



**Jackson Purchase Energy**  
P.O. Box 4030 • 2900 Irvin Cobb Drive  
Paducah, KY 42002-4030  
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Visit our Web Site [www.JPEnergy.com](http://www.JPEnergy.com)

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**MAY 01 2017**

**PUBLIC SERVICE  
COMMISSION**

April 28, 2017

Talina R. Mathews, PhD  
Executive Director  
Kentucky Public Service Commission  
211 Sower Blvd.  
P.O. Box 615  
Frankfort, KY 40602

**RE: Annual Distribution Reliability Report**

Please find enclosed a paper copy of Jackson Purchase Energy Corporation's 2016 Annual Distribution Reliability Report.

Should you need additional information concerning this report, please contact me at (270) – 442 -7321.

Sincerely,

A handwritten signature in blue ink that reads "Scott Ribble".

Scott Ribble  
Vice President, Engineering and Operations

Enclosures



Your Touchstone Energy® Partner  
*The name of home connections*

KENTUCKY PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	Jackson Purchase Energy Corporation
REPORT PREPARED BY	1.2	Scott Ribble
E-MAIL ADDRESS OF PREPARER	1.3	scott.ribble@jpenergy.com
PHONE NUMBER OF PREPARER	1.4	270-442-7321

SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2.1	2016
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SECTION 3: MAJOR EVENT DAYS

TMED	3.1	8.05
FIRST DATE USED TO DETERMINE TMED	3.2	1/1/2011
LAST DATE USED TO DETERMINE TMED	3.3	12/31/2015
NUMBER OF MED IN REPORT YEAR	3.4	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 RESULTS

System - Wide Information

Total Customers	29689	Total Circuits	91
Excluding MED			
<b>5 Year Average</b>		<b>Reporting Year</b>	
SAIDI	132.78	SAIDI	65.6017
SAIFI	1.59	SAIFI	0.6811
Including MED			
<b>5 Year Average</b>		<b>Reporting Year</b>	
SAIDI	196.87	SAIDI	338.926
SAIFI	1.75	SAIFI	1.2972

Electric Distribution Utility Annual Reliability Report

Additional pages may be attached as necessary

SECTION 7: VEGETATION MANAGEMENT PLAN REVIEW

JPEC has established a four (4) year cycle on R.O.W. Maintenance and has employed a contractor to handle those responsibilities. JPEC also employs a contract crew that handles mid-cycle trimming as well as all of our in-house construction and maintenance crews have the ability to recognize hazards and trim trees away from the line. ROW continues to be a priority for JPEC and we continue to focus on trees outside of the ROW.

SECTION 8: UTILITY COMMENTS

For the year 2016, JPEC's number of circuits that were above the previous 5 year averages dropped significantly from 2015. In 2015, JPEC had a total of 36 out of 92 circuits that had SAFI and SADI values that were above the 5 year average whereas in 2016 JPEC had a total of 20 circuits that were above the 5 year average.



**Substation Name** Burna  
**Substation Number** 14  
**Circuit Name** Hampton  
**Circuit Number** 1401  
**Circuit Location** 1401-Hampton  
**Total Circuit Length (Miles)** 12.903  
**Customer Count** 84.330601  
**Date of Last Circuit Trim** 2015  
**Circuit 5 Year Average (SADI)** 16.06086212  
**Reporting Year (SAIDI)** 15.925417  
**Circuit 5 Year Average (SAIFI)** 0.121476765  
**Reporting Year (SAIFI)** 0.201587559

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	1
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0

100%

Corrective Action Plan

**Substation Name** Burna  
**Substation Number** 14  
**Circuit Name** Salem  
**Circuit Number** 1404  
**Circuit Location** 1404-Salem  
**Total Circuit Length (Miles)** 53.744  
**Customer Count** 330.407103  
**Date of Last Circuit Trim** 2015  
**Circuit 5 Year Average (SADI)** 27.06106168  
**Reporting Year (SAIDI)** 51.127835  
**Circuit 5 Year Average (SAIFI)** 0.167790848  
**Reporting Year (SAIFI)** 0.242125545

