



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



January 16, 2023

RECEIVED

JAN 24 2023

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

**PUBLIC SERVICE
COMMISSION**

Dear Sir:

Enclosed you will find Licking Valley Rural Electric Cooperative Corporation's Electric Distribution Utility Annual Reliability and Accountability Report for the year ending 2022.

If additional information is needed, please let us know.

Sincerely,

Chris Murphy
Superintendent of Operations

CM:cjc

Report prepared for:

LICKING VALLEY RURAL ELECTRIC COOPERATIVE CORPORATION

Prepared by:

Chelsea Cantrell
csteele@lvrecc.com

606-743-7500

2022 Annual Reliability Report

Major Event Days

SAIDI Value 229.2854

First Date Used to Determine T'Med-----January 1, 2022

Last Date Used to Determine T'Med----- December 31, 2022

**Number of MED in Report Year----35
 (27 Storms)
 (8 Substation outages)
(3 of which were blinks lastly less than 5 min.)**

System Reliability Information and Results

System-Wide Information

Total consumers 17,478

Total Circuits 36

System-Wide Results

Excluding MED

Reporting Year	5 Year Average
SAIDI 153.4598	165.8685
SAIFI 1.5963	1.3683

Including MED

Reporting Year	5 Year Average
SAIDI 382.7452	813.3682
SAIFI 2.6595	2.1841

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

Substation	Circuit	SAIFI Value	Major Cause
Sublett	Carver	3.5826	Right of Way Out
Helechawa	Belknap	3.5356	Pre-Arranged Maintenance
Oakdale	War Creek	3.2350	Right of Way Out
Sublett	Gunlock	3.2345	Pre-Arranged Maintenance
MAytown	Pomeroton	3.2030	Equipment Fail
Campton	Stillwater	2.9062	Pre-Arranged Maintenance
Campton	Vortex	2.6259	Equipment Fail
Zachariah	Leeco	2.2842	Pre-Arranged Maintenance
Oakdale	Elkatawa	2.2526	Pre-Arranged Maintenance
Oakdale	Highland	2.0223	Equipment Fail

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

Substation	Circuit	SAIDI Value	Major Cause
Campton	Stillwater	630.8247	Equipment Fail
Helechawa	Belknap	429.9105	Right of Way Out
Zachariah	Leeco	286.1133	Pre-Arranged Maintenance
Oakdale	War Creek	352.9260	Right of Way Out
Sublett	Carver	312.6220	Right of Way Out
Maggard	Lick Creek	234.5292	Pre-Arranged Maintenance
Maytown	Pomeroyton	224.5510	Equipment Fail
Campton	Vortex	217.6824	Equipment Fail
Index	Index	212.7268	Pre-Arranged Maintenance
Zachariah	Pine Ridge	210.7925	Right of Way Out

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

Substation	Circuit	CAIDI Value	Major Cause
Sublett	Carver	175.3003	Equipment Fail
Maggard	Flat Fork	170.3853	Right of Way Out
Oakdale	War Creek	165.1798	Right of Way Out
Oakdale	Athol	154.1192	Right of Way Out
Maggard	Lick Creek	152.3180	Right of Way In
Oakdale	Highland	150.7565	Animals
Zachariah	Leeco	149.0122	Equipment Fail
Sublett	Lakeville	147.6834	Right of Way In
Index	Mize	142.9134	Right of Way In
Helechawa	Vancleve	138.4826	Unknown

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

	2018	2019	2020	2021	2022
SAIFI	1.9134	1.8651	1.5720	2.9104	2.6595
SAIDI	639.5972	288.6765	244.7829	2511.0391	382.7452
CAIDI	334.27	154.78	155.71	862.78	143.92

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

	2018	2019	2020	2021	2022
SAIFI	1.2702	1.3666	1.2360	1.3721	1.5963
SAIDI	160.9228	199.2011	163.5087	152.2485	153.4598
CAIDI	126.69	145.76	132.29	110.96	121.2224

Circuit Reporting

Circuits With SAIFI or SAIDI Value Higher Than 5 Year Average

Circuit Reporting

Substation # 1, Zachariah Substation, located on Hwy 1036 at the edge of Wolfe and Lee Counties.

Circuit # 1, Leeco Circuit; this circuit serves areas of Little Sinking, Big Sinking, Leeco and Big Bend Road.

This circuit has approximately 33 miles of line and serves approximately 190 consumers.

This circuit was cut out in 2017.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	45%	15%
Right-of-Way Outside	9%	3%
Equipment Failure	2%	2%

Circuit 5 Year Average SAIFI—1.3559

Reporting Year, 2022, SAIFI—2.2842

Circuit 5 Year Average SAIDI—202.0456

Reporting Year, 2022, SAIDI—386.1133

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

Circuit Reporting

Substation # 1, Zachariah Substation, located on Hwy 1036 at the edge of Wolfe and Lee Counties.

