COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION



Equipment being utilized to mitigate debris from newly cleared right-of-way in the Hazard District

Construction of new 3-phase tie line in Breathitt County – Photo taken on March 14, 2023

2022 DISTRIBUTION VEGETATION MANAGEMENT REPORT AND 2023 DISTRIBUTION VEGETATION MANAGEMENT WORK PLAN OF KENTUCKY POWER COMPANY APRIL 3, 2023

In accordance with the Public Service Commission's June 22, 2015 Order in Case No. 2014-00396, as modified by its January 18, 2018 Order in Case No. 2017-00179 and its January 13, 2021 Order in Case No. 2020-00174, Kentucky Power Company provides the following report regarding the operation of its 2022 Distribution Vegetation Management Program and its 2023 Distribution Vegetation Management Work Plan (see attachments 2, 3, and 4).

Introduction and Background

Kentucky Power began its current five-year distribution vegetation management cycle January 1, 2019. Vegetation growth in the Company's rights-of-way as of January 1, 2023, averages 4.98 years.

Kentucky Power performs cycle-based vegetation management maintenance work on its distribution rights-of-way. The principal characteristics of the Company's distribution rights-of-way vegetation management program are:

- Vegetation within Kentucky Power's distribution system rights-of-way is re-cleared on a five-year cycle. The Company on average will re-clear approximately one fifth of the total miles of rights-of-way each year.
- Annual O&M expenditures for the five-year cycle will average approximately \$21.564 million.
- Kentucky Power will notify the Commission and obtain approval for any deviations from the filed work plan that equal or exceed ten percent of the aggregate planned O&M expenditures; and
- The one-way balancing account established by the Commission's June 22, 2015 order in Case No. 2014-00396 remains in place. Expenditures are credited against the annual budget. Any annual shortfall or excess in expenditures is to be applied to the account balance. Overall program expenditures in excess of the targeted amount are \$263,914 as of December 31, 2022.

For 2022, planned operations and maintenance ("O&M") expenditures for targeted distribution vegetation management were \$21.577 million. The amount of O&M embedded in base rates for vegetation management expenditures is \$21,586,046 as provided by the Commission's Order in Case No. 2020-00174.

2022 Distribution Vegetation Management Expenditures

And Rights-of-Way Work Performed

The Company's 2022 distribution vegetation management O&M expenditures were \$21,599,427 or 0.11% greater (\$22,783) than the 2022 budget of \$21,576,644.

The Company's 2022 distribution vegetation management capital expenditures were \$8,838,170. This includes capital investment made in connection with O&M expenditures and a reliability widening pilot program in the Pikeville district to combat established threats (*i.e.* Oak Wilt disease, multiple species Root Rot, Emerald Ash Borer, White Pine blister rust, and Hemlock Wooly Adelgid) to Eastern Kentucky forests.

2022 Vegetation Management Mileage Cleared, Expenditures, and Cost / Unit

Kentucky Power's 2022 Work Plan is broken down into four major actions: cycle maintenance (field personnel completing cycle maintenance), internal personnel (provide planning and oversight), spray (future control of regrowth brush and population density of trees within rights-of-way), and reactive maintenance (field personnel completing maintenance to circuits outside plan to address immediate vegetation-reliability issues). **Table 1** below provides a comparison of the 2022 work completed, actual expenditures, and Cost / Unit to the projection for each of its actions within its 2022 Vegetation Work Plan.

	Table 1: 2022 Vegetation Work Plan										
Action Description		Targeted		Actual							
Action Description	Miles/Acres	Expenses	Cost/Unit	Miles/Acres	Expenses	Cost/Unit					
Cycle Maint. (Miles)	1,653.1	\$18,715,196	\$11,322	1,783.2	\$19,561,084	\$10,970					
Internal	-	\$661,908	\$400	-	\$503,555	\$282					
Spray (Acres)	2,870.0	\$1,822,340	\$635	3,847.1	\$1,265,638	\$329					
Reactive Maint.	-	\$377,200	\$228	-	\$269,150	\$151					
TOTALS	-	\$21,576,644	\$12,585	-	\$21,599,427	\$12,113					

Kentucky Power targeted 1,653.1 miles of annual cycle maintenance and completed 1,783.2 miles (107.8%) of the 2022 targeted miles. Associated O&M expenditures were \$19,561,084 (4.5%) or \$845,888 above the budget target of \$18,715,196. The Company's cost per unit for field cycle maintenance was approximately \$352 (3.1%) less per mile than targeted.

The Company targeted 2,870.0 acres of spray in 2022 and completed 3,847.1 total acres in foliar, cut stubble, and vine applications. Foliar spray comprised 2,420.01 (62.9%) of the total acres treated; cut stubble treatments comprised 1,285.2 (33.4%) of the total acres treated; and vine applications comprised 141.89 (3.7%) of the total acres treated. In year 2022 the Company

continued utilizing third-party providers to complete scheduled foliar spray work, which reflects improved efficiency as well as lower cost-per-acre of application.

Kentucky Power's 2022 expenditures for reactive maintenance totaled \$108,050 less than the targeted work plan. The sustaining practice and components of the Company's cyclebased maintenance programs continue to reduce the volume of reactive work and enable the Company to direct the funds toward other vegetation maintenance actions.

Internal Forestry Staff O&M expenditures totaled \$158,353 less than the targeted work plan of \$661,908 for year 2022.

The Overall 2022 O&M cost-per-unit of \$12,113 was \$472 or (3.8%) below the targeted cost-per-unit of \$12,585.

O&M and Capital work associated with the 2022 Vegetation Management activities included trimming 55,441 trees, removing 201,605 trees, and clearing 4,401.5 acres of brush.

2022 Distribution Vegetation Management Work by District

<u>Table 2</u> below details the Company's 2022 O&M vegetation management expenditures by district. Certain O&M expenditures are not reflected in <u>Table 2</u> such as unscheduled hotspot maintenance, trouble restoration work, tree ticket investigation, auditor expenses, third party flagging expenditures, and tree contractor's field supervision.

