pole decay)

3.1.3 **Priority 1** is described as meeting ANY of the conditions listed below. This pole should be scheduled to be replaced:

- Hammer and probing reveals decay extending towards the polel center
- Pole is hollow with less than 2 inches of shell thickness extending over more than one-quarter of the pole circumference
- Woodpecker holes extend through the pole and daylight is visible.
- Longitudinal pole deflection exceeds 5 feet
- Extensive longitudinal cracking exists through critical attachments of the pole
- Earth washout at pole base possibly compromises the structure integrity

Priority 1 Internal Decay
(Shell thickness less than 1 inch)

Priority 1 Internal Decay
(Deep decay pocket)

Green Growth
(May be an indicator of substantial pole decay)

Priority 1 Groundline Pole Decay
(with large internal cavity)

Priority 1 WoodPecker Holes

3.2 **Transmission Line Crossarms, Plankarms, Crossbraces, & Kneebraces**

3.2.1 **Priority 3** is described as meeting one or more of the conditions listed below. Repairs work orders will be written.

- Hardware is missing or is visually seen to be loose

3.2.2 **Priority 2** is described as meeting ANY of the conditions listed below and should be scheduled to be replaced:

- Member has wide (> 1 inch) cracks that can hold water
- When hammer tested member can be caved
- Separation exists between laminate sections of crossbraces
- Woodpecker holes are present
- Crossarm out of plumb or rolled by more than 45 degrees
- Crossarm supporting brace is broken

Priority 2 Rolled Pin Type Insulator Mounted above Wood Arm

3.2.3 **Priority 1** is described as meeting ANY of the conditions listed below and should be scheduled to be replaced:

- Member is either split or broken

3.3 **Transmission Line Porcelain Insulators**

3.3.1 **Priority 3** is described as meeting the condition listed below. A repair work order will be written.

- Insulator units with significant bird contamination

3.3.2 **Priority 2** is described as meeting one or more of the conditions listed below and should be replaced:

- Suspension type insulators have pin rust with some loss of material and/or swelling of the pin base
- Suspension type insulators with two or more significantly broken insulators or in a string at 44 kV, three or more at 69/115 kV, and four or more at 230/345/500 kV. NOTE: Chipped Insulators do not meet the definition of broken.
- Insulators with significant signs of flashing or burn. ***Duke Energy employees are responsible for accessing flashed insulators during routine aerial inspections.***
- Pin type insulators mounted above crossarms have broken 2 or more broken skirts or the top skirt is broken
- Pin type insulators mounted above crossarms are rolled more than 30 degrees from vertical

3.3.3 **Priority 1** is described as meeting ANY of the conditions listed below and should be scheduled to be replaced:

- Suspension type insulators have advanced pin rust with significant loss of material and/or swelling of the pin base
- Suspension type insulators have more than half of their bells broken.
- Pin type insulators mounted above crossarms have more than half of their skirts broken

Priority 1 Porcelain Spark Erosion
These can be difficult to see/evaluate

Typical Priority 1 “Ball & Socket” Insulator

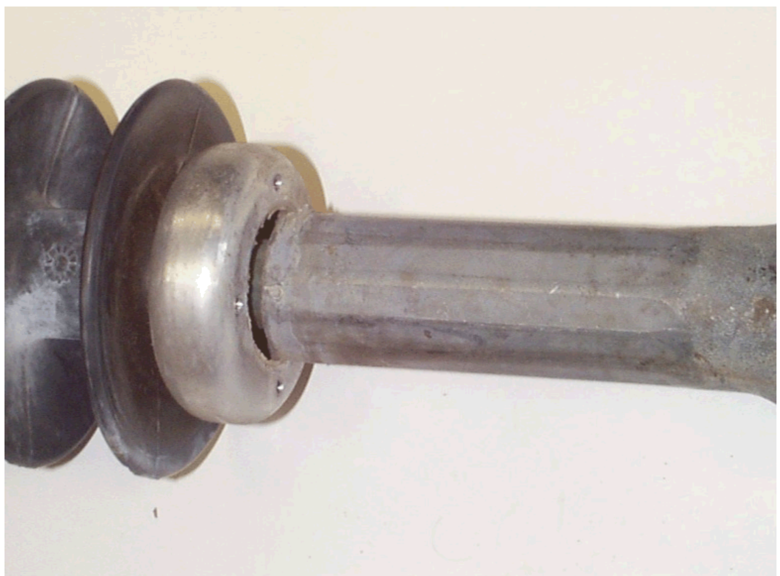
3.4 Transmission Line Polymer Insulators

3.4.1 **Priority 3** is described as meeting any of the conditions listed below. A repair work order will be written.

- Polymer deadend or suspension insulator has either a missing or incorrectly installed corona ring at 138 kV or above (does not apply to line post insulators)

3.4.2 **Priority 2** is described as meeting one or more of the conditions listed below and should be replaced:

- Polymer has an exposed fiberglass rod
- Polymer has open splits or gaps in the rubber housing
- Polymer displays evidence of electrical tracking or leaking interface compound



Priority 2 Polymer Insulator
Exposed Fiberglass Rod (Ohio Brass)

Priority 2 Polymer Insulator
Split Housing (Ohio Brass)

3.4.3 **Priority 1** is described as meeting ANY of the conditions listed below and should be scheduled to be replaced:

- Polymer displays severe damage due to mechanical or electrical reasons

3.5 Transmission Line Conductors

3.5.1 **Priority 2** is described as meeting the condition listed below and should be repaired:

- Conductor has been shot through any of the aluminum strands
- Conductor aluminum strands are unraveled

3.5.2 **Priority 1** is described as meeting ANY of the conditions listed below and should be scheduled to be repaired or replaced:

- Conductor has been shot through any of the steel strands
- Conductor splice has high infrared readings
- Ohm-stick conductor splice resistance guidelines recommend an immediate replacement

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

3.6.1 **Priority 2** is described as meeting ANY of the conditions listed below and should be repaired or replaced:

- Any broken strands
- Static is significantly rusted, corroded, or deeply pitted
- Static is dark brown or black in color
- Static is missing between spans

3.6.2 **Priority 1** is described as meeting ANY of the conditions listed below and should be scheduled to be repaired or replaced:

- Static is broken, detached, on the ground, or laying on a crossarm.

3.7 Transmission Line Switches

3.7.1 **Priority 2** is described as meeting ANY of the conditions listed below and should be repaired:

- Mechanical gas targets for interrupter SF6 gas levels are present or SF6 gas gauges are in the red zone
- Switch has known mechanical issues
- Infrared readings are high and require adjustment of blade/jaw interface or replacement
- The switch is tagged out of service with the ECC due to mechanical or operational problems
- Electrical testing indicates that a vacuum interrupter has lost dielectric strength, i.e. vacuum is not present
- Manual operator has been vandalized or Duke Energy lock is missing

SF6 Gas Level on Southern States must be in the Green Region

S&C Target is Normally White Red Target Indicates Low Gas

3.8 Transmission Line Lattice Towers, Steel & Concrete Poles

3.8.1 **Priority 3** is described as meeting ANY of the conditions listed below. Repairs or replacement may be necessary.

- Concrete poles has rust stains originating from inside the crack from the reinforcing steel or cracks more than ¼ inch wide
- Galvanized or painted steel pole or towers have rust and needs painting
- Groundline treatment on steel poles or tower is cracked, or peeled, but rusting has not yet occurred
- Earth washout at pole base requires mitigation

3.8.2 **Priority 2** is described as meeting ANY of the conditions listed below. Repairs or replacement may be necessary

- 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
- Groundline treatment on steel pole or tower is peeled or missing, and pole is actively rusting
- Aluminum towers exhibit deformed or missing members or bolts
- Earth washout at pole base is so substantial it requires replacement

3.8.3 **Priority 1** is described as meeting ANY of the conditions listed below and should be scheduled to be replaced:

- Lattice Tower, Steel or Concrete poles have significant damage requiring they be replaced
- Earth washout at pole base possibly compromises the structure integrity

3.9 Transmission Minor Components

3.9.1 **Aerial Marker Balls**; Inspect for partially detached or broken marker balls.

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

3.9.3 **Bird Contamination;** Inspect for bird droppings on porcelain or polymer insulator strings. Significant activity may warrant the installation of protective bird guards or insulator replacement

3.9.4 **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.

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

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

3.9.7 **Distribution Underbuild**; Inspect for obious hazards and safety concerns such as crossarm integrity, signs of transformer oil spillage, blown insulators, or loose grounds adjacent to primary conductors.

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

3.9.9 **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.

3.9.10 **Hairpin Type Conductor Phase Spacers**; Inspect for overall integrity, any broken strands, and signs of collapsing.

3.9.11 **Line Traps;** Inspect missing nylon nuts that are UV sensitive.

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

3.9.13 **ROW Condition;** Inspect for any leaning tree that may come in contact with the line.

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

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

ATTACHMENT N

Florida PSC 2015 Hurricane Season Preparation

Duke Energy

March 18, 2015

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

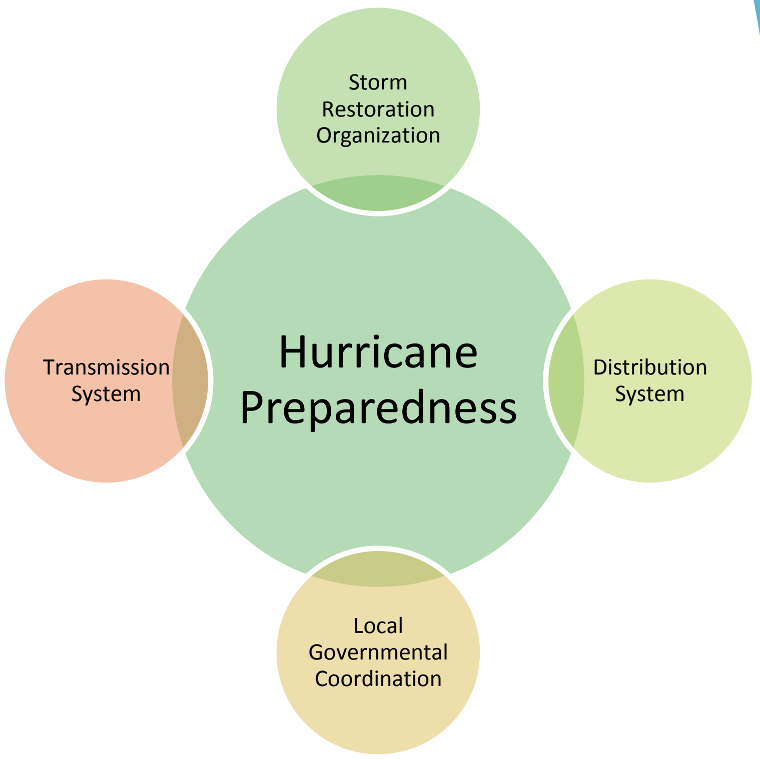
DUKE ENERGY.

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

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



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2015 HURRICANE SEASON PREPARATION BRIEFING

Florida PSC Hurricane Preparedness Workshop
March 18, 2015

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 2015 hurricane drill. The 2015 drill will continue to exercise and improve our ability to leverage internal Duke Energy resources from our other states.

In general Florida, and specifically Duke Energy Florida's ("DEF") service territory, has been spared from any significant hurricanes since 2004/2005. The impact from these historic hurricane seasons and other significant storms across the country continues to drive continuous improvement is key foundational components: Storm Restoration Organization, Transmission and Distribution infrastructure and Local Government Coordination.

Storm Restoration Organization
The annual storm plan review and update process for the 2015 season will be completed by June 1, 2015. All of Duke Energy is in the process of developing plans to incorporate a structured ICS model for major storms. Our system hurricane drill is scheduled for the week of April 13th. The objective will be to test employees' ability to perform storm roles, exercise processes and procedures, and validate leadership's decision making ability.

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). Coordinated reviews between DEF and local municipalities are completed annually, as part of our hurricane preparation plan.

DEF 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.

DEF focuses on restoring power in a sequence that enables power restoration to public health and safety facilities and to the greatest number of customers as safely and quickly as possible.

External Line and tree trimming resources are critical components of a successful restoration effort. DEF has Line and Vegetation resources from five (5) other states that can be engaged day 1 in the event of a storm, 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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2015 HURRICANE SEASON PREPARATION BRIEFING

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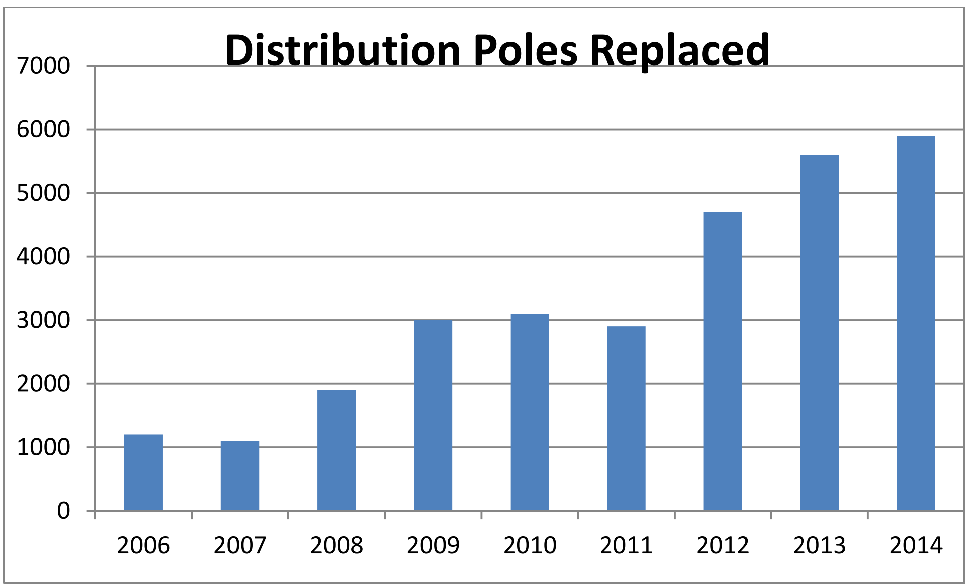
Distribution System
Distribution system inspection, maintenance, and replacement work is the cornerstone of DEF's overall annual resource plan. Manpower and material needs are identified in the prior year to ensure work is prioritized, constructed efficiently, and completed on schedule.

The wood pole plan is on a firm 8 year cycle for inspections and maintenance and is in compliance with the Commission's storm preparedness initiative. In April 2014 we started our second eight-year cycle ("cycle 2"). Inspections are targeted and prioritized. In 2014, 108,475 distribution poles were inspected, 65,674 were treated to prevent decay, and 5,597 replaced.

DEF currently has 769,905 wood distribution poles and has replaced 29,104 since 2006.

Distribution Pole Replacement:



Other 2014 system maintenance activities included over 1,348 padmount transformer replacements and 152,546 circuit feet of hardening pilot projects.

- Eight (8) Load Growth Improvement projects were completed in 2014.
  - Increased our total distribution substation capacity by 60 MVA.
  - The projects completed in 2014 include a new substation at Tavares East; substation capacity increases at Minneola and UCF North; new feeders at Tavares East, Minneola and Lake Helen; plus several re-conductor, load balancing/switching projects and neutral reactor projects completed on the distribution system.

- Thirteen (13) Storm Hardening projects were completed in 2014 (in addition to the pilot projects referenced earlier)
  - Represents 42,451 circuit feet of upgrades.

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2015 HURRICANE SEASON PREPARATION BRIEFING

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- Thirteen (13) Small Wire upgrade projects were completed in 2014
    - Represents 49,643 circuit feet upgraded.

- Over the next three (3) years, more than thirty (30) load growth projects for new substations, capacity upgrades, and feeder additions have been identified. We are actively identifying additional projects based on distribution system load studies via our annual peer review process.

- We are continuously evaluating our distribution system to assess the need for additional projects in the areas of load growth, load transfer, new feeders, and protection of critical assets on an annualized basis. New projects are identified and vetted, then prioritized and funded.

DEF 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. DEF's 2015 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, 2015. In addition to these programs, DEF has completed reactive mid-cycle pruning thus far in 2015 on over 5,600 trim locations and over 935 removals as of 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 DEF Facilities Management Data Repository (FMDR) program. The current GIS system, implemented in 2008, is used in conjunction with the new work management system. In 2012, 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 2015 storm season. Post-storm forensic data collection teams are identified and in place for the upcoming 2015 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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2015 HURRICANE SEASON PREPARATION BRIEFING

Florida PSC Hurricane Preparedness Workshop
March 18, 2015

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

In 2014,

- 107 transmissions circuit inspections were completed
- In excess of 7,952 wood pole structures were inspected
- In excess of 2,028 replaced with steel or concrete in accordance with NESC extreme wind design.

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

DEF currently has approximately 25,370 wood Transmission structures.

- Approximately 1,360 wood pole structures are scheduled to be replaced in 2015
- Since 2006, DEF has replaced over 16,000 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.

The Duke Energy Transmission Vegetation Management Program

Duke Energy Transmission will continue to identify critical infrastructure improvements to meet NERC and other accepted industry practices. Also, DEF 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.

