

April 28, 2022

Ms. Linda Bridwell
Public Service Commission
P.O. Box 615
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

RE: Administrative Case No. 2011-00450: Annual Distribution Reliability Report

Dear: Ms Bridwell

Please find enclosed a paper copy of the 2021 electric distribution utility annual reliability report for Nolin RECC, as well as a copy of Nolin RECC's vegetation management program. Additionally, the enclosed disk contains electronic copies of these files.

If you have any questions regarding the enclosed information, please contact me at (270) 765-6153 ext 3383 or dwoosley@nolinrecc.com.

Regards,

Devon C. Woosley

Manager - Engineering

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Nolin Rural Electric Cooperative Corporation

Enclosures

Kentucky Public Service Commission Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

| UTILITY NAME: | Nolin RECC |
|--|-------------------------|
| REPORT PREPARED BY: | Jordan Horsley |
| E-MAIL ADDRESS OF PREPARER: | jhorsley@nolinrecc.com |
| PHONE NUMBER OF PREPARER: | (270) 765-6153 ext 3304 |
| SECTION SECTIO | ON 2: REPORTING YEAR |
| CALENDAR YEAR OF REPORT: | 2021 |
| SECTION 3: | MAJOR EVENT DAYS (MED) |
| TMED: | 4.09 |
| FIRST DATE USED TO DETERMINE TMED: | 1/1/2016 |
| LAST DATE USED TO DETERMINE TMED: | 12/31/2020 |
| NUMBER OF MED IN REPORT YEAR: | 2 |

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 accumulated.

SECTION 4: SYSTEM RELIABILITY INFORMATION AND RESULTS

System-wide Information

TOTAL CUSTOMERS: 36,430 TOTAL CIRCUITS: 84

Excluding MED

5-YEAR AVERAGE (2016 - 2020) REPORTING YEAR

 SAIDI: 48.892
 SAIDI: 28.775

 SAIFI: 0.739
 SAIFI: 0.407

Including MED

5-YEAR AVERAGE (2016 - 2020) REPORTING YEAR

 SAIDI:
 190.359
 SAIDI:
 42.319

 SAIFI:
 1.206
 SAIFI:
 0.509

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 TMED.

| CIRCUIT #1: | COLESBURG - 2 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | COLESBURG ((1)) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - HALL & BARDSTOWN RD YOUNGER CREEK |
| 3. CIRCUIT NAME AND NUMBER: | COLESBURG - 2 |
| 4. CIRCUIT LOCATION | ELIZABETHTOWN, KY - BARDSTOWN RD, MOUNTAIN VIEW ESTATES |
| (TOWN-ROAD-GENERAL AREA): | RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 26.25 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 460 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 09/16 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.59% SMALL ANIMALS OR BIRDS 0.00% 2.93% TREES 52.49% 1.09% WIND, HIGH WIND 0.00% 3.52% WEATHER 2.01% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 40.21 |
| 10. REPORTING YEAR (SAIDI): | 201.48 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.35 |
| 12. REPORTING YEAR (SAIFI): | 2.07 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection will identify areas for correction. Review ROW conditions and vegetation management cycle. |

| CIRCUIT #2: | GLENDALE - 4 |
|--|--|
| 1. SUBSTATION NAME AND NUMBER: | GLENDALE (3) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - E. GLENDALE HODGENVILLE RD - GLENDALE |
| 3. CIRCUIT NAME AND NUMBER: | GLENDALE - 4 |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | GLENDALE, KY - ROUNDTOP RD, LINCOLN PKWY |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 36.93 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 281 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 10/20 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 61.32% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 0.00% 0.00% WIND, HIGH WIND 0.00% 38.33% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 48.26 |
| 10. REPORTING YEAR (SAIDI): | 70.76 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.91 |
| 12. REPORTING YEAR (SAIFI): | 1.40 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection to identify equipment for maintenance. |