Table 2: 2022 District Level O&M Expenditures by District										
Nature of Expense	Ashland	Hazard	Pikeville	Total						
Annual Cycle Maintenance	\$6,122,788	\$5,385,433	\$8,821,473	\$20,329,694						
Internal	\$182,001	\$171,431	\$150,123	\$503,555						
TOTALS	\$6,304,789	\$5,556,864	\$8,971,596	\$20,833,249						

<u>Table 3</u> below provides the 2022 vegetation management work by District in terms of miles cleared and acres sprayed.

Table 3: 2022 District Level Cycle Work Performed										
Work Performed	Ashland	Hazard	Pikeville	Total						
Annual Cycle Miles Cleared	596.34	554.52	632.30	1,783.16						
Acres Sprayed 1,406.91 655.58 1,784.61 3,847.10										

Attachment 1 to this report provides detail for the 2022 annual cycle vegetation management work and expenditures per district and by circuit. The attachment provides the associated cost for the miles completed during scheduled maintenance, as well as the number of trees trimmed, number of trees removed, acres of brush cut, acres of brush sprayed, and amount of tree growth regulator (soil injection) applied on a per circuit basis.

Measures of Improvement in System Reliability (SAIFI, CAIDI, SAIDI, and CMI)

<u>Table 4¹</u> below provides total system reliability indices for Kentucky Power's distribution system from year 2010 (when the Vegetation Management Program began), through December 31, 2022. Excluded from the calculation of the indices in both <u>Tables 4 and 5</u> are major events as defined by IEEE Standard 1366.

	Table 4: Thirteen Year Reporting Indicies for All Outage Cause Codes										
Year	SAIFI	CAIDI	SAIDI								
2010	2.47	169.4	418.4								
2011	3.09	195.4	602.8								
2012	2.42	189.5	458.0								
2013	2.14	178.5	382.7								
2014	2.37	212.9	505.3								
2015	2.47	189.8	468.1								
2016	2.17	205.7	445.8								
2017	2.17	187.3	406.3								
2018	2.34	206.8	484.2								
2019	2.49	195.2	485.0								
2020	2.01	197.7	397.4								
2021	1.85	217.1	402.1								
2022	2.29	214.3	490.6								

¹ The values reported for 2021 SAIFI, CAIDI, and SAIDI considers an adjustment necessary to reflect an update in CI and CMI around a major event day that occurred in year 2021. At the time of filing the 2022 report (which presents 2021 data as the most recent), the adjustment was not yet reflected.

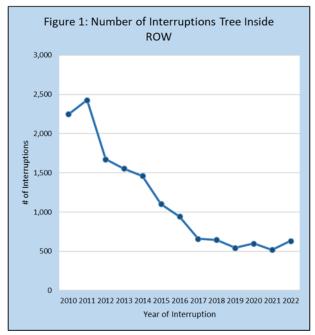
<u>Table 5</u> below provides reliability indices limited to Tree Inside Rights-of-Way outages for the same thirteen-year period.

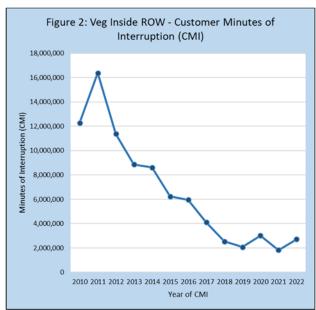
	Table 5: Thirteen Year Reporting Indicies for Tree Inside Rights-of-Way Outage Cause Codes										
Year	Tree Inside Rights-of-Way SAIFI	Tree Inside Rights-of-Way CAIDI	Tree Inside Rights-of-Way SAIDI								
2010	0.371	190.8	70.9								
2011	0.419	227.4	95.3								
2012	0.256	258.8	66.3								
2013	0.281	184.3	51.9								
2014	0.215	236.3	50.9								
2015	0.178	207.6	37.0								
2016	0.172	207.2	35.6								
2017	0.114	216.7	24.6								
2018	0.075	204.9	15.4								
2019	0.081	156.8	12.6								
2020	0.074	246.3	18.2								
2021	0.055	201.5	11.1								
2022	0.084	200.1	16.8								

<u>Table 5</u> highlights the improvements driven by the Company's Distribution Vegetation Management Program. The 2022 Tree Inside Rights-of-Way SAIFI and SAIDI are respectively 56.1% and 58.9% below the average Tree Inside Rights-of-Way SAIFI and SAIDI metrics for the previous twelve-year period of 2010 through 2021. The CAIDI value also decreased 5.4% from the twelve-year period average duration of 211.6 to 200.1 in year 2022. CAIDI measures the time for crews to respond, assess and identify the trouble, remove any debris that may have caused the outage, complete repairs, and restore service.

Since Kentucky Power's Distribution Vegetation Management Program began in July 2010, the annual number of Tree Inside Rights-of-Way Interruptions (excluding major event days) has declined by approximately 73.9% from a peak of 2,427 interruptions in year 2011 to 633 interruptions in year 2022. The annual number of customer minutes of interruption (CMI)

associated with these events has also declined by approximately 83.4% from a peak of 16,388,594 in year 2011 to 2,719,179 over the same period (**Figures 1 and 2**).





The number of vegetation-related service interruptions for trees inside rights-of-way outages increased 22.2% percent from 518 in year 2021, to 633 in year 2022. The number of customer minutes interrupted due to trees inside rights-of-way increased 18.1% from the previous three-year average of 2,301,997 minutes of interruption.

Vine-related outages are included in the reported inside rights-of-way outages. For year 2022, vine-related outages constituted approximately 60.5% of inside rights-of-way interruptions.

Tree Inside Rights-of-Way interruptions are expected to remain mostly unchanged for the following reasons:

- The Company has completed end-to-end maintenance clearing for the entire primary distribution system and maintains control of its rights-of-way;
- Refusals of customers to allow the Company to clear rights-of-way to the Company's vegetation specifications are not expected to decline; and
- Outages on secondary distribution lines constitute a greater portion of the remaining total outages, limiting a reduction in the total number of outages beyond the current numbers. The Company's distribution vegetation management work has less effect on secondary distribution lines because secondary lines, including service to home

attachments, are positioned lower on the poles and are subject to interference from customer planted trees and tall shrubs that become overgrown.

Vegetation Management Program-to-Date Expenditures

Kentucky Power filed vegetation management plans projecting the expenditures of \$262,930,822 in Vegetation Management O&M from the beginning of the program on July 1, 2010, through December 31, 2022. In that period, the Company spent \$264,845,023; or \$1,914,201 (0.7%) more than planned.