48 Transmission projects were completed 2014

76 Transmission Projects planned in 2015

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

In 2014,

- 724 miles of right of way were cleared.
- 723 miles of herbicide application
- 780 “danger trees” removed
- 37,275 tree removals
- 23,821 trees trimmed

The projects for 2015 are on schedule and we plan to clear 656 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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2015 HURRICANE SEASON PREPARATION BRIEFING

Florida PSC Hurricane Preparedness Workshop
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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
DEF remains prepared for a strong storm and has resources and materials planned to respond. In addition to our resources in Florida, we 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.

Representatives throughout the DEF service territory participated in the Florida Statewide Hurricane Exercise on storm preparedness activities. Other activities included weathering the Storm Hurricane forum, a Pinellas County Road Clearing mock drill with the Director of the Pinellas county EOC to discuss and coordinate the DEF Make It Safe program. Representatives attended a Pinellas County Response Operations Coordination meeting to discuss evacuation implementation guidelines, municipal liaisons, new storm surge illustrations and damage assessment.

From July to October 2014, DEF held nine individual live line demonstration sessions across our service territory. These events provided a forum for collaboration on emergency response, storm series outreach, and general safety awareness. These sessions offered critical information for first responders. Attendees included representatives from sheriff's departments, public works, police, fire and rescue departments, public schools, and emergency management as well as county administrators. Approximately 300 county representatives attended.

DEF representatives led a storm response and coordination meeting with the facilities staff from the Orange County Public Schools, Tampa Bay Beaches Chamber and the Pinellas County EOC Infrastructure Functional Group Table Top Exercise, which evaluated 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.

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

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2015 HURRICANE SEASON PREPARATION BRIEFING

Florida PSC Hurricane Preparedness Workshop
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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.

Immediately following a major storm such as a hurricane, accessibility for First Responders is a crucial component to public safety. Our 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.

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

Public Education and Communication – 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

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.

Duke Energy in other states and service areas and neighboring utilities were engaged in restoration activities associated with winter ice/snow storms, although DEF resources were not deployed in support of any relief efforts. Duke Energy Florida continues to be involved in any post event lessons learned and best practices reviews to apply towards our own planning and restoration plans.

Conclusion:

DUKE ENERGY FLORIDA
2015 HURRICANE SEASON PREPARATION BRIEFING

Florida PSC Hurricane Preparedness Workshop
March 18, 2015

Duke Energy has earned the EEI emergency-response award 6 times (for storms within the company's service area) and the assistance award 3 times (for support of other utilities' restoration efforts, most recently 2014 February & March Winter Storms Pax & Ulysses).

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.

Duke Energy's organization and T&D systems are prepared for the 2015 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 2015 hurricane season.

ATTACHMENT O

Matthew R. Bernier
Senior Counsel

March 1, 2016

VIA ELECTRONIC MAIL

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

Re: *2015 Annual Wood Pole Inspection Report; Undocketed*

Dear Mr. Ballinger;

Pursuant to Order Numbers PSC-06-0144-PAA-EI and PSC-07-0918-PAA-PU, enclosed is Duke Energy Florida, LLC's ("DEF") Annual Wood Pole Inspection Report for CY 2015. This information is also contained in DEF's 2015 Annual Service Reliability Report dated March 1, 2016.

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,

/s/ Matthew R. Bernier
Matthew R. Bernier

MRB/db
Enclosure

106 East College Avenue, Suite 800 ▪ Tallahassee, Florida 32301
Phone: 850.521.1428 ▪ Fax: 727.820.5041 ▪ Email: matthew.bernier@duke-energy.com

DUKE ENERGY FLORIDA'S
2015 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 2015:

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 Annual 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 2015)

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
762,574	96,000	100,651 c 2	10,113 c 2	10% c 2	9,328	8,420	2396 c2	N/A	V, E, S, B, P	96,000 c2	191,574 c2	25% c2

If b - c > 0, provide explanation	N/A
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 2015 were chosen based on geographic location to continue cycle 2.

Duke Energy Florida (Transmission)
Annual Wood Pole Inspection Report
(Reporting Year 2015)

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
24,265 Wood Poles	5,856	5,856	1,266	21.62%	1,041	1,738	4,201	0	V&P=5,856 S&B= 0 Total= 5,856	7,500	~~Inspected 06 = 15,161~~ ~~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 Inspected 14=4,891 Inspected 15=5,856 Total = 71,827	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 2015 were replaced in 2015 while others will be prioritized and worked into schedule for 2016.											
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 2015)

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	18,392	2,066	23	.13% *	23	N/A	167	N/A	V, E, S, B, P	N/A	N/A
If b - c > 0, provide explanation	N/A											
If d - g > 0, provide explanation	N/A											
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.											

*All 23 rejects were for above-ground issues

ATTACHMENT P

on CD

ATTACHMENT Q

on CD

ATTACHMENT R

Ongoing Storm Preparedness Plan

Purpose and Intent of the Plan:

To implement Progress Energy Florida's ("PEF") Ongoing Storm Preparedness Plan (the "Plan") that complies with FPSC Order No. PSC-06-0351-PAA-EI issued April 25, 2006 (the "Order"). The Plan addresses the specific ten-points that the Florida Public Service Commission (the "Commission") identified in the Order.

The Plan includes the following specific sub-plans:

- Vegetation Management Cycle for Distribution Circuits.
- Audit of Joint Use Attachment Agreements.
- Transmission Structure Inspection Program.
- Hardening of Existing Transmission Structures.
- Transmission and Distribution Geographic Information System.
- Post-Storm Data Collection and Forensic Analysis.
- Collection of Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems.
- Increased Utility Coordination With Local Governments.
- Collaborative Research on Effects of Hurricane Winds and Storm Surge.
- Natural Disaster Preparedness and Recovery Program.

These ten sub-plans are outlined and described below. PEF has already implemented several of the sub-plans. All of these sub-plans will be evaluated on an ongoing basis to address, among other things, data and data trends, new information, external factors, and cost effectiveness. All cost figures provided in this Plan are PEF's best estimates based on available information and data and are subject to revision and change as circumstances may dictate or as more definitive information becomes available.

1) Vegetation Management Cycle for Distribution Circuits

DEF recommends a fully integrated vegetation management ("IVM") program. The IVM program consists of at least the following subprograms: routine maintenance "trimming," herbicide applications, vine removal, customer request work "tickets," and right-of-way floor brush "mowing." The IVM program incorporates a combination of both cycle based maintenance and reliability driven prioritization of work. Actual spending versus initial budget can vary during any particular year based on a number of factors which may include timing, changes in priorities within the program, and unforeseen events such as major storms and other factors.

Based on these considerations, DEF has revised its vegetation management contracts to add items such as:

- Cutting brush within an eight foot radius of all device poles;

- To the extent practical and reasonably feasible, felling "dead danger trees" within 25 feet of the closest conductor that have a high likelihood of falling on the conductors; and
- Cutting of underbrush instead of topping it.

These items have been added to help address some of the emerging issues in both the preventable and non-preventable tree-caused outage categories.

In general, the main objectives are to optimize the IVM program cost against reliability and storm performance objectives. Some of the main program objectives are:

- Customer and employee safety;
- Tree caused outage minimization, with the objective to reduce the number of tree caused outages, particularly in the "preventable" category;
- Effective cost management; and
- Customer satisfaction, with the goal to provide the customer top quartile service.

As part of the IVM program, DEF has implemented a comprehensive feeder prioritization model to help ensure that tree caused outages are minimized by focusing on the feeders that rate high in the model. Prioritization ranking factors are based on past feeder performance and probable future performance. Some of the criteria used in feeder prioritization include the number of customers per mile, the number of tree caused outages in prior years, outages per mile, the percentage of outages on backbone feeders, the percentage of total tree outages categorized as preventable (i.e., outages caused by trees within DEF rights-of-way), and total tree customer minutes of interruption ("CMI"). In implementing this prioritized process, DEF follows the ANSI 300 standard for pruning and utilizes the "Pruning Trees Near Electric Utility Lines" by Dr. Alex L. Shigo.

Generally, DEF attempts to maintain an average trimming cycle of three years. Although DEF works toward a benchmark goal of a three-year weighted average system maintenance cycle, it balances this goal against overall system reliability, customer impact, and cost effectiveness in determining its ultimate trim cycles. In some instances, DEF may defer maintenance on some feeders without significantly impacting reliability while accelerating maintenance on other feeders that are experiencing more significant issues than others. This approach has resulted in a significant improvement in system reliability, as measured by SAIDI, since 2001, including an improved SAIDI related to tree caused outages.

A mandatory three-year trim cycle without regard to system reliability, customer impact, and cost-effectiveness would not benefit DEF's customers when compared to a focused and targeted plan such as DEF's IVM program. Additionally, in recent years, DEF has experienced availability challenges within the tree trimming labor force in Florida. A non-targeted, mandatory three-year trim cycle would adversely impact all electric utilities within the state by forcing them to compete for an already scarce resource. Such demand could be expected to inflate costs for all utilities. Further, a mandatory, non-targeted three-year cycle would not provide the flexibility that DEF can currently leverage to address tree conditions that can vary significantly depending a number of variables, most significantly weather conditions. DEF estimates that a mandatory three-year cycle would immediately increase costs by approximately $7M in the first year of its implementation and could increase DEF's overall budget needs at a conservative rate of three percent (3%) per year. DEF does not endorse this approach. Rather, DEF can more effectively manage tree resources while providing the maximum benefit to our customers by utilizing DEF's IVM program.

2) Audit of Joint Use Attachment Agreements.

PEF currently has approximately 700,000 joint use attachments on distribution poles and approximately 5,000 joint use attachments on transmission poles. While the majority of these attachments are on wood poles, approximately 15% of the distribution joint use attachments are on concrete or metal structures and approximately 25% of the transmission joint use attachments are on concrete or metal poles. The information provided below outlines PEF's plan to gather information on "non-wood" existing joint use poles over an average 8-year inspection cycle as outlined in Order No. PCS-06-0144-PAA-EI.

PEF plans to inspect all PEF distribution poles (regardless of pole type) with joint use attachments on the 8 year audit cycle outlined in Order No. PCS-06-0144-PAA-EI. 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. 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 that 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 FRAMME system 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, FRAMME will be updated to reflect the date the new pole was installed with the new loading analysis indicated.

PEF plans to inspect all transmission poles (regardless of pole type) with joint use attachments on the 8 year audit cycle outlined in Order No. PCS-06-0144-PAA-EI and PEF's Pole Inspection Plan filed with the Commission on April 1, 2006. Audits will start at the sub-station where the transmission circuit 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 an outside engineering firm to be modeled in PLS-CADD/LITE and PLS-POLE software for structural analysis. The firm 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 **PEF 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 stronger 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 FRAMME system 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, FRAMME will be updated to reflect the date the new pole was installed with the new loading analysis indicated.

Pursuant to the requirements of FPSC Order No. PCS-06-0144-PAA-EI, PEF will file a wood pole inspection report 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.

In this annual report, PEF will also file the same information for "non-wood" transmission and distribution structures that have joint attachments.

In PEF's wood pole inspection plan previously filed with the Commission under Order No. PCS-06-0144-PAA-EI, all poles, regardless of pole type, were included in the cost estimate for "Joint Use Inspection" Below is an extrapolation of "other than wood" pole audit cost for transmission and distribution poles with joint attachments.

Estimated Cost to Analyze "Other than Wood Poles"

Cycle Year	500,000 Dist Poles in System with JU (15.4%)	10% of Dist Poles Analyzed	Cost per Dist Pole to Analyze	2,500 Trans Poles in System with JU (25%)	30% of Trans Poles Analyzed	Cost per Trans Pole to Analyze	Annual cost to Analyze "Other than Wood" Poles
1	9,625	963	$70.00	78	23	$450.00	$77,940.00

3) Transmission Structure Inspection Program.

Pursuant to FPSC Order No. PSC-06-0144-PAA-EI, PEF filed a wood pole inspection plan for its wooden transmission assets with the FPSC on April 1, 2006. In conjunction with PEF's wood pole inspection plan, PEF will conduct other Transmission Line assessments. These assessments will primarily include Transmission Line Aerial Inspections and Transmission Line Ground Inspections, as well as Transmission substation inspections.

(i). Aerial Patrols

Aerial patrols will utilize helicopter surveys of the transmission system on average three times per year to identify potential problems and needed corrective actions. Patrols will be conducted with qualified Line and Forestry personnel to look for and document conditions on the following items:

Guys	Braces	Conductors	Substation Equipment
Aerial Markers	Poles	Crossarms	Line Traps
Arresters	OHGW & OPGW	Encroachments	ROW Condition
Insulators	Splices/Dampers	Line Sect. Switches	Vegetation Issues

The aerial patrols will inspect the condition of 69 - 500 kV voltage class transmission lines and associated hardware/equipment. These patrols will be used to aid the Transmission Line Maintenance Crew in scheduling and planning preventive/corrective maintenance work.

(ii). Transmission Line Ground Inspections

PEF will perform ground patrols to inspect transmission system line assets to allow for the planning, scheduling, and prioritization of corrective and preventative maintenance work. These patrols will assess the overall condition of the assets including insulators, connections, grounding, and signs, as well as an assessment of pole integrity. Each transmission line shall have a ground patrol conducted once every 5 years. The primary goal of a ground patrol 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.

(iii) Structural Integrity Evaluation

The joint use 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, where necessary, of the pole or structure. Specific information on this process is contained in the Joint Use section of this Plan.

(iv). Transmission Substation Inspections

PEF will perform monthly inspections of Transmission – Transmission Substations, Transmission – Distribution Substations and Generation Plant Substations. These inspections will consist of a visual analysis of Substation Assets and documentation of operation information. This visual inspection and operation information will be used to develop actions to correct any discrepancies and to schedule preventative maintenance.

(v). Records and Reporting

An asset 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 analysis and inspection;

2) A description of the selection criteria that was used to determine which assets would be inspected; and

3) A summary report of the inspection data;

Transmission Line Inspections Cost Estimates

O&M Costs		10 Year Total Cost
	Aerial Patrols	$3,000,000
	Ground Patrols & Misc. Repairs	24,000,000
	Ground Line Inspections	$2,400,000
	Total O&M Cost	$29,400,000

4) Hardening of Existing Transmission Structures.

PEF currently has over 45,000 transmission structures with approximately 4800 miles of transmission lines in the Florida Grid. Approximately 34,000 structures (or 75%) are currently supported with wood poles. PEF currently averages approximately 500 wood pole to concrete or steel pole maintenance change outs per year. Additionally, PEF currently relocates approximately 100 poles per year due to developer requests or highway improvements, and these poles are replaced with concrete or steel poles. Furthermore, PEF will also be performing system upgrades due to system growth on several lines over the next 10 years. This, on average, will result in approximately 250-350 wooden structures per year being changed out and replaced with concrete or steel poles over the next 10 years.

PEF also estimates that it will be adding 300-400 structures per year over the next 10 years due to system expansion and growth. All new structures will be constructed with either concrete or steel and will be designed to meet or exceed current NESC Code requirements. Based upon these projections of new additions and pole change, this should reduce the percentage of wood structures on the PEF system from 75% to less than 50 % during a 10 year period. The following table provides PEF's estimated costs:

Costs	Changeouts or new Poles /Year	Cost/Year	Total Changeouts or new Poles/10 years	Total 10 Year Costs (Present Value)
Maintenance Change outs	500	$7.0 Million	5000	$70 Million
DOT Relocations	100	$7.0 Million	1000	$70 Million
Line Upgrades and Additions	750	$ 50.0 Million	7500	$500 Million
Increased GL Inspection	200	$2.8 Million	2000	$ 28 Million
Total	1550	$66.8 Million	15500	$668 Million

5) Transmission and Distribution Geographic Information System.

Distribution

With respect to Distribution, PEF's ultimate goal for collecting and maintaining asset and performance data is to first create an environment that contains all the elements referenced by the Commission in Order No. PSC-06-0351-PAA-EI (i.e., GIS capable of locating, mapping, and keeping inspection, vintage, and performance data on all transmission and distribution assets). To achieve this goal, additional capital and O&M funding is necessary to enhance existing systems.

Currently, PEF has a GIS system that provides an operational view of our assets. In other words, PEF's current GIS system has information that is location specific, not asset specific. To implement an enhanced GIS, PEF would need to change its current GIS system from location driven to asset driven. This would enable PEF to collect data from many sources including operations, inspections, performance systems, and other sources, which would provide PEF the ability to look for trends in performance of individual assets as well as trends in the aggregate of its assets. To fully implement this strategy, PEF Distribution would need to invest in several systems and perform additional field inspections and audits on it assets. The estimated costs are set forth below.

Systems:

Computer Maintenance Management System
Estimated Costs - $1M

One of the first systems that would need to be developed would be a Computer Maintenance Management System. This system would be responsible for collecting performance and historical data on PEF's assets. This system would be linked to PEF's GIS.

Operational Datamart
Estimated costs - $950k

This system would be responsible for pulling information out of the GIS and the CMMS systems to provide reporting capabilities like asset analysis, trends, and early identification of potential asset failures. This provides decision support tools as well as interfaces to those required systems like GIS, CMMS, and CDMS.

Asset Management - Corporate Document Management Systems (CDMS)
Estimated Costs - $250k

The implementation of a new corporate document management system would support archival of and access to all documents and drawings related to distribution assets and the aggregation of those assets to a system. This would likely facilitate the referencing of standards in the past as well as current design standards.

