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## **Kentucky Public Service Commission**

APR 02 2018

PUBLIC SERVICE COMMISSION

## Electric Distribution Utility Annual Reliability Report

SECTION 1: CONT  UTILITY NAME  REPORT PREPARED BY  E-MAIL ADDRESS OF PREPARER  PHONE NUMBER OF PREPARER	Meade County RECC David Poe dpoe@mcrecc.com 270-422-2162						
SECTION 2: REPORTING YEAR  CALENDAR YEAR OF REPORT 2017							
SECTION 3: MAJOR  T <sub>MED</sub> FIRST DATE USED TO DETERMINE T <sub>MED</sub> LAST DATE USED TO DETERMINE T <sub>MED</sub> NUMBER OF MED IN REPORT YEAR	9.91 1/1/2012 12/31/2016 1						

NOTE: Per IEEE 1366  $T_{\text{MED}}$  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 INFORMATION AND RESULTS

TOTAL CUST		stem-wide Informa T	tion OTAL CIRCUITS <u>76</u>
		Excluding MED	·
	<b>5 YEAR AVERAGE</b>	_	REPORTING YEAR
SAIDI	86.76	SAIDI	87.77
SAIFI	1.14	SAIFI	1.27
		Including MED	
	<b>5 YEAR AVERAGE</b>		REPORTING YEAR
SAIDI	216.16	SAIDI	98.63
SAIFI	2.07	SAIFI	1.34

#### Notes:

- 1) All duration indices (SAIDI) are to be reported in units of minutes.
- 2) Reports are due on the first business day of May of each year
- 3) Reports cover the calendar year ending in the December before the reports are due.
- 4) IEEE 1366 (latest version) is used to define SAIDI, SAIFI, and T<sub>MED</sub>

#### **SECTION 5: CIRCUIT REPORTING**

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

### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #1:

1. SUBSTATION NAME AND NUMBER:

Andyville

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Approximately 1 mile North of Andyville at intersection of Hwys 144 and 228 in Meade County

3. CIRCUIT NAME AND NUMBER

Feeder 3 (Rhodelia circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

West along Hwy 144 towards Rhodelia

5. TOTAL CIRCUIT LENGTH (MILES)

60 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

446

7. DATE OF LAST CIRCUIT TRIM (VM)

2014

8

Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
Storms	5	38.46	1036.45	989.00	139.43	2.22
Trees out of R/W	1	7.69	367.83	446.00	49.48	1.00
Pre-Arranged	3	23.08	11.72	62.00	1.58	0.14
Birds/Animals	2	15.38	37.31	36.00	5.02	80.0
Unknown	2	15.38	25.74	21.00	3.46	0.05

9. CIRCUIT 5 YEAR AVERAGE (SAIDI): 58.77

10. REPORTING YEAR (SAIDI) 140.11

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.41

12. REPORTING YEAR (SAIFI): 2.49

#### 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

5/27 - Storm caused high-side fuse in substation to fail (Major Event Day)

11/28 - Storm blew 3 trees outside of the right-of-way into the main line

3/1 - Tree outside of the right-of-way fell onto the main line during strong winds

No further action is deemed necessary

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #2:

1. SUBSTATION NAME AND NUMBER:

Battletown

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Approximately 1 1/2 mi. north of Battletown along Hwy 228 in Meade County