Circuit # 2, Pine Ridge Circuit; this circuit serves areas of Pine Ridge, Cliff View, Big Andy, Highway 715 and Tarr Ridge.

This circuit has approximately 104.8 miles of line and serves approximately 1014 consumers.

This circuit was cut out in 2017.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way out	24%	23%
Planned	12%	8%
Right of Way in	6%	10%
Animals	5%	4%
Consumer Caused	5%	10%
Unknown	2%	2%
Equipment Failure	1%	1%
Right of Way Crew	1%	<1%

Circuit 5 Year Average SAIFI—1.4640

Reporting Year, 2022, SAIFI—1.8413

Circuit 5 Year Average SAIDI—140.2987

Reporting Year, 2022, SAIDI—210.7925

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

Substation # 2, Oakdale Substation, located on Highway 52 in Breathitt County.

Circuit # 3, Elkatawa Circuit; this circuit serves areas of Highway 52, Route 30 and Wolverine.

This circuit has approximately 72.3 miles of line and has approximately 772 consumers.

This circuit was cut out in 2016-2017.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	38%	22%
Right-of-Way Outside	31%	10%

Circuit 5 Year Average SAIFI—1.6905

Reporting Year, 2022, SAIFI—2.2526

Circuit 5 Year Average SAIDI—154.1058

Reporting Year, 2022, SAIDI—204.4895

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

Circuit Reporting

Substation # 2, Oakdale Substation, located on Highway 52 in Breathitt County.

Circuit # 4, War Creek Circuit; this circuit serves areas of Highway 541 and Highway 52.

This circuit has approximately 49.1 miles of line and has approximately 417 consumers.

This circuit was cut out in 2016-2017.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right-of-Way Outside	48%	31%
Planned	16%	5%
Unknown	1%	<1%
Equipment Fail	<1%	<1%

Circuit 5 Year Average SAIFI—2.4688

Reporting Year, 2022, SAIFI—3.2350

Circuit 5 Year Average SAIDI—407.7958

Reporting Year, 2022, SAIDI—352.9260

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

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 Highway 205, Highway 191, and Hazel Green

This circuit has approximately 101.1 miles of line and has approximately 718 consumers.

This circuit was cut out in 2017-2019.

Causes and percentages for this circuit:

Cause	SAIFI	Cause	SAIDI
Pre-Arranged Maintenance	41%	Equipment Fail	44%
Equipment Fail	33%	Planned	14%
Right of Way In	4%	Unknown	8%
Right of Way Out	4%	Right of Way In	2%
Animals	2%	Animals	2%
Unknown	2%	Right of way Out	1%

Circuit 5 Year Average SAIFI—0.9194

Reporting Year, 2022, SAIFI—1.0306

Circuit 5 Year Average SAIDI—85.5374

Reporting Year, 2022, SAIDI—95.0047

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

Equipment Fail is out of 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 124 miles of line and has approximately 823 consumers.

This circuit was cut out in 2017-2019.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Out	32%	32%
Pre-Arranged Maintenance	18%	1%
Equipment Fail	2%	1%
Animals	2%	1%

Circuit 5 Year Average SAIFI—.9194

Reporting Year, 2022, SAIFI—1.0306

Circuit 5 Year Average SAIDI—108.3708

Reporting Year, 2022, SAIDI—135.1451

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

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

Circuit # 3, Vancleve Circuit; this circuit serves the areas of Highway 205, Highway 15 and 5 mile.

This circuit has approximately 78.6 miles of line and serves approximately 587 consumers.

This circuit was cut out in 2017 -2019.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way Outside	46%	35%
Planned	10%	3%
Unknown	9%	7%
Right of Way In	4%	2%
Animals	2%	2%
Consumer Caused	2%	1%

Circuit 5 Year Average SAIFI—1.0522

Reporting Year, 2022, SAIFI—1.0937

Circuit 5 Year Average SAIDI—145.7113

Reporting Year, 2022, SAIDI—147.4662

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

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

Circuit # 4, Belknap Circuit; this circuit serves the areas of Hwy 1094, Banks Fork, Hwy 378, Lower Taulbee Fork, and Davis Fork.

This circuit has approximately 66.5 miles of line and serves approximately 351 consumers.

This circuit was cut out in 2017 -2019.

Causes and percentages for this circuit:

Cause	SAIFI	Cause	SAIDI
Planned	41%	Right of Way Out	50%
Right of Way Out	31%	Consumer Caused	19%
Consumer Caused	15%	Planned	18%
Equipment Fail	12%	Equipment Fail	7%
Unknown	1 %	Unknown	1%

Circuit 5 Year Average SAIFI—1.6594

Reporting Year, 2022, SAIFI—3.5356

Circuit 5 Year Average SAIDI—211.3477

Reporting Year, 2022, SAIDI—429.9105

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

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

Circuit # 5; Wrigley Circuit; this circuit serves areas of Wrigley, Blairs Mill and Route 7.