Facility Baseline Inspection
Estimated Costs - $6.6M

PEF would further need to execute a comprehensive inspection of its distribution facilities to gather additional information and data for its new GIS system. This would be a critical component to establish an informational baseline for PEF facilities and assets. This baseline then would be used in conjunction with the CMMS to store the results of the inspections as well as update the GIS with any net new removals or additions to the Distribution facilities.

Total One time Costs - 1M+950k+250k+6.6M = $8.8M

Transmission

PEF Transmission has a functioning GIS system (MapInfo) that is linked to PEF's work management system. This system contains information on the location of the pole, the type of pole, and it contains a photo image of the pole or structure. Presently, this system does not contain the maintenance history of the facility. Over the next 6 years, PEF plans to populate the system with maintenance data that will be captured in PEF's Transmission Line Inspection Plan. The data would include:

1. Date Inspected;
2. Type of Inspection;
3. Conditional Assessment of the Transmission facility;
4. Status of Remediation/Repair Work Order.

Estimated Costs		Total 10-Yr Cost
	Inspection and Data Entry	$ 2,000,000
	Computer system upgrades	$1,000,000

6) Post-Storm Data Collection and Forensic Analysis.

Distribution

The purpose of forensic assessment is to provide data on causal modes for distribution pole and structure damage due to major storms. Four functional roles have been defined to support the collection of forensic data during major storm response; System Forensic Assessment Coordinator, Regional Forensic Lead, Forensic Assessor, and Forensic Support.

The following is a list of key activities identified for each functional role defined in support of the Forensic Assessment process during major storm response:

System Forensic Assessment Coordinator**-** This position is responsible for the coordination of collecting and collating forensic data of distribution pole and structure damage due to a major storm. Key activities may include:

- Monitor path of approaching storm and coordinate a pre-storm conference call with Regional Forensic Leads at least 48 hours prior to expected landfall.
- Facilitate and document substation and feeder assignments among Regional Forensic Leads.
- Coordinate end-of-day conference calls with Regional Forensic Leads to determine daily progress 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.

Regional Forensic Lead- This position is responsible for the execution of a forensic review of the assigned region and for coordinating the field activities of the Forensic Assessors and Forensic Support functions. Key activities may include:

- 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 region.
- Determine and communicate daily substation and feeder assignments by team.
- Establish protocols and timelines with Forensic Assessment teams within the region 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 Regional Forensic Leads to determine the system-wide status of Forensic Assessment and assign assessment locations for the following day.
- Provide complete Region Substation Forensic Summary Reports to System Forensic Coordinator within 1 week after storm restoration activity has been completed.

Forensic Assessor- This position is responsible for the resources necessary to conduct the Forensic Assessment in the field, including the direct supervision of an assigned Forensic Support team member. Key activities may include:

- Be proficient in the data collection process and procedure necessary to conduct Forensic Assessment.
- Prepare field kit upon initial notification of assignment from Regional Forensic Lead.
- Confirm daily Forensic Assessment assignment with Regional 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 Regional Forensic Lead as assigned.
- Complete and submit hardcopy checklist to Regional Forensic Lead for each pole identified as damaged or in need of repair no later than 2 days after restoration activity has been completed.

Forensic Support- This position will provide field support to the Forensic Assessor in the collection of required data during Forensic Assessment in the field. Key activities may include:

- 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 Regional Forensic Lead.

PEF has implemented the Forensic Assessment process for the upcoming 2006 storm season.

Transmission

Field Data Collection

PEF Transmission will establish a contract with an engineering/survey firm that will require the firm to provide resources immediately after a storm event. This contractor will collect detailed post storm data necessary to perform storm damage and forensic analysis. This data will include:

1. Photographs of the failed facility;
2. Conditional assessment of the failed facility;
3. Sample collection of any failed components; and
4. Date stamps, name plate data.

Maintenance/GIS Data

The balance of needed data will be collected from the GIS data base and will include:

1. Location of the facility (GPS coordinates);
2. Type and design of the facility;
3. Facility vintage; and
4. Maintenance history of facility.

Data Reduction

The above data will be provided to a consultant. Using the storm data that was collected from the field collection process, data contained in the GIS data base, and available weather data, a forensic analysis will be performed in order to correlate storm intensity, design standards, maintenance history, geographic locations, materials, facility types, and vintage. From this analysis, the consultant will make recommendations storm hardening improvements.

Estimated Costs

Estimated costs will be based on the amount of storm damage that occurs as a result of a single storm in one year. The estimated costs listed below are based upon the illustrative assumption of 100 transmission structures that are damaged and require analysis.

Costs		Total 10-Yr Cost
	Field Data Collection	$5 Million
	GIS Data Collection	$2 Million
	Data Reduction and Recommendations	$2 Million
	Total Cost	$9 Million

7) Collection of Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems.

PEF 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. PEF will provide for these factors in its analysis.

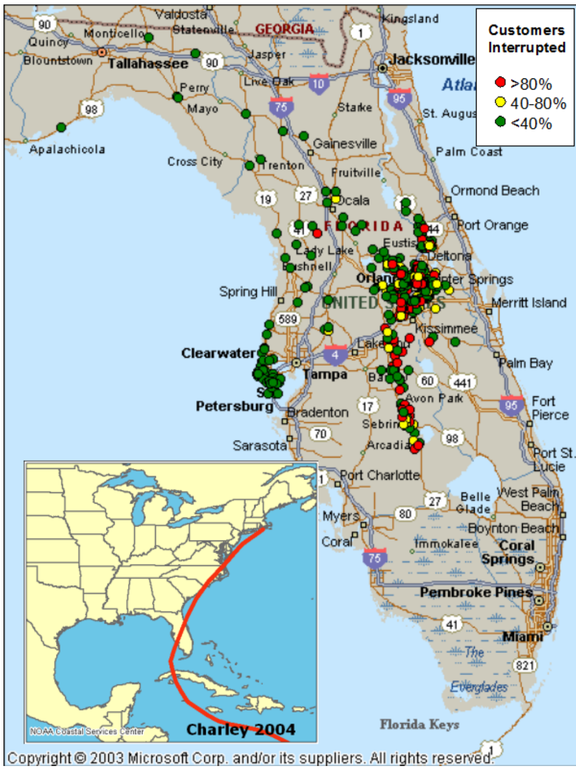
PEF has an internal hierarchy in its Outage Management System (OMS) that models how all of its facilities are connected to each other. This information provides the connection to the feeder breaker down to the individual transformer. PEF's Customer Service System (CSS) captures which customer is tied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

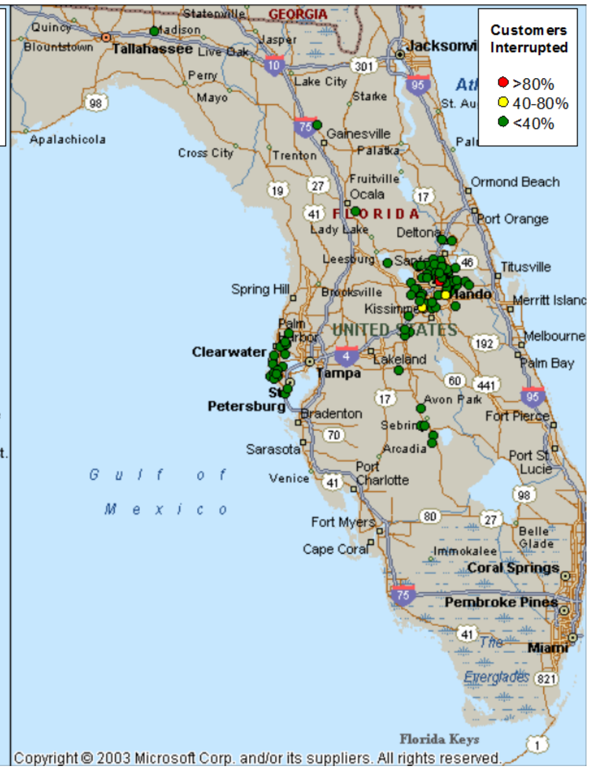
As part of this process, the location of each feeder circuit point is determined by approximating the geographic midpoint of each circuit. Outages experienced as a result of a named storm will be extracted from system data. The outages will then be grouped by feeder circuit ID and by outage type, where 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, PEF will produce graphic representations of performance such as those depicted below:

OH Construction Outage Severity



UG Construction Outage Severity



PEF will also collect available performance information as apart 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.

The implementation of a new GIS system discussed above would enhance PEF's ability to collect data relevant to asset performance, and PEF would use this data to analyze and compare the performance of its overhead and underground systems.

8) Increased Utility Coordination With Local Governments.

This part of the Plan addresses increased coordination with local governments to enhance PEF's ability to prepare for and respond to storms and other severe weather events. PEF's goal is to provide excellent customer service and collaboration with local governments before, during, and after emergencies through organization, commitment, strong relationships, the provision of resources, and communication and feedback mechanisms. Through a collaborative partnership with local governments, PEF can take advantage of the mutual interest in excellent response to communities through year-round dialogue and planning. Specifically, PEF will focus on the following in implementing this plan in conjunction with local governments:

- Identify opportunities throughout the year to improve preparedness on both the part of the utility and the public taking advantage of government's local knowledge and existing organization.
- Develop enhanced organization and planning to improve readiness.
- Educate the public on proper storm preparation and restoration actions.
- Provide local governments with the support needed to facilitate the coordination of outage restoration in a safe and efficient manner.
- Provide local governments with ongoing information and updates in advance of, during and after storm events to assist them with their local storm preparation and restoration efforts including informing the public.
- Assist in the resolution of local governmental issues and concerns related to storm and emergency situations.

In order to meet the requirements of FPSC Order No. PSC-06-0351-PAA-EI, PEF has established an internal team focused on local governmental coordination activities. These activities include dedicated resources, training, continuous coordination with government, storm preparation, storm restoration and an EOC program.

Ongoing Storm Preparedness Plan

a) Staffing and Training

A cross-functional internal team has been established utilizing personnel from numerous areas including community relations, regulatory affairs, and account management. The role of the team will be to develop and implement initiatives focused on governmental coordination and to participate in both internal and external storm preparation planning activities.

- Staffing – The governmental coordination team consists of approximately 70 employees throughout PEF's service territory. Each member is assigned to a specific role. Job descriptions have been developed for each role. These will be updated annually to meet current needs and requirements. Below are the roles for this team and the approximate number of employees in each role.

  Government Coordination Roles
  - **Storm Coordinator (1)**
  - **State EOC Coordinator (1)**
  - **Community Relations Manager – CRM (6)**
  - **Manager, CIG Accounts (1)**
  - **Back Up CRM/Support (23)**
  - **EOC Representative (28)**
  - **Operations Center Liaison (10)**

Members of the team are responsible for familiarizing themselves with their job description, participating in annual training and general readiness for storm duty as required. In addition, certain members will work with assigned communities throughout the year to identify opportunities for enhanced coordination and support local community storm preparation activities.

Annually a system-wide internal storm drill will be conducted in which members of the team will participate. The State EOC Coordinator will work with state agencies to coordinate the company's participation in the annual state storm drill.

Staffing scenarios are created to simulate different storm impacts and staffing assignments to support each impact scenario. Personnel are flexible to shift to positions throughout the state as needed. This supports initiatives to coordinate with local government including emergency management organizations throughout the year (i.e. community storm drill activities, updating EOC infrastructure restoration priority account lists and EOC contact lists).

Training is been developed for all team members. Training will be conducted on an annual basis in multiple locations throughout the system and will include the following elements:

Overview of government coordination organization
Storm assignments and roles
Job requirements
Material and resource requirements

EOC crew management module
NIMS training

In addition to classroom training, an internal electronic site is being developed to house information and resources that are accessible by all team members before, during, and after storm events. This site will include, but not be limited to, the information listed below.

Training Presentations and Materials	Storm Job Descriptions
Staffing Priority List	Team Member Lists/Contact Info
Maps, Location/Contact Information	Territorial Maps
Government/Agency Contact Information	Storm Staffing Scenarios
Calendar of Activities	Storm Organization Chart

b) On Going Coordination

Throughout the year, company representatives will work with local government officials and agency representatives to enhance the flow of information and to identify coordination opportunities. Coordination opportunities fall into several categories – storm related activities, vegetation management programs, undergrounding programs, and other coordination efforts.

- Storm Related Activities

  Representatives from PEF will participate in local storm workshops and expositions throughout PEF's service territory. In many cases, PEF will act as presenters or co-sponsor for these events. These events will occur in each region of PEF's service territory. In addition, PEF will hold workshops and other coordination meetings with local officials and agencies to educate on restoration programs, develop coordination plans, exchange feedback and generally enhance communication between organizations. Some key events scheduled for 2006 are listed below.

  - PEF is taking steps to enhance public information through the media. Among a number of activities, PEF will be participating as a panelist in hurricane preparedness town hall-type meetings forums in the Tampa and Orlando television markets. The programs are designed to educate the public and will include representatives from local government emergency management, the Red Cross, and FEMA.

  - PEF is scheduled to participate in EOC Coordination activities in most counties served including events and briefings in the following counties:

    Pinellas County
    Orange County
    Columbia County

    Gulf County
    Highlands County

Pasco County
Volusia County

- PEF is scheduled to participate in State-sponsored events:
  Governor's Hurricane Conference
  State Storm Drill

- PEF Sponsored events:
  South Coastal Community Storm Meeting and Expo (Pinellas and Pasco Counties)
  Progress Energy's 911 First Responders Storm and Safety Expo (Winter Garden Operation Center – covering Orange, Osceola, Seminole, Lake, Volusia, Gilchrist, Sumter and Polk)
  PEF is incorporating into its SCORE workshops for commercial, industrial and governmental customers a segment on hurricane preparedness and PEF restoration processes.

- Vegetation Management Coordination Program

It has become essential to implement programs designed to improve coordination with communities regarding vegetation management. Not only will these activities support efforts to improve overall reliability improvement programs, they will also support storm preparation and restoration activities. DEF has completed the development of a community vegetation management education program. This program is designed to:

- Ensure that Duke Energy customers will have received some form of vegetation management education through community outreach, events, web site information, advertising and other communication outlets.
- Improve relationships with local governments, offering successful vegetation programs in their communities.
- Distribute information on vegetation management activities that will reach more than 30% of the Duke Energy market.

- Undergrounding Programs

The impact of hurricanes in Florida since 2004 has renewed local government interest in burying overhead power lines. In an effort to work with communities to address this renewed interest in undergrounding their utilities, PEF is enhancing its programs in this area and has seen a marked increase in interest in the programs. PEF has ongoing undergrounding partnerships with a number of communities. Within these projects, the company acts as project manager and facilitates coordination not only with the municipality but also with other utilities (i.e., cable, TV).

Local government underground cost recovery tariff - PEF is in the process of revising its local government underground cost recovery tariff. This tariff allows local governments to recover the CIAC portion of the cost for underground projects through electric bills of customers within the local government's jurisdiction. The revised tariff will increase government flexibility in managing the cost of underground projects. As part of this program, the company is developing the concept of a secure external portal designed to assist governments in managing their underground projects utilizing the tariff.

- Street lighting repair program

  PEF has implemented an improved program for customers to report street light outages to enhance the repair process. As part of the effort, we are coordinating with local government to communicate the improved process and encourage better utilization by government of improved reporting mechanisms. Communications have been sent to all city and county governments.

- Other coordination activities

  PEF continues to develop opportunities to enhance relationships and communication with local government for improved service, reliability and restoration efforts. For example, the company plans to send out a communication to each local government within our service territory to encourage a link to the company's storm information web site be place on the community web site.

c) Plan implementation during storm events

When a major storm event occurs, the local government coordination storm plan will be executed. All team members will participate in pre-storm planning activities and receive assignments to specific regions and roles. The following is a high-level list of actions that will be performed by the team intended to provide excellent execution of community restoration activities and support of local government efforts.

- Communications with local government officials, agencies and key community leaders prior to the storm event notifying of PEF storm readiness activities and status.
- Ongoing communications to government officials, agencies and key community leaders providing updates of outage and storm restoration efforts of the company.

- Oversight of EOC Representatives (State) assigned to state and local EOCs.
- Provide updates and information for coordination purposes to internal leadership and operation personnel within the company.
- Obtain the Governor's Executive Order and distribute to PEF Logistics personnel for logistical purposes.
- Prepare DOT Waivers and communicate with DOT SEOC personnel (ESF 16) to expedite arrival of out-of-state crews prior to entry into the State of Florida.
- Prepare Aviation Waivers and obtain approvals from ESF 1 & ESF 3 (DOT & Public Works).

- Coordinate with PEF Storm Centers for the exchange of accurate information pertaining to restoration efforts before, during and after a major storm.
- Communicate with local officials regarding power outage data for the county as well as restoration efforts.

d) Emergency Operation Center (EOC) Plan

PEF has created and will be implementing a specific program for the management of restoration activities in coordination with local government at state and county EOCs during storm events. The specific role of the EOC Representative has been created to engage with EOC management on pre-storm planning and during storm events. The company has also assigned specific personnel to represent the company and to be stationed in a number of key EOCs throughout the storm event.

The primary responsibility of the EOC Representative is to work with the EOC personnel to establish current priorities for restoration, communicate this information to appropriate operating center personnel and ensure EOC priorities are worked successfully. The EOC Representative and other team members are responsible for establishing contact with assigned EOC and to update storm restoration infrastructure priority lists prior to the beginning of the storm season.

