

Grayson Rural Electric Cooperative Corporation

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MAR 15 2019

PUBLIC SERVICE
COMMISSION

March 13, 2019

Director of Engineering
Public Service Commission
PO Box 615
Frankfort, KY 40602

Dear Director:

Enclosed please find a paper copy 2019 Annual Reliability Report for Grayson Rural Electric Cooperative Corporation as well as an electronic copy.

Sincerely,



Carol Hall Fraley, President and CEO
GRAYSON RURAL ELECTRIC COOPERATIVE CORPORATION

KENTUCKY PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	Grayson Rural Electric Cooperative Corporation
REPORT PREPARED BY	Brian Poling/Mike Martin/Kyle Clevenger
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SECTION 2: REPORTING YEAR

CALENDAR YEAR OF REPORT	2018
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SECTION 3: MAJOR EVENT DAYS (MED)

	T _{MED}	48.922
FIRST DATE USED TO DETERMINE	T _{MED}	1/1/2018
LAST DATE USED TO DETERMINE	T _{MED}	12/31/2018
NUMBER OF MED IN REPORT YEAR		0

NOTE: Per IEEE 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

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SECTION 4: SYSTEM RELIABILITY INFORMATION AND RESULTS

System-wide Information

TOTAL CUSTOMERS:	15,318	TOTAL CIRCUITS	42
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Excluding MED

	5 YEAR AVERAGE		REPORTING YEAR
SAIDI	426.2	SAIDI	378.4
SAIFI	3.32	SAIFI	3.03

Including MED

	5 YEAR AVERAGE		REPORTING YEAR
SAIDI	1150.0	SAIDI	378.4
SAIFI	3.74	SAIFI	3.03

NOTES:

- 1) All durations indices (SAIDI) are to be reported in units of minutes.
- 2) Reports are due on the first business day of April of each year.
- 3) Reports cover the calendar year ending in the December before the reports are due.
- 4) IEEE 1366 (latest version) issued to define SAIDI, SAIFI and T_{MED}

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SECTION 5: CIRCUIT REPORTING

(CIRCUITS WITH SAIDI AND/OR SAIFI EXCEEDING 5 YEAR AVERAGE)

(CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

1. Argentum (Sub #1)
2. Located on Rt. 7, 0.6 miles north of the junction of AA Highway.
3. Feeder 2
4. South along Rt. 7 toward gas plant
5. There are approximately 43 miles of primary line.
6. 686 active consumers.
7. Circuit was cut in 2011
8. Causes of last years outages:

999 Cause unknown	29.8%
431 Tree Failure-off ROW	27.7%
110 Maintenance	8.5%
600 Small animal/bird	8.5%
430 Tree failure from overhang or dead tree without ice/snow	6.4%
500 Lightning	4.3%
710 Motor vehicle	4.3%
800 Other	4.3%
190 Other planned	2.1%
400 Decay/age of material/equipment	2.1%
590 Weather, other	2.1%
9. The average SAIDI is 1522.66
10. The SAIDI for 2018 was 638.79
11. The average SAIFI is 3.42
12. The SAIFI for 2018 was 4.06
13. The largest number of events on any one device was 3 at Allen Chapel Road. One event was for maintenance and the other two events were equipment failure. The faulty equipment was replaced.

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SECTION 5: CIRCUIT REPORTING

Continued

1. Leon (Sub #2)
2. The sub is located on Rt. 1661 approximately 1.8 miles from Jct Rt. 7
3. Feeder 1
4. North Rt. 7 toward Grayson
5. There are approximately 67.2 miles of primary line.
6. 177 active consumers.
7. Circuit was cut in 2009
8. Causes of last years outages:

431 Tree Failure-off ROW	29.4%
110 Maintenance	17.6%
600 Small animal/bird	17.6%
300 Material or equipment fault/failure	5.9%
590 Weather, other	5.9%
710 Motor vehicle	5.9%
730 Fire	5.9%
790 Public, other	5.9%
999 Cause unknown	5.9%
9. The average SAIDI is 990.99
10. The SAIDI for 2018 was 295.75
11. The average SAIFI is 1.93
12. The SAIFI for 2018 was 2.53
13. Will work with consumers to deal with off right of way trees. We also believe the higher than normal rainfall contributed to the tree failures.

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SECTION 5: CIRCUIT REPORTING

Continued

1. Mazie (Sub #4)
2. Located approximately 11.5 miles east of Sandy Hook on Rt. 32.
3. Feeder 1
4. Rt. 32 toward Isonville
5. There are approximately 63.24 miles of primary line.
6. 450 active consumers.
7. Circuit was cut in 2018
8. Causes of last years outages:

600 Small animal/bird	20.5%
430 Tree failure from overhang or dead tree without ice/snow	18.2%
431 Tree Failure-off ROW	15.9%
110 Maintenance	13.6%
590 Weather, other	11.4%
400 Decay/age of material/equipment	6.8%
999 Cause unknown	6.8%
470 Borrower crew cuts tree	2.3%
790 Public, other	2.3%
800 Other	2.3%
9. The average SAIDI is 1199.16
10. The SAIDI for 2018 was 799.72
11. The average SAIFI is 4.74
12. The SAIFI for 2018 was 5.25
13. Finished cutting circuit and mowing in 2018 which should take care of most of the problems.