Kentucky Power has trimmed 882,018 trees; removed 3,048,216 trees; cleared 36,622 acres (57.22 square miles) of brush; and sprayed 40,336 acres (63.03 square miles) of brush since the Company's vegetation management program began July 1, 2010.

Balancing Account

Paragraph 8 (e)(ii) of the Settlement Agreement in Case No. 2014-00396 established a one-way balancing account beginning July 1, 2015. Any regulatory liability associated with the balancing account would "continue to be recorded on the Company's books until the Commission set base rates in the Company's next base rate case." The Commission's January 18, 2018 Order in Case No. 2017-00179 and January 13, 2021 Order in Case No. 2020-00174 continued the balancing account. The required annual expenditures were modified to reflect the amounts detailed in Table 5 of Mr. Phillips's direct testimony in Case No. 2020-00174.

The December 31, 2022 balancing account balance of \$263,916 (expenditures in excess of the targeted amounts) is shown in **Table 6** below:

	Table 6: Kentucky Power Balancing Account Vegetation Management Program Dollars										
Year	Required Expenditure	Actual Expenditure	Variance								
2015	\$13,830,530	\$13,620,717	-\$209,813								
2016	\$27,661,060	\$27,774,546	\$113,486								
2017	\$27,661,060	\$27,840,992	\$179,932								
2018	\$21,638,766	\$21,779,501	\$140,735								
2019	\$21,283,946	\$21,312,894	\$28,948								
2020	\$21,472,777	\$21,347,446	-\$125,331								
2021	\$21,733,094	\$21,847,587	\$114,493								
2022	\$21,577,961	\$21,599,427	\$21,466								
Total	\$176,859,194	\$177,123,110	\$263,916								

Attachment Description

The following attachments are incorporated in this report:

<u>Attachment 1</u> – provides a detailed summary of annual cycle maintenance work completed in year 2022 at a circuit level within each district.

<u>Attachment 2</u> – provides the annual cycle maintenance plan for year 2023 at a circuit level by district reflecting circuit level updates to the Company's previous Vegetation Management Plan filed April 1, 2022.

Attachment 3 – provides the annual spray plan for year 2023 at the district level.

<u>Attachment 4</u> – provides a recapitulation of planned 2023 O&M expenditures (including amounts that cannot be allocated on a circuit basis) by district and projected 2023 capital expenditures by district. The 2023 capital expenditures include, as was detailed in the Company's 2022 Vegetation Management Plan, a pilot capital investment program to widen the Company's existing rights-of-way to address outside the rights-of-way causes of outages, including particularly the mitigation of threats posed by diseased and dead trees.

Attachment 1 – 2022 Annual Maintenance Cycle History

20	22 KY POWER FORESTRY C Five Year Cycle Maintena		RY								or & fleet costs, some unscheduled hotspot ion, and tree contractors field supervision
	Ashland Distric	ct									
Circuit Number	Circuit Name	Cost (Includes O&M and Capital)	Total Line Miles	Reclearing Miles Planned	Reclearing Miles Completed	Trees Trimmed	Trees Removed	Brush Cut (Acres)	Brush Sprayed (Acres)	Tree Growth Regulator	Comments
3000201	Big Sandy - Fallsburg South	\$787,386.31	96.1	37.6	96.1	2,128	4,589	176.75	153.67	0.0	Full Circuit Reclear
3000303	Bellefonte - Bellefonte	\$839,963.17	57.9	57.9	57.9	3,557	2,381	78.79	95.64	0.0	Full Circuit Reclear
3000601	Grahn - Distribution	\$340,032.31	42.3	42.3	42.3	946	1,769	86.92	96.76	0.0	Full Circuit Reclear
3001001	Hitchins - Damron Branch	\$297,894.74	46.4	33.4	33.4	1,134	2,630	45.44	42.18	0.0	Finish Full Circuit Reclear from 2021
3001002	Hitchins - Willard	\$713,226.73	150.5	52.3	70.7	1,530	687	117.57	0.00	0.0	Begin Full Circuit Reclear
3001004	Hitchins - EK Road	\$416,767.15	31.8	31.8	31.8	1,939	2,565	46.53	55.61	0.0	Full Circuit Reclear
3001102	Hoodscreek - Rural	\$430,427.54	47.9	47.9	47.9	1,817	1,968	62.97	39.30	0.0	Full Circuit Reclear
3001202	Howard Collins - 29th Street	\$54,722.53	13.2	1.5	1.5	363	81	1.44	5.28	0.0	Finish Full Circuit Reclear from 2021
3001204	Howard Collins - Summitt	\$168,415.63	24.3	14.5	14.5	735	373	9.94	28.58	0.0	Finish Full Circuit Reclear from 2021
3003702	Coalton - Cannonsburg	\$169,813.01	23.2	23.2	23.2	440	1,370	52.25	47.83	0.0	Full Circuit Reclear
3003703	Coalton - Trace Creek	\$682,780.61	83.9	83.9	75.5	2,616	5,687	184.51	67.30	0.0	Full Circuit Reclear
3007903	Busseyville - Louisa	\$587,742.60	44.3	44.3	44.3	1,647	4,378	79.86	51.03	0.0	Full Circuit Reclear
3007905	Busseyville - Mattie	\$61,362.78	92.0	6.0	6.0	0	0	0.00	182.44	0.0	Finish Full Circuit Reclear from 2021
3008002	47th Street - 39th Street	\$126,306.64	12.9	12.9	12.9	942	235	9.29	7.97	0.0	Full Circuit Reclear
3103103	Olive Hill - W. Carter Elementary	\$349,384.75	38.4	38.4	38.4	1,433	2,148	53.79	53.65	0.0	Full Circuit Reclear
2206403	South Neal - Whites Creek Road	\$22,045.35	0.0	0.0	0.0	0	5	0.00	41.60	0.0	Capital Work and Ground Spray
3000302	Bellefonte - Flatwoods	\$570.90	0.0	0.0	0.0	0	3	0.00	0.00	0.0	Reactive Work
3000701	Graysbranch - Graysbranch	\$25,045.80	0.0	0.0	0.0	32	2	0.02	45.45	0.0	Ground Spray and Reactive Work
3000801	Hayward - Halderman	\$518.92	0.0	0.0	0.0	2	0	0.00	0.00	0.0	Reactive Work
3001201	Howard Collins - 13th Street	\$6,104.76	0.0	0.0	0.0	0	0	0.00	16.53	0.0	Ground Spray
3001203	Howard Collins - Floyd Street	\$2,136.20	0.0	0.0	0.0	9	0	0.00	0.00	0.0	Reactive Work
3002001	South Shore - Siloam	\$2,572.65	0.0	0.0	0.0	6	23	0.00	0.00	0.0	Capital Work and Reactive Work
3003701	Coalton - US 60 West	\$53,455.63	0.0	0.0	0.0	0	0	0.00	21.85	0.0	Ground Spray
3007904	Busseyville - Torchlight	\$48,209.00	0.0	0.0	0.0	0	0	0.00	258.33	0.0	Ground Spray
3007906	Busseyville - Walbridge	\$44,127.86	0.0	0.0	0.0	145	199	7.35	0.00	0.0	work on 2023 plan
3008701	Cannonsburg - Cannonsburg	\$49,123.48	0.0	0.0	0.0	0	0	0.00	51.66	0.0	Ground Spray
3008702	Cannonsburg - Route 3	\$882.76	0.0	0.0	0.0	0	1	0.00	0.00	0.0	Reactive Work
3010601	Russell - Kenwood	\$2,211.76	0.0	0.0	0.0	3	1	0.00	0.00	0.0	Capital Work and Reactive Work
3010602	Russell - Bear Run	\$21,497.53	0.0	0.0	0.0	54	24	0.68	0.00	0.0	Capital Work and Reactive Work
3110902	Wurtland - Greenup	\$2,023.50	0.0	0.0	0.0	12	0	0.00	0.00	0.0	Reactive Work
3110903	Wurtland - Route 503	\$18,995.01	0.0	0.0	0.0	13	9	0.00	44.25	0.0	Capital Work and Ground Spray
3116102	Grayson - Dixie Park	\$2,319.48	0.0	0.0	0.0	0	1	0.00	0.00	0.0	Capital Work
3116701	Belhaven - Diedrich	\$331.74	0.0	0.0	0.0	1	0	0.00	0.00	0.0	Reactive Work
3116703	Belhaven - Argillite	\$5,572.67	0.0	0.0	0.0	23	75	0.28	0.00	0.0	Reactive Work
	Ashland District Totals	\$6,333,971.50		527.8	596.3	21.527	31.204	1.014.37	1.406.91	0.0	