| CIRCUIT #3: | GLENDALE - 5 |
|---|--|
| 1. SUBSTATION NAME AND NUMBER: | GLENDALE (3) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - E. GLENDALE HODGENVILLE RD - GLENDALE |
| 3. CIRCUIT NAME AND NUMBER: | GLENDALE - 5 |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | SONORA, KY - HWY 31 W (SOUTH), NOLIN RD, SONORA NOLIN RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 27.40 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 202 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 10/20 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.42% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 0.00% 4.78% WIND, HIGH WIND 0.00% 2.61% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 98.13 |
| 10. REPORTING YEAR (SAIDI): | <u>63.49</u> 1.14 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): 12. REPORTING YEAR (SAIFI): | 1.14 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection will identify areas for correction. |

| CIRCUIT #4: | HODGENVILLE-DONNIE PROPES - 4 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | HODGENVILLE-DONNIE PROPES (4) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | LARUE - HWY 31E (NEAR WADDELL RD)- HODGENVILLE |
| 3. CIRCUIT NAME AND NUMBER: | HODGENVILLE-DONNIE PROPES - 4 |
| 4. CIRCUIT LOCATION | HODGENVILLE, KY - OLD ELIZABETHTOWN RD, CARTER BROTHERS |
| (TOWN-ROAD-GENERAL AREA): | RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 23.89 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 486 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 10/20 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 3.94% SMALL ANIMALS OR BIRDS 0.84% 1.72% TREES 0.00% 0.00% WIND, HIGH WIND 0.00% 2.28% WEATHER 88.35% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 14.52 |
| 10. REPORTING YEAR (SAIDI): | 17.40 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.42 |
| 12. REPORTING YEAR (SAIFI): | 0.16 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Review sectionalizing on feeder to minimize number of customers impacted by equipment operations. |

| CIRCUIT #5: | MAGNOLIA - 1 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | MAGNOLIA (5) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | LARUE - NEW JACKSON HWY - MAGNOLIA |
| 3. CIRCUIT NAME AND NUMBER: | MAGNOLIA - 1 |
| 4. CIRCUIT LOCATION | MAGNOLIA, KY- JE JONES RD, MT SHERMAN, BAILEY X-ROADS, MT |
| (TOWN-ROAD-GENERAL AREA): | TABOR RD, HWY 210, HWY 61 |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 92.33 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 795 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 02/21 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 1.21% SMALL ANIMALS OR BIRDS 0.00% 81.91% TREES 9.98% 0.05% WIND, HIGH WIND 0.00% 1.64% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 78.39 |
| 10. REPORTING YEAR (SAIDI): | 110.19 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 1.00 |
| 12. REPORTING YEAR (SAIFI): | 1.38 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Identify new surge arrestor placement opportunities. Review overvoltage protection. |

| CIRCUIT #6: | MAGNOLIA - 2 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | MAGNOLIA (5) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | LARUE - NEW JACKSON HWY - MAGNOLIA |
| 3. CIRCUIT NAME AND NUMBER: | MAGNOLIA - 2 |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | SHERMAN, KY - MT SHERMAN RD, JACKSON RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 25.48 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 176 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 02/21 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | OUTAGE MINUTES (% OF TOTAL OUTAGE MINUTES): 0.00% PUBLIC ACCIDENTS, OTHER 2.55% 0.00% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 97.45% 0.00% WIND, HIGH WIND 0.00% 0.00% WEATHER 0.00% 0.00% 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 40.85 |
| 10. REPORTING YEAR (SAIDI): | 152.08 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.60 |
| 12. REPORTING YEAR (SAIFI): | 0.75 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Review ROW conditions and vegetation management cycle. |