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.111111111
190 Other planned	0
300 Material or equipment fault/failure	0.111111111
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0.111111111
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.333333333
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0
510 Wind, not trees	0.111111111
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.111111111
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0.111111111
999 Cause unknown	0.111111111

111%

Corrective Action Plan

**Substation Name** Burna  
**Substation Number** 14  
**Circuit Name** Smithland  
**Circuit Number** 1405  
**Circuit Location** 1405-Smithland  
**Total Circuit Length (Miles)** 70.627  
**Customer Count** 340.420765  
**Date of Last Circuit Trim** 2015  
**Circuit 5 Year Average (SAIDI)** 150.0395129  
**Reporting Year (SAIDI)** 214.948697  
**Circuit 5 Year Average (SAIFI)** 1.315522703  
**Reporting Year (SAIFI)** 1.110390549

Outage Causes		Percentage (%)
Cause		
000 Power supply		0
100 Construction		0
110 Maintenance		0.090909091
190 Other planned		0
300 Material or equipment fault/failure		0.090909091
310 Installation fault		0
320 Conductor sag or inadequate clearance		0
340 Overload		0
350 Miscoordination of protection devices		0
360 Other equipment installation/design		0
400 Decay/age of material/equipment		0
420 Tree growth		0
430 Tree failure from overhang or dead tree without ice/snow		0.363636364
440 Trees with ice/snow		0
470 Borrower crew cuts tree		0
490 Maintenance, other		0.090909091
500 Lightning		0.090909091
510 Wind, not trees		0
520 Ice, sleet, frost, not trees		0
530 Flood		0
540 Storm		0.272727273
590 Weather, other		0
600 Animal/bird		0
630 Squirrel		0.090909091
690 Animal, other		0
700 Customer-caused		0.090909091
710 Motor vehicle		0
715 Farming Equipment		0
720 Aircraft		0
730 Fire		0
740 Public cuts tree		0
750 Vandalism		0
760 Switching error or caused by construction or maintenance		0
790 Public, other		0
800 Other		0
999 Cause unknown		0.090909091

127%

Corrective Action Plan

**Substation Name** LaCenter  
**Substation Number** 26  
**Circuit Name** Oscar  
**Circuit Number** 2602  
**Circuit Location** 2602-Oscar  
**Total Circuit Length (Miles)** 69.896  
**Customer Count** 361.420765  
**Date of Last Circuit Trim** 2015  
**Circuit 5 Year Average (SADI)** 127.1554375  
**Reporting Year (SAIDI)** 242.896945  
**Circuit 5 Year Average (SAIFI)** 1.334092657  
**Reporting Year (SAIFI)** 1.734820079

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0.130434783
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0.043478261
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.086956522
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0.086956522
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.652173913
590 Weather, other	0
600 Animal/bird	0.043478261
630 Squirrel	0
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0.043478261
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0.043478261
999 Cause unknown	0.347826087

148%

		Outage Causes	
		Cause	Percentage (%)
<b>Substation Name</b>	Coleman Road	000 Power supply	0
<b>Substation Number</b>	30	100 Construction	0
<b>Circuit Name</b>	Holt Rd	110 Maintenance	0
<b>Circuit Number</b>	3004	190 Other planned	0
<b>Circuit Location</b>	3004-Hwy 60 Business	300 Material or equipment fault/failure	0
<b>Total Circuit Length (Miles)</b>	7.678	310 Installation fault	0
<b>Customer Count</b>	50	320 Conductor sag or inadequate clearance	0
<b>Date of Last Circuit Trim</b>	2015	340 Overload	0
<b>Circuit 5 Year Average (SADI)</b>	5.326231048	350 Miscoordination of protection devices	0
<b>Reporting Year (SAIDI)</b>	31.72	360 Other equipment installation/design	0
<b>Circuit 5 Year Average (SAIFI)</b>	0.082031997	400 Decay/age of material/equipment	0
<b>Reporting Year (SAIFI)</b>	0.68	420 Tree growth	0
		430 Tree failure from overhang or dead tree without ice/snow	0
		440 Trees with ice/snow	0
		470 Borrower crew cuts tree	0
		490 Maintenance, other	0
		500 Lightning	0
		510 Wind, not trees	0
		520 Ice, sleet, frost, not trees	0
		530 Flood	0
		540 Storm	0
		590 Weather, other	0
		600 Animal/bird	0
		630 Squirrel	0
		690 Animal, other	0
		700 Customer-caused	0
		710 Motor vehicle	1
		715 Farming Equipment	0
		720 Aircraft	0
		730 Fire	0
		740 Public cuts tree	0
		750 Vandalism	0
		760 Switching error or caused by construction or maintenance	0
		790 Public, other	0
		800 Other	0
		999 Cause unknown	0

