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VIA EMAIL: PSCED@ky.gov

RECEIVED

APR 30 2021

PUBLIC SERVICE
COMMISSION

April 30, 2021

Linda Bridwell
Executive Director
Kentucky Public Service Commission
211 Sower Blvd
Frankfort, KY 40601

Re: 2020 Reliability Report and Vegetation Management Plan Update

Dear Ms. Bridwell:

Attached please find Duke Energy Kentucky, Inc.'s 2020 Reliability Report and Vegetation Management Plan Update together with the redacted part of Exhibit A, Part 2 provided in Excel format.

Also attached is a Petition for Confidential Treatment for your consideration in the above referenced matter. As such, I have included the unredacted part of Exhibit A, Part 2 in Excel format to be filed under seal.

Please date-stamp the two copies of the letter and the filings and return to me in the enclosed envelope.

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

Very Truly Yours,

Minna Sunderman

EMS
Attachments

cc: John G. Horne, II

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

An Investigation of the Reliability)	
Measures of Kentucky’s Jurisdictional)	Administrative
Electric Distribution Utilities)	Case No. 2011-00450

DUKE ENERGY KENTUCKY, INC.’S
PETITION FOR THE CONFIDENTIAL TREATMENT OF CERTAIN
INFORMATION FILED FOR CALENDAR YEAR 2020

Duke Energy Kentucky, Inc. (Duke Energy Kentucky or Company) respectfully submits this petition in accordance with 807 KAR 5:001 Section 13, seeking the confidential treatment of certain information filed for calendar year 2020:

1. On January 11, 2012, the Commission issued an Order in this proceeding requiring Duke Energy Kentucky to collect and maintain all records necessary to evaluate its system reliability performance in accordance with the methodology established by the most recent edition of the (“IEEE”) standard number 1366 “Guide for Electric Power Distribution Reliability Indices,” which currently is IEEE Standard 1366-2012.

2. On May 30, 2013, the Commission issued its Order requiring all jurisdictional utilities to file annual reliability reports and to develop vegetation management plans. Pursuant to the Order, jurisdictional utilities were required to report a 5 year average 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 May in the year immediately following the reporting year.

3. The Commission’s regulations, in 807 KAR 5:001, Section 13, provide that any person requesting confidential treatment of any material file a petition setting forth the

grounds, pursuant to KRS 61.870 *et seq.*, upon which the Commission should classify that material as confidential.

4. Kentucky Revised Statute § 61.878(1)(c)(1) provides that records confidentially disclosed to an agency or required to be disclosed to the agency be exempt from Kentucky's open records statutes, KRS 61.870 *et seq.* where the records are generally recognized as confidential or proprietary, and which if openly disclosed would permit an unfair commercial advantage to competitors of the entity that disclosed the records.

5. Duke Energy Kentucky submits that the following information, if openly disclosed, could present security issues:

- a. Physical street addresses of all the Company's electric substations and circuits.

6. The above information, if openly disclosed, would allow the public knowledge as to the specific physical location of critical utility infrastructure, namely Duke Energy Kentucky substations and circuits. With this information, a possible security issue could arise. Such actions might include theft, destruction, possible injury, and/or vandalism. Releasing the street address of all of the Company's electric substations in one public filing would present a significant security and reliability risk where a concentrated action could undermine Duke Energy Kentucky's distribution system and the security of its grid.

7. The information for which Duke Energy Kentucky is seeking confidential treatment is not known outside of Duke Energy Corporation.

8. Duke Energy Kentucky does not object to limited disclosure of the confidential information described herein to any intervenors, pursuant to an acceptable

protective agreement, and with a legitimate interest in reviewing the same for the purpose of participating in this case.

9. Pursuant to 807 KAR 5:001 Section 13(2), Duke Energy Kentucky has attached to this Petition, under seal, one copy of Exhibit A of the 2020 Reliability Report and Vegetation Management Plan and one copy of Exhibit A of the 2020 Reliability Report and Vegetation Management Plan with the confidential material omitted or otherwise redacted. Duke Energy Kentucky respectfully requests that the Confidential Information be withheld from public disclosure indefinitely. This will assure that the Confidential Information will not become available to the general public. To the extent the Confidential information becomes generally available to the public, whether through filings required by other agencies or otherwise, Duke Energy Kentucky will notify the Commission and have its confidential status removed, pursuant to 807 KAR 5:001 Section 13(10)(a).

10. This information was, and remains, integral to Duke Energy Kentucky's effective execution of business decisions and such information is generally regarded as confidential or proprietary. Indeed, as the Kentucky Supreme Court has found, "information concerning the inner workings of a corporation is generally accepted as confidential or proprietary." *Hoy v. Kentucky Industrial Revitalization Authority*, Ky., 904 S.W.2d 766, 768 (Ky. 1995).

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission:

1. Accept this Petition for filing;
2. Grant the information delineated herein confidential treatment in accordance with 807 KAR 5:001 Section 13 and KRS 61.870 *et seq.*

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

/s/ Rocco D'Ascenzo

Rocco D'Ascenzo (92796)

Deputy General Counsel

Duke Energy Business Services LLC

139 East Fourth Street, 1303-Main

Cincinnati, Ohio 45202

Phone: (513) 287-4320

Fax: (513) 287-4385

E-mail: Rocco.D'Ascenzo@duke-energy.com

Counsel for Duke Energy Kentucky, Inc.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing filing was served on the following via electronic mail, this 30th day of April 2021:

John G. Horne, II
The Office of the Attorney General
Utility Intervention and Rate Division
700 Capital Avenue, Ste 118
Frankfort, Kentucky, 40601

/s/ Rocco D'Ascenzo

Rocco D'Ascenzo

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

DUKE ENERGY KENTUCKY, INC.
RELIABILITY REPORT AND VEGETATION MANAGEMENT PLAN UPDATE FOR
CALENDAR YEAR 2020

April 30, 2021

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I. Introduction

On May 30, 2013, the Commission issued its Order requiring all jurisdictional utilities to file annual reliability reports and to develop vegetation management plans. Pursuant to the Order, jurisdictional utilities were required to report a 5 year average 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 May 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 2020 as required by the Commission's May 30, 2013 Order in Case No. 2011-00450.¹

II. Reliability Report Summary

Consistent with the most recent edition of the standard number 1366 "Guide for Electric Power Distribution Reliability Indices," and the Commission's Order,² the following is included in Exhibit A of Duke Energy Kentucky's Reliability Report Summary:

1. Calculate the System Average Interruption Duration Index (SAIDI) system-wide indices including Major Event Days (MEDs) and calculate the SAIDI system-wide indices excluding MEDs;
2. Calculate the System Average Interruption Frequency Index (SAIFI) system-wide indices including MEDs and calculate the SAIFI system-wide indices excluding MEDs;
3. Develop a system-wide rolling five-year average SAIDI excluding MEDs;
4. Develop a system-wide rolling five-year average SAIFI excluding MEDs;
5. Calculate SAIDI excluding MEDs for every circuit within its system;
6. Develop a rolling five-year average SAIDI for each circuit within its system;

¹ *In the matter of An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Distribution Utilities, Case No. 2011-00450, Order (May 30, 2013).*

² Id.

