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March 27, 2013

**VIA OVERNIGHT DELIVERY**

Mr. John A. Rogness III  
Director of Engineering  
Kentucky Public Service Commission  
P.O. Box 615  
211 Sower Boulevard  
Frankfort, KY 40602

RECEIVED

MAR 28 2013

PUBLIC SERVICE  
COMMISSION

**RE: 2012 Reliability Report and Vegetation Management Plan Update**  
**2012 Calendar Year**

Dear Mr. Rogness:

Enclosed please find the signed copy of the Duke Energy Kentucky, Inc. 2012 Reliability Report and Vegetation Management Plan Update.

Should you have any questions, please do not hesitate to contact me.

Very truly yours,

E. Minna Rolfes  
Paralegal to Rocco D'Ascenzo

EMR  
Enclosure

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

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DUKE ENERGY KENTUCKY, INC.  
RELIABILITY REPORT AND VEGETATION MANAGEMENT PLAN UPDATE  
FOR CALENDAR YEAR 2012

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March 30, 2013

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## **I. Introduction**

On October 26, 2007, the Commission issued its Order requiring all jurisdictional utilities to file annual reliability reports and to develop vegetation management plans.<sup>1</sup> Pursuant to the Order, jurisdictional utilities were required to report a minimum of 5 years of reliability data. The reports are required to be based upon a calendar year (January to December) and filed by the first business day in April in the year immediately following the reporting year.

Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company) submits its Reliability Report and Vegetation Management Plan update for Calendar year 2012 as required by the Commission's October 26, 2007 Order in Case No. 2006-00494.

## **II. Reliability Report Summary**

Exhibit A of the reliability report includes measurements of total system performance using the System Average Interruption Duration Index (SAIDI), the System Average Interruption Frequency Index (SAIFI), and the Customer Average Interruption Duration Index (CAIDI) calculated for each of the preceding five twelve-month periods, including the reporting year.<sup>2</sup> Duke Energy Kentucky uses IEEE Std. 1366 to determine major event days for the purpose of weather-normalizing outage data when calculating the reliability indices SAIFI, SAIDI and CAIDI. Except where noted in the year-end indices, major event days have been excluded from all reliability measures in this report.

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<sup>1</sup> *In re An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Utilities, Case No 2006-00494.* (Order at 8)(October 27, 2007).

<sup>2</sup> *Id.*

Exhibit B contains a list of customer interruptions by the ten most significant cause categories for the most recent five twelve- month periods.<sup>3</sup> The cause codes used in Exhibit B are IEEE cause codes.

Exhibit C of the reliability report is an analysis of Duke Energy Kentucky's ten worst performing circuits on the system for the reporting period taking into consideration all three reporting indices.<sup>4</sup> This section includes an analysis of the cause of the poor performance, the circuit, index value, and the major outage category contributing to the circuit's performance. The durations of the reported outages are measured by number of minutes by index for SAIDI and CAIDI. This section also describes the corrective actions planned or already taken to improve circuit performance.

Exhibits D, E, and F of the reliability report comprise a list of the ten worst performing circuits in 2012 as determined by the individual SAIFI, CAIDI, SAIFI indices, respectively. These sections also include the value index and primary cause of the circuit performance.

### **III. Vegetation Management Plan Update and Summary**

Duke Energy Kentucky filed its initial Vegetation Management Plan with this Commission on December 18, 2007 in Case No. 2006-00494.<sup>5</sup> Duke Energy's Midwest Vegetation Management Group is responsible for controlling vegetation growth for 37,000 miles of transmission and distribution overhead electric lines and gas supply lines in Ohio, Indiana and Kentucky.

Exhibit G is a copy of Duke Energy Kentucky's Vegetation Management Plan. There have been no amendments or changes to the plan since it was initially filed with

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<sup>3</sup> *Id.* at 9, paragraph 6.

<sup>4</sup> *Id.* at 7.

the Commission on December 18, 2007. There are no amendments or changes planned for 2013.

As part of its 2013 plan, Duke Energy Kentucky plans to trim trees and maintain vegetation along 372 miles of its distribution system. In the first quarter of 2013, Duke Energy Kentucky has experienced fair weather conditions that have helped our Vegetation Management Plan for 2013. As of March 15, 2013, Duke Energy Kentucky has completed 13.1% of its scheduled trimming, or approximately 49 miles of its distribution system. This leaves approximately 323 miles to be trimmed in 2013. The Company does not anticipate any difficulty in completing all planned trimming for 2013. The Company will have sufficient crew's coverage throughout the year.