2022 KY POWER FORESTRY CIRCUIT HISTORY Five Year Cycle Maintenance Clearing

Costs not allocated to a circuit number include: Internal labor & fleet costs, some unscheduled hotspot maintenance, trouble restoration work, tree ticket investigation, and tree contractors field supervision

	Hazard District			Ī							
Circuit Number	Circuit Name	Cost (Includes O&M and Capital)	Total Line Miles	Reclearing Miles Planned	Reclearing Miles Completed	Trees Trimmed	Trees Removed	Brush Cut (Acres)	Brush Sprayed (Acres)	Tree Growth Regulator	Comments
3301101	Chavies - Chavies	\$681,942.78	68.0	68.0	68.0	1,570	15,806	319.18	149.89	0.0	Full Circuit Reclear
3307303	Bulan - Lotts Creek	\$34,843.59	2.2	2.2	2.2	86	678	13.68	0.00	0.0	Full Circuit Reclear
3308401	Beckham - Hindman	\$1,369,462.37	103.3	103.3	103.3	4,574	18,663	323.88	20.59	0.0	Full Circuit Reclear
3308402	Beckham - Carr Creek	\$442,470.15	51.4	51.4	51.4	1,907	6,204	115.60	33.80	0.0	Full Circuit Reclear
3309302	Vicco - Jeff	\$551,037.73	89.0	54.0	54.0	2,578	8,351	186.90	38.21	0.0	Finish Full Circuit Reclear from 2021
3310501	Haddix - Quicksand	\$458,624.98	111.2	29.7	48.9	1,122	8,939	163.39	1.84	0.0	Begin Full Circuit Reclear
3310502	Haddix - Canoe	\$1,333,414.44	123.1	123.1	123.1	3,224	28,474	405.44	188.82	0.0	Full Circuit Reclear
3310503	Haddix - Troublesome Creek	\$292,763.92	91.4	33.7	33.7	532	5,280	100.96	100.93	0.0	Finish Full Circuit Reclear from 2021
3311101	Stinnett - Redbird	\$315,112.88	117.5	42.8	42.8	982	6,870	170.41	7.68	0.0	Finish Full Circuit Reclear from 2021
3312901	Jenkins - Kona	\$163,146.72	27.1	27.1	27.1	611	2,259	50.50	0.00	0.0	Full Circuit Reclear
3311103	Stinnett - Wendover	\$0.00	0.0	0.0	0.0	0	0	0.00	0.00	0.0	Full Circuit Reclear Deferred to 2023
3409503	Burdine - Jenkins	\$0.00	0.0	0.0	0.0	0	0	0.00	0.00	0.0	Full Circuit Reclear Deferred to 2023
3300601	Bluegrass - Walkertown	\$5,446.48	0.0	0.0	0.0	6	27	0.00	1.88	0.0	Reactive Work
3301402	Combs - Airport Garden	\$1,852.73	0.0	0.0	0.0	0	0	0.00	2.68	0.0	Reactive Work, Vine Treatment
3301701	Daisy - Leatherwood	\$4,697.80	0.0	0.0	0.0	0	26	0.00	1.72	0.0	Capital Work and Reactive Work
3302701	Hazard - Black Gold	\$2,902.62	0.0	0.0	0.0	0	0	0.00	3.36	0.0	Reactive Work, Vine Treatment
3302704	Hazard - Kenmont	\$1,013.18	0.0	0.0	0.0	0	0	0.00	3.00	0.0	Reactive Work, Vine Treatment
3303901	Leslie - Hyden	\$34,118.95	0.0	0.0	0.0	6	310	10.00	38.94	0.0	Ground Spray and Reactive Work
3303902	Leslie - Wooton	\$4,235.57	0.0	0.0	0.0	0	0	0.00	9.55	0.0	Reactive Work, Vine Treatment
3303903	Leslie - Hals Fork	\$2,386.40	0.0	0.0	0.0	0	0	0.00	2.33	0.0	Reactive Work, Vine Treatment
3307301	Bulan - Ary-Heiner	\$576.35	0.0	0.0	0.0	0	1	0.00	0.00	0.0	Capital Work
3308001	Jackson - South Jackson	\$3,107.94	0.0	0.0	0.0	0	0	0.00	7.69	0.0	Reactive Work, Vine Treatment
3308002	Jackson - Panbowl	\$1,661.16	0.0	0.0	0.0	0	0	0.00	2.49	0.0	Reactive Work, Vine Treatment
3308404	Beckham - Pippa Passes	\$3,669.65	0.0	0.0	0.0	0	9	0.00	2.60	0.0	Capital Work and Reactive Work
3308502	Bonnyman - Hazard	\$8,531.50	0.0	0.0	0.0	0	0	0.00	8.22	0.0	Reactive Work, Vine Treatment
3308503	Bonnyman - Big Creek	\$1,043.58	0.0	0.0	0.0	0	0	0.00	0.52	0.0	Reactive Work, Vine Treatment
3308601	Collier - Upper Rockhouse	\$916.50	0.0	0.0	0.0	3	0	0.00	0	0.0	Reactive Work
3308602	Collier - Lower Rockhouse	\$3,031.60	0.0	0.0	0.0	0	2	0.00	0.86	0.0	Capital Work and Reactive Work
3308603	Collier - Smoot Creek	\$7,538.96	0.0	0.0	0.0	1	14	0.00	14.48	0.0	Capital Work and Reactive Work
3309101	Whitesburg - Whitesburg	\$5,307.40	0.0	0.0	0.0	0	1	0.00	0.00	0.0	Capital Work
3309103	Whitesburg - Cowan	\$714.35	0.0	0.0	0.0	0	2	0.00	0.00	0.0	Capital Work
3309301	Vicco - Red Fox	\$2,813.30	0.0	0.0	0.0	12	40	0.16	1.64	0.0	Reactive Work
3309902	Slemp - Leatherwood	\$2,851.15	0.0	0.0	0.0	0	0	0.00	3.81	0.0	Reactive Work, Vine Treatment
3311103	Stinnett - Wendover 35kV	\$779.40	0.0	0.0	0.0	0	0	0.00	1.19	0.0	Reactive Work, Vine Treatment
3311401	Reedy - Deane	\$3,303.30	0.0	0.0	0.0	4	8	0.00	1.26	0.0	Capital Work and Reactive Work
3311701	Shamrock - Shamrock	\$819.26	0.0	0.0	0.0	0	0	0.00	1.03	0.0	Reactive Work, Vine Treatment
3312202	Engle - Grapevine 34.5	\$5,268.56	0.0	0.0	0.0	0	68	0.80	2.83	0.0	Reactive Work, Vine Treatment
3314401	Mayking - Ermine	\$3,796.10	0.0	0.0	0.0	12	60	0.37	0	0.0	Reactive Work
3401301	Fleming - Neon	\$13,390.61	0.0	0.0	0.0	37	94	0.61	0.00	0.0	Capital Work and Reactive Work
3420001	Softshell - Vest	\$851.58	0.0	0.0	0.0	0	0	0.00	1.12	0.0	Reactive Work, Vine Treatment
3420002	Softshell - Leburn	\$786.94	0.0	0.0	0.0	0	0	0.00	0.62	0.0	Reactive Work, Vine Treatment
	Hazard District Totals	\$5,770,232.48		535.4	554.5	17,267	102,186	1,861.88	655.58	0.0	