Pre-storm duties:

- Work with local governments to update specific city/county and EOC priorities (e.g. designated hospitals, shelters, traffic lights, essential water treatment facilities and lift stations, etc.) and develop prioritized account list for each county.
- Create list of all governmental facilities in the County including responsible operating center, substation, and feeder.
- Review PEF procedures with EOC staff and establish working relationship and rules.
- Work internally with operations personnel to establish EOC priority work flow.
- Provide feeder maps or outage information for the County for use at the EOC.
- Obtain a street level utility territory map for the County.
- Assure a network connection that will accommodate a Progress Energy computer exists at the EOC.
- Attend scheduled meetings as the storm approaches.
- Participate in software training at EOCs.

Duties during major storm event:

- Organize and report “911” type issues to Dispatch
- Advise company of the need for press briefings or public official meetings
- Attend scheduled EOC meetings
- Provide regular briefings on PE progress and deliver key communications to EOC personnel
- Communicate internally for the exchange of timely and accurate information

Duties after major storm:

- Attend scheduled EOC debriefing meetings
- Responsible for "break-down" of PEF area in EOC facility

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

PEF will support a collaborative effort to conduct research and development (R&D) on the effects of hurricane winds and storm surge to the electrical system of Florida. The company also will support the leadership of the R&D effort to be facilitated through a centrally coordinated effort managed by an entity within the state that can draw from various universities and research organizations not only in Florida, but across the United States as well.

PEF believes the necessary leadership to serve as the R&D coordinator is available from the Public Utility Research Center ("PURC") in the Warrington College of Business Administration at the University of Florida. PURC is a long-standing research organization with a strong working relationship among the investor-owned utilities, cooperatives and municipals. Therefore, PURC is well positioned to either provide or secure the resources necessary for the R&D effort envisioned by the Commission.

PURC's position within the university community of the state and the nation allows the organization to draw from a number of resources otherwise unknown to utilities. Therefore, by coordinating the overall R&D initiative, unnecessary duplication of effort and superfluous spending should be avoided. However, if a utility has a need for a specific type of research to determine a solution to its unique problem, the utility is not hindered from engaging in independent research on its own through a local university or research organization other than PURC.

Estimated Costs and Timeline

PEF believes the collaborative research plan described above meets the intent of the Commission. The cost for this initiative will be determined by the extent and duration of R&D requested by the IOUs.

10). Natural Disaster Preparedness and Recovery Program.

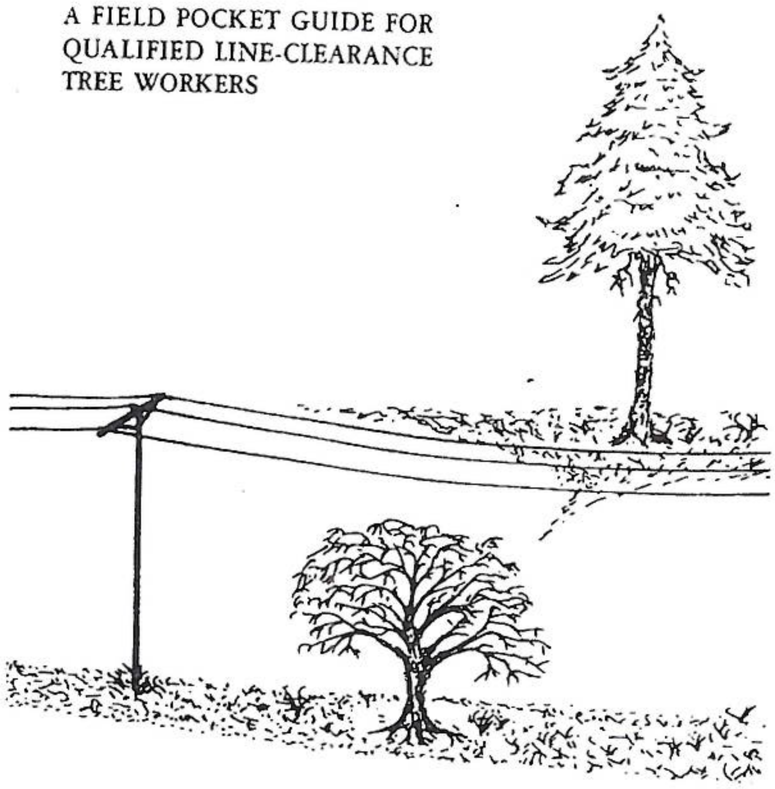
Please see Attachments A, B and C to this Plan for PEF's Preparedness and Recovery Programs.

- Attachment A – Department Storm Plans
- Attachment B – Transmission Department Corporate Storm Plan
- Attachment C – Distribution & Transmission Storm Plans - Florida

ATTACHMENT S

PRUNING TREES
NEAR ELECTRIC UTILITY LINES

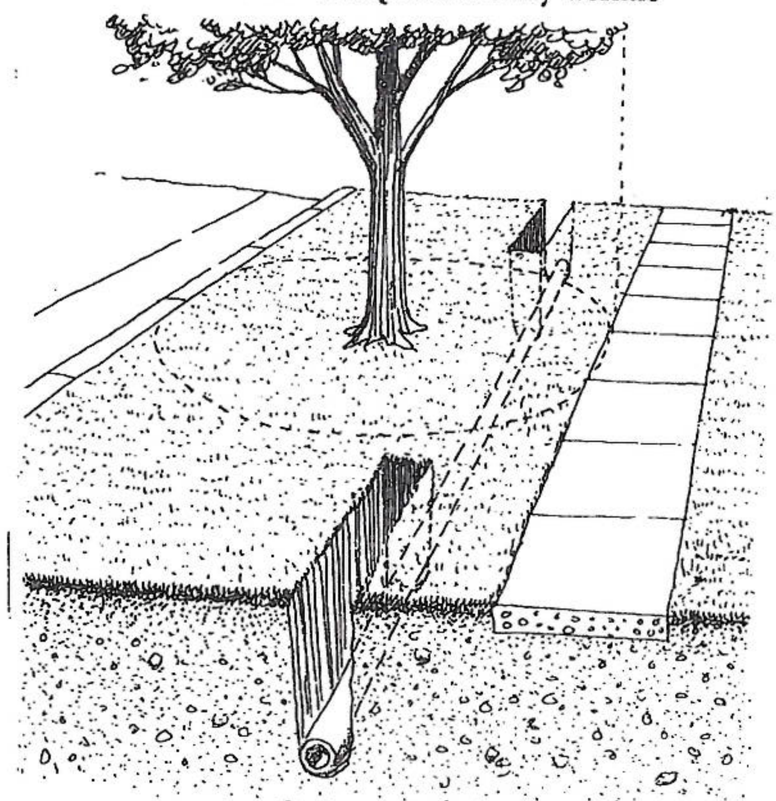
A FIELD POCKET GUIDE FOR
QUALIFIED LINE-CLEARANCE
TREE WORKERS



DR. ALEX L. SHIGO

Trenching & Tunneling Near Trees

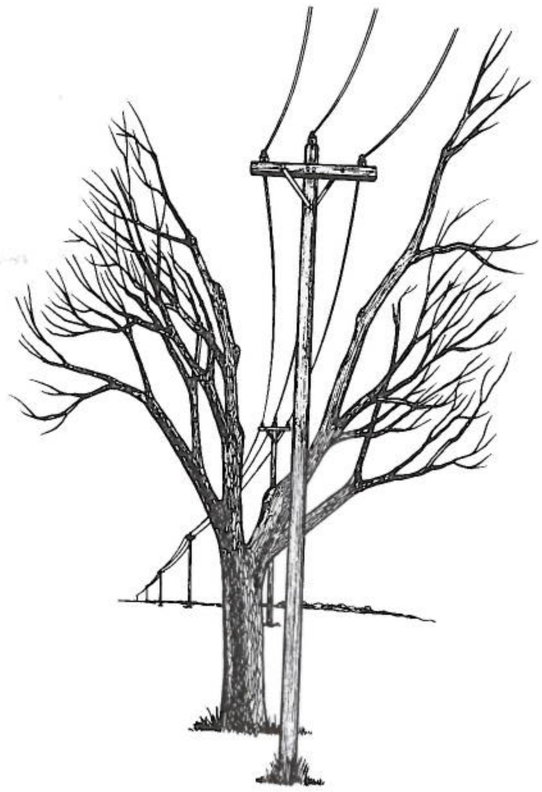
A Field Pocket Guide For Qualified Utility Workers



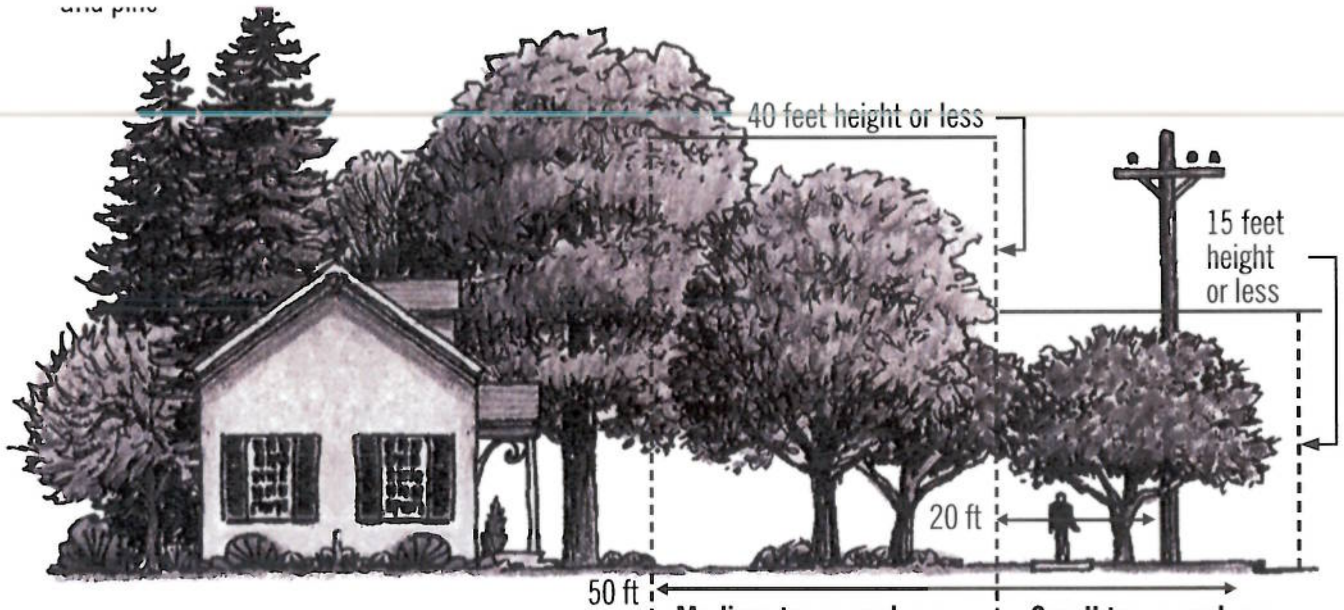
Dr. James R. Fazio

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.



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

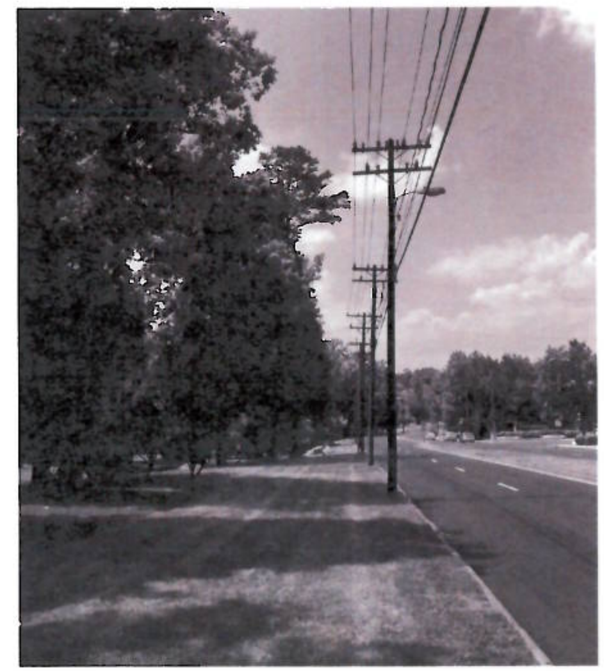
When digging in your yard, be careful where you dig. If you have underground electrical service, you could hit an underground power line and be seriously or fatally injured.

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

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

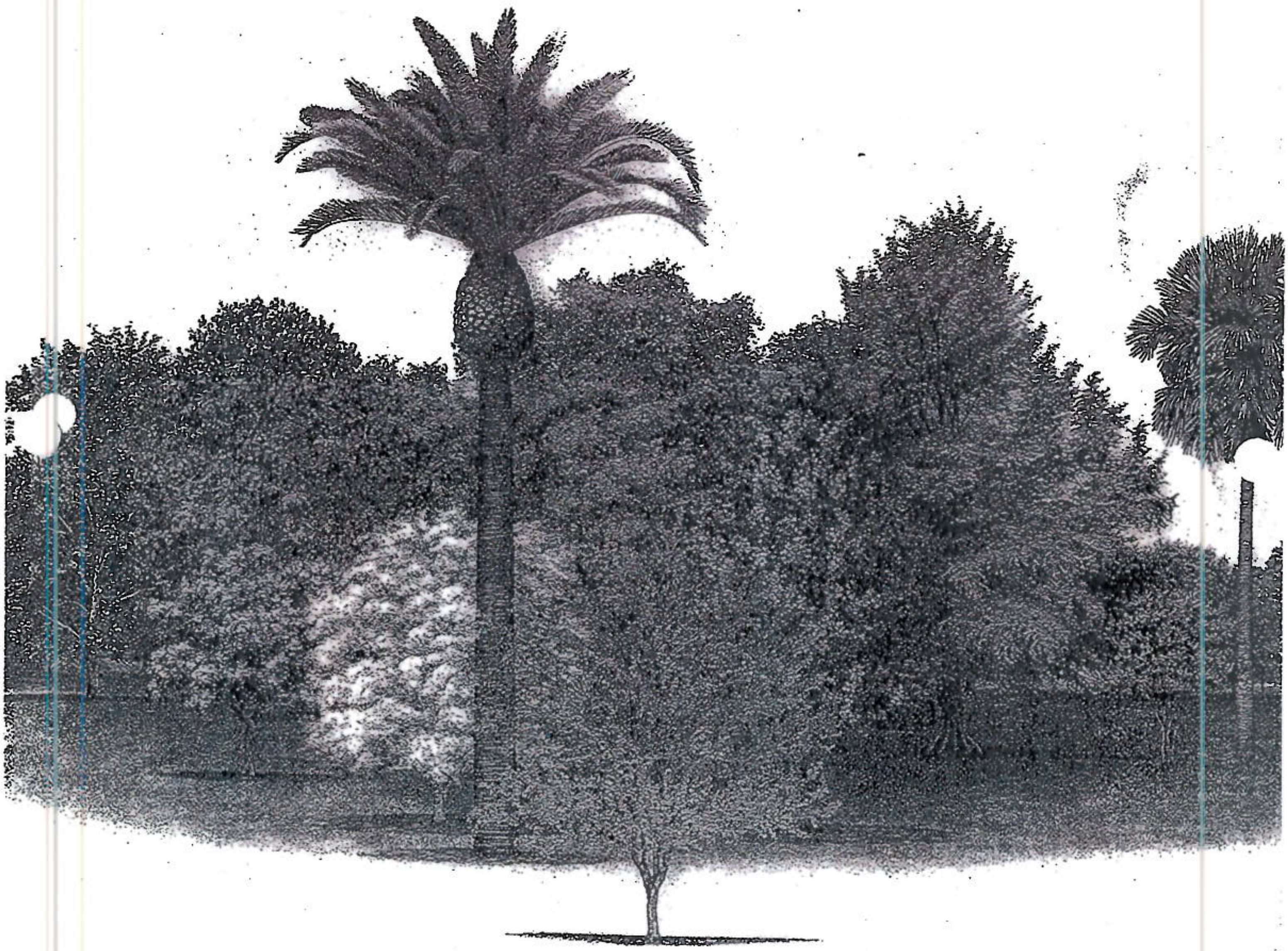
Plan Before You Plant

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.

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 remaining; units worked; average cost per mile; percentages for revenue, reactive and maintenance work; and safety status.

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

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.

- 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.

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.

- 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.

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)*

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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).

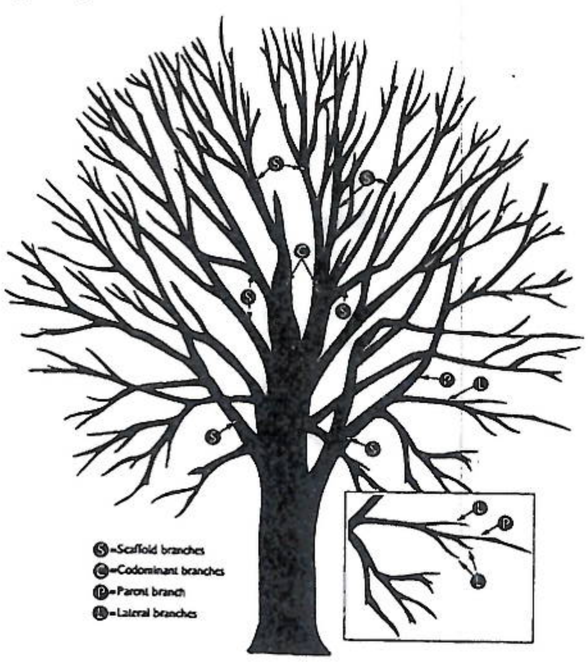


Figure 4.4 Standard branch definitions.