Respectfully submitted,



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## IEEE 1366 Normalization

Duke Energy Kentucky uses IEEE Std. 1366 to determine major event days for the purpose of weather-normalizing outage data when calculating the reliability indices SAIFI, SAIDI and CAIDI. Except where noted in the Year-End Indices, major event days have been excluded from all reliability measures in this report.

# Year-End Indices

Duke Kentucky Year-End Reliability Indices							
Year	Major Event Days Included				Major Event Days Excluded		
	SAIFI	CAIDI	SAIDI		SAIFI	CAIDI	SAIDI
2008	2.38	741.7	1,762.1		1.28	83.1	106.4
2009	1.58	126.6	199.9		1.13	101.3	114.2
2010	1.48	92.0	136.1		1.30	87.9	114.3
2011	2.00	126.0	252.0		1.60	84.4	135.0
2012	1.73	167.6	290.0		1.25	88.0	110.0

### Customer Interruptions by Cause

Sum of Cust Interrupt (CI)		IEEE Cause													
Year	PowerOff	MonthPowerOff	Wildlife	Equipment Failure	Error	Other	Overload	Planned	Weather	Vegetation	Unknown	Public Accident	Lightning Strike	Loss of Transmission	Month Totals
2003	1	1	124	2,098	895	92	84	19	8	686	5				4,012
	2	35	19,183		647	3,833	10	30,345	272	161	84				54,570
	3	102	799		42		37	7,691	124	35	52				8,882
	4	479	61		39		220	75	370	4	1,003				2,251
	5	772	1,581		62		680	6,738	7,838	2,358	3,523				23,552
	6	541	3,036		1,890	1	37	1,118	1,947	12,770	1,646				22,986
	7	579	4,551		1,614	12	15	27,467	7,008	2,493	5,849				49,588
	8	346	3,739		1,706	299	199	7,301	5,161	306	676				19,733
	9	497	565		238		36	1,361	2,283	2,386	491				7,857
	10	2,702	2,239		1,394		216	2	579	2,972	592				10,696
	11	538	189		481		3	125	670	405	74				2,485
	12	553	3,523		33	6	2	36	18	319	395				4,885
2004	1	3,010	1,103		1,163	5	126		62	285	617				6,371
	2	474	1,470		4,993	1	358		248	256	36				7,836
	3	518	2,242		157	7	38	420	251	139	210				3,982
	4	443	3,417		30	1	183	16	82	1,082	1,620				6,874
	5	2,511	5,787		79	34	14	4,411	3,989	750	7,751				25,326
	6	1,319	1,196		65	9	314	486	2,678	2,577	352				8,996
	7	897	1,320		364	29	101	4,627	4,423	709	3,702				16,172
	8	641	2,128		51	35	244	2,953	763	1,141	466				8,422
	9	1,244	2,806		28		52	136	1,153	3,553	81				9,053
	10	5,342	2,965		8	1	235	9	880	599	4,339				14,378
	11	671	14,648		44		37		3,543	215	558				19,716
	12	122	4,175		26	139	68	393	2,880	2,267	131				10,201
2005	1	173	2,862		1,082		117	42	347	13	2,124				6,760
	2	2,282	2,896		15	1	125		2,475	139	2,695				10,628
	3	273	28		29		353	1	3,238	94	2,369				6,385
	4	205	4,854		269	2	211	82	3,722	94	2,799				12,238
	5	563	3,524		139	1	575	156	2,214	171	90				7,433
	6	657	5,625		24	45	408	2,008	573	584	3				9,927
	7	631	6,023		324	596	634	1,154	997	9,454	323				20,136
	8	607	4,015		65	52	506	4,718	572	400	548				11,484
	9	280	3,688		178	16	296	549	5,336	8,531	96				18,970
	10	908	7,678		44		133	1	431	184	2,933				13,907
	11	867	3,458		158	127	1,566	1,362	7,278	279	107				15,202
	12	187	654		174	1	150		24	240	483				1,913
2006	1	287	11,399		107	3	968	445	4,407	3,156	1,166				21,938
	2	49	574		10	2	19		145	16	9				824
	3	264	5,739		715	1	264	1,670	441	154	2,784				12,032
	4	1,416	2,445		58	10	1,908	2,626	16,813	4,073	2,993				32,342
	5	2,911	659		10	824	272	278	263	1,891	869				7,977