2022 KY POWER FORESTRY CIRCUIT HISTORY Five Year Cycle Maintenance Clearing Pikeville District

Costs not allocated to a circuit number include: Internal labor & fleet costs, some unscheduled hotspot maintenance, trouble restoration work, tree ticket investigation, and tree contractors field supervision

	Pikeville Distri										
Circuit Number	Circuit Name	Cost (Includes O&M and Capital)	Total Line Miles	Reclearing Miles Planned	Reclearing Miles Completed	Trees Trimmed	Trees Removed	Brush Cut (Acres)	Brush Sprayed (Acres)	Tree Growth Regulator	Comments
2153502	Middle Burning Ck - Naugatuck	\$12,686.95	1.0	0.0	1.0	24	65	0.41	0.00	0.0	Full Circuit Reclear
2970603	Hurley - Racefork	\$16,943.70	2.8	2.8	2.8	34	53	2.02	0.00	0.0	Full Circuit Reclear
3200201	Barrenshe - Freeburn	\$103,231.04	11.2	11.2	11.2	253	400	23.14	0.00	0.0	Full Circuit Reclear
3200202	Barrenshe - Vulcan	\$178,425.67	41.3	20.3	20.3	173	811	21.48	0.00	0.0	Finish Full Circuit Reclear, from 2021
3200203	Barrenshe - Slate Branch	\$69,788.90	4.4	4.4	4.4	40	1,008	13.05	0.00	0.0	Full Circuit Reclear
3200302	Belfry - Toler	\$550,779.89	40.1	40.1	40.1	1,392	3,808	87.23	0.00	0.0	Full Circuit Reclear
3201001	Tom Watkins - Upper Pond Ck	\$252,343.65	28.1	28.1	28.1	607	1,137	55.19	0.00	0.0	Full Circuit Reclear
3202201	Lovely - Lovely	\$409,260.21	42.3	42.3	42.3	1,009	5,534	103.84	0.00	0.0	Full Circuit Reclear
3202203	Lovely - Mt. Sterling	\$226,273.99	13.4	2.0	13.4	550	1,244	15.85	0.00	0.0	Full Circuit Reclear
3401001	Elwood - Dorton	\$95,117.65	43.4	12.9	12.9	218	585	5.06	0.00	0.0	Finish Full Circuit Reclear, from 2021
3401002	Elwood - Virgie	\$199,074.09	80.4	8.9	8.9	327	890	28.89	0.00	0.0	Finish Full Circuit Reclear, from 2021
3401702	Henry Clay - Regina	\$1,633,051.00	115.9	115.9	112.6	3,100	10,343	319.83	0.00	0.0	Full Circuit Reclear
3401801	Index - Distribution	\$769,013.51	55.7	48.1	48.1	1,414	5,391	79.19	0.00	0.0	Finish Full Circuit Reclear, from 2021
3401802	Index - Hospital	\$118,363.03	20.1	20.1	20.1	356	1,081	25.41	0.00	0.0	Full Circuit Reclear
3402002	Keyser - Stonecoal	\$646,123.88	36.6	36.6	36.6	427	2,046	87.41	0.00	0.0	Full Circuit Reclear
3403701	Russell Fork - Little Beaver	\$349,503.07	12.1	12.1	11.2	195	3,588	56.66	0.00	0.0	Full Circuit Reclear
3403801	Second Fork - Distribution	\$183,660.36	7.4	7.4	7.4	247	1,665	41.24	0.00	0.0	Full Circuit Reclear
3404301	Sidney - Big Creek	\$457,144.63	25.4	25.4	25.4	790	3,437	74.72	0.00	0.0	Full Circuit Reclear
3407101	Topmost - Dema	\$60,829.23	36.2	1.7	1.7	103	277	4.70	0.00	0.0	Finish Full Circuit Reclear, from 2021
3408103	Salisbury - Martin	\$43,304.23	45.8	1.4	1.5	30	108	6.14	0.00	0.0	Begin Full Circuit Reclear
3408402	Kimper - Grapevine	\$725,789.23	36.2	36.2	36.2	583	5,201	144.43	0.00	0.0	Full Circuit Reclear
3409001	West Paintsville - Paintsville	\$22,762.16	3.4	3.4	3.4	90	120	4.41	0.00	0.0	Full Circuit Reclear
3409003	West Paintsville - Plaza	\$155,106.25	23.2	23.2	23.2	360	2,236	42.48	0.00	0.0	Full Circuit Reclear
3410501	South Pikeville - Pikeville	\$111,580.56	9.7	9.7	9.7	85	1,109	19.21	0.00	0.0	Full Circuit Reclear