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).

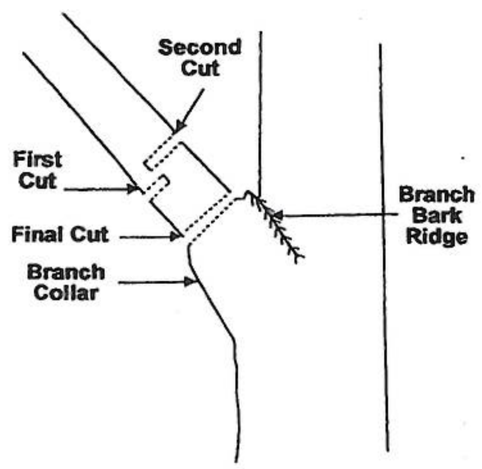


Figure 5.3.2. A cut that removes a branch at its point of origin. (See Annex A – Pruning cut guideline).

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).

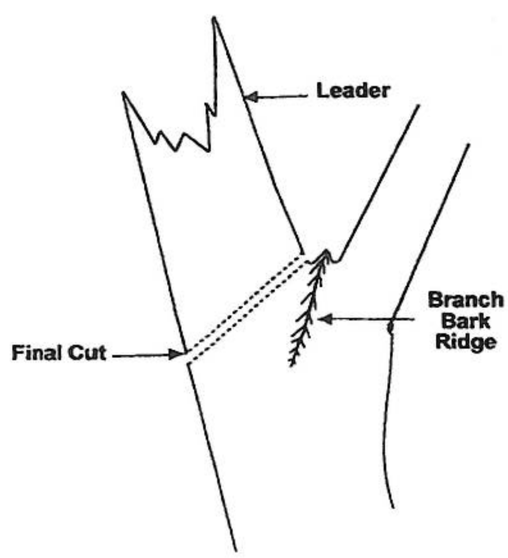


Figure 5.3.3. A cut that reduces the length of a branch or parent stem.

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).

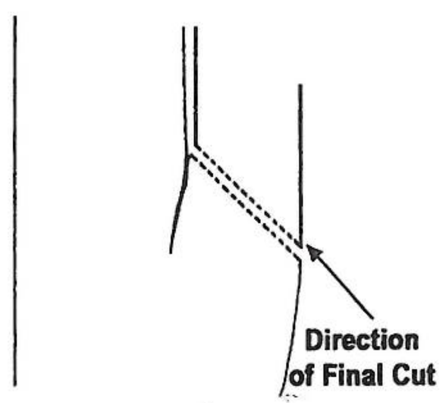


Figure 5.3.8. A cut that removes a branch with a narrow angle of attachment.

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).

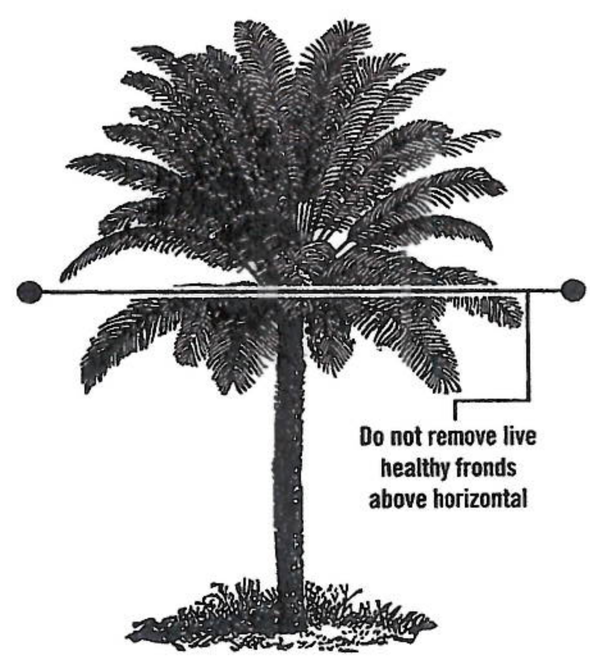


Figure 8.3a Frond removal location.

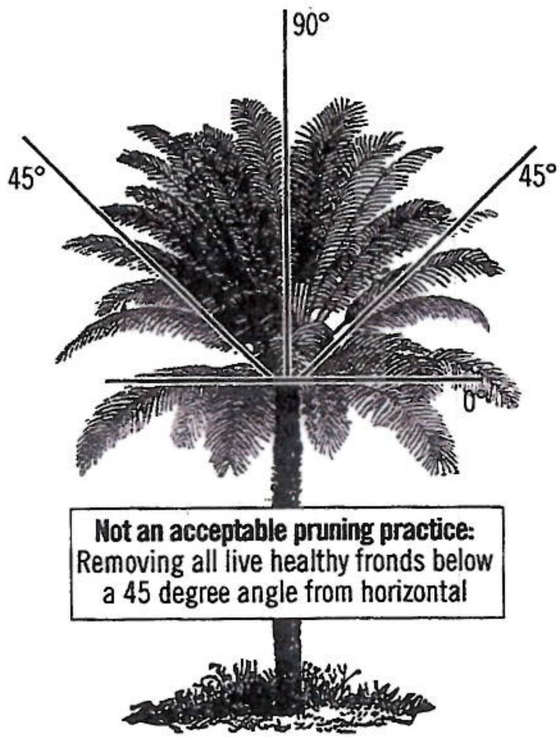


Figure 8.3b An overpruned palm (not an acceptable pruning practice).

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:

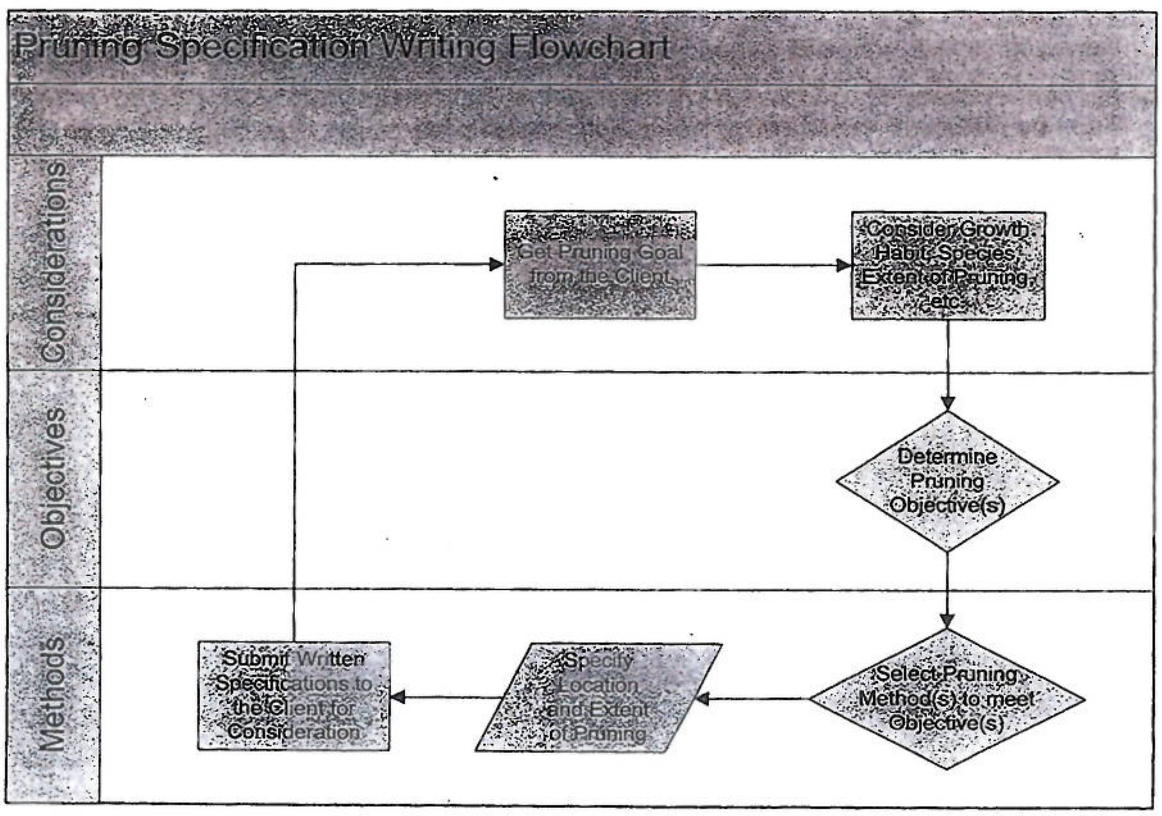
Thin crown 20-25 percent with 1-inch- to 4-inch-diameter cuts. Reduce west codominant leader by approximately 12 feet.

#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.

Sorry, we missed you!

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.**

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.

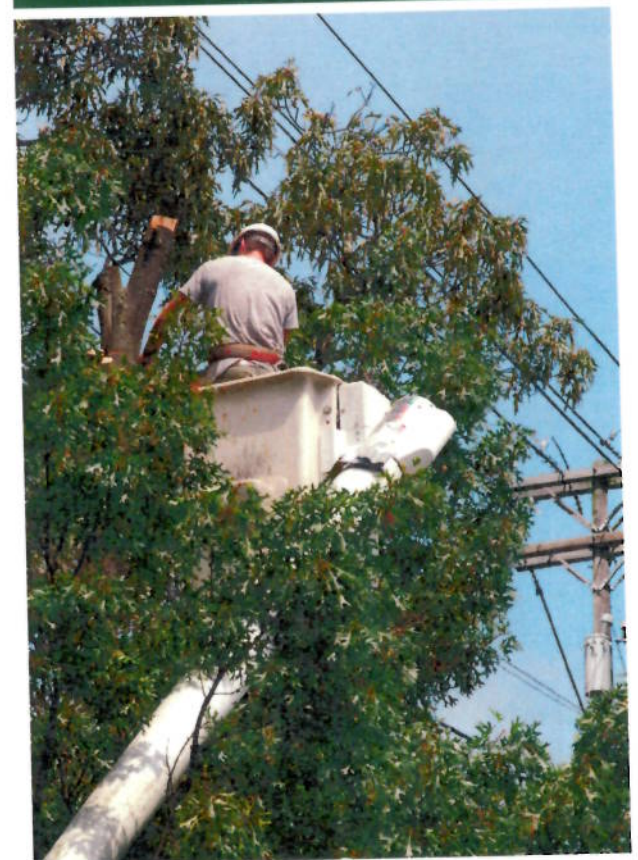
Duke Energy contractors have been trained on the proper, safe and environmentally responsible techniques of managing plant growth. All products used by Duke Energy are registered by the Environmental Protection Agency and approved by appropriate state agencies.

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.



Vegetation Management

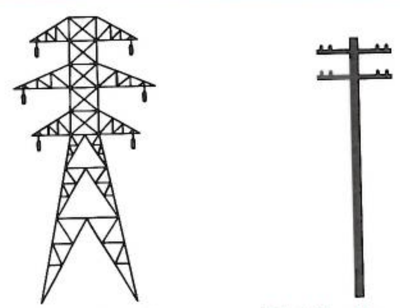
Keeping the lights on.

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.

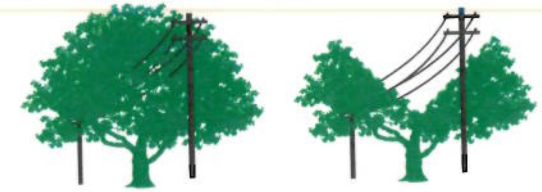
Duke Energy uses specific circuit information, reliability data and other indicators to prioritize lines for tree pruning and removal.

Pruning methods

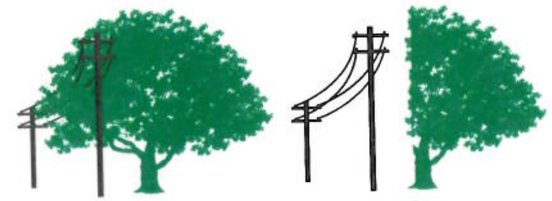
We do not "round" trees over because it's not good for a tree's health. We subscribe to directional or targeted pruning. These methods are endorsed by the tree care industry as the best pruning techniques for tree health.

Examples of trimming methods

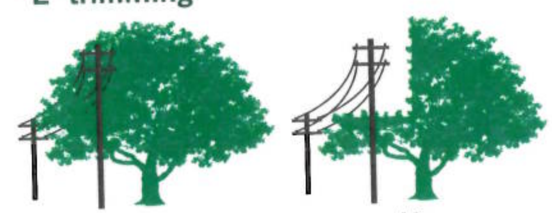
"V" trimming



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

Document title:	Document number:
Distribution System Storm Operational Plan	GDLP-EMG-DOS-00004
	Revision No.: 0
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).

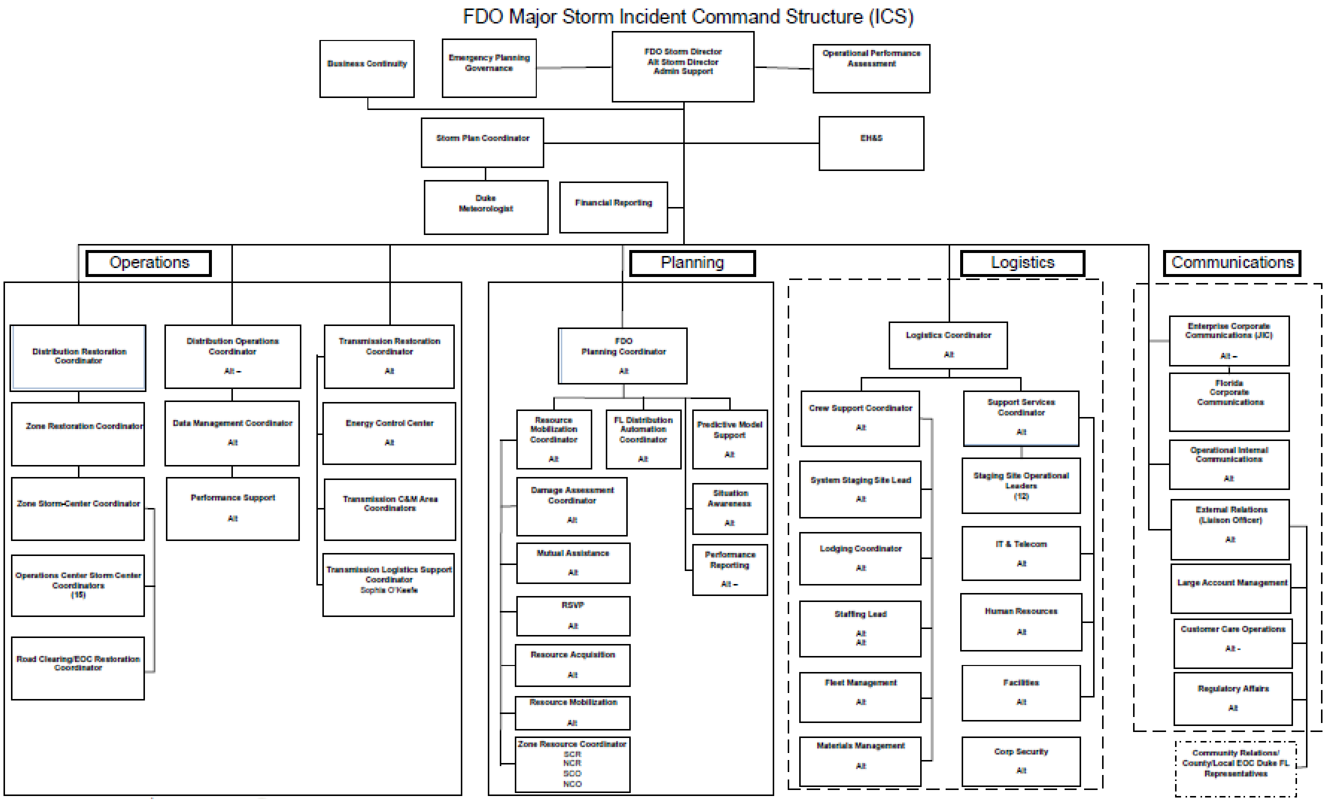
By applying lessons learned from past events and during the 2004 hurricane season, we were able to quickly and efficiently implement best practices, maximize manpower, and reduce damage to equipment. Lessons learned from all past storms and hurricanes have been integrated into this plan, so we may continue 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 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 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 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 will send their list of recommended improvements to the Zone Storm Manager, 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.