Customer Interruptions by Cause

Sum of Cust Interrupt (CI)		IEEE Cause													
Year	PowerOff	MonthPowerOff	Wildlife	Equipment Failure	Error	Other	Overload	Planned	Weather	Vegetation	Unknown	Public Accident	Lightning Strike	Loss of Transmission	Month Totals
		6	3,186	5,823		7,679	11	1,196	2,749	5,900	1,769	630			28,943
		7	2,473	8,819		216	63	82	8,282	5,222	2,797	775			28,729
		8	513	1,252		274	50	359	180	5,619	1,939	1,971			12,157
		9	1,750	583		67	2	258	1,417	964	752	1,582			7,375
		10	903	208		68		1,017	393	4,362	434	16,066			23,451
		11	3,428	1,168		16	1	679		454	271	5,187			11,204
		12	1,549	1,950		7	1	233	2	57	1	444			4,244
2007		1	1,484	2,943		13	3	39	2	70	6,013	125			10,692
		2	289	2,872		23	36	402	231	4,982	5	58			8,898
		3	740	1,402		76		130	38	2,477	1	36			4,900
		4	668	265		89		118	3,895	3,569	841	2,254			11,699
		5	2,618	1,764		14		151	517	2,611	112	3,735			11,522
		6	2,408	1,703		30	2	261	3,406	6,304	3,303				17,417
		7	1,195	2,889		1,376		1,016	2,211	5,716	796	638			15,837
		8	947	3,637		59	135	544	377	4,315	51	35			10,100
		9	1,808	1,426		419	42	1,501	93	2,216	13,241	321			21,067
		10	1,478	3,643		182		117	1,066	2,234	8,860	281			17,861
		11	1,349	2,583		28		306	34	59	1	46			4,406
		12	310	6,582		85	13	29	197	7,033	5,105	8			19,362
2008		1	65	10,239		2,307	564	69	150	837	88	5,785			20,104
		2	163	2,547		17	19	243	4,584	1,115	4	747			9,439
		3	400	652		331	323	1,131	14	1,010	15	6,810			10,686
		4	563	5,568	955	1,147		377		17	4	137			8,768
		5	1,827	6,050		14		859	941	6,630	13	141			16,475
		6	1,884	1,317		75	15	108	10,081	2,957	225	779			17,441
		7	3,116	2,973		133	29	101	3,080	14,285	290	21			24,028
		8	1,033	6,817		2,036	11	184	817	444	5,772	2,206			19,320
		9	2,643	2,422		232	10	413	194	3,555	57	225			9,751
		10	5,265	877		45		256	2,539	619	327	135			10,063
		11	1,571	1,680		49	660	109		7,759	564	1,381			13,773
		12	223	2,023		2,129	187	197	1,546	529	15	2,332			9,181
2009		1	484	749		128	115	318	4,906	1,016	2	85			7,803
		2	284	5,038		35	239	291	1,171	541	37	137			7,773
		3	889	12,051		393		372	2,095	101	23	136			16,060
		4	517	1,516		632		143	303	1,945	16	966			6,038
		5	15,956	2,674		58	6	265	262	274		2,116			21,611
		6	1,192	17,714		95	126	955	3,898	3,949	1,737	33			29,699
		7	1,722	2,930		74		307	4,026	1,141	63	2,106			12,369
		8	522	3,061		2,679	816	450	412	451	145	438			8,974
		9	1,814	618		36		641	89	1,306	10	27			4,541
		10	1,722	3,098		83	1	564	1	603	178	6			6,256