100%



Outage Causes

**Substation Name** Husbands Road  
**Substation Number** 40  
**Circuit Name** Husbands Rd  
**Circuit Number** 4024  
**Circuit Location** 4024-Husbands Rd  
**Total Circuit Length (Miles)** 44.183  
**Customer Count** 775.210382  
**Date of Last Circuit Trim** 2014  
**Circuit 5 Year Average (SADI)** 63.91035487  
**Reporting Year (SAIDI)** 70.717577  
**Circuit 5 Year Average (SAIFI)** 0.823644657  
**Reporting Year (SAIFI)** 1.117116102

Cause	Percentage (%)
000 Power supply	0
100 Construction	0.071428571
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/	0.142857143
310 Installation fault	0
320 Conductor sag or inadequa	0
340 Overload	0
350 Miscoordination of protectio	0
360 Other equipment installatio	0
400 Decay/age of material/equip	0
420 Tree growth	0.071428571
430 Tree failure from overhang	0.071428571
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0.214285714
500 Lightning	0
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.142857143
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0.142857143
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0.071428571
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused b	0
790 Public, other	0
800 Other	0
999 Cause unknown	0.214285714

114%

**Substation Name** Husbands Road  
**Substation Number** 40  
**Circuit Name** Lydon Rd  
**Circuit Number** 4034  
**Circuit Location** 4034-Lydon Rd  
**Total Circuit Length (Miles)** 31.75  
**Customer Count** 453.448087  
**Date of Last Circuit Trim** 2014  
**Circuit 5 Year Average (SADI)** 36.16427849  
**Reporting Year (SAIDI)** 72.837444  
**Circuit 5 Year Average (SAIFI)** 0.64332546  
**Reporting Year (SAIFI)** 0.734372929

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.029411765
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.852941176
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0.029411765
500 Lightning	0.029411765
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.117647059
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0
690 Animal, other	0.029411765
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0.029411765

112%

**Substation Name** Reidland  
**Substation Number** 41  
**Circuit Name** Epperson Rd  
**Circuit Number** 4103  
**Circuit Location** 1103-Epperson Rd  
**Total Circuit Length (Miles)** 10.082  
**Customer Count** 200.453551  
**Date of Last Circuit Trim** 2014  
**Circuit 5 Year Average (SADI)** 149.6836947  
**Reporting Year (SAIDI)** 104.158793  
**Circuit 5 Year Average (SAIFI)** 1.191737924  
**Reporting Year (SAIFI)** 1.257149094

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.2
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0.4
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.2
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0.2
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0.2
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0

120%

**Substation Name** Reidland  
**Substation Number** 41  
**Circuit Name** Walker Boat Yard  
**Circuit Number** 4104  
**Circuit Location** J4-Walker Boat Yard  
**Total Circuit Length (Miles)** 11.962  
**Customer Count** 104.021857  
**Date of Last Circuit Trim** 2014  
**Circuit 5 Year Average (SAIDI)** 48.80890016  
**Reporting Year (SAIDI)** 174.444107  
**Circuit 5 Year Average (SAIFI)** 4.223771794  
**Reporting Year (SAIFI)** 1.999579761