3. CIRCUIT NAME AND NUMBER

Feeder 2 (Brandenburg Circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

Southeast along Hwy 228

5. TOTAL CIRCUIT LENGTH (MILES)

16.3 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

326

7. DATE OF LAST CIRCUIT TRIM (VM)

2016

Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
Storms	8	38.10	568.31	192.00	104.60	0.59
Pre-Arranged	6	28.57	103.35	126.00	19.02	0.39
Public Cause	3	14.29	319.59	110.96	58.82	0.34
Trees out of R/W	1	4.76	42.72	54.00	7.86	0.17
Unknown	1	4.76	22.05	16.00	4.06	0.05
Trees in RW	2	9.52	10.02	16.00	1.84	0.05
	Cause Storms Pre-Arranged Public Cause Trees out of R/W Unknown	Cause Count  Storms 8  Pre-Arranged 6  Public Cause 3  Trees out of R/W 1  Unknown 1	Cause         Count         Percentage           Storms         8         38.10           Pre-Arranged         6         28.57           Public Cause         3         14.29           Trees out of R/W         1         4.76           Unknown         1         4.76	Cause         Count         Percentage         Customer-hours           Storms         8         38.10         568.31           Pre-Arranged         6         28.57         103.35           Public Cause         3         14.29         319.59           Trees out of R/W         1         4.76         42.72           Unknown         1         4.76         22.05	Cause         Count         Percentage         Customer-hours         Customers           Storms         8         38.10         568.31         192.00           Pre-Arranged         6         28.57         103.35         126.00           Public Cause         3         14.29         319.59         110.96           Trees out of R/W         1         4.76         42.72         54.00           Unknown         1         4.76         22.05         16.00	Cause         Count         Percentage         Customer-hours         Customers         SAIDI           Storms         8         38.10         568.31         192.00         104.60           Pre-Arranged         6         28.57         103.35         126.00         19.02           Public Cause         3         14.29         319.59         110.96         58.82           Trees out of R/W         1         4.76         42.72         54.00         7.86           Unknown         1         4.76         22.05         16.00         4.06

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 36.74

10. REPORTING YEAR (SAIDI) 191.74

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.40

12. REPORTING YEAR (SAIFI): 1.53

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

9/20 - Loggers cut tree onto main line

11/5 - Storm broke pole

4/5 - lightning outaged 1 phase of the main line

No further action is deemed necessary.

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #3:

1. SUBSTATION NAME AND NUMBER

Brandenburg

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Near the corner of the bypass (Hwy 1051) and Old Ekron Rd in Brandenburg located in

3. CIRCUIT NAME AND NUMBER

Meade County

Feeder 5 (Midway Circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

Southwest along Hwy 79 towards Midway

5. TOTAL CIRCUIT LENGTH (MILES)

13.25 milles

6. CUSTOMER COUNT FOR THIS CIRCUIT

533

7. DATE OF LAST CIRCUIT TRIM (VM)

2017

8							
_	Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
	Unknown	3	25.00	2643.69	1113.00	297.60	2.09
	Birds/Animals	1	8.33	838.46	554.00	94.39	1.04
	Line Hardware	1	8.33	648.77	552.00	73.03	1.04
	Pre-Arranged	2	16.67	40.47	43.00	4.56	80.0
	Storms	2	16.67	8.19	4.00	0.92	0.01
	KVA	3	25.00	4.09	3.00	0.46	0.01

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 62.10

10. REPORTING YEAR (SAIDI) 470.96

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.64

12. REPORTING YEAR (SAIFI): 4.26

#### 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

10/25 - Bird(s) flashed across insulator(s) in substation, outaging entire sub. Recloser and other equipment damaged and replaced

6/19 - Defective lightning arrestor downline on main line outages entire circuit 5/6 & 519 - Unknown causes at the time, but defective lightning arrestor found on 6/19 No further actions are deemed necessary. ROW was trimmed this year.

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### **CIRCUIT #4:**

1. SUBSTATION NAME AND NUMBER Brandenburg

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Near the corner of the bypass (Hwy 1051) and Old Ekron Rd in Brandenburg located in

3. CIRCUIT NAME AND NUMBER

Meade County

Feeder 6 (Fairgrounds Rd & Battletown Rd circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

Northwest along Hwy 1692 and Hwy 228

5. TOTAL CIRCUIT LENGTH (MILES)

21.74 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

966

7. DATE OF LAST CIRCUIT TRIM (VM)

2017

8						
Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
Storms	6	17.14	3908.93	2934.00	243.04	3.04
Birds/Animals	11	31.43	2266.84	2016.00	140.94	2.09
Trees out of R/W	5	14.29	719.09	1073.00	44.71	1.11
Pre-Arranged	5	14.29	73.15	85.00	4.55	0.09
Unknown	3	8.57	33.52	55.00	2.08	0.06
Line Hardware	3	8.57	43:14	44.00	2.68	0.05
Public Cause	2	5.71	4.51	11.00	0.28	0.01

