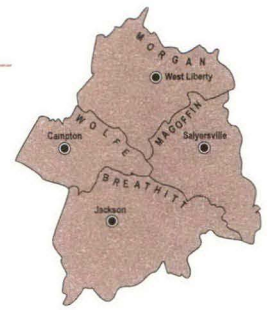




LICKING VALLEY
RURAL ELECTRIC COOPERATIVE CORPORATION
P. O. Box 605 • 271 Main Street
West Liberty, KY 41472-0605
(606) 743-3179



RECEIVED

FEB 14 2019

**PUBLIC SERVICE
COMMISSION**

February 12, 2019

Director of Engineering
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602

Dear Sir:

Enclosed you will find Licking Valley Rural Electric Cooperative Corporation's Electric Distribution Utility Annual Reliability Report for the year ending 2018.

If additional information is needed, please let us know.

Sincerely,

Chris Murphy
Superintendent of Operations

CM:oh

RECEIVED

FEB 14 2019

PUBLIC SERVICE
COMMISSION

Report prepared for:

LICKING VALLEY RURAL ELECTRIC COOPERATIVE CORPORATION

Prepared by:

Oneida Haney, Service Office Supervisor

ohaney@lvrecc.com

606-743-7500

2018 Annual Reliability Report

Major Event Days

SAIDI Value 478.6744

First Date Used to Determine T'Med-----January 23, 2018

Last Date to Determine T'Med-----November 06, 2018

Number of MED in Report Year-----40

System Reliability Information and Results

System-Wide Information

Total Consumers 17,198

Total Circuits 36

System-Wide Results

Excluding MED

Reporting Year

5 Year Average

SAIDI 160.9228

155.4355

SAIFI 1.2702

1.3755

Including MED

Reporting Year

5 Year Average

SAIDI 639.5972

395.7435

SAIFI 1.9134

2.0695

Ten Worst Performing Circuits and Major Outage Category Without T'Med for SAIFI Index

Substation	Circuit	SAIFI Value	Major Cause
Oakdale **	War Creek	5.2537	Pre-Arranged
Oakdale **	Elkatawa	3.3194	Pre-Arranged
Oakdale **	Athol	2.9459	Pre-Arranged
Oakdale **	Highland	2.6707	Pre-Arranged
Campton	Vortex	2.5260	R-O-W Outside
Hot Mix	Elkfork	2.5055	R-O-W Outside
Index	School	2.2500	Pre-Arranged
Crockett	Williams Creek	2.0132	R-O-W Inside
Helechawa	Hazel Green	1.9453	Equipment Failure
Helechawa	Cannel City	1.7799	R-O-W Inside

****East Kentucky Power had Oakdale Substation down while they were relocating their transmission lines, was out longer than expected.**

Ten Worst Performing Circuits and Major Outage Category Without T'Med for SAIDI Index

Substation	Circuit	SAIDI Value	Major Cause
Oakdale **	War Creek	1100.3547	Pre-Arranged
Oakdale **	Athol	613.8018	Pre-Arranged
Oakdale **	Highland	468.9761	Pre-Arranged
Index	Mize	338.1005	R-O-W Outside
Maggard	Rockhouse	313.0755	Unknown
Maggard	Flat Fork	267.9869	Pre-Arranged
Campton	Vortex	252.4380	R-O-W Out
Index	School	251.0000	Pre-Arranged
Crockett	Williams Creek	249.0188	R-O-W Inside
Helechawa	Cannel City	227.7424	Pre-Arranged

**** EKP has Oakdale Substation out while they relocated their transmission lines.**

Ten Worst Performing Circuits and Major Cause Category Without T'Med for CAIDI Value

Substation	Circuit	CAIDI Value	Major Cause
Index	Prison	752.00	Animals
Maggard	Rockhouse	393.85	Equipment Failure
Index	Mize	231.48	Line Down
Oakdale	War Creek	209.44	Unknown
Oakdale	Athol	208.36	Pre-Arranged
Maggard	Lick Creek	198.51	Animals
Oakdale	Highland	175.60	Animals
Maytown	Ezel	170.21	Pre-Arranged
Maggard	Flat Fork	169.89	Unknown
Campton	Pine Ridge	157.85	Right of Way Outside

System-Wide SAIFI, SAIDI, and CAIDI for the past 5 years, Includes T'Med

	2014	2015	2016	2017	2018
SAIFI	2.0962	2.2879	1.6367	2.4136	1.9134
SAIDI	352.2157	434.8157	207.9844	344.1047	639.5972
CAIDI	168.02	190.05	127.07	142.57	334.27