Lessons Learned

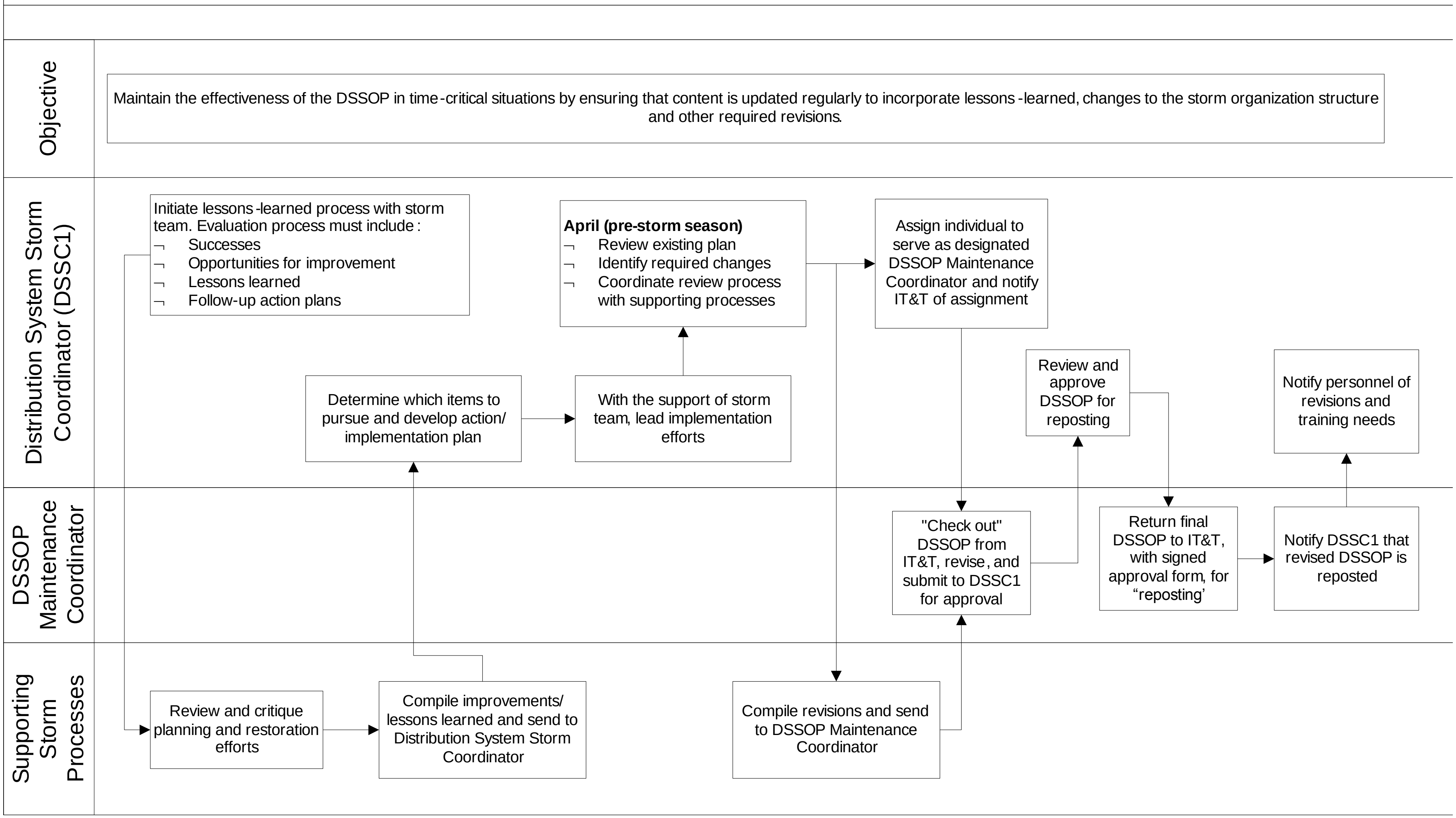
Plan Maintenance

Each spring prior to the start of hurricane season, the Distribution System Storm Coordinator will sponsor a review of the DSSOP for any needed changes. The Distribution System Storm Coordinator Assistant 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, with the support of the Distribution System Storm Coordinator Assistant, will ensure that necessary changes are incorporated.

The Distribution System Storm Coordinator 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:

Distribution System Storm Operational Plan Update and Maintenance Process



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:

- Keys of Life principles will be followed at all times.
- 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.

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, typically with an ETR between 0-6hrs
- **Level 2** - More than one Ops Center impacted within a zone (Resources within zone utilized) – Moderately Severe, typically with an ETR between 6-12hrs
- **Level 3** – One or more Ops centers impacted within a zone(Resources from other zones utilized – Severe, Typically with an ETR between 12-24hrs
- **System (level 4)** – Most Severe, requiring system wide or mutual assistance resource plans, typically with an ETR greater than 24hrs or a forecasted major event (hurricane, national event)

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.

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, Customer Contact Organization 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 Care 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 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 Activation Checklist

Storm Room Standards

Planning for Storm Events

Restoration Priorities

The following guidelines should be utilized by the Storm Process Owners in coordination with LAM and External Relations to determine restoration priorities:

- **Priority 1** – Feeders, lines and service drops for nuclear sirens, hospitals, municipal water & sewer treatment plants and emergency shelters. Industrial plants with public safety concerns (Ammonia Plants)
- **Priority 2** – Feeders, lines and service drops for EOCs, 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 Assessment

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. The guiding principle is to restore our electric grid system back to original status. These changes are more economically and efficiently documented at the time the construction change occurred, but isolated cases may take place to support restoration efforts. The need for a re-verification or final sweep of an area after the restoration effort has been completed will be performed and lead by the Damage Assessment group.

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, DE 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.

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:

Transfer of Switching and Tagging Authority

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: Standard Hours in response of a Major Event will consist of 2 schedules (Day-time- 5am to 9pm and Night-time- 5pm to 9am). Exceptions will be managed by each Storm Process Owner to 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-Waivers

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.

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:

Table of Contents

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	2013	2014	2015
	73.3	74.0	64.9	60.7	62.4	66.6	63.8	71.2	82.5	76.3	63.3	78.9	74.9	69.9
SAIFI														
	1.125	1.155	1.068	0.992	0.986	1.015	0.944	0.986	1.140	0.987	0.880	1.017	1.011	0.914
CAIDI														
	65.2	64.0	60.8	61.2	63.3	65.6	67.6	72.2	72.3	77.4	71.9	77.6	74.1	76.5
L-Bar														
	102.3	101.3	102.1	105.2	106.7	109.7	104.9	115.6	112.7	125.8	112.7	118.4	119.3	122.4

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	10.2	10.2	9.8
SAIFI														
	0.130	0.111	0.122	0.120	0.107	0.112	0.104	0.092	0.086	0.082	0.075	0.075	0.075	0.070
CAIDI														
	112.9	106.2	98.7	112.8	116.6	105.6	115.2	125.9	126.0	129.8	134.0	136.0	137.3	140.0
L-Bar														
	145.8	141.3	143.7	156.5	155.4	157.2	161.2	169.4	161.3	176.0	182.0	181.3	177.8	171.1

ATTACHMENT V

OVERHEAD/UNDERGROUND RELIABILITY (OH/UG) (Initiative 7)
Section D

2015				
OVERHEAD METRICS	**# OF Miles**	**CMI**	**CI**	**L-Bar**
	25,412	120,551,127	1,576,022	**122.4**

UNDERGROUND METRICS	**# OF Miles**	**CMI**	**CI**	**L-Bar**
	22,585	**16,870,145**	**120,540**	**171.1**

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 2016

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). The third extension of this MOU was recently approved by the Research Collaboration Partners and now extends through December 31, 2018.

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 2015.

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 developed a deterministic model, rather than a probabilistic one, 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 increasingly severe storms 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, Curacao, Samoa, and the Philippines. 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. PURC Director of Energy Studies Ted Kury was asked to contribute an article to the second quarter issue of *Utility Horizons* describing the modeling methodology for assessing the undergrounding of 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, Kury has conducted interviews for the general press on the costs and benefits of underground power lines.

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:	Document number:
Damage Assessment	GDLP-EMG-DOS-00008
	Revision No.: 000
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

Organization Charts

Damage Assessment Org Chart

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) / Ops Center Point of Contact (OPOC) 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 Assessors 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.

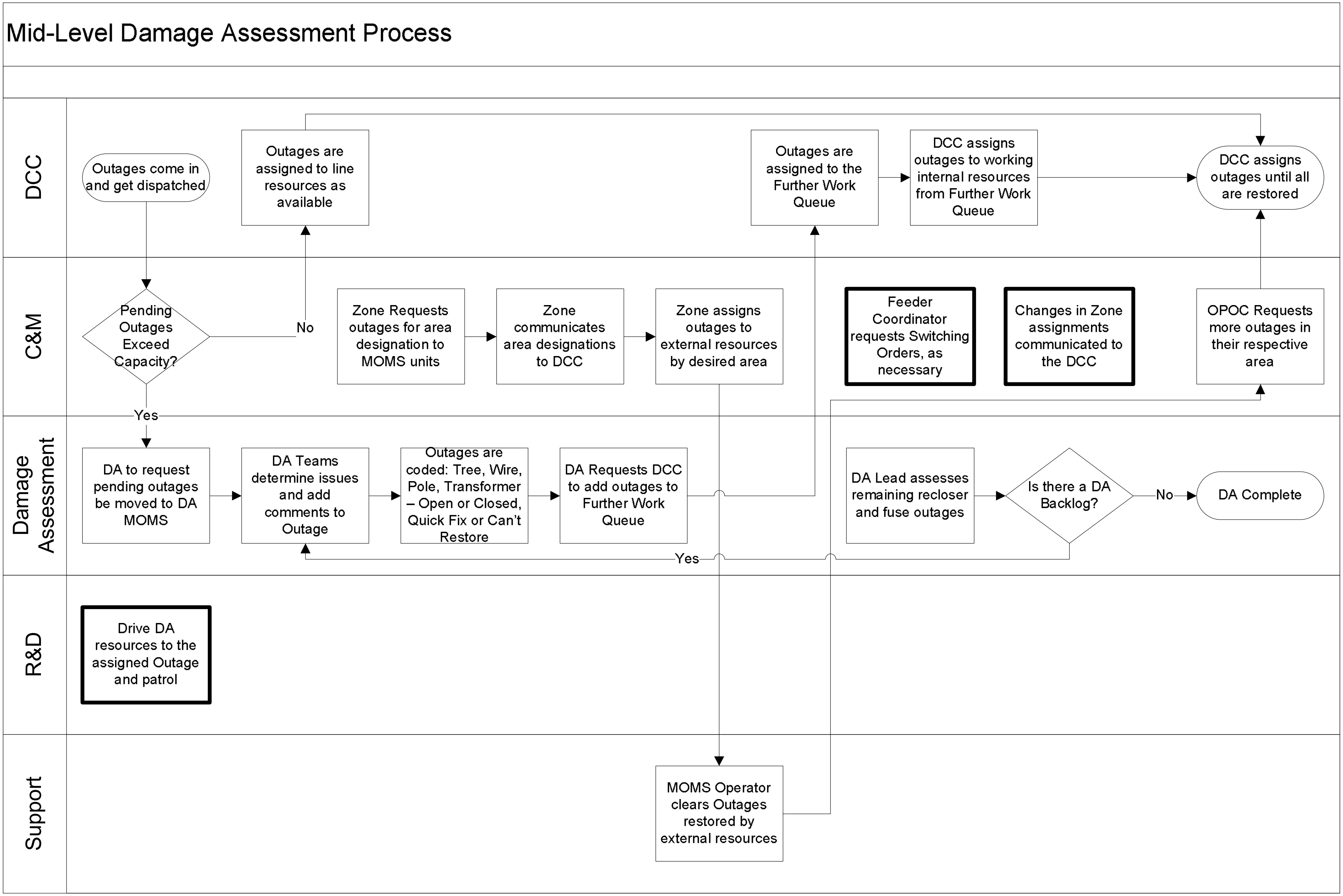
- DA resources will be deployed as follows and consist of 2 personnel in each vehicle:

	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 shown on the next page 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
Outages are assigned to line resources as available
Outages are assigned to the Further Work Queue
DCC assigns outages to working internal resources from Further Work Queue
DCC assigns outages until all are restored
Pending Outages Exceed Capacity?
No
Yes
Zone Requests outages for area designation to MOMS units
Zone communicates area designations to DCC
Zone assigns outages to external resources by desired area
Feeder Coordinator requests Switching Orders, as necessary
Changes in Zone assignments communicated to the DCC
OPOC Requests more outages in their respective area
DA to request pending outages be moved to DA MOMS
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
DA Lead assesses remaining recloser and fuse outages
Is there a DA Backlog?
No
DA Complete
Yes
Drive DA resources to the assigned Outage and patrol
MOMS Operator clears Outages restored by external resources

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

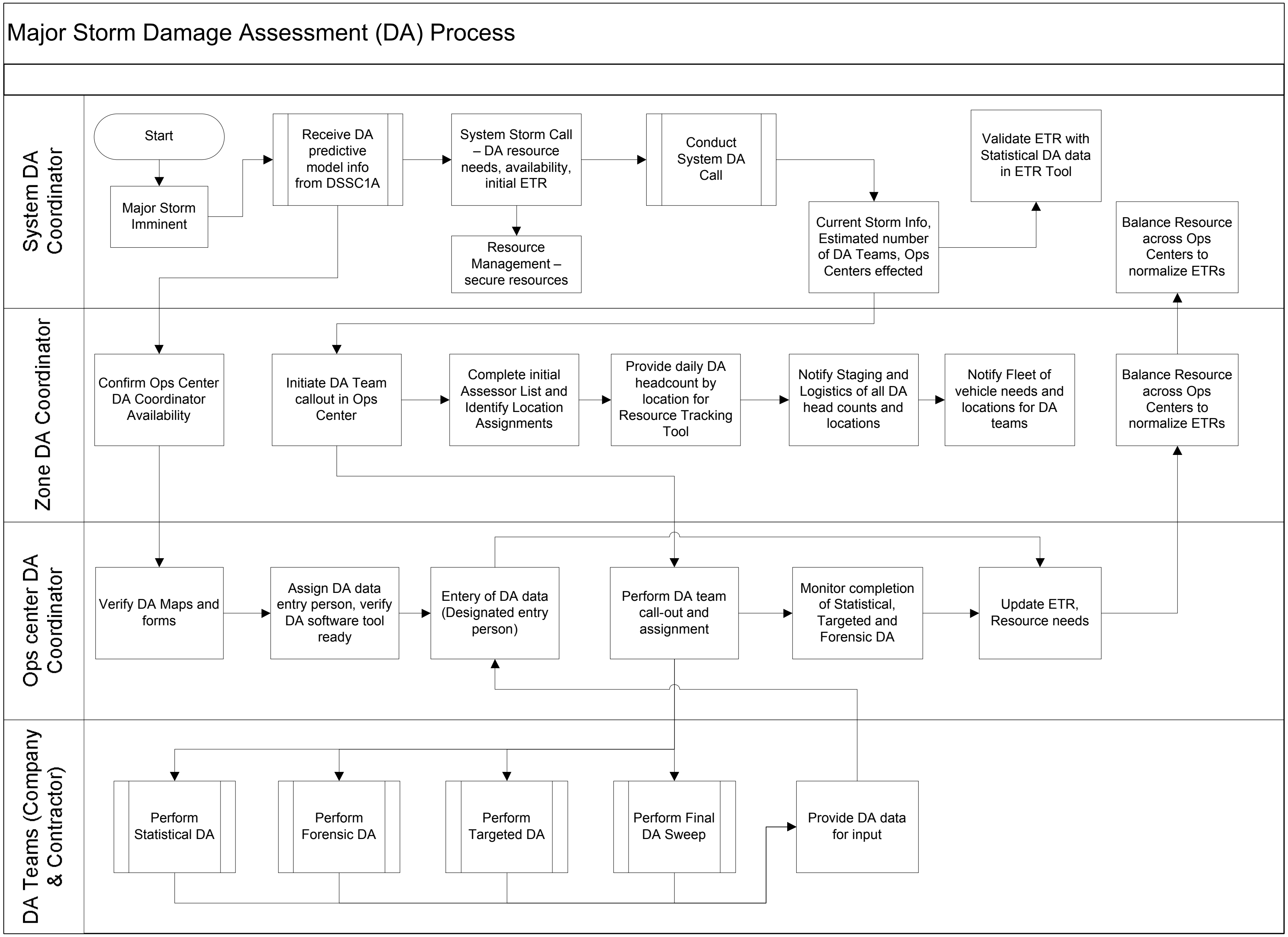
- This process is both a logical and scalable version of the DA Mid-Level restoration process, i.e., the mid-level and major storm restoration processes will be nearly identical
- Outages will be assigned by priority feeder after the AIRD feeders have been assessed and modeled in OMS.
- DA can commence 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 processes to support major storms will be defined in four (4) distinct categories:
  - **Statistical DA (High level tally of pole, wire, transformer damage within a sample areas to assist with damage estimates and ETR**;
  - **Targeted DA(Detailed damage assessment associated with specific outage events**;
  - **Sweep DA(Substation to meter assessment to update GIS of any asset changes)** ;
  - **Forensic DA (Specific assessment for analysis for pole damage, usually in response to tornado or high winds)** .