7. Compare each circuit to that circuit's rolling five-year average SAIDI;
8. Calculate SAIFI excluding MEDs for every circuit within its system;
9. Develop a rolling five-year average SAIFI for each circuit within its system;
10. Compare each circuit to that circuit's rolling five-year average SAIFI.
11. File a Reliability Report by May 1 of each year, containing the reliability information as outlined in the attached Appendix for the preceding calendar year from January 1 to December 31 that includes the SAIDI and SAIFI system-wide indices, both including and excluding MEDs.
12. For each circuit with either SAIDI or SAIFI value higher than that circuit's respective SAIDI or SAIFI rolling five-year average, excluding MEDs, include in the annual Reliability Report the following information:
 - a. The circuit's SAIDI index for the year;
 - b. The circuit's SAIFI index for the year;
 - c. The circuit's rolling five-year average SAIDI;
 - d. The circuit's rolling five-year average SAIFI;
 - e. The substation name, number and location (i.e., County-Road-Town);
 - f. The circuit name, number and location (Town-Road-General Area);
 - g. The circuit's overall length in miles to the nearest tenth of a mile;
 - h. The number of customers served on the circuit for the year;
 - i. The date of the last circuit trim performed by the utility as part of its vegetation management plan;
 - j. A list of outage causes for the circuit, along with the percentage of total outage numbers represented by each cause;

- k. Circuit five-year average SAIDI;
- l. Reporting year SAIDI;
- m. Circuit five-year average SAIFI;
- n. Reporting year SAIFI;
- o. A Corrective Action Plan which describes any measures the utility has completed or plans to complete to improve the circuit's performance; and
- p. Any other information the utility believes will assist the Commission in understanding the circumstances surrounding the circuit's 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. 2006-00494.³ Duke Energy's Midwest Vegetation Management Group is responsible for controlling vegetation growth for approximately 37,000 miles of transmission and distribution overhead electric lines and gas supply lines in Ohio, Indiana, and Kentucky.

Exhibit B is a copy of Duke Energy Kentucky's Vegetation Management Plan. While the formatting has changed and more specificity has been added to the document from prior years, there have been no substantive amendments or changes to the Company's plan since it was initially filed with the Commission on December 18, 2007.

As part of its 2021 plan, Duke Energy Kentucky plans to trim trees and maintain vegetation along 292 miles of its distribution system. The Company was able to get a good start on its Vegetation Plan for 2021. As of March 31, 2021 Duke Energy Kentucky has completed approximately 29% of its scheduled trimming, or approximately 83 miles of its distribution system. This leaves approximately 292 miles to be trimmed in 2021. The Company does not

³ Id.

anticipate any difficulty in completing all planned trimming for 2021. The Company will have sufficient crew coverage throughout the year.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

/s/ Rocco D'Ascenzo

Rocco D'Ascenzo (92796)

Deputy General Counsel

Duke Energy Business Services LLC

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Email: Rocco.D'Ascenzo@duke-energy.com

Counsel for Duke Energy Kentucky, Inc.

CONFIDENTIAL PROPRIETARY TRADE SECRET

KENTUCKY PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	DUKE ENERGY KENTUCKY
REPORT PREPARED BY	SHERI L. CAMPBELL
E-MAIL ADDRESS OF PREPARER	SHERI.CAMPBELL@DUKE-ENERGY.COM
PHONE NUMBER OF PREPARER	513-287-2034

SECTION 2: REPORTING YEAR

CALENDAR YEAR OF REPORT	2020
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SECTION 3: MAJOR EVENT DAYS (MED)

TMED	5.3215
FIRST DATE USED TO DETERMINE TMED	January 1, 2015
LAST DATE USED TO DETERMINE TMED	December 31, 2019
NUMBER OF MED IN REPORT YEAR	4

NOTE: Per IEEE 1366 TMED should be calculated using the daily SAIDI values for the five prior years. If five years of data are not available, then utilities should use what is available until five years are accumulated

SECTION 4: SYSTEM RELIABILITY INFORMATION AND RESULTS

System-wide Information

TOTAL CUSTOMERS	151,317	TOTAL CIRCUITS	141
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Excluding MED

5 YEAR AVERAGE		REPORTING YEAR	
SAIDI	110.44	SAIDI	71.67
SAIFI	0.91	SAIFI	0.59

Including MED

5 YEAR AVERAGE		REPORTING YEAR	
SAIDI	184.66	SAIDI	147.64
SAIFI	1.11	SAIFI	0.77

Notes

- 1) All duration indices (SAIDI) are to be reported in units of minutes.
- 2) Reports are due on the first business day of May of each year
- 3) Reports cover the calendar year ending in the December before the reports are due.
- 4) IEEE 1366 (latest version) is used to define SAIDI, SAIFI, and TMED