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.25
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0.25
500 Lightning	0.25
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.75
590 Weather, other	0
600 Animal/bird	0.25
630 Squirrel	0
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0

175%

**Substation Name** Culp  
**Substation Number** 42  
**Circuit Name** Proform  
**Circuit Number** 4201  
**Circuit Location** 4201-Proform  
**Total Circuit Length (Miles)** 25.596  
**Customer Count** 420.540983  
**Date of Last Circuit Trim** 2014  
**Circuit 5 Year Average (SADI)** 51.04315608  
**Reporting Year (SAIDI)** 82.560324  
**Circuit 5 Year Average (SAIFI)** 0.630625237  
**Reporting Year (SAIFI)** 1.039137724

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.133333333
190 Other planned	0
300 Material or equipment fault/failure	0.133333333
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0.066666667
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.2
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0.133333333
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.333333333
590 Weather, other	0
600 Animal/bird	0.066666667
630 Squirrel	0.133333333
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0.133333333

133%

**Substation Name** Culp  
**Substation Number** 42  
**Circuit Name** Possum Trot  
**Circuit Number** 4203  
**Circuit Location** 4203-Possum Trot  
**Total Circuit Length (Miles)** 18.58  
**Customer Count** 206.065573  
**Date of Last Circuit Trim** 2014  
**Circuit 5 Year Average (SADI)** 59.43295597  
**Reporting Year (SAIDI)** 86.103659  
**Circuit 5 Year Average (SAIFI)** 0.544877191  
**Reporting Year (SAIFI)** 0.606603025

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.166666667
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.333333333
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0.166666667
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.833333333
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0.166666667
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0.166666667

183%

**Substation Name** Vulcan  
**Substation Number** 45  
**Circuit Name** Kinder Morgan 1  
**Circuit Number** 4504  
**Circuit Location** 4504-Kinder Morgan 1  
**Total Circuit Length (Miles)** 7.774  
**Customer Count** 34.398907  
**Date of Last Circuit Trim** 0  
**Circuit 5 Year Average (SADI)** 95.51901527  
**Reporting Year (SAIDI)** 106.980143  
**Circuit 5 Year Average (SAIFI)** 0.692809577  
**Reporting Year (SAIFI)** 1.075615571

**Outage Causes**

Cause	Percentage (%)
-------	----------------

000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.25
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	1

125%

**Substation Name** Krebs Station Road  
**Substation Number** 50  
**Circuit Name** Old US 45  
**Circuit Number** 5002  
**Circuit Location** 5002-Old US 45  
**Total Circuit Length (Miles)** 77.238  
**Customer Count** 858.016393  
**Date of Last Circuit Trim** 2016  
**Circuit 5 Year Average (SADI)** 224.8447258  
**Reporting Year (SAIDI)** 133.454326  
**Circuit 5 Year Average (SAIFI)** 2.060877113  
**Reporting Year (SAIFI)** 2.938172301

Outage Causes

Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.03030303
190 Other planned	0
300 Material or equipment fault/failure	0.060606061
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0.03030303
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.181818182
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0.121212121
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.515151515
590 Weather, other	0
600 Animal/bird	0.03030303
630 Squirrel	0.272727273
690 Animal, other	0
700 Customer-caused	0.060606061
710 Motor vehicle	0
715 Farming Equipment	0.03030303
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0.090909091
999 Cause unknown	0.121212121

155%



**Substation Name**                   Freemont  
**Substation Number**                51  
**Circuit Name**                        Freemont  
**Circuit Number**                    5104  
**Circuit Location**                 5104-Freemont  
**Total Circuit Length (Miles)**     25.765  
**Customer Count**                   359.879781  
**Date of Last Circuit Trim**         2014  
**Circuit 5 Year Average (SAIDI)**   92.16532618  
**Reporting Year (SAIDI)**           69.148091  
**Circuit 5 Year Average (SAIFI)**   0.985236406  
**Reporting Year (SAIFI)**           1.147605456