**Customer Interruptions by Cause**

Sum of Cust Interrupt (CI)		IEEE Cause													
Year	PowerOff	MonthPowerOff	Wildlife	Equipment Failure	Error	Other	Overload	Planned	Weather	Vegetation	Unknown	Public Accident	Lightning Strike	Loss of Transmission	Month Totals
		11	2,933	2,796		57		232		137	3	1,864			8,022
		12	360	4,009		492	3,428	157	144	678	12,992	825			23,085
2010		1	369	501	5	10	6	480	26	27	14	6,760			8,198
		2	315	1,760	68	6	4	751	485	149	5	85			3,628
		3	505	2,539		237		648	2,315	36	15	2,123			8,418
		4	158	4,966		176		118	159	99	131	7,453			13,260
		5	788	849		670		202	2,005	275	162	11			4,962
		6	1,605	11,184		527		297	9,502	4,327	340	788			28,570
		7	488	1,551		294	12	162	85	2,610	45	665			5,912
		8	549	2,782	1	5,494	5	510	236	669	14,046	109			24,401
		9	2,623	1,986	1,347	653		288	279	2,538	9,519	12			19,245
		10	3,705	13,476		746		631	3	446	23	1,401			20,431
		11	991	3,233		239		746	31	222	7,616	42			13,120
		12	53	20,011		426		768	1	2,466	120	475			24,320
2011		1	594	347		215		704		20	56	325			2,261
		2	574	9,749		323		371	81	2,335	3,589	2	200	8,745	25,969
		3	125	182		2,213		1,089	7,887	2,201	12	2,417	541		16,667
		4	160	3,015		480		172	3,444	5,101	13	3,006	2,115		17,506
		5	1,225	4,657		1,202		114	21	3,367	81	96	155		10,918
		6	4,496	8,209		2,487		146	4,388	521	7,220	1,925	2,701		32,093
		7	727	2,667		4,750		739	2,503	666	62	3,775	62		15,951
		8	513	781		3,025		879	10,220	2,843	130	5,042	1,084		24,517
		9	1,050	5,431		408		277	98	1,847	5,893	197	144		15,345
		10	2,136	28,532		1,466		569	1	212	26	5	6		32,953
		11	895	7,066		402		512	162	2,518	85	124	125		11,889
		12	189	5,251		170		267	2	27	2,138	63			8,107
2012		1	152	10,797		3,632		204	1,974	4,080	1,457	66	13		22,375
		2	251	1,605		179		201	3	2,924	31	37	110		5,341
		3	2,278	1,352		2,939		294	486	907	4,416	2,437	40		15,149
		4	742	978		98		273	67	3,049	2,133	775	1,571		9,686
		5	3,121	711		85		542	4	1,872	159	1,811	11		8,316
		6	2,815	14,158		283		1,013	0	4,435	199	302	99		23,304
		7	1,354	19,527		988		346	170	4,344	173	53	1,999		28,954
		8	1,038	1,106		2,015		1,759	0	1,349	1,867	1,038	605		10,777
		9	1,005	3,402		11,209		205	851	3,614	948	269	273		21,776
		10	1,096	7,961		218		516	1	2,380	550	1,504	1		14,227
		11	998	1,567		106		740	0	6	333	10			3,760
		12	362	639		212		1,495	82	1,650	1,463	515	58		6,476
			<b>153,186</b>	<b>504,427</b>	<b>6,070</b>	<b>92,031</b>	<b>13,120</b>	<b>48,022</b>	<b>224,736</b>	<b>278,701</b>	<b>201,883</b>	<b>165,992</b>	<b>11,913</b>	<b>8,745</b>	<b>1,708,826</b>