CONFIDENTIAL PROPRIETARY TRADE SECRET

CIRCUIT NUMBER	SUBSTATION NAME	SUBSTATION NUMBER	SUBSTATION COUNTY	SUBSTATION ROAD	SUBSTATION TOWN	CIRCUIT NAME	CIRCUIT ID	CIRCUIT NUMBER	CIRCUIT TOWN
H9320090042	KENTON	9	KENTON		LAKEVIEW	KENTON 42	H9320090042	42	TAYLOR MILL
H9320420042	CONSTANCE	42	BOONE		ERLANGER	CONSTANCE 42	H9320420042	42	VILLA HILLS
H9320550045	DONALDSON	55	KENTON		ERLANGER	DONALDSON 45	H9320550045	45	ERLANGER
H9320550046	DONALDSON	55	KENTON		ERLANGER	DONALDSON 46	H9320550046	46	ERLANGER
H9320550048	DONALDSON	55	KENTON		ERLANGER	DONALDSON 48	H9320550048	48	ERLANGER
H9320590040	WILDER	59	KENTON		WILDER	WILDER 40	H9320590040	40	NEWPORT
H9320590045	WILDER	59	KENTON		WILDER	WILDER 45	H9320590045	45	WILDER
H9320590046	WILDER	59	KENTON		WILDER	WILDER 46	H9320590046	46	FT. THOMAS
H9320590047	WILDER	59	KENTON		WILDER	WILDER 47	H9320590047	47	NEWPORT
H9320590048	WILDER	59	KENTON		WILDER	WILDER 48	H9320590048	48	NEWPORT
H9320670043	BUFFINGTON	67	KENTON		FLORENCE	BUFFINGTON 43	H9320670043	43	FLORENCE
H9320670045	BUFFINGTON	67	KENTON		FLORENCE	BUFFINGTON 45	H9320670045	45	INDEPENDENCE
H9320700041	CRESCENT	70	KENTON		FT. MITCHELL	CRESCENT 41	H9320700041	41	CRESCENT SPRINGS
H9320700044	CRESCENT	70	KENTON		FT. MITCHELL	CRESCENT 44	H9320700044	44	CRESCENT SPRINGS
H9320760043	DAYTON	76	CAMPBELL		DAYTON	DAYTON 43	H9320760043	43	DAYTON
H9320860041	BEAVER	86	BOONE		WALTON	BEAVER 41	H9320860041	41	WALTON
H9320890046	DIXIE	89	BOONE		FLORENCE	DIXIE 46	H9320890046	46	FLORENCE
H9320980041	LONGBRANCH	98	BOONE		FLORENCE	LONGBRANCH 41	H9320980041	41	FLORENCE
H9321240041	CRITTENDEN	124	GRANT		CRITTENDEN	CRITTENDEN 41	H9321240041	41	CRITTENDEN
H9321250042	VERONA	125	KENTON		CRITTENDEN	VERONA 42	H9321250042	42	CRITTENDEN
H9321250043	VERONA	125	KENTON		CRITTENDEN	VERONA 43	H9321250043	43	WALTON
H9321280041	HANDS	128	KENTON		COVINGTON	HANDS 41	H9321280041	41	Hands Pl
H9321280042	HANDS	128	KENTON		COVINGTON	HANDS 42	H9321280042	42	TAYLOR MILL
H9321280043	HANDS	128	KENTON		COVINGTON	HANDS 43	H9321280043	43	INDEPENDENCE
H9321280045	HANDS	128	KENTON		COVINGTON	HANDS 45	H9321280045	45	TAYLOR MILL
H9321310042	BELLEVUE	131	CAMPBELL		NEWPORT	BELLEVUE 42	H9321310042	42	BELLEVUE
H9321320042	COLD SPRING	132	CAMPBELL		COLD SPRINGS	COLD SPRING 42	H9321320042	42	COLD SPRINGS
H9321340042	THOMAS MORE	134	BOONE		EDGEWOOD	THOMAS MORE 42	H9321340042	42	EDGEWOOD
H9321520042	HEBRON	152	BOONE		HEBRON	HEBRON 42	H9321520042	42	PETERSBURG
H9321520044	HEBRON	152	BOONE		HEBRON	HEBRON 44	H9321520044	44	HEBRON
H9321890042	LIMABURG	189	BOONE		LIMABURG	LIMABURG 42	H9321890042	42	LIMABURG
H9321990041	RICHWOOD	199	BOONE		RICHWOOD	RICHWOOD 41	H9321990041	41	RICHWOOD
H9321990043	RICHWOOD	199	BOONE		RICHWOOD	RICHWOOD 43	H9321990043	43	RICHWOOD
H9322100041	OAKBROOK	210	BOONE		FLORENCE	OAKBROOK 41	H9322100041	41	ALEXANDRIA
H9322170043	COVINGTON KY	217	KENTON		COVINGTON	COVINGTON 43	H9322170043	43	COVINGTON
H9322410046	FLORENCE	241	BOONE		FLORENCE	FLORENCE 46	H9322410046	46	FLORENCE
H9322870042	KENTUCKY UNIVERSITY	287	CAMPBELL		NEWPORT	KY UNIV 42	H9322870042	42	HIGHLAND HEIGHTS
H9322890041	EMPIRE	289	BOONE		FLORENCE	EMPIRE 41	H9322890041	41	FLORENCE
H9323040042	WHITE TOWER	304	KENTON		INDEPENDENCE	WHITE TOWER 42	H9323040042	42	INDEPENDENCE
H9323040043	WHITE TOWER	304	KENTON		INDEPENDENCE	WHITE TOWER 43	H9323040043	43	INDEPENDENCE
H9323050041	MT ZION	305	BOONE		FLORENCE	MT ZION 41	H9323050041	41	DEVON
H9323050043	MT ZION	305	BOONE		FLORENCE	MT ZION 43	H9323050043	43	FLORENCE
H9323050044	MT ZION	305	BOONE		FLORENCE	MT ZION 44	H9323050044	44	FLORENCE