System-Wide SAIFI, SAIDI, and CAIDI for the past 5 years, Excludes T'Med

	2014	2015	2016	2017	2018
SAIFI	1.4337	1.6890	1.1743	1.3105	1.2702
SAIDI	145.9446	203.4541	129.5736	137.2827	160.9228
CAIDI	101.80	120.46	110.34	104.76	126.69

		SAIDI Values for every circuit---excluding MED's						
		2014	2015	2016	2017	2018	5 Year Average	
Campton Substation								
	Pine Ridge Circuit	94.1814	56.8558	101.1563	41.7274	33.5112	65.4864	
	Stillwater Circuit	112.6524	208.8360	44.5341	96.1985	52.5457	102.9533	
	Vortex Circuit	174.9289	293.2477	557.3380	90.2226	252.4380	273.6350	
	Elkins Road Circuit	178.0000	51.7021	220.0352	120.7291	21.1634	118.3260	
Index Substation								
	Caney Circuit	62.7513	70.4868	72.6010	66.3265	38.4080	62.1147	
	Index Circuit	20.8154	11.7956	68.9507	75.5798	44.1217	44.2526	
	Mize Circuit	412.1109	352.2212	159.5184	29.8132	338.1005	258.3528	
	Prison Circuit					188.0000		
	School Circuit		30.0000			2.2500		
Maytown Substation								
	Ezel Circuit	84.9183	117.0970	54.1790	17.6252	100.6312	74.8901	
	Hazel Green Circuit	133.8972	76.3127	35.371	79.6557	144.5493	93.9572	
	Pomeroyton Circuit	242.1235	53.5035	58.8554	20.0938	93.3734	93.5899	
Crockett Substation								
	Lenox Circuit	32.2571	94.0735	40.7669	45.9177	167.8000	76.163	
	Williams Creek Circuit	86.2045	52.6992	42.6087	178.2226	249.0188	121.7508	
	Crockett Circuit	136.4512	99.1437	47.5911	276.2323	160.9704	144.0777	

Circuit Reporting

Circuits With SAIFI or SAIDI Value Higher Than 5 Year Average

Circuit Reporting

Substation # 2; Oakdale Substation, located on RT 52 at Oakdale in Breathitt County.

Circuit #1, Athol Circuit; this circuit serves the areas of Athol, Oakdale and Cope Branch.

The circuit has approximately 17.6 miles of line and serves approximately 111 consumers.

This circuit was cut out in 2016.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	94%	97%
Unknown	4%	2%
Animals	2%	1%

Circuit 5 Year Average SAIFI---1.9080

Reporting Year 2018 SAIFI---2.9459

Circuit 5 Year Average SAIDI---335.0713

Reporting Year 2018 SAIDI---613.8018

East Kentucky Power had Substation out while they relocated their transmission lines.

Circuit Reporting

Substation # 2; Oakdale Substation, located on RT 52 at Oakdale in Breathitt County.

Circuit # 3, Elkatawa Circuit; this circuit serves the areas of Five-Mile, Wolverine, Elkatawa, Belcher Fork, and Cane Creek.

This circuit has approximately 57.3 miles of line and serves approximately 811 consumers.

This circuit was cut out in 2016.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	87%	54%
Unknown	10%	36%
Animals	2%	4%
Right of Way Outside	1%	3%
Line Down	<1%	2%
Equipment Failure	<1%	1%

Circuit 5 Year Average SAIFI---1.7080

Reporting Year 2018 SAIFI---2.6707

Circuit 5 Year Average SAIDI---137.3101

Reporting Year 2018 SAIDI---119.3921

East Kentucky Power had Substation out while they relocated their transmission lines.

Circuit Reporting

Substation # 2; Oakdale Substation, located on Rt. 52 at Oakdale in Breathitt County.

Circuit # 4; War Creek Circuit; this circuit serves the areas of Lower Twin, Trace Fork, Rock Fork, Mill Creek, and Mt Carmel.

This circuit has approximately 40.7 miles of line and serves approximately 406 consumers.