- Damage Assessment teams will be comprised of 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 and consist of 2 personnel in each vehicle:

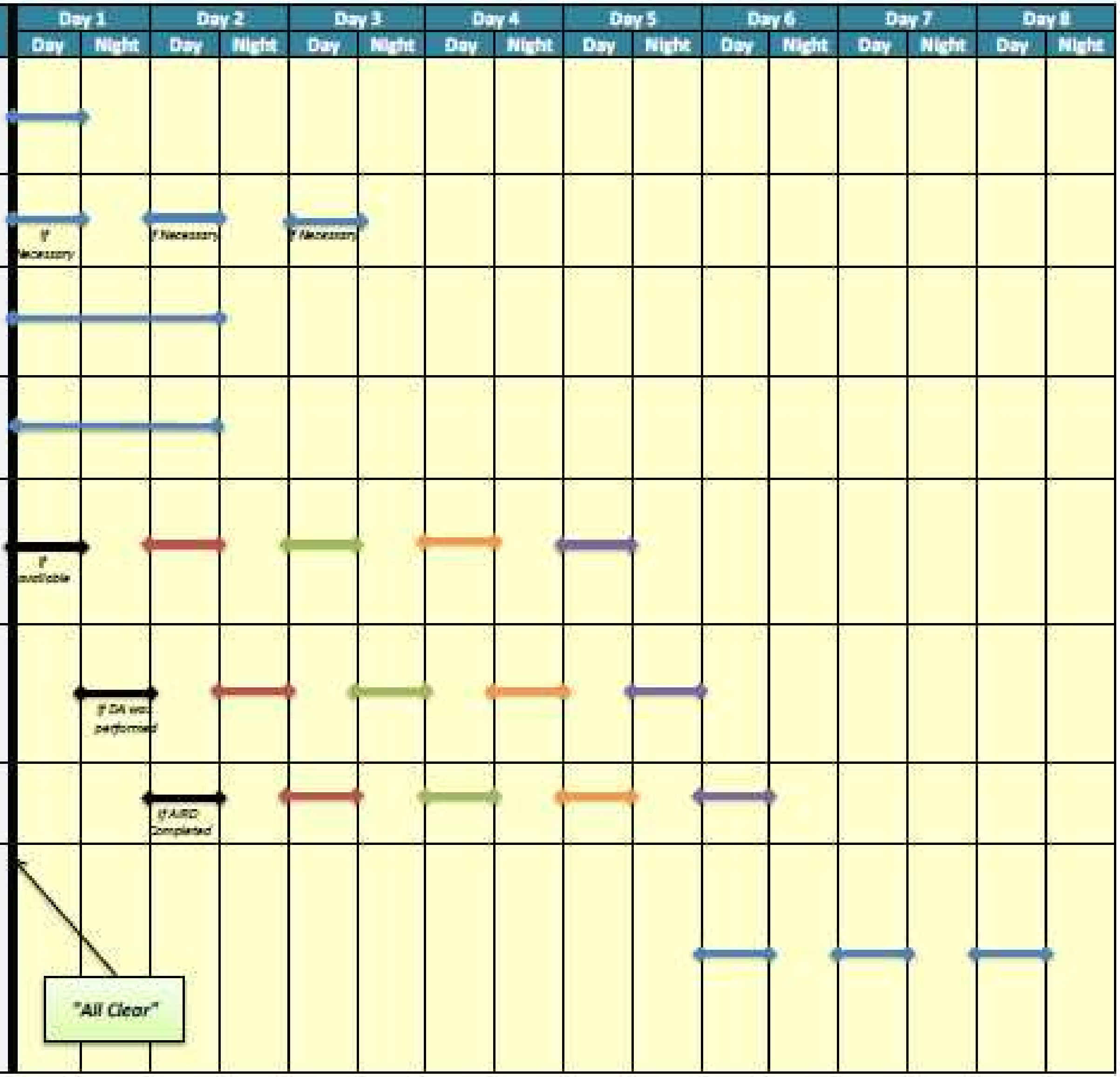
	Senior Damage Assessor	**Damage Assessor**	**R&D Driver**
Day	X	X	X
Night (No Backlot)	none	none	none

The flowchart below provides a detailed view of this sub-process:



Major Event DA Timeline

ID	Task Name	Field Resource Name
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*
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*
7	**Work Scope Assignments** - *Facilitates the ability to effectively match outage work scope to restoration resource for next day's work*	*Night Strategic Support*
8	**Restoration** - *Turns the lights on*	*Contract Line*
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*

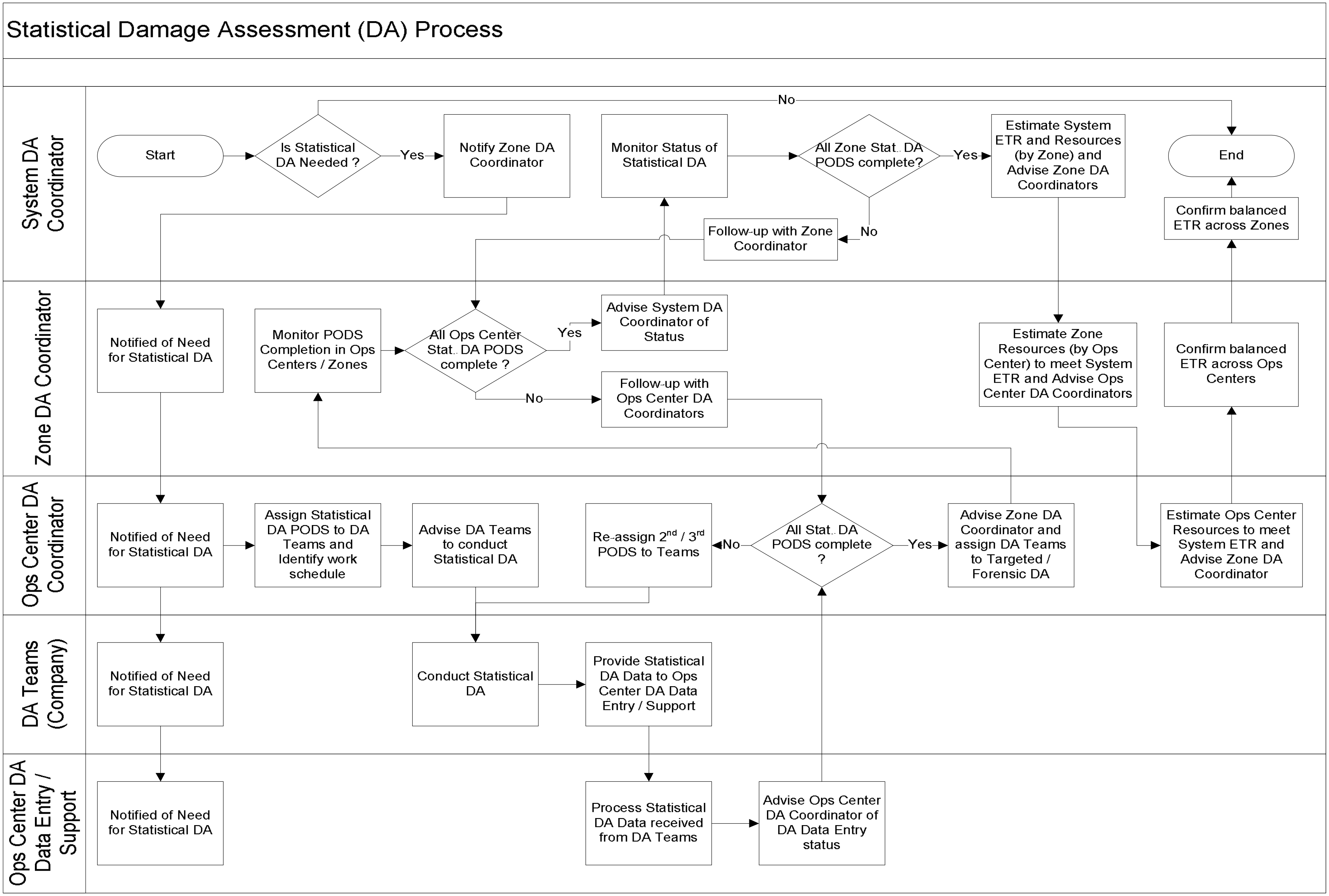


Statistical Damage Assessment

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. Statistical DA will be completed within 12 hours after the All Clear.
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:


Statistical Damage Assessment (DA) Process
System DA Coordinator
Zone DA Coordinator
Ops Center DA Coordinator
DA Teams (Company)
Ops Center DA Data Entry / Support
Start
Is Statistical DA Needed ?
Yes
No
Notify Zone DA Coordinator
Monitor Status of Statistical DA
All Zone Stat.. DA PODS complete?
Yes
No
Estimate System ETR and Resources (by Zone) and Advise Zone DA Coordinators
End
Confirm balanced ETR across Zones
Follow-up with Zone Coordinator
Notified of Need for Statistical DA
Monitor PODS Completion in Ops Centers / Zones
All Ops Center Stat.. DA PODS complete ?
Yes
No
Advise System DA Coordinator of Status
Follow-up with Ops Center DA Coordinators
Estimate Zone Resources (by Ops Center) to meet System ETR and Advise Ops Center DA Coordinators
Confirm balanced ETR across Ops Centers
Notified of Need for Statistical DA
Assign Statistical DA PODS to DA Teams and Identify work schedule
Advise DA Teams to conduct Statistical DA
Re-assign 2nd / 3rd PODS to Teams
No
All Stat.. DA PODS complete ?
Yes
Advise Zone DA Coordinator and assign DA Teams to Targeted / Forensic DA
Estimate Ops Center Resources to meet System ETR and Advise Zone DA Coordinator
Notified of Need for Statistical DA
Conduct Statistical DA
Provide Statistical DA Data to Ops Center DA Data Entry / Support
Notified of Need for Statistical DA
Process Statistical DA Data received from DA Teams
Advise Ops Center DA Coordinator of DA Data Entry status

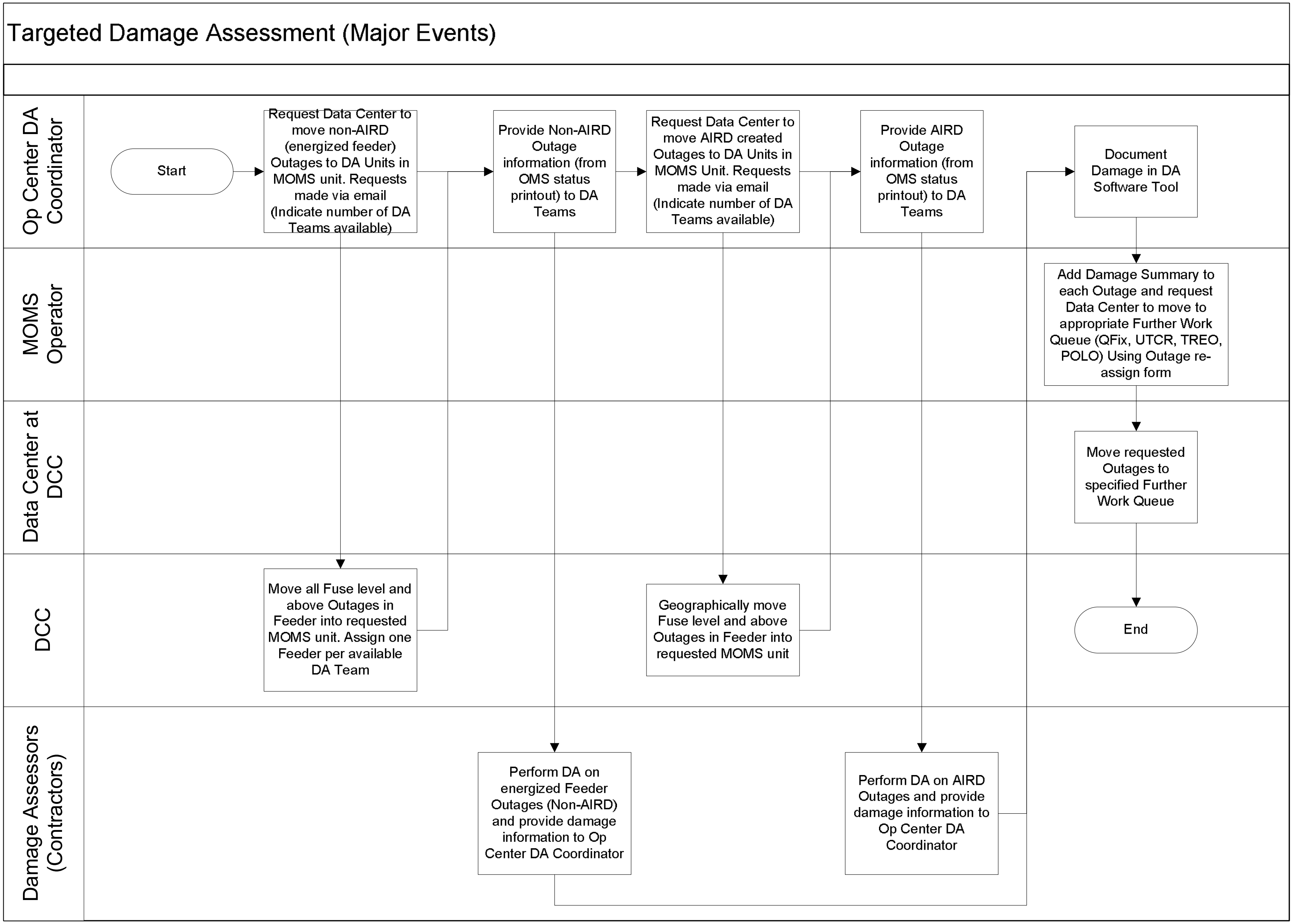
Targeted Damage Assessment

This sub-process provides data for restoring the distribution systems and 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 Units in 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 Units in 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

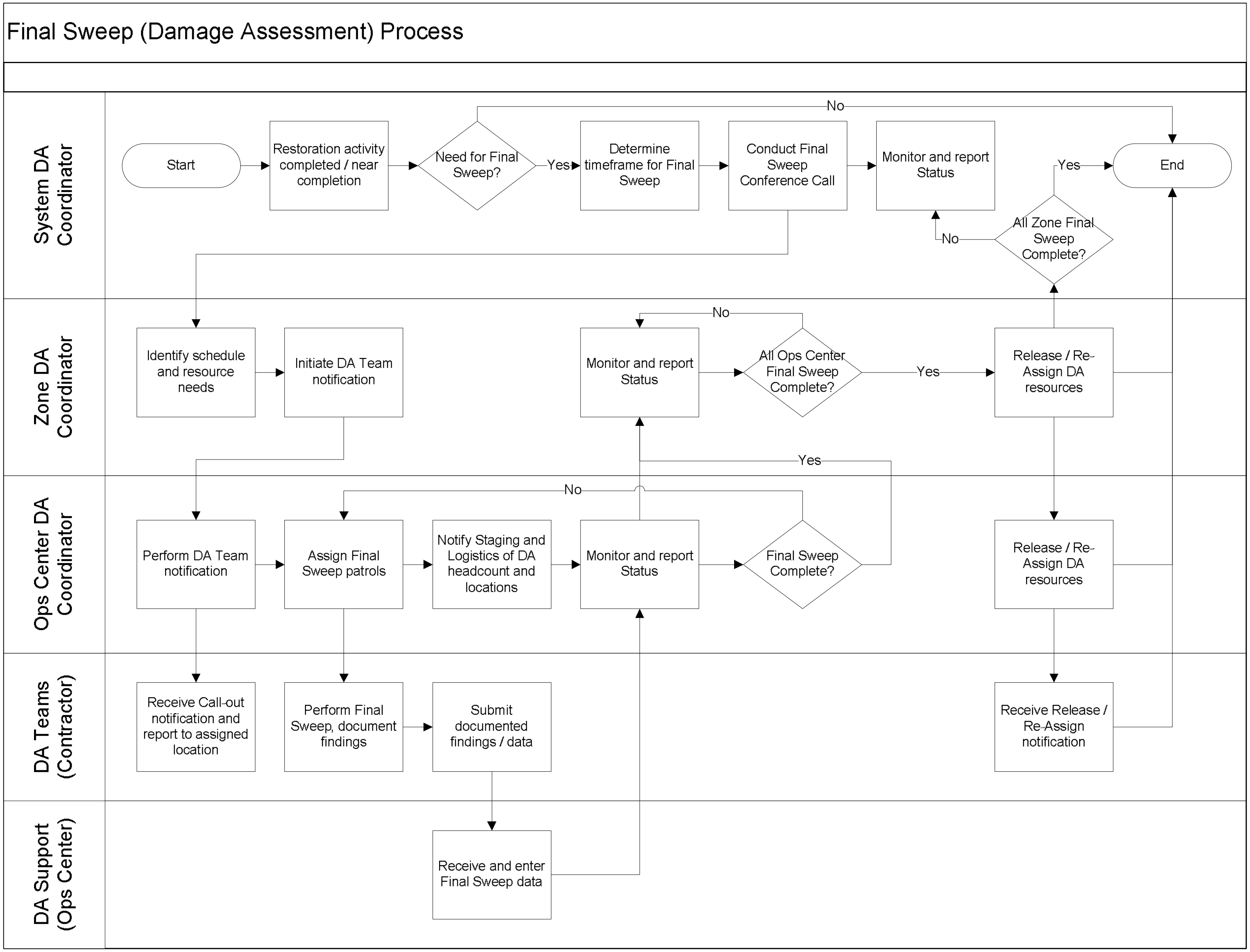
This sub-process provides information regarding the current configuration of the distribution system (i.e., the state of each switch, existing phasing, etc.). Final Sweep teams identify existing distribution devices in need of repair or replacement due to storm damage or restoration actions immediately 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. Add GIS statement, Distribution Automation devices, NAN antenna devices (no longer part of DA, verify). Utilize contract DA resources.