| CIRCUIT #7: | STEPHENSBURG - 1 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | STEPHENSBURG (6) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN-LEITCHFIELD RD-STEPHENSBURG |
| 3. CIRCUIT NAME AND NUMBER: | STEPHENSBURG - 1 |
| 4. CIRCUIT LOCATION | GLENDALE, KY - STAR MILLS EASTVIEW RD, BACON CREEK RD, HWY |
| (TOWN-ROAD-GENERAL AREA): | 222, CECILIA SMITH MILL RD, PARTRIDGE WAY |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 34.95 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 477 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 04/19 |
| | |
| 8. LIST OF OUTAGE(S): | OUTAGE MINUTES (% OF TOTAL OUTAGE MINUTES): |
| CONTRACTOR | 0.00% PUBLIC ACCIDENTS, OTHER 0.00% |
| EQUIPMENT / MATERIAL FAILURE | 0.60% SMALL ANIMALS OR BIRDS 0.00% |
| LIGHTNING | 0.00% TREES 0.00% |
| NO CAUSE CODE | 0.00% WIND, HIGH WIND 0.00% |
| PLANNED OUTAGE | |
| POWER SUPPLIER | 95.81% |
| | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 66.70 |
| 10. REPORTING YEAR (SAIDI): | 57.13 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 1.00 |
| 12. REPORTING YEAR (SAIFI): | 1.04 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Nolin RECC to work with EKPC to review remedies for transmission/substation reliability issues. |

| CIRCUIT #8: | STEPHENSBURG - 2 |
|---|--|
| 1. SUBSTATION NAME AND NUMBER: | STEPHENSBURG (6) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN-LEITCHFIELD RD-STEPHENSBURG |
| 3. CIRCUIT NAME AND NUMBER: | STEPHENSBURG - 2 |
| 4. CIRCUIT LOCATION | WHITE HILLS, KY - W WHITE MILLS GLENDALE RD, S LONG GROVE |
| (TOWN-ROAD-GENERAL AREA): | RD, MELROSE RD, SONORA HARDIN SPRINGS RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 36.00 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 249 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 04/19 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 2.80% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 0.00% 0.00% WIND, HIGH WIND 0.00% 1.15% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 29.09 |
| 10. REPORTING YEAR (SAIDI): | 62.40 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): 12. REPORTING YEAR (SAIFI): | |
| 12. REPORTING TEAR (SAIFI). | 1.13 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Nolin RECC to work with EKPC to review remedies for transmission/substation reliability issues. |

| CIRCUIT #9: | STEPHENSBURG - 3 |
|---|--|
| 1. SUBSTATION NAME AND NUMBER: | STEPHENSBURG (6) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN-LEITCHFIELD RD-STEPHENSBURG |
| 3. CIRCUIT NAME AND NUMBER: | STEPHENSBURG - 3 |
| 4. CIRCUIT LOCATION | STEPHENSBERG, KY - LEITCHFIELD RD, SONORA HARDIN SPRINGS |
| (TOWN-ROAD-GENERAL AREA): | RD, WEBB MILLS RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 68.08 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 561 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 03/19 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 24.95% SMALL ANIMALS OR BIRDS 0.00% 10.24% TREES 1.03% 9.14% WIND, HIGH WIND 0.00% 2.89% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 87.67 |
| 10. REPORTING YEAR (SAIDI): | 87.11 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.96 |
| 12. REPORTING YEAR (SAIFI): | 1.35 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Nolin RECC to work with EKPC to review remedies for transmission/substation reliability issues. |

| CIRCUIT #10: | STEPHENSBURG - 4 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | STEPHENSBURG (6) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN-LEITCHFIELD RD-STEPHENSBURG |
| 3. CIRCUIT NAME AND NUMBER: | STEPHENSBURG - 4 |
| 4. CIRCUIT LOCATION | EASTVIEW, KY -EASTVIEW RD, MEETING CREEK RD, SONORA |
| (TOWN-ROAD-GENERAL AREA): | HARDIN SPRINGS RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 73.28 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 579 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 02/19 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 25.17% SMALL ANIMALS OR BIRDS 0.17% 0.00% TREES 7.00% 0.53% WIND, HIGH WIND 0.00% 0.27% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 39.67 |
| 10. REPORTING YEAR (SAIDI): | 72.53 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.59 |
| 12. REPORTING YEAR (SAIFI): | 1.32 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Nolin RECC to work with EKPC to review remedies for transmission/substation reliability issues. |