CONFIDENTIAL PROPRIETARY TRADE SECRET

CIRCUIT ROAD	CIRCUIT GENERAL AREA	TOTAL CIRCUIT LENGTH (miles)	CUSTOMER COUNT FOR THIS CIRCUIT	DATE OF LAST CIRCUIT TRIM (VEGETATION MANAGEMENT)	CIRCUIT 5-YEAR AVERAGE (SAIDI)	REPORTING YEAR (2020) SAIDI	DID SAIDI INCREASE IN 2020?	CIRCUIT 5-YEAR AVERAGE (SAIFI)	REPORTING YEAR (2020) SAIFI	DID SAIFI INCREASE IN 2020?
	Taylor Mill	14.471	947	5/11/2016	205.108	129.986	NO	1.169	1.249	YES
	Villa Hills	45.321	1,774	3/28/2016	133.328	117.434	NO	0.773	0.962	YES
	Erlanger, Florence, CVG	8.621	1	New Circuit 2020	0.000	72.376	YES	0.000	1.500	YES
	Erlanger	16.514	669	New Circuit 2019	0.000	125.803	YES	0.000	1.362	YES
	Erlanger	7.903	349	New Circuit 2019	0.000	34.463	YES	0.000	0.162	YES
	Newport	7.341	770	8/15/2015	63.643	91.269	YES	0.278	0.369	YES
	Wilder, Southgate, Ft. Thomas	13.682	1,640	12/11/2017	100.700	94.510	NO	0.662	0.689	YES
	Ft. Thomas	15.859	1,089	12/17/2016	134.485	147.930	YES	0.708	2.491	YES
	Southgate	13.248	1,854	7/10/2017	47.179	55.894	YES	0.298	1.038	YES
	Newport	5.53	591	11/21/2020	8.331	219.157	YES	0.062	1.803	YES
	Florence	2.429	14	8/31/2019	23.108	24.912	YES	0.197	0.100	NO
	Florence	16.029	2,257	6/6/2020	87.000	85.955	NO	0.467	1.093	YES
	Crescent Springs	10.489	1,606	12/27/2018	167.645	184.568	YES	0.884	1.525	YES
	Crescent Springs	10.329	680	6/3/2020	123.065	391.794	YES	0.382	2.208	YES
	Dayton	8.853	1,466	12/19/2015	51.572	109.439	YES	0.639	0.739	YES
	Walton	50.419	1,310	12/18/2017	165.585	422.884	YES	1.159	2.199	YES
	Florence	2.165	5	New Circuit 2019	0.000	97.209	YES	0.000	0.222	YES
	FLORENCE	19.144	2,248	8/22/2015	2.655	25.541	YES	0.027	0.071	YES
	Crittenden	39.685	1,662	12/4/2017	165.425	290.414	YES	1.326	1.440	YES
	Walton	29.041	759	12/27/2017	140.093	362.616	YES	0.806	1.799	YES
	Crittenden, Walton	22.482	517	New Circuit 2019	35.858	48.557	YES	0.354	0.263	NO
	Covington & Independence	25.97	1,690	12/27/2017	102.645	192.642	YES	0.663	1.251	YES
	Taylor Mill	11.546	422	4/19/2016	191.448	222.810	YES	1.649	1.014	NO
	Independence, Taylor Mill	24.884	1,840	3/31/2016	77.278	286.260	YES	0.732	2.029	YES
	Taylor Mill	18.735	874	2/23/2019	60.629	70.197	YES	0.626	0.256	NO
	Fort Thomas, Dayton and Bellevue	22.851	2,272	5/10/2020	91.289	96.609	YES	0.967	0.637	NO
	Cold Springs, Brookstone Crossing	37.916	2,718	12/26/2019	101.408	16.811	NO	0.945	1.055	YES
	Edgewood	8.834	437	11/18/2019	145.253	116.239	NO	0.674	2.030	YES
	Petersburg	47.992	658	9/23/2019	72.281	73.326	YES	0.656	0.665	YES
	Park West International	3.762	22	Nothing to trim	7.802	380.947	YES	0.455	0.783	YES
	Limaburg	39.561	1,808	8/19/2020	67.838	63.412	NO	0.666	1.279	YES
	Richwood	8.722	92	10/1/2018	121.998	530.376	YES	0.326	3.069	YES
	Union	18.247	1,276	9/7/2019	47.678	127.354	YES	0.499	1.221	YES
	Alexandria, Ross and Oneonta	13.61	747	12/31/2018	112.264	266.900	YES	0.981	2.273	YES
	Covington	6.436	1,787	5/12/2018	86.968	160.872	YES	0.948	1.056	YES
	Florence	15.365	1,598	7/25/2015	65.629	85.360	YES	0.686	0.555	NO
	Northern Kentucky University	15.018	1,831	7/28/2018	39.018	85.570	YES	0.255	1.077	YES
	Florence, Union	26.902	1,880	1/26/2019	64.666	99.183	YES	0.511	1.417	YES
	Independence, White Tower	9.961	490	9/3/2016	90.295	91.550	YES	1.299	1.026	NO
	Independence, White Tower	28.104	1,233	11/24/2015	132.254	166.314	YES	1.347	1.875	YES
	Florence	2.404	68	2/14/2020	25.304	97.292	YES	0.299	0.971	YES
	FLORENCE	12.594	965	12/4/2018	33.601	1002.249	YES	0.185	7.687	YES
	FLORENCE	3.678	1	New Circuit 2019	0.000	1.423	YES	0.000	0.015	YES