3410503	South Pikeville - Hospital	\$68,152.27	5.7	5.7	5.7	34	521	17.33	0.00	0.0	Full Circuit Reclear
3414901	Fishtrap - Distribution	\$78,069.21	4.5	4.5	4.5	25	881	17.30	0.00	0.0	Full Circuit Reclear
3417601	New Camp - South Side	\$142,072.50	10.2	10.2	10.2	161	2,016	17.32	0.00	0.0	Full Circuit Reclear
3417602	New Camp - ARH	\$143,908.25	21.6	21.6	15.6	359	608	77.90	0.00	0.0	Full Circuit Reclear
3420101	Mayo Trail - Nippa	\$200,684.41	22.5	22.5	22.5	734	1,895	44.54	0.00	0.0	Full Circuit Reclear
3420102	Mayo Trail - Euclid	\$543,481.12	19.5	19.5	19.5	953	3,212	28.91	0.00	0.0	Full Circuit Reclear
3420103	Mayo Trail - Davis Branch	\$813,822.63	32.2	32.2	32.2	1,890	6,001	56.56	0.00	0.0	Full Circuit Reclear
3120102	Stanville - Tram	\$30,096.50	0.0	0.0	0.0	0	0	0.00	76.91	0.0	Ground Spray
3120103	Stanville - Harold	\$66,684.18	0.0	0.0	0.0	0	0	0.00	77.78	0.0	Ground Spray
3202202	Lovely - Wolf Creek	\$32,858.71	0.0	0.0	0.0	50	263	2.19	0.00	0.0	Reactive Work
3400101	Allen - Distribution	\$91,756.87	0.0	0.0	0.0	0	0	0.00	126.19	0.0	Ground Spray
3400702	Draffin - Yellow Hill	\$3,307.55	0.0	0.0	0.0	0	21	0.00	0.00	0.0	Capital Work
3401102	Falcon - Salyersville	\$719.52	0.0	0.0	0.0	0	2	0.00	0.00	0.0	Capital Work
3401703	Henry Clay - Ashcamp	\$12,197.56	0.0	0.0	0.0	12	6	0.02	0.00	0.0	Capital Work
3402003	Keyser - Mullins	\$30,582.84	0.0	0.0	0.0	12	7	0.00	64.31	0.0	Reactive Work and Ground Spray
3402204	McKinney - Maytown	\$40,283.93	0.0	0.0	0.0	7	346	0.16	0.00	0.0	Capital Work
3402501	Middle Creek - Distribution	\$31,729.46	0.0	0.0	0.0	0	0	0.00	43.63	0.0	Ground Spray
3403001	Pikeville - City	\$17,108.00	0.0	0.0	0.0	0	0	0.00	42.63	0.0	Ground Spray
3403002	Pikeville - Main Street	\$3,998.78	0.0	0.0	0.0	0	0	0.00	7.49	0.0	Ground Spray
3403003	Pikeville - Cedar Creek	\$24,497.50	0.0	0.0	0.0	0	2	0.00	55.00	0.0	Capital Work and Ground Spray
3403301	Prestonsburg - City	\$10,197.31	0.0	0.0	0.0	0	0	0.00	13.05	0.0	Ground Spray
3404302	Sidney - Coburn Mtn.	\$256,304.31	0.0	0.0	0.0	0	229	0.75	299.34	0.0	Capital Work and Ground Spray
3408303	Coleman - Peter Creek	\$1,897.60	0.0	0.0	0.0	0	41	0.18	0.00	0.0	Capital Work
3408304	Coleman - Calloway	\$2,072.50	0.0	0.0	0.0	0	7	0.00	0.00	0.0	Reactive Work
3409002	West Paintsville - Staffordsville	\$599.60	0.0	0.0	0.0	0	2	0.00	0.00	0.0	Capital Work
3409301	Kenwood - West Van Lear	\$17,418.10	0.0	0.0	0.0	0	0	0.00	41.62	0.0	Ground Spray
3409302	Kenwood - Auxier	\$36,230.08	0.0	0.0	0.0	0	2	0.00	89.29	0.0	Capital Work and Ground Spray
3409303	Kenwood - Hagerhill	\$48,245.10	0.0	0.0	0.0	0	12	0.07	109.97	0.0	Capital Work and Ground Spray
3409502	Burdine - Levisa Stone	\$5,266.00	0.0	0.0	0.0	3	2	0.06	0.00	0.0	Reactive Work
3410601	East Prestonsburg - Prestonsburg	\$7,313.44	0.0	0.0	0.0	0	0	0.00	6.35	0.0	Ground Spray
3410602	East Prestonsburg - Lancer	\$77,437.97	0.0	0.0	0.0	0	0	0.00	93.64	0.0	Ground Spray
3411401	Dewey - Inez	\$137,541.50	0.0	0.0	0.0	0	2	0.00	315.85	0.0	Capital Work and Ground Spray
3411801	Johns Creek - Meta	\$133,149.80	0.0	0.0	0.0	0	0	0.00	321.56	0.0	Ground Spray
	Pikeville District Totals	\$10,499,841.98		630.1	632.3	16,647	68,215	1,525.28	1,784.61	0.0	1