| CIRCUIT #11: | STEPHENSBURG - 5 |
|---|--|
| 1. SUBSTATION NAME AND NUMBER: | STEPHENSBURG (6) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN-LEITCHFIELD RD-STEPHENSBURG |
| 3. CIRCUIT NAME AND NUMBER: | STEPHENSBURG - 5 |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | STEPHENSBURG, KY - EASTVIEW RD, NACKE PIKE RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 42.06 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 313 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 02/19 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.52% SMALL ANIMALS OR BIRDS 1.16% 0.00% TREES 0.56% 3.89% WIND, HIGH WIND 0.00% 1.21% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 59.56 |
| 10. REPORTING YEAR (SAIDI): | 50.78 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.76 |
| 12. REPORTING YEAR (SAIFI): | 1.04 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Nolin RECC to work with EKPC to review remedies for transmission/substation reliability issues. |

| CIRCUIT #12: | | VERTREES - 2 | |
|---|---|---|--|
| 1. SUBSTATION NAME AND NUMBER: | | VERTREES (8) | |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | Н | IARDIN - SALT RIVER RD VERT | REES |
| 3. CIRCUIT NAME AND NUMBER: | | VERTREES - 2 | |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | VERTREES, KY - SALT RIVER RD, SAINT JOHN RD | | JOHN RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | | 56.86 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | | 524 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | | 05/16 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.00% 92.93% 0.50% 1.38% 0.26% 0.00% | ES (% OF TOTAL OUTAGE MINU PUBLIC ACCIDENTS, OTHER SMALL ANIMALS OR BIRDS TREES WIND, HIGH WIND WEATHER | TES): 0.09% 0.00% 4.83% 0.00% 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | | 41.64 | |
| 10. REPORTING YEAR (SAIDI): | | 165.25 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | | 0.56 | |
| 12. REPORTING YEAR (SAIFI): | | 1.14 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder insp | ection to identify equipment fo | or maintenance. |

| CIRCUIT #13: | VINE GROVE - 2 | | |
|---|---|--|--|
| 1. SUBSTATION NAME AND NUMBER: | | VINE GROVE (9) | |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | | HARDIN - ROGERSVILLE RD VINE GROVE | |
| 3. CIRCUIT NAME AND NUMBER: | | VINE GROVE - 2 | |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | VINE GROVE, KY - TO HWY 313 & COMMERCE DR | | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | | 2.48 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | | 91 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | | 08/17 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.00% 0.00% 0.00% 0.00% 0.00% 7.04% 0.00% | INUTES (% OF TOTAL OUTAGE MINUTES): PUBLIC ACCIDENTS, OTHER 0.00% SMALL ANIMALS OR BIRDS 0.00% TREES 92.96% WIND, HIGH WIND 0.00% WEATHER 0.00% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | | 41.77 | |
| 10. REPORTING YEAR (SAIDI): | | 62.50 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | | 0.39 | |
| 12. REPORTING YEAR (SAIFI): | | 0.78 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Review | ROW conditions and vegetation management cycle. | |

| CIRCUIT #14: | VINE GROVE - 6 |
|---|--|
| 1. SUBSTATION NAME AND NUMBER: | VINE GROVE (9) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - ROGERSVILLE RD RADCLIFF |
| 3. CIRCUIT NAME AND NUMBER: | VINE GROVE - 6 |
| 4. CIRCUIT LOCATION | VINE GROVE, KY - JOE PRATHER HWY, WINTERGREEN DR, S DIXIE |
| (TOWN-ROAD-GENERAL AREA): | BLVD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 9.21 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 326 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 07/17 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.00% WIND, HIGH WIND 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 11.37 |
| 10. REPORTING YEAR (SAIDI): | 19.24 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.18 |
| 12. REPORTING YEAR (SAIFI): | 0.26 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Identify new surge arrestor placement opportunities. Review overvoltage protection. Feeder inspection will identify areas to mitigate animal caused outages. |