Outage Causes

Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.3
190 Other planned	0
300 Material or equipment fault/failure	0.2
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0.1
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lighting	0
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.3
590 Weather, other	0
600 Animal/bird	0.1
630 Squirrel	0.1
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0.2

130%

**Substation Name**                   Freemont  
**Substation Number**                51  
**Circuit Name**                        Bonds Rd  
**Circuit Number**                     5105  
**Circuit Location**                   5105-Bonds Rd  
**Total Circuit Length (Miles)**     17.668  
**Customer Count**                    125.565573  
**Date of Last Circuit Trim**         2014  
**Circuit 5 Year Average (SADI)**   116.1914172  
**Reporting Year (SAIDI)**           117.118089  
**Circuit 5 Year Average (SAIFI)**   1.411665154  
**Reporting Year (SAIFI)**           1.728180701

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.2
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0.2
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0.4
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0.4

120%

		Outage Causes	
		Cause	Percentage (%)
Substation Name	Kansas	000 Power supply	0
Substation Number	61	100 Construction	0
Circuit Name	Melber	110 Maintenance	0.1875
Circuit Number	6103	190 Other planned	0
Circuit Location	6103-Melber	300 Material or equipment fault/failure	0
Total Circuit Length (Miles)	52.228	310 Installation fault	0
Customer Count	523.926229	320 Conductor sag or inadequate clearance	0
Date of Last Circuit Trim	2016	340 Overload	0
Circuit 5 Year Average (SADI)	76.70385124	350 Miscoordination of protection devices	0
Reporting Year (SAIDI)	147.301272	360 Other equipment installation/design	0
Circuit 5 Year Average (SAIFI)	0.595043655	400 Decay/age of material/equipment	0
Reporting Year (SAIFI)	1.622365808	420 Tree growth	0
		430 Tree failure from overhang or dead tree without ice/snow	0.125
		440 Trees with ice/snow	0
		470 Borrower crew cuts tree	0
		490 Maintenance, other	0
		500 Lightning	0.25
		510 Wind, not trees	0
		520 Ice, sleet, frost, not trees	0
		530 Flood	0
		540 Storm	0.5625
		590 Weather, other	0
		600 Animal/bird	0
		630 Squirrel	0.125
		690 Animal, other	0.0625
		700 Customer-caused	0
		710 Motor vehicle	0.0625
		715 Farming Equipment	0
		720 Aircraft	0
		730 Fire	0
		740 Public cuts tree	0
		750 Vandalism	0
		760 Switching error or caused by construction or maintenance	0
		790 Public, other	0
		800 Other	0.0625
		999 Cause unknown	0.125

156%

		Outage Causes	
		Cause	Percentage (%)
<b>Substation Name</b>	Olivet Church Road	000 Power supply	0
<b>Substation Number</b>	74	100 Construction	0
<b>Circuit Name</b>	Highland Ch Rd	110 Maintenance	0.037037037
<b>Circuit Number</b>	7402	190 Other planned	0
<b>Circuit Location</b>	402-Highland Ch Rd	300 Material or equipment fault/failure	0.037037037
<b>Total Circuit Length (Miles)</b>	35.822	310 Installation fault	0
<b>Customer Count</b>	450.254098	320 Conductor sag or inadequate clearance	0
<b>Date of Last Circuit Trim</b>	2015	340 Overload	0
<b>Circuit 5 Year Average (SADI)</b>	81.02502902	350 Miscoordination of protection devices	0
<b>Reporting Year (SAIDI)</b>	170.788006	360 Other equipment installation/design	0
<b>Circuit 5 Year Average (SAIFI)</b>	0.732486813	400 Decay/age of material/equipment	0
<b>Reporting Year (SAIFI)</b>	2.092151974	420 Tree growth	0
		430 Tree failure from overhang or dead tree without ice/snow	0.037037037
		440 Trees with ice/snow	0
		470 Borrower crew cuts tree	0
		490 Maintenance, other	0
		500 Lightning	0
		510 Wind, not trees	0
		520 Ice, sleet, frost, not trees	0
		530 Flood	0
		540 Storm	0.111111111
		590 Weather, other	0
		600 Animal/bird	0
		630 Squirrel	0.037037037
		690 Animal, other	0
		700 Customer-caused	0
		710 Motor vehicle	0
		715 Farming Equipment	0.037037037
		720 Aircraft	0
		730 Fire	0
		740 Public cuts tree	0
		750 Vandalism	0
		760 Switching error or caused by construction or maintenance	0
		790 Public, other	0
		800 Other	0.666666667
		999 Cause unknown	0.148148148