This circuit has approximately 65.4 miles of line and serves approximately 390 consumers.

This circuit was cut out in 2019-2020.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Right of Way OUT	15%	10%
Planned	7%	2%
Right of Way In	3%	3%
Consumer Caused	5%	0%
Animal	3%	1%
Equipment Fail	1%	<1%

Circuit 5 Year Average SAIFI—.9968

Reporting Year, 2022, SAIFI—1.8052

Circuit 5 Year Average SAIDI—84.1255

Reporting Year, 2022, SAIDI—131.7160

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

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 38.1 miles of line and serves approximately 274 consumers.

This circuit was cut out in 2013 & 2014.

Causes and percentages for this circuit

Cause	% SAIFI	% SAIDI
Right-of-Way Outside	53%	19%
Consumer Caused	13%	6%
Planned	6%	2%

Circuit 5 Year Average SAIFI—1.4556

Reporting Year, 2022, SAIFI—1.5767

Circuit 5 Year Average SAIDI—162.4443

Reporting Year, 2022, SAIDI—147.8428

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

Substation # 5, Maggard Substation, located on Rt. 1081 at Coon Creek 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 63.7 miles of line and serves approximately 611 consumers.

This circuit was cut out in 2013 & 2014.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Pre-Arranged Maintenance	50%	29%
Equipment Fail	9%	6%
Unknown	4%	1%
Right of Way Out	1%	1%

Circuit 5 Year Average SAIFI—1.3684

Reporting Year, 2022, SAIFI—1.8004

Circuit 5 Year Average SAIDI—208.4319

Reporting Year, 2022, SAIDI—234.5292

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

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 89.68 miles of line and serves approximately 690 consumers.

This circuit was cut out in 2012 & 2013.

Causes and percentages for this circuit.

Cause	%SAIFI	%SAIDI
Right of Way Out	49%	35%
Right of Way In	25%	15%
Planned	5%	2%
Unknown	3%	2%
Right of Way Crew	1%	1%

Circuit 5 Year Average SAIFI—2.3317

Reporting Year, 2022, SAIFI-3.5826

Circuit 5 Year Average SAIDI—408.7476

Reporting Year, 2022, SAIDI—312.6220

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

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

Circuit # 2; Lakeville Circuit; this circuit serves areas of Route 7, Lakeville Road, Route 30, and Far Middle Fork.

This circuit has approximately 67.2 miles of line and serves approximately 619 consumers.

This circuit was cut out in 2013 & 2014.

Causes and percentages for this circuit:

Cause	% SAIFI	%SAIDI
Right of Way Out	24%	21%
Planned	9%	1%
Right of Way In	2%	1%

Circuit 5 Year Average SAIFI—1.1225

Reporting Year, 2022, SAIFI—1.0420

Circuit 5 Year Average SAIDI—165.7746

Reporting Year, 2022, SAIDI—189.1287

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

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

Circuit # 3; Gunlock Circuit; this circuit serves areas of Swampton, Puncheon, Big Half Mountain, Trace Fork, Salt Lick, Long Branch and Gypsy.

This circuit has approximately 121.5 miles of line and serves approximately 874 consumers.

This circuit was cut out in 2013 & 2014.

Causes and percentages for this circuit:

Cause	SAIFI	Cause	SAIDI
Planned	50%	Right of Way Out	8%
Right of way In	7%	Planned	5%
Right of way Out	6%	Right of Way In	5%
Unknown	3%	Unknown	4%
Animals	2%	Animals	3%
Equipment Fail	2%	Equipment Fail	1%

Circuit 5 Year Average SAIFI—2.3898

Reporting Year, 2022, SAIFI—3.2345

Circuit 5 Year Average SAIDI—306.3316

Reporting Year, 2022, SAIDI—188.4831

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

We have no control over right-of-way outside of our cutting area, however, any danger trees that we see outside of our right-of-way, we will cut.

Circuit Reporting

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

Circuit # 2, Stillwater Circuit; this circuit serves areas of Campton, Callaboose, Stillwater, Baptist Fork, and Trent.

This circuit has approximately 135.6 miles of line and serves approximately 1,087 consumers.

This circuit was cut out in 2015 & 2016.

Causes and percentages for this circuit:

Cause	% SAIFI	Cause	% SAIDI
Pre-Arranged Maintenance	36%	Equipment Fail	21%
Equipment Fail	18%	Planned	19%
Unknown	3%	Right of Way Out	1%
Animals	2%	Unknown	1%
Right of Way Out	2%	Animals	1%
Right of Way In	1%	Right of Way Crew	<1%

Circuit 5 Year Average SAIFI—1.6923

Reporting Year, 2022, SAIFI—2.9062

Circuit 5 Year Average SAIDI—214.5299

Reporting Year, 2021, SAIDI—630.8247

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

Equipment fail is out of our control.