**Duke Energy Kentucky
Reliability Report and Vegetation Management
For Calendar Year 2020**

**Exhibit A
Page 4 of 7**

CONFIDENTIAL PROPRIETARY TRADE SECRET

SUBSTATION - CIRCUIT	CIRCUIT NAME	CIRCUIT ID	OUTAGE CAUSE	PERCENT OF TOTAL OUTAGE MINUTES	CORRECTIVE ACTION PLAN
BEAVER - H9320860041	BEAVER	H9320860041	03 Vegetation	61.43%	The majority of the Vegetation outage minutes are due to trees falling onto the lines from outside the right-of-way equipment. The majority of the Equipment Failure outage minutes are due to failed underground cables affecting 1 customers each time. All repairs were made at the time of the outages in both cases. No further action required.
			20 Equipment failure	35.81%	
			EA Weather	1.62%	
			09 Public Accident/Damage	0.56%	
			05 Planned (IEEE)	0.49%	
			04 Wildlife	0.08%	
				100%	
BELLEVUE - H9321310042	BELLEVUE	H9321310042	20 Equipment failure	54.57%	The majority of the Equipment Failure outage minutes are due to failed underground cables. The majority of the W outage minutes are due to a live oak tree branch 15 feet from the center line falling across conductors & locking out recloser. All repairs were made at the time of the outages in both cases. No further action required.
			EA Weather	42.86%	
			03 Vegetation	1.28%	
			05 Planned (IEEE)	0.79%	
			04 Wildlife	0.42%	
			28 Other Cause	0.09%	
				100%	
BUFFINGTON - H9320670043	BUFFINGTON	H9320670043	05 Planned (IEEE)	70.85%	The majority of the Planned outage minutes are from terminal cable replacement. The majority of the Wildlife out minutes are due to blown fuses caused by wildlife on the lines. All repairs were made at the time of the outages in No further action required.
			04 Wildlife	29.15%	
BUFFINGTON - H9320670045	BUFFINGTON	H9320670045	20 Equipment failure	73.03%	The majority of the Equipment Failure outage minutes are due to a burned duck bill hotline clamp, causing the c-ph primary to burn down to the ground. The majority of the Public Accident/Damage outage minutes are due to a gar hitting the lines. All repairs were made at the time of the outages in both cases. No further action required.
			09 Public Accident/Damage	22.92%	
			04 Wildlife	1.64%	
			03 Vegetation	1.53%	
			05 Planned (IEEE)	0.84%	
			11 Unknown Cause	0.03%	
				100%	
COLD SPRING - H9321320042	COLD SPRING	H9321320042	20 Equipment failure	65.57%	The majority of the Equipment Failure outage minutes are due to a burned jumper. The majority of the Other Cause minutes are due to a melted out fuse caused by unreliable design. The majority of the Lightning Strike outage minutes are due to a clearing fuse that blew due to a lightning strike. All repairs were made at the time of the outages in all cases further action required.
			28 Other Cause	14.07%	
			19 Lightning strike	10.52%	
			03 Vegetation	8.79%	
			05 Planned (IEEE)	1.04%	
				100%	
CONSTANCE - H9320420042	CONSTANCE	H9320420042	20 Equipment failure	47.00%	The majority of the Equipment Failure outage minutes are due to a failed underground cable. The majority of the f Accident/Damage outage minutes are due to a padmount transformer that was hit, causing damage to the underground as well. All repairs were made at the time of the outages in both cases. No further action required.
			09 Public Accident/Damage	30.96%	
			03 Vegetation	7.98%	
			28 Other Cause	6.28%	
			EA Weather	4.82%	
			05 Planned (IEEE)	1.89%	
			11 Unknown Cause	0.86%	
			04 Wildlife	0.21%	
COVINGTON - H9322170043	COVINGTON	H9322170043	20 Equipment failure	93.06%	The majority of the Equipment Failure outage minutes are due to a blown lightning arrester at an unfused transformer work order has been generated to have the lightning arrester replaced & the transformer retrofitted. The work order process of being worked.
			05 Planned (IEEE)	6.77%	
			03 Vegetation	0.14%	
			11 Unknown Cause	0.04%	
CRESCENT - H9320700041	CRESCENT	H9320700041	EA Weather	82.03%	The majority of the Weather outage minutes are due to a live locust tree branch 12 feet from the center line falling primary & neutral, causing a recloser lockout. Vegetation was contacted to remove the limb. The majority of the L Cause outage minutes are due to a broken head guy insulator, resulting in a recloser lockout. After investigating, a was generated to repair the secondary neutral, replace the head guy, replace the pole ground & have the tap fusec
			11 Unknown Cause	15.75%	
			04 Wildlife	2.09%	
			09 Public Accident/Damage	0.12%	
				100%	
CRESCENT - H9320700044	CRESCENT	H9320700044	EA Weather	89.68%	The majority of the Weather outage minutes are due to a tree limb that fell across phases, causing a recloser lockout another separate event that was due to conductors down in rear property. All repairs were made at the time of the outages in both cases. No further action required.
			20 Equipment failure	9.20%	
			05 Planned (IEEE)	0.77%	
			04 Wildlife	0.19%	
			03 Vegetation	0.14%	
			28 Other Cause	0.02%	
				100%	
CRITTENDEN - H9321240041	CRITTENDEN	H9321240041	28 Other Cause	45.63%	The majority of the Other Cause outage minutes are due to conductors making contact with each other during high There have been no issues since. The majority of the Equipment Failure outage minutes are due to a recloser lock by a fault in rear property. The majority of the Weather outage minutes are due to a circuit breaker lockout while 1 had a hot line tag in place. All repairs were made at the time of the outages in all cases. No further action required.
			20 Equipment failure	29.05%	
			EA Weather	23.50%	
			03 Vegetation	0.91%	
			19 Lightning strike	0.68%	
			11 Unknown Cause	0.08%	
			09 Public Accident/Damage	0.07%	
			04 Wildlife	0.06%	
			05 Planned (IEEE)	0.01%	
DAYTON - H9320760043	DAYTON	H9320760043	20 Equipment failure	88.78%	The majority of the Equipment Failure outage minutes are due to a burned lead termination connector/pothead, circuit lockout. The pothead was replaced. No further action required.
			03 Vegetation	6.94%	
			28 Other Cause	2.42%	
			05 Planned (IEEE)	0.99%	
			04 Wildlife	0.87%	
				100%	
DIXIE - H9320890046	DIXIE	H9320890046	19 Lightning strike	89.90%	The majority of the Lightning Strike outage minutes are due to lightning striking an overhead transformer. The majority of the Public Accident/Damage outage minutes are due to a recloser lockout caused by a vehicle accident. All repairs were made at the time of the outages in both cases. No further action required.
			09 Public Accident/Damage	10.10%	
DONALDSON - H9320550045	DONALDSON	H9320550045	20 Equipment failure	97.53%	The majority of the Equipment Failure outage minutes are due to a switchgear failure. The switchgear has been replaced. No further action required.
			04 Wildlife	2.47%	