| CIRCUIT #15: | RADCLIFF - 2 | |
|---|---|--|
| 1. SUBSTATION NAME AND NUMBER: | RADCLIFF (10) | |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - HILL ST (NEAR W. LINCOLN TRAIL BLVD) - RADCLIFF | |
| 3. CIRCUIT NAME AND NUMBER: | RADCLIFF - 2 | |
| 4. CIRCUIT LOCATION | VINE GROVE, KY - KNOX AVE, WEST SIDE OF SAFARI TRL, RED HILL | |
| (TOWN-ROAD-GENERAL AREA): | RD TO GERONIMO CIR, DITTO LN | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 18.92 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 436 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 01/18 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 1.10% SMALL ANIMALS OR BIRDS 0.00% 1.51% TREES 96.87% 0.00% WIND, HIGH WIND 0.00% 0.52% WEATHER 0.00% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 36.63 | |
| 10. REPORTING YEAR (SAIDI): | 85.71 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.45 | |
| 12. REPORTING YEAR (SAIFI): | 1.02 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Review ROW conditions and vegetation management cycle. | |

| CIRCUIT #16: | TUNNEL HILL 1 - 2 | |
|---|---|--|
| 1. SUBSTATION NAME AND NUMBER: 2. SUBSTATION LOCATION | TUNNEL HILL 1 (11) | |
| (COUNTY-ROAD-TOWN): | HARDIN - TUNNEL HILL RD E-TOWN | |
| 3. CIRCUIT NAME AND NUMBER: | TUNNEL HILL 1 - 2 | |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | ELIZABETHTOWN, KY - TUNNEL HILL RD, RING RD, BON AIRE DR | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 6.92 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 730 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 12/18 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | OUTAGE MINUTES (% OF TOTAL OUTAGE MINUTES): 0.00% PUBLIC ACCIDENTS, OTHER 0.00% 0.34% SMALL ANIMALS OR BIRDS 0.00% 2.68% TREES 0.00% 0.00% WIND, HIGH WIND 0.00% 0.00% WEATHER 0.00% 96.98% O.00% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 37.22 | |
| 10. REPORTING YEAR (SAIDI): | 70.27 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.36 | |
| 12. REPORTING YEAR (SAIFI): | 1.06 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Nolin RECC to work with EKPC to review remedies for transmission/substation reliability issues. | |

| CIRCUIT #17: | THARP 1 - 5 | |
|---|--|--|
| 1. SUBSTATION NAME AND NUMBER: | THARP 1 (12) | |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - ST. JOHN RD ETOWN | |
| 3. CIRCUIT NAME AND NUMBER: | THARP 1 - 5 | |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | ELIZABETHTOWN, KY - SAINT JOHN RD, RING RD, WEST PARK RD | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 0.29 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 6 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 12/15 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.00% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 0.00% 0.00% WIND, HIGH WIND 0.00% 100.00% WEATHER 0.00% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 15.84 | |
| 10. REPORTING YEAR (SAIDI): | 156.40 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.42 | |
| 12. REPORTING YEAR (SAIFI): | 0.83 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | | |

| CIRCUIT #18: | SOUTH BOUNDARY - 2 |
|---|--|
| 1. SUBSTATION NAME AND NUMBER: | SOUTH BOUNDARY (14) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - HWY 313 - RADCLIFF |
| 3. CIRCUIT NAME AND NUMBER: | SOUTH BOUNDARY - 2 |
| 4. CIRCUIT LOCATION | RADCLIFF, KY - SOUTH BOUNDARY RD (N OF SUB), WAGON WHEEL |
| (TOWN-ROAD-GENERAL AREA): | TR , LIBERTY ST |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 7.43 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 504 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 03/18 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 2.51% SMALL ANIMALS OR BIRDS 55.89% 0.00% TREES 41.60% 0.00% WIND, HIGH WIND 0.00% 0.00% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 11.21 |
| 10. REPORTING YEAR (SAIDI): | 19.07 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.11 |
| 12. REPORTING YEAR (SAIFI): | 0.24 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection will identify areas to mitigate animal caused outages. Review ROW conditions and vegetation management cycle. |