Circuit Reporting

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

Circuit # 1, Caney Circuit, this circuit serves areas of Malone, Stacy Fork, Vance Fork, and Caney.

This circuit has approximately 47.3 miles of line and serves approximately 416 consumers.

This circuit was cut out in 2021-2022.

Causes and percentages for this circuit:

Cause	% SAIFI	Cause	% SAIDI
Right of Way Out	13%	Planned	19%
Planned	10%	Right of Way Out	8%
Consumer Caused	4%	Animals	2%
Animals	4%	Consumer Caused	2%
Unknown	<1%	Unknown	<1%

Circuit 5 Year Average SAIFI—0.6050

Reporting Year, 2022, SAIFI—.6538

Circuit 5 Year Average SAIDI—64.8658

Reporting Year, 2021, SAIDI—61.2771

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

Equipment fail is out of our control.

Circuit Reporting

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

Circuit # 2, Index Circuit, this circuit serves areas of Index and Liberty Road.

This circuit has approximately 30.6 miles of line and serves approximately 289 consumers.

This circuit was cut out in 2021-2022.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Planned	60%	61%
Equipment Fail	6%	2%
Animals	6%	3%
Unknown	3%	1%
Right of Way Crew	2%	1%
Right of Way Out	2%	2%
Right of Way In	2%	1%

Circuit 5 Year Average SAIFI—.9174

Reporting Year, 2022, SAIFI—.6538

Circuit 5 Year Average SAIDI—96.5808

Reporting Year, 2022, SAIDI—212.7268

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

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 has approximately 118 miles of line and serves approximately 802 consumers.

Last time circuit was trimmed was in 2014-2015.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Planned	45%	16%
Unknown	10%	6%
Right of Way Out	7%	5%
Animals	3%	2%
Equipment Fail	2%	1%
Consumer Caused	1%	<1%
Right of Way In	<1%	1%

Circuit 5 Year Average SAIFI--.7313

Reporting Year, 2022, SAIFI—1.0224

Circuit 5 Year Average SAIDI—75.0359

Reporting Year, 2022, SAIDI—82.4636

In order for necessary repairs to be made safely, the power had to be turned off until all repairs were completed.

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 58.9 miles of line and serves approximately 332 consumers.

This circuit was cut out in 2014-2015.

Causes and percentages for this circuit;

Cause	% SAIFI	% SAIDI
Equipment Fail	56%	47%
Right of Way Out	16%	26%
Planned	10%	8%
Right of Way In	5%	8%
Right of Way Crew	2%	1%
Unknown	2%	1%
Animals	1%	1%

Circuit 5 Year Average SAIFI—1.4794

Reporting Year, 2022, SAIFI—1.8283

Circuit 5 Year Average SAIDI—164.8135

Reporting Year, 2022, SAIDI—205.31

Equipment Fail is out of our control.

Circuit Reporting

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

Circuit # 3, Pomeroyton Circuit; this circuit serves areas of Rt. 1010, Pine Branch, Landsaw, Long Branch, Pomeroyton and Broke Leg.

This circuit has approximately 62.8 miles of line and serves approximately 409 consumers.

This circuit was cut out in 2014-2015.

Causes and percentages for this circuit:

Cause	% SAIFI	% SAIDI
Equipment Fail	32%	45%
Right of Way Crew	31%	5%
Planned	29%	31%
Animals	4%	7%
Right of Way Out	2%	2%

Circuit 5 Year Average SAIFI—1.1750

Reporting Year, 2022, SAIFI—3.2030

Circuit 5 Year Average SAIDI—107.6957

Reporting Year, 2022, SAIDI—224.5510

Equipment fail is out of our control.

Vegetation Management Plan

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 (60) 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, line voltages and property owner issues. At this time BMC Contracting is contracted to cut or trim on each side of the lines no less than 20 feet and no more than 30 feet and at least 4 foot below the neutral. Secondary lines have 4-foot swing path cut. If needed another crew is used to take care of call-ins and hot spots.

LVRECC is currently working on a ten (10) year rotation cycle. BMC Contracting has a crew that is cutting each substation by circuit. They also have an hourly crew that cuts hot spots, new right-of-way and consumer reports. Yard trees are dealt with on a case-by-case basis and will be trimmed as much as homeowner will allow (4 foot minimum below our neutral) or taken down if they will agree. In addition to BMC; 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 BMC contacting crews. BMC Contracting primarily does our Herbicide Treatment, mostly in the months of May through September. As time allows the cooperative also does some Herbicide Treatment.