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DONALDSON - H9320550046	DONALDSON	H9320550046	09 Public Accident/Damage	93.52%	The majority of the Public Accident/Damage outage minutes are due to a low hanging communication wire that was repeatedly struck by a double box railroad car causing two poles to break, locking out the circuit. All repairs were made at the time of the outage. No further action required.
			04 Wildlife	3.05%	
			28 Other Cause	1.96%	
			03 Vegetation	0.79%	
			20 Equipment failure	0.49%	
05 Planned (IEEE)	0.29%				
				100%	
DONALDSON - H9320550048	DONALDSON	H9320550048	03 Vegetation	82.91%	The majority of the Vegetation outage minutes are due to fuse outages caused by vegetation. All vegetation was removed at the time of the outages. No further action required. This circuit is scheduled to be trimmed in 2021.
			04 Wildlife	8.89%	
			20 Equipment failure	7.01%	
			19 Lightning strike	0.83%	
			28 Other Cause	0.37%	
				100%	
EMPIRE - H9322890041	EMPIRE	H9322890041	20 Equipment failure	33.30%	The majority of the Equipment Failure outage minutes & the Unknown Cause outage minutes are both due to a box transmission pole guy that made contact with the Empire 41 primary conductor during construction work on the Tr side to accommodate a road improvement project. The majority of the Weather outage minutes are due to a tree on a double circuit pole. All repairs were made at the time of the outages in both cases. No further action required.
			11 Unknown Cause	31.43%	
			EA Weather	27.88%	
			03 Vegetation	6.80%	
			04 Wildlife	0.46%	
05 Planned (IEEE)	0.14%				
				100%	
FLORENCE - H9322410046	FLORENCE	H9322410046	20 Equipment failure	43.24%	The majority of the Equipment Failure outage minutes are due to a leaking transformer that had to be replaced. The majority of the Weather outage minutes are due to a blown fuse that led to a recloser lockout during inclement weather. The majority of the Vegetation outage minutes are due to fuse & overhead transformer outages caused by vegetation. All repairs were made at the time of the outages in all cases. No further action required. This circuit is scheduled to be trimmed in 2021.
			EA Weather	37.97%	
			03 Vegetation	11.16%	
			11 Unknown Cause	6.64%	
			04 Wildlife	0.50%	
			05 Planned (IEEE)	0.39%	
			09 Public Accident/Damage	0.09%	
				100%	
HANDS - H9321280041	HANDS	H9321280041	03 Vegetation	80.90%	The majority of the Vegetation outage minutes are due to a fallen tree resulting in a circuit lockout & a fuse outage. All repairs were made at the time of the outages in both cases. No further action required. This circuit is scheduled to be trimmed in 2022.
			EA Weather	9.83%	
			04 Wildlife	4.23%	
			20 Equipment failure	4.12%	
			09 Public Accident/Damage	0.32%	
			05 Planned (IEEE)	0.32%	
			19 Lightning strike	0.18%	
			Blank	0.05%	
			28 Other Cause	0.05%	
				100%	
HANDS - H9321280042	HANDS	H9321280042	28 Other Cause	91.52%	The majority of the Other Cause outage minutes are due to over 6 inches of water entering the disconnect cabinets Hands Substation, resulting in both Hands 42 & Hands 43 locking out. The cabinets were disconnected from the circuit for the substation was investigated.
			03 Vegetation	7.85%	
			20 Equipment failure	0.55%	
			05 Planned (IEEE)	0.07%	
				100%	
HANDS - H9321280043	HANDS	H9321280043	28 Other Cause	67.81%	The majority of the Other Cause outage minutes are due to over 6 inches of water entering the disconnect cabinets Hands Substation, resulting in both Hands 42 & Hands 43 locking out. The cabinets were disconnected from the circuit for the substation was investigated. The majority of the Vegetation outage minutes are due to a large tree down on the lines, locking out the circuit. All repairs were made at the time of the outage. No further action required. This circuit is scheduled to be trimmed this year (2021).
			03 Vegetation	31.22%	
			20 Equipment failure	0.84%	
			05 Planned (IEEE)	0.06%	
			09 Public Accident/Damage	0.05%	
04 Wildlife	0.02%				
				100%	
HANDS - H9321280045	HANDS	H9321280045	28 Other Cause	89.18%	The majority of the Other Cause outage minutes & the Vegetation outage minutes are both due to a large tree that fell on the lines, causing a recloser lockout. Road improvement has been completed and the vegetation has been cleared.
			03 Vegetation	9.10%	
			05 Planned (IEEE)	0.99%	
			20 Equipment failure	0.73%	
				100%	
HEBRON - H9321520042	HEBRON	H9321520042	09 Public Accident/Damage	59.56%	The majority of the Public Accident/Damage outage minutes are due to a guy wire being hit, causing it to wrap around a primary. The majority of the Vegetation outage minutes are due to fuse outages caused by vegetation. All repairs were made at the time of the outages in all cases. No further action required.
			03 Vegetation	26.97%	
			19 Lightning strike	9.85%	
			20 Equipment failure	2.82%	
			04 Wildlife	0.50%	
05 Planned (IEEE)	0.30%				
				100%	
HEBRON - H9321520044	HEBRON	H9321520044	20 Equipment failure	99.39%	The majority of the Equipment Failure outage minutes are due to a blown bayonet fuse. All repairs were made at the time of the outage. No further action required.
			28 Other Cause	0.61%	
				100%	
KENTON - H9320090042	KENTON	H9320090042	EA Weather	75.73%	The majority of the Weather outage minutes are due to a recloser locking out during high winds. The majority of the Equipment Failure outage minutes are due to transformer retrofits.
			05 Planned (IEEE)	12.38%	
			03 Vegetation	5.06%	
			04 Wildlife	4.31%	
			28 Other Cause	1.22%	
			11 Unknown Cause	1.15%	
20 Equipment failure	0.16%				
				100%	
KY UNIV - H9322870042	KY UNIV	H9322870042	03 Vegetation	66.47%	The majority of the Vegetation outage minutes are due to a tree that came down on the lines, resulting in a circuit lockout. The majority of the Equipment Failure outage minutes are due to a failed direct bury underground cable. All repairs were made at the time of the outages in both cases. No further action required.
			20 Equipment failure	29.39%	
			11 Unknown Cause	3.84%	
			04 Wildlife	0.30%	
				100%	
LIMABURG - H9321890042	LIMABURG	H9321890042	09 Public Accident/Damage	64.57%	The majority of the Public Accident/Damage outage minutes are due to a recloser lockout caused by a vehicle hitting a hot line tag in place & a defective cutout. The majority of the Equipment Failure outage minutes are due to a circuit lockout while breaker had a hot line tag in place & a defective cutout. The majority of the Vegetation outage minutes are due to outages caused by vegetation. All repairs were made at the time of the outages in all cases. No further action required. This circuit was trimmed in 2020.
			20 Equipment failure	21.07%	
			03 Vegetation	11.81%	
			05 Planned (IEEE)	1.45%	
			19 Lightning strike	0.92%	
			04 Wildlife	0.10%	
			EA Weather	0.07%	
			28 Other Cause	0.01%	
				100%	