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 63.15

10. REPORTING YEAR (SAIDI) 405.82

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 1.00

12. REPORTING YEAR (SAIFI) 5.43

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

10/25 - Bird(s) flashed across insulator(s) in substation, outaging entire sub. Recloser and other equipment damaged and replaced

10/3 - Squirrel flashed across the bushings on downline recloser, outaging entire sub.

3/1, 5/27, &11/5 - Storms and lightning outaged entire feeder (5/27 - Major Event Day)

9/1 - Tree outside of right-of-way fell and outaged feeder

No further action is deemed necessary; ROW was trimmed this year

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### **CIRCUIT #5:**

1. SUBSTATION NAME AND NUMBER

Doe Valley

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Along Hwy 1638 approximately 3 miles east of Brandenburg Station in Meade County

3. CIRCUIT NAME AND NUMBER

Feeder 1 (Rock Ridge circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

North of substation along Hwy 933 towards the rear entrance of Doe Valley Resort

5. TOTAL CIRCUIT LENGTH (MILES)

14.4 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

307

7. DATE OF LAST CIRCUIT TRIM (VM)

2017

8							
Ī	Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
	Unknown	2	28.57	818.04	612.00	159.88	1.99
	Pre-Arranged	2	28.57	30.05	29.00	5.87	0.09
	Trees out of R/W	1	14.29	12.29	8.00	2.40	0.03
	Other	1	14.29	1.90	8.00	0.37	0.03
	Public Cause	1	14.29	1.87	4.00	0.37	0.01

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 64.59

10. REPORTING YEAR (SAIDI) 168.89

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 1.58

12. REPORTING YEAR (SAIFI) 2.15

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

8/6 - Tree outside of right-of-way was later found to have fell and outaged the entire feeder 10/7 - An insulator was later found on the mainline.

No further actions are deemed necessary. ROW was trimmed this year.

### **SECTION 5: CIRCUIT REPORTING**

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

### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #6:

1. SUBSTATION NAME AND NUMBER Falls of Rough

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Approximately 1/3 miles west of intersection of Hwys 79 and 110 in Grayson County

3. CIRCUIT NAME AND NUMBER

Feeder 1 (Lodge ckt)

- 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): East along Hwy 110, then north along Hwy 79, then across the Rough River Reservoir to Hinton Hills
- 5. TOTAL CIRCUIT LENGTH (MILES)

14.56 Miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

568

7. DATE OF LAST CIRCUIT TRIM (VM)

2017

8							
	Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
	Storms	2	6.90	982.78	574.00	103.81	1.01
	Pre-Arranged	11	37.93	142.17	115.00	15.02	0.20
	Unknown	9	31.03	130.41	98.00	13.78	0.17
	Trees out of R/W	3	10.34	112.05	72.00	11.84	0.13
	Birds/Animals	1	3.45	12.21	11.00	1.29	0.02
	KVA	2	6.90	8.98	8.00	0.95	0.01
	Broken Pole	1	3.45	2.53	2.00	0.27	0.00

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 52.45

10. REPORTING YEAR (SAIDI) 146.95

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.68

12. REPORTING YEAR (SAIFI) 1.55

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

2/28 - Severe storm outaged the entire feeder

No further actions are deemed necessary.