Attachment 2 – 2023 Annual Maintenance Cycle Plan

		Kentucky Power Dist Five Year Cycle VM P				Costs that are not allocated to a circuit include: Internal labor & fleet costs, unscheduled hotspot maintenance, ground & arial spray, and arial saw				
District	Station Name	Circuit Name	Circuit Number	Circuit Line Miles	Miles Planned	Projected O&M Cost per Mile	O&M Cost	Capital Assoc. with Clearing	Total Cost	Comments
ASH	Hayward	Lawton	3000802	37.31	37.31	\$10,525	\$392,703	\$32,437	\$425,140	Full Circuit Reclear
ASH	Hitchens	Willard	3001002	150.51	79.77	\$10,525	\$839,612	\$69,352	\$908,964	Finish Full Circuit Reclear, from 2022
ASH	Hoods Creek	Summit	3001101	22.53	22.53	\$10,525	\$237,137	\$19,588	\$256,725	Full Circuit Reclear
ASH	South Shore	Distribution	3002002	9.12	9.12	\$10,525	\$95,992	\$7,929	\$103,921	Full Circuit Reclear
ASH	Coalton	US 60 West	3003701	87.21	87.21	\$10,525	\$917,921	\$75,820	\$993,741	Full Circuit Reclear
ASH	Coalton	Trace Creek	3003703	83.89	8.44	\$10,525	\$88,834	\$7,338	\$96,172	Finish Full Circuit Reclear, from 2022
ASH	Busseyville	Walbridge	3007906	95.03	95.03	\$10,525	\$1,000,230	\$180,041	\$1,180,271	Full Circuit Reclear
ASH	47th Street	49th Street	3008001	25.40	25.40	\$10,525	\$267,345	\$22,083	\$289,428	Full Circuit Reclear
ASH	Cannonsburg	Route 3	3008702	98.84	98.84	\$10,525	\$1,040,331	\$85,931	\$1,126,263	Full Circuit Reclear
ASH	Russell	Kenwood	3010601	20.90	20.90	\$10,525	\$219,981	\$18,170	\$238,151	Full Circuit Reclear
ASH	Russell	Bear Run	3010602	11.28	11.28	\$10,525	\$118,727	\$9,807	\$128,533	Full Circuit Reclear
ASH	Russell	Ashland Oil	3010603	0.98	0.98	\$10,525	\$10,315	\$852	\$11,167	Full Circuit Reclear
ASH	Wurtland	Wurtland	3110901	1.54	1.54	\$10,525	\$16,209	\$1,339	\$17,548	Full Circuit Reclear
ASH	Wurtland	Greenup	3110902	51.16	51.16	\$10,525	\$538,480	\$44,478	\$582,958	Full Circuit Reclear
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	Ashland District Totals 549.51						\$5,783,817	\$575,166	\$6,358,983	

		Kentucky Power Distr Five Year Cycle VM P				Costs that are not allocated to a circuit include: Internal labor & fleet costs, unscheduled hotspot maintenance, ground & arial spray, and arial saw				
District	Station Name	Circuit Name	Circuit Number	Circuit Line Miles	Miles Planned	Projected O&M Cost per Mile	O&M Cost	Capital Assoc. with Clearing	Total Cost	Comments
HAZ	Hazard	Kenmont	3302704	19.92	19.92	\$10,427	\$207,702	\$16,616	\$224,318	Full Circuit Reclear
HAZ	Leslie	Halsfork	3303903	76.40	30.93	\$10,427	\$322,500	\$25,800	\$348,301	Begin Full Circuit Reclear
HAZ	Bulan	Ary Hiner	3307301	52.11	52.11	\$10,427	\$543,340	\$43,467	\$586,807	Full Circuit Reclear
HAZ	Bulan	Ajax Dwarf	3307302	39.18	39.18	\$10,427	\$408,521	\$32,682	\$441,203	Full Circuit Reclear
HAZ	Beckham	Pippa Passes	3308404	63.33	63.33	\$10,427	\$660,328	\$52,826	\$713,155	Full Circuit Reclear
HAZ	Bonnyman	Hazard	3308502	65.12	13.00	\$10,427	\$135,548	\$10,844	\$146,392	Begin Full Circuit Reclear
HAZ	Bonnyman	Big Creek	3308503	95.52	95.52	\$10,427	\$995,967	\$79,677	\$1,075,644	Full Circuit Reclear
HAZ	Collier	Lower Rockhouse	3308602	63.03	63.03	\$10,427	\$657,200	\$52,576	\$709,776	Full Circuit Reclear
HAZ	Jeff	Viper	3309003	67.29	9.90	\$10,427	\$103,225	\$8,258	\$111,483	Begin Full Circuit Reclear
HAZ	Haddix	Quicksand	3310501	111.18	62.31	\$10,427	\$649,693	\$51,975	\$701,668	Finish Full Circuit Reclear, from 2022
HAZ	Stinnett	Wendover	3311103	35.92	35.92	\$10,427	\$374,530	\$29,962	\$404,493	Full Circuit Reclear
HAZ	Jenkins	Jenkins	3312902	22.22	22.22	\$10,427	\$231,683	\$18,535	\$250,218	Full Circuit Reclear
HAZ	Burdine	Jenkins	3409503	6.93	6.93	\$10,427	\$72,258	\$5,781	\$78,038	Full Circuit Reclear
HAZ	Beefhide	Beefhide	3451201	4.86	4.86	\$10,427	\$50,674	\$4,054	\$54,728	Full Circuit Reclear
HAZ	Beefhide	Dunham	3451202	8.68	8.68	\$10,427	\$90,505	\$7,240	\$97,745	Full Circuit Reclear
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	Hazard District Totals 527.84						\$5,503,675	\$440,294	\$5,943,969	