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LONGBRANCH - H9320980041	LONGBRANCH	H9320980041	09 Public Accident/Damage 05 Planned (IEEE) 20 Equipment failure	98.52% 0.94% 0.54%	The majority of the Public Accident/Damage outage minutes are due to a damaged switching module. The switcher has been replaced.
100%					
MT ZION - H9323050041	MT ZION	H9323050041	11 Unknown Cause 20 Equipment failure	94.89% 5.11%	The majority of the Unknown Cause outage minutes are due to a problem that occurred inside the substation, reu circuit lockout. The substation was investigated & all necessary repairs were completed to return to normal operat
100%					
MT ZION - H9323050043	MT ZION	H9323050043	28 Other Cause 20 Equipment failure 05 Planned (IEEE) 11 Unknown Cause 09 Public Accident/Damage 19 Lightning strike 04 Wildlife	54.21% 33.15% 10.21% 1.00% 0.86% 0.46% 0.10%	The majority of the Other Cause outage minutes are due to a temporary patent jumper that burned off. The temp patent jumpers have been replaced with permanent jumpers. The majority of the Equipment Failure outage minutes are due to a burned jumper causing the wire to come down, resulting in a circuit lockout & another circuit lockout that occ the breaker had a hot line tag in place when a rope let go while pulling in new wire. The majority of the Planned ou minutes are due a Planned Outage taken to transfer underground. All repairs were made at the time of the outage cases. No further action required.
100%					
MT ZION - H9323050044	MT ZION	H9323050044	05 Planned (IEEE) 28 Other Cause	78.38% 21.62%	The majority of the Planned outage minutes & the Other Cause outage minutes are both due to Planned Outages t transfer wire to new poles.
100%					
OAKBROOK STA - H9322100041	OAKBROOK STA	H9322100041	20 Equipment failure EA Weather 09 Public Accident/Damage 28 Other Cause 11 Unknown Cause 05 Planned (IEEE) 03 Vegetation 04 Wildlife	51.19% 28.75% 12.20% 4.19% 2.15% 1.14% 0.28% 0.10%	The majority of the Equipment Failure outage minutes are due to a burned up switchgear. The majority of the Wes outage minutes are due to blown fuses during inclement weather. The majority of the Public Accident/Damage ou minutes are due to two different dig-ins. All repairs were made at the time of the outages in all cases. No further r required.
100%					
RICHWOOD - H9321990041	RICHWOOD	H9321990041	09 Public Accident/Damage 19 Lightning strike 20 Equipment failure 05 Planned (IEEE) 28 Other Cause 04 Wildlife	43.38% 33.56% 21.81% 0.95% 0.17% 0.12%	The majority of the Public Accident/Damage outage minutes are due to a vehicle accident in which a pole was struc the conductor to fall to the ground. The majority of the Lightning Strike outage minutes are due to a blown suspen insulator & fuses caused by lightning. The majority of the Equipment Failure outage minutes are due to a circuit lo caused by a downed wire. All repairs were made at the time of the outages in all cases. No further action required
100%					
RICHWOOD - H9321990043	RICHWOOD	H9321990043	05 Planned (IEEE) EA Weather 03 Vegetation 20 Equipment failure 11 Unknown Cause 28 Other Cause	47.69% 29.31% 22.49% 0.40% 0.06% 0.05%	The majority of the Planned outage minutes are from transferring conductor & installing new/upgraded equipment majority of the Weather outage minutes are due to a sectionalizer that locked out due to an unknown/unsustained Crews closed the sectionalizer back in & it held. The majority of the Vegetation outage minutes are due to fuse out caused by vegetation. All vegetation was removed & all repairs were made at the time of the outages. No further required.
100%					
THOMAS MORE - H9321340042	THOMAS MORE	H9321340042	20 Equipment failure 04 Wildlife	99.41% 0.59%	The majority of the Equipment Failure outage minutes are due to a burned lead termination connector/pothead, c circuit lockout. The pothead was replaced. No further action required.
100%					
VERONA - H9321250042	VERONA	H9321250042	09 Public Accident/Damage 05 Planned (IEEE) 03 Vegetation EA Weather 20 Equipment failure 19 Lightning strike 04 Wildlife 28 Other Cause	79.90% 11.87% 4.39% 2.11% 1.52% 0.14% 0.04% 0.02%	The majority of the Public Accident/Damage outage minutes are due to a recloser lockout caused by a vehicle hittir requiring it to be replaced. All repairs were made at the time of the outage. No further action required. The major Planned outage minutes were from installing a cutout to safely change out a pole damaged by a vehicle accident.
100%					
VERONA - H9321250043	VERONA	H9321250043	03 Vegetation 20 Equipment failure 09 Public Accident/Damage 05 Planned (IEEE) 04 Wildlife EA Weather 28 Other Cause	86.52% 8.89% 2.21% 1.11% 0.62% 0.49% 0.15%	The majority of the Vegetation outage minutes are due to a phase & neutral downed by a tree & a fuse that was of tree trimming. All vegetation was removed & all repairs were made at the time of the outage. No further action re
100%					
WHITE TOWER - H9323040042	WHITE TOWER	H9323040042	20 Equipment failure 03 Vegetation 05 Planned (IEEE)	90.14% 8.86% 1.00%	The majority of the Equipment Failure outage minutes are due to a failed cross arm on Transmission Circuit 5967 t White Tower. Once the fault was identified, Transmission crews were able to restore from an alternate source.
100%					
WHITE TOWER - H9323040043	WHITE TOWER	H9323040043	20 Equipment failure 09 Public Accident/Damage 11 Unknown Cause 05 Planned (IEEE) 03 Vegetation 04 Wildlife 28 Other Cause	49.45% 43.45% 5.43% 0.82% 0.47% 0.36% 0.03%	The majority of the Equipment Failure outage minutes are due to a failed cross arm on Transmission Circuit 5967 t White Tower. Once the fault was identified, Transmission crews were able to restore from an alternate source. Th of the Public Accident/Damage outage minutes are due a public vehicle hitting a down guy, causing it to contact th A Service Request has been submitted to replace the down guy & anchor.
100%					
WILDER - H9320590040	WILDER	H9320590040	05 Planned (IEEE) 20 Equipment failure 03 Vegetation 09 Public Accident/Damage	95.70% 3.82% 0.36% 0.12%	The majority of the Planned outage minutes are due to swapping phases & changing out poles.
100%					
WILDER - H9320590045	WILDER	H9320590045	11 Unknown Cause 28 Other Cause 03 Vegetation 05 Planned (IEEE) 20 Equipment failure 04 Wildlife	49.79% 24.71% 15.54% 9.11% 0.62% 0.24%	The majority of the Unknown Cause outage minutes are due to a circuit lockout caused by an unknown fault. The r the Other Cause outage minutes are due to a fuse outage caused by insufficient capability. The majority of the Veg outage minutes are due to two spans of primary in rear property brought down by vegetation & a fuse outage caus vegetation. All vegetation was removed & all repairs were made at the time of the outages. No further action requ
100%					