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #7:

1. SUBSTATION NAME AND NUMBER

Falls of Rough

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Approximately 1/3 miles west of intersection of Hwys 79 and 110 in Grayson County

3. CIRCUIT NAME AND NUMBER

Feeder 2 (Short Creek circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

East along Hwy 110, then south along Hwy 79

5. TOTAL CIRCUIT LENGTH (MILES)

11.97 Miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

204

7. DATE OF LAST CIRCUIT TRIM (VM)

2013

8 Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
Storms	4	40.00	146.59	56.00	43.33	0.28
Trees out of R/W	2	20.00	93.47	44.00	27.63	0.22
Line Hardware	2	20.00	15.40	39.00	4.55	0.19
Cutouts/OCB	1	10.00	25.01	24.00	7.39	0.12
Unknown	1	10.00	3.96	5.00	1.17	0.02

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 42.43

10. REPORTING YEAR (SAIDI) 83.65

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.29

12. REPORTING YEAR (SAIFI) 0.82

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

Storms throughout the year, causing a few outages on a very reliable feeder historically

No further actions are deemed necessary.

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #8:

1. SUBSTATION NAME AND NUMBER

Fordsville

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Approximately 1 mi. east of Fordsville along Hwy 54 in Ohio County

3. CIRCUIT NAME AND NUMBER

Feeder 1 (Dunaway Circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

East on Hwy 54 through town, then north on Easton Rd, then northwest to Hwy 69

5. TOTAL CIRCUIT LENGTH (MILES)

18.88 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

601

7. DATE OF LAST CIRCUIT TRIM (VM)

2014

0415
SAIFI
1.29
0.19
0.10
0.02
0.01
0.00
0.00

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 50.36

10. REPORTING YEAR (SAIDI) 95.79

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.27

12. REPORTING YEAR (SAIFI) 0.63

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

5/27 - Lightning and wind damaged a jumper wire in a remote location at night, outaging the entire feeder (Major Event Day)

No further actions are deemed necessary.

### **SECTION 5: CIRCUIT REPORTING**

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

### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #9:

1. SUBSTATION NAME AND NUMBER

Hardinsburg 1

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Immediately behind the Hardinsburg branch office in Hardinsburg in Breckinridge County

3. CIRCUIT NAME AND NUMBEF Feeder

Feeder 3 (Town Circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

West along Old US 60 in Hardinsburg

5. TOTAL CIRCUIT LENGTH (MILES)

1.49 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

278

7. DATE OF LAST CIRCUIT TRIM (VM)

2015

8

Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
Unknown	2	100.00	290.34	258.00	62.89	0.93

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 11.06

10. REPORTING YEAR (SAIDI) 62.66

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.22

12. REPORTING YEAR (SAIFI) 0.93

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

5/11 - lightning damaged a cutout in the mainline, outaging on phase of the feeder

Downline cutouts in-line with the main circuit were either replaced with switches or eliminated No further actions are deemed necessary.

#### **SECTION 5: CIRCUIT REPORTING**

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

### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #10:

1. SUBSTATION NAME AND NUMBER Hardinsburg 2

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Northeast corner of US-60 and Old US-60 intersection in west Hardinsburg in

3. CIRCUIT NAME AND NUMBER

Breckinridge County

Feeder 1 (McQuady circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

Southwest along Hwys 261 and 108

5. TOTAL CIRCUIT LENGTH (MILES)

35.5 Miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

655

7. DATE OF LAST CIRCUIT TRIM (VM)

2016

8							
	Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
	Line Hardware	2	13.33	2000.40	1204.00	183.24	1.84
	Public Cause	3	20.00	276.82	94.00	25.36	0.14
	Birds/Animals	3	20.00	50.21	37.00	4.60	0.06
	Storms	3	20.00	30.82	13.00	2.82	0.02
	Trees out of R/W	3	20.00	15.96	12.00	1.46	0.02
	Pre-Arranged	1	6.67	2.82	3.00	0.26	0.00

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 67.32

10. REPORTING YEAR (SAIDI) 217.74

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.69

12. REPORTING YEAR (SAIFI) 2.08

13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

11/7 - was actually only one event, but a portion was re-energized. Downline insulator pin came loose on a cross in a remote field, shorting phases and outaging the entire feeder

No further actions are deemed necessary

#### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #11:

1. SUBSTATION NAME AND NUMBER

**McDaniels** 

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

0.8 mile northwest of McDaniels along Hwy 259 in southern Breckinridge County

3. CIRCUIT NAME AND NUMBER

Feeder 4 (Cannon's Point Circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