This circuit was cut out in 2016.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	98%	98%
Right of Way Outside	2%	<1%
Unknown	<1%	2%
Right of Way Inside	<1%	<1%
Equipment Failure	<1%	<1%
Animals	<1%	<1%

Circuit 5 Year Average SAIFI---1.7981

Reporting Year 2018 SAIFI---5.2537

Circuit 5 Year Average SAIDI---291.5677

Reporting Year 2018 SAIDI---1100.3547

East Kentucky Power had Substation out while they relocated their transmission lines.

Circuit Reporting

Substation # 3, Helechawa Substation, located on Hwy 205 in Wolfe County, near exit 57 off Mountain Parkway.

Circuit # 1; Hazel Green Circuit; this circuit serves areas of Helechawa, Hazel Green, Red River and Lacy Creek.

This circuit has approximately 83.4 miles of line and serves approximately 696 consumers.

Last circuit trim was in 2011.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Equipment Failure	33%	35%
Right of Way Inside	22%	17%
Right of Way Crew	16%	18%
Right of Way Outside	10%	14%
Pre-Arranged Maintenance	7%	2%
Animals	5%	6%
Consumer Caused	4%	5%
Unknown	3%	3%

Equipment failure is something beyond our control.

Circuit Reporting

Substation # 3; Helechawa Substation, located on Hwy 205 in Wolfe County, near exit 57 off Mountain Parkway.

Circuit #2, Cannel City Circuit; this circuit serves areas of Upper Stacy Fork, Cannel City, Johnson Fork, Adele and Cow Creek.

This circuit has approximately 104.9 miles of line and serves approximately 854 consumers.

This circuit was cut out in 2018.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Inside	41%	25%
Pre-Arranged Maintenance	39%	59%
Right of Way Outside	11%	9%
Right of Way Crew	4%	2%
Unknown	3%	3%
Consumer Caused	2%	1%
Animals	<1%	1%
Line Down	<1%	<1%
Equipment Failure	<1%	<1%

Circuit 5 Year Average SAIFI—1.2076

Reporting Year- 2018 SAIFI—1.7799

Circuit 5 Year Average SAIDI—138.9391

Reporting Year – 2018 SAIDI—227.7424

This right of way was cut out in 2018, so now that is complete, there should be less outages concerning right of way inside for next year.

Circuit Reporting

Substation #4; Hot Mix Substation, located on Sugar Camp Road in Morgan County.

Circuit # 1, Elkfork Circuit; this circuit serves areas of Elkfork, Lick Branch, Cow Branch and Cottle.

This circuit has approximately 36.2 miles of line and serves approximately 275 consumers.

Last hot spot trim was in 2013.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	41%	41%
Unknown	21%	24%
Right of Way Inside	21%	20%
Pre-Arranged Maintenance	15%	11%
Equipment Failure	<1%	2%
Line Down	1%	1%
Consumer Caused	1%	1%
Animals	<1%	<1%

Circuit 5 Year Average SAIFI---1.9207

Reporting Year, 2018 SAIFI---2.5055

Circuit 5 Year Average SAIDI---125.4887

Reporting Year, 2018 SAIDI---201.3891

Right of Way Outside our cutting range is hard to control.

Circuit Reporting

Substation # 5, Maggard Substation, located on Rt. 1081 at Coon Creek in Magoffin County.

Circuit # 1; Rockhouse Circuit; this circuit serves areas of Improvement Fork, Rockhouse, and Logville.

This circuit has approximately 32.5 miles of line and serves approximately 278 consumers.

Last circuit trim was in 2013.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Equipment Failure	47%	31%
Unknown	<1%	56%
Pre-Arranged Maintenance	27%	3%
Right of Way Outside	25%	9%
Animals	1%	1%

Circuit 5 Year Average SAIFI---.5540

Reporting Year, 2018 SAIFI---.7949

Circuit 5 Year Average SAIDI---116.2446

Reporting Year, 2018 SAIDI---313.0755

Equipment Failure is beyond our control.

Circuit Reporting

Substation # 5, Maggard Substation, located on Rt. 1081 at Coon Creek in Magoffin County.

Circuit # 2; Flat Fork Circuit; this circuit serves areas of Coon Creek, Mud Lick, Flat Fork, Mine Fork and Litteral.

This circuit has approximately 43 miles of line and serves approximately 535 consumers.

This circuit was cut out in 2013.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	70%	60%
Right of Way Outside	17%	14%
Unknown	3%	17%
Equipment Failure	5%	5%
Consumer Caused	2%	2%
Right of Way Inside	2%	1%
Animals	1%	1%

Circuit 5 Year Average SAIFI---.7175

Reporting Year, 2018 SAIFI—1.5774

Circuit 5 Year Average SAIDI---101.1837

Reporting Year, 2018 SAIDI---267.9869

In order for needed repairs to be completed safely, servicemen had to turn power off during repairs.