2023 Kentucky Power Distribution					Costs that are not allocated to a circuit include: Internal labor & fleet costs, unscheduled hotspot maintenance, ground & arial spray, and arial saw					
District	Station Name	Circuit Name	Circuit Number	Circuit Line Miles	Miles Planned	Projected O&M Cost per Mile	O&M Cost	Capital Assoc. with Clearing	Total Cost	Comments
PKV	Sprigg	Sprigg	2150103	9.02	9.02	\$11,800	\$106,436	\$8,515	\$114,951	Full Circuit Reclear
PKV	Sprigg	Matewan	2150105	7.86	7.86	\$11,800	\$92,748	\$7,420	\$100,168	Full Circuit Reclear
PKV	Borderland	Nolan	2150501	18.50	18.50	\$11,800	\$218,300	\$17,464	\$235,764	Full Circuit Reclear
PKV	Borderland	Chattaroy	2150502	10.05	10.05	\$11,800	\$118,590	\$9,487	\$128,077	Full Circuit Reclear
PKV	Stanville	Mudcreek	3120101	85.07	85.07	\$11,800	\$1,003,826	\$80,306	\$1,084,132	Full Circuit Reclear
PKV	Stanville	Harold	3120103	55.53	55.53	\$11,800	\$655,254	\$52,420	\$707,674	Full Circuit Reclear
PKV	Barrenshe	Pounding Mill	3200204	15.80	15.80	\$11,800	\$186,440	\$14,915	\$201,355	Full Circuit Reclear
PKV	Belfry	Belfry	3200301	13.30	13.30	\$11,800	\$156,940	\$12,555	\$169,495	Full Circuit Reclear
PKV	Lovely	Wolf Creek	3202202	60.39	60.39	\$11,800	\$712,602	\$57,008	\$769,610	Full Circuit Reclear
PKV	Draffin	Belcher	3400701	21.34	21.34	\$11,800	\$251,812	\$20,145	\$271,957	Full Circuit Reclear
PKV	Draffin	Yellow Hill	3400702	11.74	11.74	\$11,800	\$138,532	\$11,083	\$149,615	Full Circuit Reclear
PKV	Henry Clay	Regina	3401702	115.85	3.25	\$11,800	\$38,350	\$3,068	\$41,418	Finish Full Circuit Reclear, from 2022
PKV	Keyser	Thompson Road	3402001	10.58	10.58	\$11,800	\$124,844	\$9,988	\$134,832	Full Circuit Reclear
PKV	Russell Fork	Little Beaver	3403701	12.14	0.99	\$11,800	\$11,682	\$935	\$12,617	Finish Full Circuit Reclear, from 2022
PKV	Salisbury	Printer	3408101	19.64	19.64	\$11,800	\$231,752	\$18,540	\$250,292	Full Circuit Reclear
PKV	Salisbury	Black Diamond Coal	3408102	1.45	1.45	\$11,800	\$17,110	\$1,369	\$18,479	Full Circuit Reclear
PKV	Salisbury	Martin	3408103	45.82	44.32	\$11,800	\$522,976	\$41,838	\$564,814	Finish Full Circuit Reclear, from 2022
PKV	Burdine	Levisa	3409502	39.95	39.95	\$11,800	\$471,410	\$37,713	\$509,123	Full Circuit Reclear
PKV	South Pikeville	Island Creek	3410502	39.54	39.54	\$11,800	\$466,572	\$37,326	\$503,898	Full Circuit Reclear
PKV	Fords Branch	Shelby	3411901	40.35	40.35	\$11,800	\$476,130	\$38,090	\$514,220	Full Circuit Reclear
PKV	New Camp	ARH	3417602	21.57	6.00	\$11,800	\$70,800	\$5,664	\$76,464	Finish Full Circuit Reclear, from 2022
PKV	Breaks	City	3421001	30.25	26.52	\$11,800	\$312,936	\$25,035	\$337,971	Begin Full Circuit Reclear
PKV	Breaks	Grassy	3421002	4.18	4.18	\$11,800	\$49,324	\$3,946	\$53,270	Full Circuit Reclear
Pikeville District Totals					545.37		\$6,435,366	\$514,829	\$6,950,195	
Kentucky Power Totals				1,622.72		\$17,722,858	\$1,530,289	\$19,253,147		

Attachment 3 – 2023 Annual Spray Plan

Kentucky Power 2023 Distribution						
VM Spray Plan - Cycle Based						
District	Acres	O&M Budget				
Ashland	600	\$360,000				
Hazard	1,950	\$1,170,000				
Pikeville	1,950	\$1,170,000				
KY Total	4,500	\$2,700,000				

<u>Attachment 4 – Recapitulation Expenditures by District</u>

Kentucky Power Company 2023 Distribution VM O&M Forestry Plan - Summary							
Activity	Total O&M	Ashland	Hazard	Pikeville			
5 Year Cycle Maintenance	\$17,722,858	\$5,783,817	\$5,503,675	\$6,435,366			
Aerial Saw							
Spray - Ground & Aerial	\$2,700,000	\$360,000	\$1,170,000	\$1,170,000			
Internal - KY Forestry Staff	\$654,225	\$218,075	\$218,075	\$218,075			
Unscheduled/Reactive Maintenance	\$400,000	\$95,000	\$170,000	\$135,000			
2023 Total 5 Yr. Cycle O&M Budget	\$21,477,083	\$6,456,892	\$7,061,750	\$7,958,441			

Kentucky Power Company 2023 Distribution VM Capital Forestry Plan - Summary							
Activity	Total Capital	Ashland	Hazard	Pikeville			
Capital Assoc. w/ 5 Yr. Cycle Maintenance	\$1,530,289 \$575,166		\$440,294	\$514,829			
Internal - KY Forestry Staff	\$122,423	\$40,808	\$40,808	\$40,808			
Capital Reliability Pilot Program	\$6,500,000	\$150,000	\$1,250,000	\$5,100,000			
Internal - KY Forestry Staff	\$260,000	\$6,000	\$50,000	\$204,000			
2023 Total Capital Budget	\$8,412,712	\$771,973	\$1,781,102	\$5,859,637			