Contractors to complete Final Sweep as defined. Duke Energy to provide adequate oversight of contract resources completing final sweeps.

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:

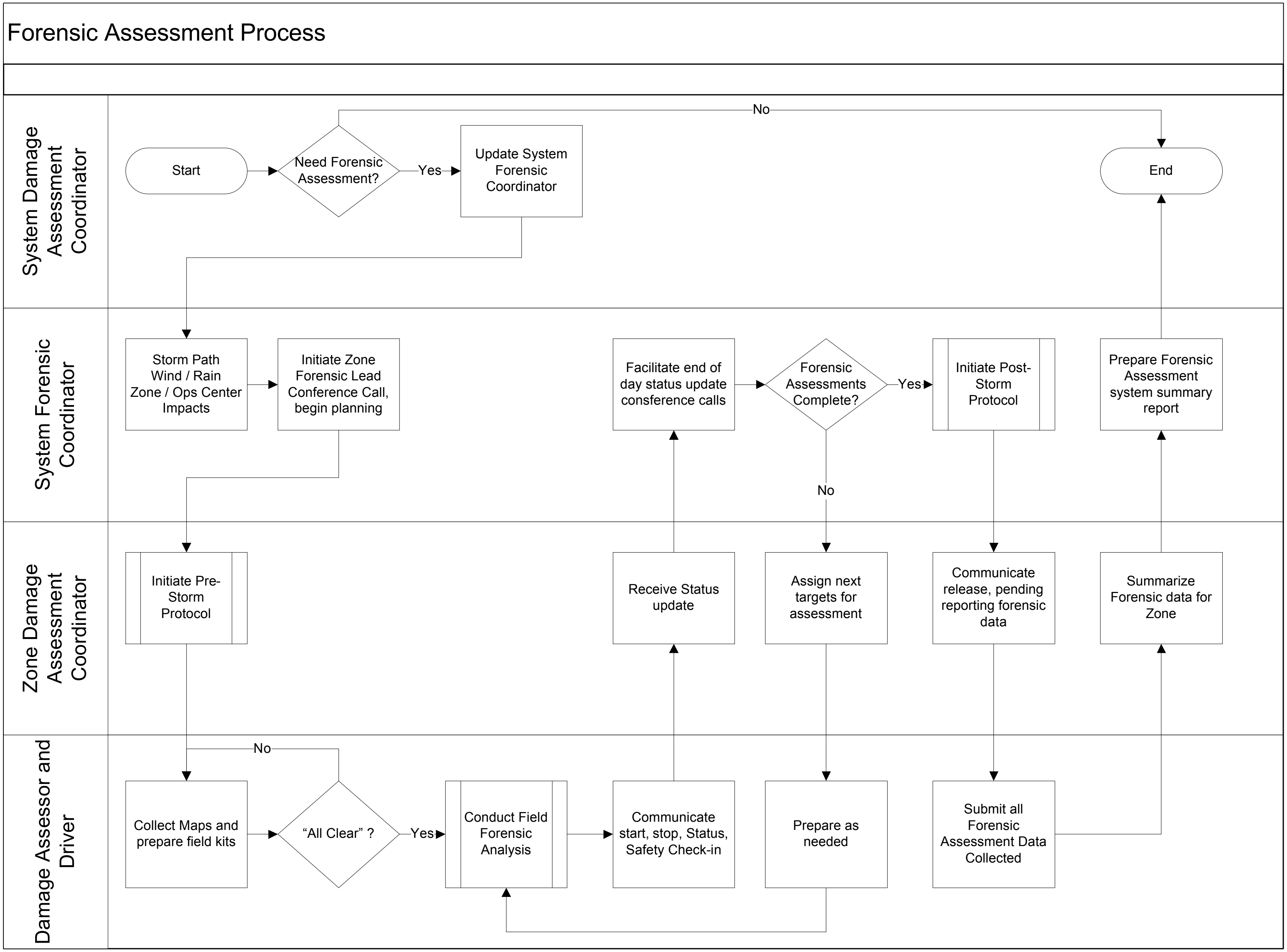

Final Sweep (Damage Assessment) Process
System DA Coordinator
Zone DA Coordinator
Ops Center DA Coordinator
DA Teams (Contractor)
DA Support (Ops Center)
Start
Restoration activity completed / near completion
Need for Final Sweep?
Yes
No
Determine timeframe for Final Sweep
Conduct Final Sweep Conference Call
Monitor and report Status
All Zone Final Sweep Complete?
Yes
No
End
Identify schedule and resource needs
Initiate DA Team notification
Monitor and report Status
All Ops Center Final Sweep Complete?
No
Yes
Release / Re-Assign DA resources
Yes
No
Perform DA Team notification
Assign Final Sweep patrols
Notify Staging and Logistics of DA headcount and locations
Monitor and report Status
Final Sweep Complete?
Release / Re-Assign DA resources
Receive Call-out notification and report to assigned location
Perform Final Sweep, document findings
Submit documented findings / data
Receive Release / Re-Assign notification
Receive and enter Final Sweep data

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
System Damage Assessment Coordinator
System Forensic Coordinator
Zone Damage Assessment Coordinator
Damage Assessor and Driver
Start
Need Forensic Assessment?
Yes
No
Update System Forensic Coordinator
End
Storm Path Wind / Rain Zone / Ops Center Impacts
Initiate Zone Forensic Lead Conference Call, begin planning
Facilitate end of day status update consference calls
Forensic Assessments Complete?
Yes
No
Initiate Post-Storm Protocol
Prepare Forensic Assessment system summary report
Initiate Pre-Storm Protocol
Receive Status update
Assign next targets for assessment
Communicate release, pending reporting forensic data
Summarize Forensic data for Zone
No
Collect Maps and prepare field kits
"All Clear" ?
Yes
Conduct Field Forensic Analysis
Communicate start, stop, Status, Safety Check-in
Prepare as needed
Submit all Forensic Assessment Data Collected

<u>Job Descriptions</u>

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 and for the coordination of collecting and collating forensic data of distribution pole and structure damage due to a major storm.

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
- Develop and deliver post-storm System Forensic Summary Report within 2 weeks after storm restoration activity has been completed

Key Interface Points

- Distribution System Storm 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
- Request storm activation in the DA Software
- 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
- Validate Forensic Assessment roles have been assigned and filled for all Zones

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
- Facilitate conference phone calls with 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
- Collect and collate all forensic data

After Major Storm

- Demobilize deployed Damage Assessment teams
- Lead lessons learned activities
- Provide input into DSSOP improvement
- Develop and deliver post-storm System Forensic Summary Report within 2 weeks after storm restoration activity has been completed

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

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 during the process. This includes response to major storms, mid-level events and forensic assessment requests.

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
- Provide complete Zone Substation Forensic Summary Reports to System Damage Assessment Coordinator within 1 week after storm restoration activity has been completed

Key Interface Points

- Operations Center Damage Assessment Coordinators
- Zone Storm Coordinator
- Damage Assessors
- System Damage Assessment Coordinator

Checklist of Actions

Before Major Storm, Mid-level Event or Forensic Assessment

- 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 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, Mid-level Event or Forensic Assessment

- 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, Mid-level Event or Forensic Assessment

- 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
- Provide complete Zone Substation Forensic Summary Reports to System Damage Assessment Coordinator within 1 week after storm restoration activity has been completed

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

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, Mid-level Event or Forensic Assessment

- 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, Mid-level Event or Forensic Assessment

- 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
- 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, Mid-level Event or Forensic Assessment

- 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
- Ops Center MOMS operator

Checklist of Actions

Before Major Storm, Mid-level Event or Forensic Assessment

- Complete Damage Assessment refresher training immediately prior to major storm event.
- 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.
  - DA ETR tool review

During Major Storm, Mid-level Event or Forensic Assessment

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.)

After arriving at assigned assessment location:

- Conduct Damage Assessment per training
- Document findings
- Ensure data is reported back to local Operation Center

After Major Storm, Mid-level Event or Forensic Assessment

- Go home. Thank you for your assistance!

Training Requirements

- Review Damage Assessment training materials
- Communicate any changes in contact numbers (home, work, cell phone, e-mail address, etc.) to Ops Center Damage Assessment Coordinator
- Keep abreast of major weather developments and proactively contact Ops Center 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 Assessment Driver

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

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:

Damage Assessment SharePoint Site

DA Checklist

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

ATTACHMENT Y

Transmission Florida Storm Plan

Transmission Storm Plan Florida

Table of Contents

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 <u>Level I -</u> 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 <u>Level I Examples -</u>

- 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 Level II - 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 Level II Examples -

- 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 Level III - 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 - 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 ❑ Corporate Security ❑ Distribution ❑ Trans ROW ❑ NTA ❑ ECC ❑ Safety ❑ Heavy Hauling ❑ STA ❑ Dept VP Maint & Const ❑ Wholesale ❑ Weather ❑ Trans. Financial ❑ Fleet ❑ Stores ❑ Telecom ❑ Aviation	***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 30 MPH.
- 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 up to, but not exceeding 30 MPH, 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.

- Means for documenting any problems or comments that crews feel might be needed for future reference.
- 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.
  - **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).
  - **Employee's Full Name:** write in the full name (not nickname) of each member of the crew.
  - **Social Security Number:** fill in the social security number for each crew member.
  - **Duke Energy Florida Supervisor of Crew:** supervisor should write in his name.
  - **Vehicles/Equipment:** list the types of vehicles and equipment assigned to the crew (for example: wire stringer, marsh master, bucket truck, etc.).
  - **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 **major storm/emergency,** Corporate Credit Cards are to be used for **all** 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

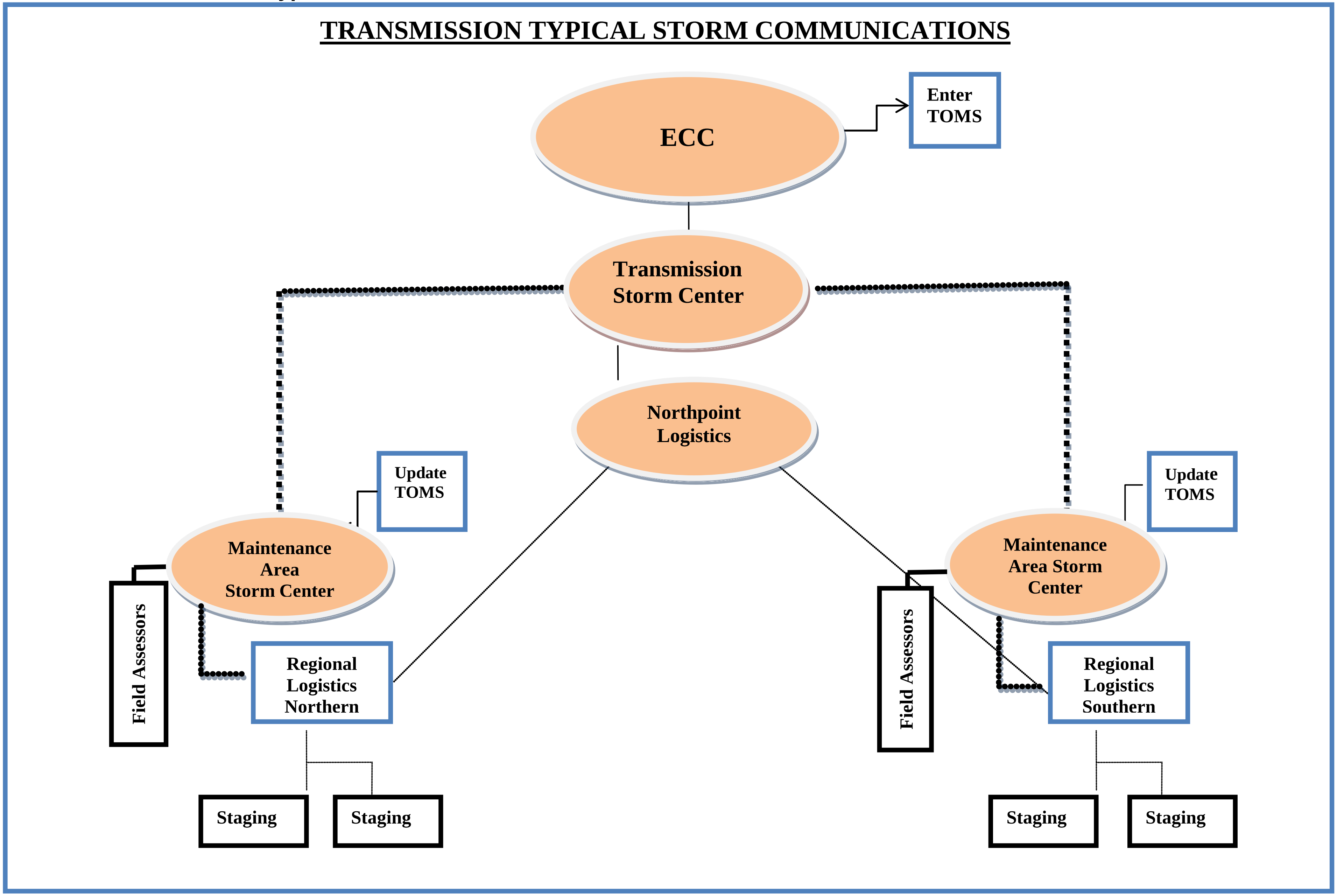
- **Transportation Storm**
- **Supply Chain M&S FL Storm**

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.

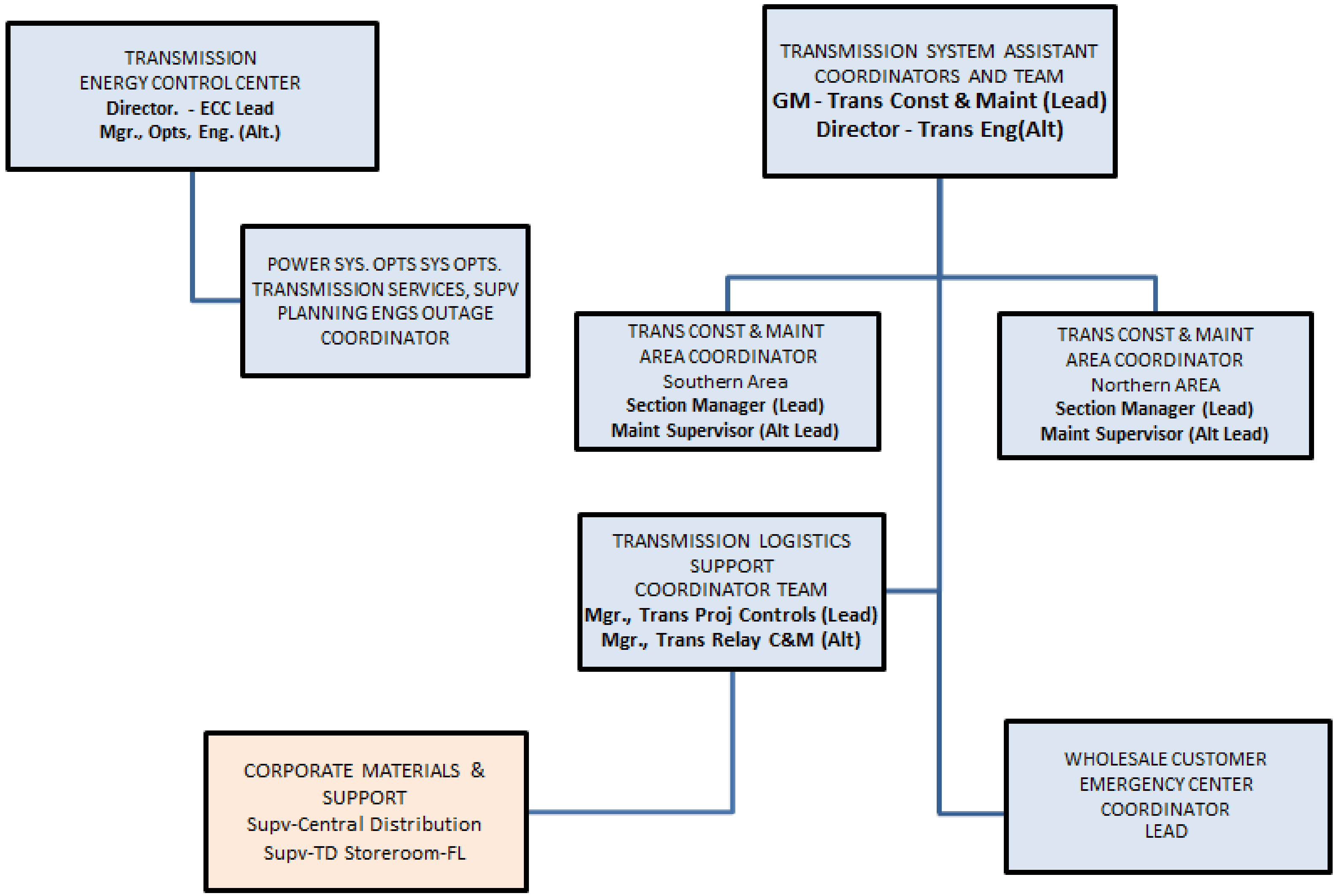
AUTHORIZED COPY

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	277-6713	407-938-6720	277-6720	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	288-3501 288-3392			
Highlands	863-471-5822	288-5822			
Buena Vista	407-938-6651 407-938-6745	277-6651 277-6745			
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			