Circuit Reporting

Substation # 5, Maggard Substation, located on Rt 1081 at Coon Creek Road in Magoffin County.

Circuit # 3; Lick Creek Circuit; this circuit serves areas of Lick Creek Road, Buffalo, Brushy Fork and Cripple Creek.

This circuit has approximately 48.5 miles of line and serves approximately 606 consumers.

Last circuit trim was in 2013.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	39%	31%
Equipment Failure	31%	47%
Pre-Arranged Maintenance	13%	3%
Animals	5%	13%
Right of Way Inside	7%	4%
Unknown	5%	3%

Circuit 5 Year Average SAIFI---.6379

Reporting Year 2018, SAIFI---.5544

Circuit 5 Year Average SAIDI---77.8059

Reporting Year 2018, SAIDI---110.0528

Right of Way Outside and Equipment Failure is beyond our control.

Circuit Reporting

Substation # 6, Sublett Substation, located on Rt 7 near Royalton in Magoffin County.

Circuit # 1, Carver Circuit; this circuit serves areas of Sublett, Stinson, Foraker and Hendricks.

This circuit has approximately 71.4 miles of line and serves approximately 779 consumers.

Last circuit trim was in 2012.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	42%	46%
Animals	18%	20%
Right of Way Inside	17%	18%
Pre-Arranged Maintenance	14%	4%
Unknown	7%	7%
Equipment Failure	1%	3%
Line Down	1%	2%

Circuit 5 Year Average SAIFI---.8830

Reporting Year 2018, SAIFI---1.1130

Circuit 5 Year Average SAIDI---93.8302

Reporting Year 2018, SAIDI---98.9872

Right of Way Outside is beyond our control.

Circuit Reporting

Substation # 7, Campton Substation, located on Rt. 15 in Campton, Wolfe County.

Circuit # 3; Vortex Circuit; this circuit serves areas of Hwy 15, Flat Mary, Big Bloody and Bethany.

This circuit has approximately 83 miles of line and serves approximately 557 consumers.

This circuit was cut out in 2015.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	50%	76%
Equipment Failure	42%	16%
Animals	3%	3%
Pre-Arranged Maintenance	2%	2%
Consumer Caused	2%	2%
Right of Way Inside	1%	1%
Unknown	<1%	<1%

Circuit 5 Year Average SAIFI---2.1454

Reporting Year 2018, SAIFI---2.5260

Circuit 5 Year Average SAIDI---273.6350

Reporting Year 2018, SAIDI---252.4380

Right of Way Problems Outside of our cutting range we have no control over.

Circuit Reporting

Substation # 8, Index Substation, located on Rt. 191 near Index in Morgan County.

Circuit # 3; Mize Circuit; this circuit serves areas of 460W, Greer, Grassy Creek, and Woodsbend.

This circuit has approximately 75.6 miles of line and serves approximately 686 consumers.

Last hot spot trim was in 2011.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	75%	88%
Pre-Arranged Maintenance	12%	3%
Unknown	4%	3%
Animals	3%	2%
Right of Way Crew	3%	<1%
Right of Way Inside	2%	1%
Equipment Failure	1%	1%
Line Down	<1%	2%

Circuit 5 Year Average SAIFI---2.6645

Reporting Year 2018, SAIFI---1.4606

Circuit 5 Year Average SAIDI---258.3528

Reporting Year 2018, SAIDI---338.1005

We have no control over Right of Way Outside of our cutting area.

Circuit Reporting

Substation # 9, Maytown Substation, located on Rt. 1010 in Morgan County.

Circuit # 1; Ezel Circuit; this circuit serves areas of Ezel, Greasy, Little Blackwater, Hwy 772 and Upper Long Branch.

This circuit as approximately 98.2 miles and serves approximately 751 consumers.

This circuit was cut out in 2015.

Causes and percentage for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	52%	67%
Equipment Failure	18%	13%
Right of Way Outside	12%	11%
Right of Way Inside	7%	2%
Unknown	6%	3%
Animals	5%	4%
Consumer Caused	<1%	<1%

Circuit 5 Year Average SAIFI---.6920

Reporting Year 2018, SAIFI---.5912

Circuit 5 Year Average SAIDI---74.8901

Reporting Year 2018, SAIDI---100.6312

In order to do the necessary repairs safely, the servicemen had to turn the power off until repairs were complete.