East along Hwy 259 including Hwy 737 and Cannon's Point Lane

5. TOTAL CIRCUIT LENGTH (MILES)

16.12 Miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

7. DATE OF LAST CIRCUIT TRIM (VM)

2017

_							
8	Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
	Pre-Arranged	14	48.28	118.99	111.00	9.96	0.15
	Trees out of R/W	5	17.24	145.54	66.00	12.18	0.09
	Unknown	2	6.90	87.07	59.00	7.29	0.08
	Birds/Animals	2	6.90	40.21	55.00	3.36	0.08
	Storms	2	6.90	277.18	49.00	23.19	0.07
	KVA	2	6.90	15.44	7.00	1.29	0.01
	Line Hardware	1	3.45	0.84	1.00	0.07	0.00
	Public Cause	1	3.45	1.81	1.00	0.15	0.00
9.	CIRCUIT 5 YEAR AVERAGE (SA	AIDI)	29.70				
11	REPORTING YEAR (SAIDI)		57.42				

10. REPORTING YEAR (SAIDI) 57.42

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.31

12. REPORTING YEAR (SAIFI) 0.49

#### 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

11/18 - Large tree fell into the ROW onto a major single-phase line, outaging it for nearly 6 hours during a storm

There were several small to individual pre-arranged outages due to many line upgrades and copper replacement jobs in the area.

No further action is deemed necessary.

### **SECTION 5: CIRCUIT REPORTING**

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

#### (CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

#### CIRCUIT #12:

1. SUBSTATION NAME AND NUMBER Union Star

2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)

Due north of the Hwy 86/Hwy 144 intersection along the Old Union Star Rd in northern

3. CIRCUIT NAME AND NUMBER

**Breckinridge County** 

Feeder 2 (Frymire circuit)

4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)

East along Hwy 144 towards Payneville including Hwy 477

5. TOTAL CIRCUIT LENGTH (MILES)

19.93 miles

6. CUSTOMER COUNT FOR THIS CIRCUIT

360

7. DATE OF LAST CIRCUIT TRIM (VM)

2016

0						
Cause	Count	Percentage	Customer-hours	Customers	SAIDI	SAIFI
Storms	8	47.06	831.11	449.00	138.52	1.25
Unknown	2	11.76	10.94	11.00	1.82	0.03
Trees out of R/W	1	5.88	10.13	10.00	1.69	0.03
Birds/Animals	2	11.76	5.68	5.00	0.95	0.01
Conductor	1	5.88	23.42	5.00	3.90	0.01
KVA	2	11.76	4.55	2.00	0.76	0.01
Pre-Arranged	1	5.88	0.92	1.00	0.15	0.00

9. CIRCUIT 5 YEAR AVERAGE (SAIDI) 40.90

10. REPORTING YEAR (SAIDI) 147.48

11. CIRCUIT 5 YEAR AVERAGE (SAIFI) 0.45

12. REPORTING YEAR (SAIFI) 1.34

#### 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN

On 7/23 - Large tree outside of the ROW fell onto the main line during a storm, outaging the entire feeder

No further actions deemed necessary

#### SECTION 6: VEGETATION MANAGEMENT PLAN REVIEW

#### INCLUDE CURRENT VEGETATION MANAGEMENT PLAN

Additional page may be attached as needed.

There were no alarming trends regarding vegetation related outages in 2017. Scheduled substation trimming has progressed as planned and no changes to the 2018 schedule are antipated.

#### **SECTION 7: UTILITY COMMENTS**

Storm related outages were the most prevalent in 2017. However the overall outage numbers were down significantly compared to prior years. Pre-arranged hours are still noticeable due to continued conductor replacement. Safety concerns have accellerated those numbers in the latter years and will continue to be a concern.

2017 concludes the huge copper replacement project MCRECC has worked on for several years. Only small lines and taps remain which will be replaced as time and efforts allow. Replacement of the aging small copper lines have been a huge boost for reliablity.