## 2012-Worst-10 Analysis-Action

Rank	Sum of Ranks	Circuit Name	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Analysis and Major Contributing Outage Category	Action Taken or Planned
1	4.0	H9323040042	WHITE TOWER (304) 000042	156.5	3	1.6	1	95.8	60	304-42	This circuit is on the worst-10 list because of equipment failure outages.	Broken Transmission Insulator was repaired.
2	6.0	H9323040041	WHITE TOWER (304) 000041	142.2	4	1.6	2	90.6	63	304-41	This circuit is on the worst-10 list because of equipment failure outages.	Broken Transmission Insulator was repaired.
3	7.0	H9321520042	HEBRON (152) 000042	160.6	2	1.3	5	123.2	38	152-42	This circuit is on the worst-10 list because of equipment failure outages.	1) Broken Transmission Line River crossing was repaired. 2)Public Accident broken pole replaced.
4	14.0	H9323040043	WHITE TOWER (304) 000043	106.2	10	1.4	4	75.4	79	304-43	This circuit is on the worst-10 list because of equipment failure outages.	Broken Transmission Insulator was repaired.
5	15.0	H9320420041	CONSTANCE (42) 000041	119.1	8	1.1	7	106.6	49	042-41	This circuit is on the worst-10 list because of vegetation outages.	Heavy tree growth area. This circuit was aggressively trimmed October 2012
6	17.0	H9320860041	BEAVER (86) 000041	102.2	11	1.3	6	80.8	73	086-41	This circuit is on the worst-10 list because of equipment failure outages.	Broken Transmission Insulator was repaired at the time of the outage.
7	18.0	H9320590046	WILDER (59) 000046	123.2	7	1.1	11	117.1	40	059-46	This circuit is on the worst-10 list because of equipment failure and unknown cause outages.	1) Outage of unknown origin. 2) Tree removed from line. (Tree 27 feet outside of ROW fell into our distribution line.)
8	27.0	H9320090043	KENTON (9) 000043	128.4	6	0.8	21	170.2	23	009-43	This circuit is on the worst-10 list because of vegetation outages.	Tree removed from line. (Tree outside of ROW fell into another tree outside ROW causing it to drop onto our distribution line.) Last major trim was 12/2011
9	27.0	H9320590041	WILDER (59) 000041	72.4	18	1.1	9	66.2	91	059-41	This circuit is on the worst-10 list because of equipment failure and unknown cause outages.	Blown cable terminator was replaced on terminal pole near substation feeder exit.
10	28.0	H9321520041	HEBRON (152) 000041	91.6	12	0.8	16	116.0	42	152-41	This circuit is on the worst-10 list because of equipment failure and unknown cause outages.	1) Broken Transmission Line River crossing insulator was repaired. 2)Transmission Equipment repaired at Miami Fort Generation station

2012-Worst-10 SAIDI

Rank	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Major Outage Category
1	HEBRON (152) 000042	160.6	2	1.3	5	123.2	38	152-42	Equipment Failure
2	WHITE TOWER (304) 000042	156.5	3	1.6	1	95.8	60	304-42	Equipment Failure
3	WHITE TOWER (304) 000041	142.2	4	1.6	2	90.6	63	304-41	Equipment Failure
4	KENTON (9) 000043	128.4	6	0.8	21	170.2	23	009-43	Vegetation
5	WILDER (59) 000046	123.2	7	1.1	11	117.1	40	059-46	Unknown
6	CONSTANCE (42) 000041	119.1	8	1.1	7	106.6	49	042-41	Vegetation
7	WHITE TOWER (304) 000043	106.2	10	1.4	4	75.4	79	304-43	Equipment Failure
8	BEAVER (86) 000041	102.2	11	1.3	6	80.8	73	086-41	Equipment Failure
9	HEBRON (152) 000041	91.6	12	0.8	16	116.0	42	152-41	Equipment Failure
10	WILDER (59) 000041	72.4	18	1.1	9	66.2	91	059-41	Equipment Failure

**2012-Worst-10 SAIFI**

Rank	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Major Outage Category
1	WHITE TOWER (304) 000042	156.5	3	1.63	1	95.8	60	304-42	Equipment Failure
2	WHITE TOWER (304) 000041	142.2	4	1.57	2	90.6	63	304-41	Equipment Failure
3	WHITE TOWER (304) 000043	106.2	10	1.41	4	75.4	79	304-43	Equipment Failure
4	HEBRON (152) 000042	160.6	2	1.30	5	123.2	38	152-42	Equipment Failure
5	BEAVER (86) 000041	102.2	11	1.27	6	80.8	73	086-41	Equipment Failure
6	CONSTANCE (42) 000041	119.1	8	1.12	7	106.6	49	042-41	Vegetation
7	WILDER (59) 000041	72.4	18	1.09	9	66.2	91	059-41	Vegetation
8	WILDER (59) 000046	123.2	7	1.05	11	117.1	40	059-46	Unknown
9	HEBRON (152) 000041	91.6	12	0.79	16	116.0	42	152-41	Equipment Failure
10	KENTON (9) 000043	128.4	6	0.75	21	170.2	23	009-43	Lightning