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SECTION 5: CIRCUIT REPORTING

Continued

1. Mazie (Sub #4)
2. Located approximately 11.5 miles east of Sandy Hook on Rt. 32.
3. Feeder 2
4. Rt. 32 toward Blaine
5. There are approximately 94.56 miles of primary line.
6. 591 active consumers.
7. Circuit was cut in 2014
8. Causes of last years outages:

110 Maintenance	17.5%
999 Cause unknown	13.8%
400 Decay/age of material/equipment	12.5%
600 Small animal/bird	12.5%
430 Tree failure from overhang or dead tree without ice/snow	10.0%
590 Weather, other	7.5%
800 Other	6.3%
100 Construction	3.8%
500 Lightning	3.8%
300 Material or equipment fault/failure	2.5%
431 Tree Failure-off ROW	2.5%
700 Customer-caused	2.5%
340 Overload	1.3%
360 Other equipment installation/design	1.3%
440 Trees with ice/snow	1.3%
490 Maintenance, other	1.3%
9. The average SAIDI is 820.06
10. The SAIDI for 2018 was 607.41
11. The average SAIFI is 3.61
12. The SAIFI for 2018 was 4.98
13. Re-coordinated the OCR devices settings which alleviated the problem.

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SECTION 5: CIRCUIT REPORTING

Continued

1. Mazie (Sub #4)
2. Located approximately 11.5 miles east of Sandy Hook on Rt. 32.
3. Feeder 3
4. Across hill toward Terryville
5. There are approximately 23.02 miles of primary line.
6. 130 active consumers.
7. Circuit was cut in 2016
8. Causes of last years outages:

600 Small animal/bird	25.0%
430 Tree failure from overhang or dead tree without ice/snow	20.0%
431 Tree Failure-off ROW	15.0%
590 Weather, other	15.0%
110 Maintenance	5.0%
400 Decay/age of material/equipment	5.0%
440 Trees with ice/snow	5.0%
610 Large animal	5.0%
700 Customer-caused	5.0%
9. The average SAIDI is 407.01
10. The SAIDI for 2018 was 710.29
11. The average SAIFI is 2.42
12. The SAIFI for 2018 was 6.58
13. We feel the unusual amount of rainfall has contributed to the failure of off right of way trees.
Will work with consumers to deal with off right of way trees.

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SECTION 5: CIRCUIT REPORTING

Continued

1. Pactolus (Sub #8)
2. Located on Subsation Road about 0.4 miles south of Jct of Rt. 9 and 1959
3. Feeder 4
4. Rt. 1 toward Oldtown
5. There are approximately 72.78 miles of primary line.
6. 607 active consumers.
7. Circuit was cut in 2015
8. Causes of last years outages:

431 Tree Failure-off ROW	24.4%
110 Maintenance	17.1%
600 Small animal/bird	14.6%
790 Public, other	9.8%
300 Material or equipment fault/failure	7.3%
800 Other	7.3%
500 Lightning	4.9%
410 Corrosion/abrasion of material/equipment	2.4%
420 Tree growth	2.4%
430 Tree failure from overhang or dead tree without ice/snow	2.4%
590 Weather, other	2.4%
730 Fire	2.4%
999 Cause unknown	2.4%
9. The average SAIDI is 645.21
10. The SAIDI for 2018 was 674.85
11. The average SAIFI is 3.89
12. The SAIFI for 2018 was 3.68
13. We feel the unusual amount of rainfall has contributed to the failure of off right of way trees.
Will work with consumers to deal with off right of way trees.

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SECTION 5: CIRCUIT REPORTING

Continued

1. Warnock (Sub #6)
2. Located on Hoods Run Road located 1.7 miles from Jct of Rt. 7 & 2 off Rt. 2
3. Feeder 2
4. Rt. 2 to Greenbo
5. There are approximately 7.18 miles of primary line.
6. 52 active consumers.
7. Circuit was cut in 2011
8. Causes of last years outages:

431 Tree Failure-off ROW	80.0%
400 Decay/age of material/equipment	20.0%
9. The average SAIDI is 159.26
10. The SAIDI for 2018 was 94.17
11. The average SAIFI is .46
12. The SAIFI for 2018 was 1.28
13. Will inspect line for obvious 'off-right of way' trees and work with property owners to have them removed. We feel the unusual amount of rainfall has contributed to the failure of off right of way trees.

SECTION 6: VEGETATION MANAGEMENT PLAN REVIEW

INCLUDE CURRENT VEGETATION MANAGEMENT PLAN

Additional pages may be attached as needed.

In 2018 we cleared 92.5 miles of line in our circuit cutting program. We also bush hogged 88.5 miles, removed trees and trimmed 7977 yard trees.

We plan to cut circuit 4 out of Mazie and circuit 4 out of Elliottville in 2019.

SECTION 7: UTILITY COMMENTS

We have completed updating the maps of our system. The outage maps were updated with the new data in March of 2018. Our next reporting period to the Public Service Commission and should give us much more accurate data and the ability to pinpoint the issues with much more accuracy.

Our goal, as always, is to provide reliable power to our consumers at an affordable price.