| CIRCUIT #19: | | SOUTH BOUNDARY - 3 |
|--|-----------------------------|--|
| 1. SUBSTATION NAME AND NUMBER: | | SOUTH BOUNDARY (14) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - HWY 313 - RADCLIFF | |
| 3. CIRCUIT NAME AND NUMBER: | | SOUTH BOUNDARY - 3 |
| 4. CIRCUIT LOCATION | RADCLIF | F, KY - SOUTH BOUNDARY RD (N OF SUB) , AUSTIN DR , |
| (TOWN-ROAD-GENERAL AREA): | | SHELBY AVE |
| 5. TOTAL CIRCUIT LENGTH (MILES): | | 23.23 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | | 697 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | | 03/18 |
| • | | |
| 8. LIST OF OUTAGE(S): | OUTAGE M | INUTES (% OF TOTAL OUTAGE MINUTES): |
| CONTRACTOR | 0.00% | PUBLIC ACCIDENTS, OTHER <u>0.42%</u> |
| EQUIPMENT / MATERIAL FAILURE | 1.47% | SMALL ANIMALS OR BIRDS 0.00% |
| LIGHTNING | 0.00% | TREES 29.57% |
| NO CAUSE CODE | 0.00% | WIND, HIGH WIND <u>11.72%</u> |
| PLANNED OUTAGE | 32.28% | WEATHER <u>24.55%</u> |
| POWER SUPPLIER | 0.00% | |
| | | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | | 27.35 |
| 10. REPORTING YEAR (SAIDI): | | 18.71 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | | 0.42 |
| 12. REPORTING YEAR (SAIFI): | | 1.30 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | | |

| CIRCUIT #20: | SOUTH BOUNDARY - 5 | |
|---|---|--|
| 1. SUBSTATION NAME AND NUMBER: | SOUTH BOUNDARY (14) | |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - HWY 313 - RADCLIFF | |
| 3. CIRCUIT NAME AND NUMBER: | SOUTH BOUNDARY - 5 | |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | ELIZABETHTOWN, KY - BATTLE TRAINING RD, BEWLEY HOLLOW RD | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 17.87 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 353 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 03/18 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 1.47% SMALL ANIMALS OR BIRDS 91.55% 0.00% TREES 2.61% 0.00% WIND, HIGH WIND 0.00% 4.37% WEATHER 0.00% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 33.39 | |
| 10. REPORTING YEAR (SAIDI): | 64.06 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.50 | |
| 12. REPORTING YEAR (SAIFI): | 1.07 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection will identify areas to mitigate animal caused outages. | |

| CIRCUIT #21: | ETOWN 2 - 3 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: 2. SUBSTATION LOCATION | ETOWN 2 (20) |
| (COUNTY-ROAD-TOWN): | HARDIN - WOODLAND DR E-TOWN |
| 3. CIRCUIT NAME AND NUMBER: | ETOWN 2 - 3 |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | ELIZABETHTOWN, KY - DEERFIELD HILLS RD, RINEYVILLE RD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 2.40 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 200 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 07/16 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.00% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 99.45% 0.00% WIND, HIGH WIND 0.00% 0.55% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 49.77 |
| 10. REPORTING YEAR (SAIDI): | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): 12. REPORTING YEAR (SAIFI): | 0.65 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Review ROW conditions and vegetation management cycle. |