Circuit Reporting

Substation # 9, Maytown Substation, located on Rt. 1010 in Morgan County.

Circuit # 2; Hazel Green Circuit; this circuit serves areas of Rt 1010, Murphy Fork, Swango Fork, Maytown, Valeria and Big Branch.

This circuit has approximately 50.2 miles of line and serves approximately 335 consumers.

This circuit was cut out in 2015.

Causes and percentage for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	54%	25%
Equipment Failure	29%	40%
Right Of Way Outside	11%	30%
Animals	4%	4%
Consumer Caused	1%	1%
Unknown	1%	<1%

Circuit 5 Year Average SAIFI---.6895

Reporting Year 2018, SAIFI---1.0955

Circuit 5 Year Average SAIDI---93.9572

Reporting Year 2018, SAIDI---144.5493

In order to complete necessary repairs safely, servicemen had to turn electric off until repairs was complete.

Circuit Reporting

Substation # 10, Crockett Substation, located on Hwy 172 in Morgan County.

Circuit # 1; Lenox Circuit; this circuit serves areas of Lenox, Straight Creek, and Conley Branch.

This circuit has approximately 20.9 miles of line and serves approximately 160 consumers.

Last hot spot trim was in 2010.

Causes and percentages for this circuit:

Causes	% SAIFI	% SAIDI
Equipment Failure	63%	72%
Right of Way Outside	32%	27%
Animals	3%	1%
Pre-Arranged Maintenance	2%	<1%

Circuit 5 Year Average SAIFI---.7646

Reporting Year 2018, SAIFI---1.1250

Circuit 5 Year Average SAIDI---76.1630

Reporting Year 2018, SAIDI---167.8000

Equipment Failure we have no control over.

Circuit Reporting

Substation # 10, Crockett Substation, located on Hwy 172 in Morgan County.

Circuit # 2; Williams Creek Circuit; this circuit serves areas of Williams Creek, Coffee Creek, Upper Sandlick, and Lick Branch.

This circuit has approximately 69.4 miles of line and serves approximately 532 consumers.

Last hot spot trim was in 2010.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Inside	52%	66%
Pre-Arranged Maintenance	31%	16%
Right of Way Outside	10%	9%
Animals	4%	4%
Unknown	2%	4%
Consumer Caused	1%	1%
Equipment Failure	<1%	<1%
Right of Way Crew	<1%	<1%

Circuit 5 Year Average SAIFI---1.3203

Reporting Year 2018, SAIFI---2.0132

Circuit 5 Year Average SAIDI---121.7508

Reporting Year 2018, SAIDI---249.0188

We are currently trimming hot spots now, so the outage time for right of way inside next year should be a lot less.

Circuit Reporting

Substation # 10, Crockett Substation, located on Hwy 172 in Morgan County.

Circuit # 3; Crockett Circuit; this circuit serves areas of Elkfork, Moon and Middle Fork.

This circuit has approximately 54.4 miles of line and serves approximately 473 consumers.

Last hot spot trim was 2010.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	61%	70%
Pre-Arranged Maintenance	22%	6%
Consumer Caused	10%	14%
Animals	2%	4%
Equipment Failure	2%	2%
Right of Way Inside	2%	2%
Unknown	1%	2%

Circuit 5 Year Average SAIFI---1.4568

Reporting Year 2018, SAIFI---1.1099

Circuit 5 Year Average SAIDI---144.0777

Reporting Year 2018, SAIDI---160.9704

We have no control over Right of Way Outside our cutting area.

Vegetation Management Plan Review

Licking Valley Rural Electric Cooperative Corporation has an aggressive vegetation program and has contracted B M C Contracting to address our cooperatives right-of-way requirements. Our cooperative likes to maintain a sixty foot ground to sky right-of-way clearance on new and existing accounts; however some variety in right-of-way clearance is based on geography/terrain, easement widths, line voltages and property owner issues.

LVRECC is currently working on an eight (8) year rotation cycle. One (1) crew has a bucket truck and chipper and their main concern are consumer requests and hot spots. In addition to B M C; the cooperative has a bush hog that is used for right-of-way clearing when time allows. The cooperative has a right-of-way foreman that oversees B M C Contracting crews. B M C also does our Herbicide Treatment, primarily in the months of May through September.