111%

**Substation Name** Grand Rivers  
**Substation Number** 76  
**Circuit Name** Smithland  
**Circuit Number** 7602  
**Circuit Location** 7602-Smithland  
**Total Circuit Length (Miles)** 30.075  
**Customer Count** 278.57377  
**Date of Last Circuit Trim** 2016  
**Circuit 5 Year Average (SADI)** 84.98422327  
**Reporting Year (SAIDI)** 90.751544  
**Circuit 5 Year Average (SAIFI)** 0.844241327  
**Reporting Year (SAIFI)** 1.500500209

**Outage Causes**

Cause	Percentage (%)
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000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0.176470588
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0.235294118
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.235294118
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0.235294118
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0.058823529
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0.058823529
790 Public, other	0
800 Other	0
999 Cause unknown	0.235294118

124%

**Substation Name** Grand Rivers  
**Substation Number** 76  
**Circuit Name** Averitt-GR #2  
**Circuit Number** 7605  
**Circuit Location** 7605-Averitt GR #2  
**Total Circuit Length (Miles)** 43.336  
**Customer Count** 670.23224  
**Date of Last Circuit Trim** 2016  
**Circuit 5 Year Average (SADI)** 172.3204612  
**Reporting Year (SAIDI)** 237.238662  
**Circuit 5 Year Average (SAIFI)** 1.673466069  
**Reporting Year (SAIFI)** 1.18317197

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0.157894737
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0.052631579
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0.052631579
500 Lightning	0.052631579
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0.105263158
590 Weather, other	0
600 Animal/bird	0.052631579
630 Squirrel	0.263157895
690 Animal, other	0
700 Customer-caused	0.052631579
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0.052631579
999 Cause unknown	0.210526316

105%

**Substation Name** Maxon  
**Substation Number** 79  
**Circuit Name** Industrial Park  
**Circuit Number** 7934  
**Circuit Location** 7934-Industrial Park  
**Total Circuit Length (Miles)** 0.844  
**Customer Count** 486.054726  
**Date of Last Circuit Trim** 2013  
**Circuit 5 Year Average (SADI)** 0  
**Reporting Year (SAIDI)** 32.564234  
**Circuit 5 Year Average (SAIFI)** 0  
**Reporting Year (SAIFI)** 0.349754855

Outage Causes	
Cause	Percentage (%)
000 Power supply	0
100 Construction	0
110 Maintenance	0
190 Other planned	0
300 Material or equipment fault/failure	0
310 Installation fault	0
320 Conductor sag or inadequate clearance	0
340 Overload	0
350 Miscoordination of protection devices	0
360 Other equipment installation/design	0
400 Decay/age of material/equipment	0
420 Tree growth	0
430 Tree failure from overhang or dead tree without ice/snow	0
440 Trees with ice/snow	0
470 Borrower crew cuts tree	0
490 Maintenance, other	0
500 Lightning	0
510 Wind, not trees	0
520 Ice, sleet, frost, not trees	0
530 Flood	0
540 Storm	0
590 Weather, other	0
600 Animal/bird	0
630 Squirrel	0
690 Animal, other	0
700 Customer-caused	0
710 Motor vehicle	0
715 Farming Equipment	0
720 Aircraft	0
730 Fire	0
740 Public cuts tree	0
750 Vandalism	0
760 Switching error or caused by construction or maintenance	0
790 Public, other	0
800 Other	0
999 Cause unknown	0

0%