| CIRCUIT #22: | RINEYVILLE - 3 | |
|--|---|--|
| 1. SUBSTATION NAME AND NUMBER: | RINEYVILLE (21) | |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - OWSLEY RD - RINEYVILLE | |
| 3. CIRCUIT NAME AND NUMBER: | RINEYVILLE - 3 | |
| 4. CIRCUIT LOCATION | RINEYVILLE, KY - BERRYTOWN RD, RINEYVILLE BIG SPRINGS RD, | |
| (TOWN-ROAD-GENERAL AREA): | RINEYVILLE SCHOOL RD | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 19.51 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 466 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 05/17 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 6.96% SMALL ANIMALS OR BIRDS 5.59% 0.00% TREES 0.00% 0.00% WIND, HIGH WIND 0.00% 24.93% WEATHER 0.00% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 4.96 | |
| 10. REPORTING YEAR (SAIDI): | 3.57 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.07 | |
| 12. REPORTING YEAR (SAIFI): | 0.11 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection will identify areas for correction. | |

| CIRCUIT #23: | RINEYVILLE - 4 | |
|---|---|--|
| SUBSTATION NAME AND NUMBER: SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | RINEYVILLE (21) | |
| | HARDIN - OWSLEY RD - RINEYVILLE | |
| 3. CIRCUIT NAME AND NUMBER: | RINEYVILLE - 4 | |
| 4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA): | RINEYVILLE, KY - BERRYTOWN RD, BLUE BALL RD, SALT RIVER RD | |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 44.12 | |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 424 | |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 04/17 | |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 0.66% SMALL ANIMALS OR BIRDS 15.29% 1.08% TREES 62.92% 17.87% WIND, HIGH WIND 0.00% 1.22% WEATHER 0.96% | |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 39.94 | |
| 10. REPORTING YEAR (SAIDI): | 36.65 | |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.35 | |
| 12. REPORTING YEAR (SAIFI): | 0.50 | |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Review ROW conditions and vegetation management cycle. | |

| CIRCUIT #24: | THARP 2 - 5 |
|---|---|
| 1. SUBSTATION NAME AND NUMBER: | THARP 2 (22) |
| 2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN): | HARDIN - ST. JOHN RD ETOWN |
| 3. CIRCUIT NAME AND NUMBER: | |
| 4. CIRCUIT LOCATION | ELIZABETHTOWN, KY - SAINT JOHN RD, WILMOTH RD, LANGLEY |
| (TOWN-ROAD-GENERAL AREA): | TRACE, CHARLEMAGNE BLVD |
| 5. TOTAL CIRCUIT LENGTH (MILES): | 2.29 |
| 6. CUSTOMER COUNT FOR THIS CIRCUIT: | 258 |
| 7. DATE OF LAST CIRCUIT TRIM (MM/YY): | 08/15 |
| 8. LIST OF OUTAGE(S): CONTRACTOR EQUIPMENT / MATERIAL FAILURE LIGHTNING NO CAUSE CODE PLANNED OUTAGE POWER SUPPLIER | 85.03% SMALL ANIMALS OR BIRDS 0.00% 0.00% TREES 9.25% 0.00% WIND, HIGH WIND 0.00% 5.47% WEATHER 0.00% |
| 9. CIRCUIT 5 YEAR AVERAGE (SAIDI): | 29.10 |
| 10. REPORTING YEAR (SAIDI): | 60.92 |
| 11. CIRCUIT 5 YEAR AVERAGE (SAIFI): | 0.69 |
| 12. REPORTING YEAR (SAIFI): | 0.50 |
| 13. LIST OF CORRECTIVE ACTION, IF ANY, TAKEN OR TO BE TAKEN | Feeder inspection to identify equipment for maintenance. |

SECTION 6: VEGETATION MANAGEMENT PLAN REVIEW INCLUDE CURRENT VEGETATION MANGEMENT PLAN

| See attached "Vegetation Management Program 2-18-11 Nolin.pdf" |
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| SECTION 7: UTILITY COMMENTS |
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