**2012-Worst-10 CAIDI**

Rank	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Major Outage Category
1	KENTON (9) 000043	128.4	6	0.8	21	170.2	23	009-43	Vegetation
2	HEBRON (152) 000042	160.6	2	1.3	5	123.2	38	152-42	Equipment Failure
3	WILDER (59) 000046	123.2	7	1.1	11	117.1	40	059-46	Public Accident
4	HEBRON (152) 000041	91.6	12	0.8	16	116.0	42	152-41	Lightning
5	CONSTANCE (42) 000041	119.1	8	1.1	7	106.6	49	042-41	Wildlife
6	WHITE TOWER (304) 000042	156.5	3	1.6	1	95.8	60	304-42	Lightning
7	WHITE TOWER (304) 000041	142.2	4	1.6	2	90.6	63	304-41	Weather
8	BEAVER (86) 000041	102.2	11	1.3	6	80.8	73	086-41	Lightning
9	WHITE TOWER (304) 000043	106.2	10	1.4	4	75.4	79	304-43	Vegetation
10	WILDER (59) 000041	72.4	18	1.1	9	66.2	91	059-41	Public Accident

Duke Energy Kentucky's Vegetation Management Plan

Goals

Duke Energy's goals for its Vegetation Management Operations are to balance the need for reliable utility service with safe and cost-effective vegetation management practices that preserve our local communities' natural surroundings, aesthetics and the environment. Targeted herbicides provide one of the most cost-effective and environmentally friendly means of controlling undesirable vegetation.

Safety

Our goals are to work safely at all times to achieve a zero injury culture and to minimize the safety risk of vegetation and conductor contacts. Serious or fatal shocks can occur when working in trees near power lines. Duke Energy strives to minimize that risk by trimming properly in accordance with industry tree trimming safety standards.

Reliability

Duke Energy's electric service reliability, as measured by SAIFI and SAIDI, has improved in recent years due in part to our more rigorous tree trimming practices. Duke Energy strives to trim its Kentucky distribution circuits every four-and-one-half years and transmission every six years.

Tree Care Standards

Duke Energy requires its employees and contractors to prune trees in accordance with American National Standards Institute ("ANSI") and National Arborist Association ("NAA") standards. The relevant standards are ANSI Z133, Safety in Tree Trimming Operations, and ANSI A300, Safety in Tree Care Operations. These ANSI standards were developed in cooperation with the NAA. Additionally, Duke Energy follows the practices in Field Guide for Qualified Line Clearance Tree Workers by Dr. Alex L. Shigo, former head of the U.S. Forest Service. In rural areas, Duke Energy may authorize its contractors to use mechanized pruning equipment.

Tree Trimming Specifications

69KV and above Transmission Lines

- 15 feet clearance to the side from all conductors.
- 15 feet clearance below the lowest conductor.
- No overhanging/encroaching branches permitted.

- Trim to the previously established widths of our right-of-way and practice established beyond the 15 feet widths.

### 3 Phase Primary Lines

- 10 feet clearance to the side from all conductors.
- 10 feet clearance below the conductors.
- No overhanging/encroaching branches.

### Single Phase and Two Phase Primary lines

- 10 feet clearance to the side from all conductors.
- 10 feet clearance below the conductors.
- Overhang: all live branches above the conductors shall be removed to a minimum height of 15 feet, and at a 45-degree angle. All dead and structurally weak branches overhanging any primary voltage wires shall be removed.
- Underneath the primary: 10 feet clearance from the conductors to the closest limbs beneath the phases.

### Secondary Lines

- 5 feet clearance to the side from the secondary line.
- 5 feet clearance above and below the secondary line.

### Services Lines

- 1 foot swing clearance from all service lines.

### Brush/Wood Removal

- Circuit maintenance - brush is removed, wood cut into movable pieces.
- Customer may request off-cycle maintenance in accordance with the clearance standards above - brush and wood is customer's responsibility.
- Storm Work - no brush or wood removal.

### Customer Notification

- Duke Energy customers are notified of tree trimming being done on their property by door hanger cards.
- Duke Energy requires its contractors to contact local government officials prior to beginning work in the community.

Right Tree In The Right Place

- Duke Energy will cooperate in tree removal with local government officials as needed.

Determination of Need to Perform Maintenance/Evaluation of Plan Effectiveness

Duke Energy regularly monitors its SAIFI and SAIDI measures. If SAIFI or SAIDI were to significantly decline, Duke Energy would evaluate whether to modify its vegetation management practices, including its right-of-way clearing cycle, in order to improve SAIFI and SAIDI performance. Duke Energy also monitors the performance of individual circuits. In an individual circuit has a significant number of outages, Duke Energy will perform off-cycle tree trimming as needed. Duke Energy also monitors industry tree trimming standards and modifies its tree trimming practices as necessary to meet or exceed industry standards.