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WILDER - H9320590046	WILDER	H9320590046		49.28%	The majority of the Equipment Failure outage minutes are due to the circuit breaker being opened to safely replace up switch. The majority of the Unknown Cause outage minutes are due to a recloser lockout. After investigation, i that a sectionalizer was not in switch mode when it should have been, causing a mis-operation of the self-healing ti resulting in more than 600 additional customers seeing an outage that should not have. The sectionalizer has been back into switch mode. The majority of the Other Cause outage minutes are due to lines down, resulting in a switc opened. All repairs were made at the time of the outages in all cases. No further action required.
			20 Equipment failure		
			11 Unknown Cause	32.05%	
			28 Other Cause	11.13%	
			04 Wildlife	7.54%	
				100%	
WILDER - H9320590047	WILDER	H9320590047		78.04%	The majority of the Public Accident/Damage outage minutes are due to a public vehicle that hit & broke a pole. Th breaker was opened for safety to replace the pole & make repairs. The majority of the Vegetation outage minutes a primary phase & secondary brought down by vegetation in rear property. All repairs were made at the time of th in both cases. No further action required. This circuit is scheduled for hazard tree removal this year (2021).
			09 Public Accident/Damage		
			03 Vegetation	13.11%	
			28 Other Cause	7.08%	
			20 Equipment failure	0.76%	
04 Wildlife	0.75%				
11 Unknown Cause	0.25%				
				100%	
WILDER - H9320590048	WILDER	H9320590048		43.64%	The majority of the Lightning Strike outage minutes are due to a damaged pothead that was changed out. The maj Planned outage minutes are due to a planned underground outage. The majority of the Vegetation outage minute landside that caused vegetation to make contact with conductors, locking out the circuit. All repairs were made at the outages in all cases. No further action required. This circuit is scheduled for hazard tree removal this year (202
			19 Lightning strike		
			05 Planned (IEEE)	38.19%	
			03 Vegetation	13.34%	
			04 Wildlife	3.85%	
20 Equipment failure	0.98%				
				100%	

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 herbicide use provides 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 performing the Integrated Vegetation Management (IVM) work properly in accordance with industry vegetation management safety standards.

Reliability

Duke Energy's electric service reliability, as measured by SAIFI and SAIDI, has improved in recent years due in part to the continuous and preventive approach to IVM practices. Duke Energy strives to perform maintenance on its Kentucky distribution circuits every five years and transmission every six years.

Tree Care Standards

Duke Energy requires its employees and contractors to perform IVM in accordance with American National Standards Institute (ANSI) and Tree Care Industry Association (TCIA) standards. The relevant standards are ANSI Z133 Safety Requirements for Arboriculture Operations, and ANSI A300 for tree care practices. Duke Energy Kentucky recently achieved Tree Line USA utility certification by the Arbor Day Foundation.

Contracting Vegetation Management

A competitive bid event took place previously to award work in the Midwest market. Multiple vendors were given the opportunity to provide pricing on various types of vegetation work. During this event, the Duke Energy Kentucky service area was one of multiple small geographical areas identified to receive separate pricing and award work.

Tree Trimming Specifications

Transmission Lines

Minimum Transmission Line Clearances:

- For any transmission line (69kV and above), vegetation shall be no closer than fifteen feet to an energized conductor when the clearing is completed. In addition, Duke Energy Kentucky shall remove any branch above the transmission line even though it is located more than fifteen feet from any energized conductor.

Minimum Transmission Line Overbuild Clearances:

- For any transmission line (69kV and above) which is located above any distribution line on the same supporting structure, vegetation shall be no closer than fifteen feet to an energized conductor on either line. In addition, Duke Energy Kentucky shall remove any branch above the transmission line even though it is located more than fifteen feet from any energized conductor.

Brush/Wood Removal:

- Circuit maintenance: Maintained areas – brush is removed, wood cut into movable pieces. Unmaintained areas – brush is mulched, stacked or mowed in place, wood left on site.
- 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.

Distribution Lines

Primary- All Conductors

- Side clearances will be a minimum of 10 ft. from the nearest primary conductor. If vegetation is not encroaching the line and will hold until the next cycle, then the tree will be bypassed.
- Minimum accepted height clearance above the conductor will be fifteen (15) feet above the conductors. All hazardous overhang (dead, dying, diseased, structurally unsound) shall be removed ground to sky.
- For conventional and bucket work, under the primary clearances will be a minimum of 10 ft. from the lowest primary conductor or 5 ft. below all neutrals, open wire and wrapped secondary. For conventional and bucket work, if vegetation is not encroaching the line and will hold until the next cycle, then the tree will be bypassed. Where mechanical tree trimmers are used – the Right-of Way (ROW) will be mowed to the whole width of the ROW.

Secondary Lines:

- Secondary, including open wire secondary distribution conductors (without a primary distribution line and excluding a service drop), shall be trimmed on an as needed basis. Any scheduled work shall require a minimum of 5 ft. of clearance on all sides.
- Multiplex cables and guy wires (without a primary distribution line and excluding a service drop), shall be trimmed on an as needed basis. Any scheduled reactive work shall require the removal of load bearing 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. When pruned, 12 inches of clearance shall be obtained.

Services Lines:

- Street light wires and Services shall be trimmed on an as needed basis Any scheduled work shall require the removal of load bearing 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. When streetlight wires are pruned, 12 inches of clearance shall be obtained. Brush/Wood Removal:
- In areas with low customer/property owner impact (i.e. non-landscaped areas, wooded areas) brush and debris can be windrowed along the side of the ROW corridor and cut into smaller pieces to lay flat to the ground. Contractor shall not leave any debris in ditches, waterways or drains. Wood shall be cut into manageable lengths (18"-24") and stacked along the ROW edge
- In areas with customer/property owner impact (i.e. landscaped areas, maintained areas, high use areas) brush and debris should be chipped, captured and removed from site. No brush is to be left overnight without the consent of the property owner or their agent. Wood shall be cut into manageable pieces (typically 18"-24") and left on-site. Lawn areas and hardscapes (patios, sidewalks, driveways, etc.) shall be cleaned up and returned to the condition prior to Work at time of entry on the property.
- 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 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 IVM 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. If 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 IVM practices as necessary to meet or exceed industry standards.