

**KENTUCKY PUBLIC SERVICE  
COMMISSION**  
**Electric Distribution Utility Annual Reliability Report**

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SECTION 1: CONTACT INFORMATION

UTILITY NAME   BIG SANDY RECC

REPORT PREPARED BY   JEFF PRATER

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E-MAIL ADDRESS OF PREPARER

PHONE NUMBER OF PREPARER

606-791-4095

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SECTION 2: REPORTING YEAR

CALENDAR YEAR OF REPORT   2022

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SECTION 3: MAJOR EVENT DAYS (MED)

TMED 60.414

FIRST DATE USED TO DETERMINE   January 1, 2022

LAST DATE USED TO DETERMINET   December 31, 2022

NUMBER OF MED IN REPORT YEAR   3

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.

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SECTION 4: SYSTEM RELIABILITY INFORMATION AND RESULTS

System-wide Information

TOTAL CUSTOMERS 12,567                      TOTAL CIRCUITS   36

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Excluding MED			
	5 YEAR AVERAGE		REPORTING YEAR
SAIDI	541.30	SAIDI	634.837
SAIFI	3.68	SAIFI	4.282

Including MED			
	5 YEAR AVERAGE		REPORTING YEAR
SAIDI	1982.48	SAIDI	1273.1
SAIFI	4.55	SAIFI	5.245

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

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## SECTION 5: CIRCUIT REPORTING

(CIRCUITS WITH SADI AND/OR SAIFI EXCEEDING 5 YEAR  
AVERAGE) (CIRCUIT NUMBERS SHOULD BE REPORTED  
EXCLUDING MED)

CIRCUIT :

1. SUBSTATION NAME AND NUMBER
2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)
3. CIRCUIT NAME AND NUMBER
4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)
5. TOTAL CIRCUIT LENGTH (MILES)
6. CUSTOMER COUNT FOR THIS CIRCUIT
- 7.. DATE OF LAST CIRCUIT TRIM (VM)

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8. LIST OUTAGE CAUSES FOR CIRCUIT ALONG WITH PERCENTAGE OF TOTAL OUTAGE N NUMBERS REPRESENTED BY EACH CAUSE
9. CIRCUIT 5 YEAR AVERAGE (SAIDI)
10. REPORTING YEAR (SAIDI)
11. CIRCUIT 5 YEAR AVERAGE (SAFI)
12. REPORTING YEAR (SAIFI)
13. CORRECTIVE ACTION PLAN

REPEAT INFORMATION FOR EACH CIRCUIT EXCEEDING ITS 5 YEAR  
AVERAGE  
FOR SAIDI AND/OR SAFI

SEE ATTACHMENTS

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## SECTION 6: VEGETATION MANAGEMENT PLAN REVIEW

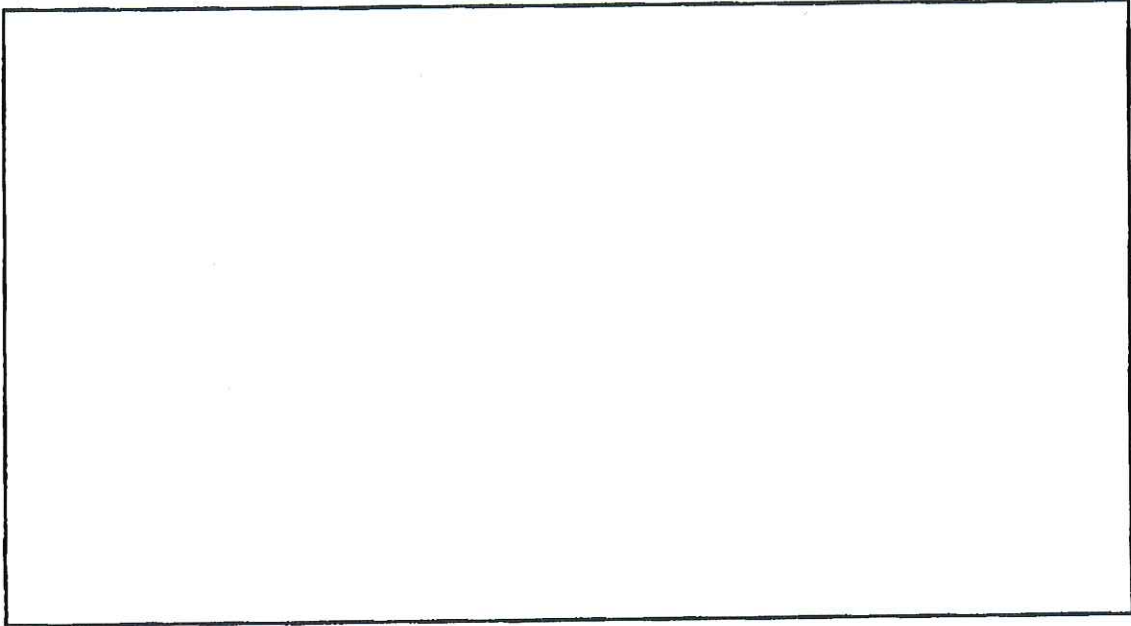
INCLUDE CURRENT VEGETATION MANAGEMENT  
PLAN Additional page may be attached as needed.

SEE ATTACHMENTS:      ATTACHMENT A
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SECTION 7: UTILITY COMMENTS

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BIG SANDY RECC 2018 REPORTING OUTAGE CAUSES FOR CIRCUIT AND PERCENTAGES

SAIDI/ SAIFI

COW CREEK #992	MILES-62 / MEMBERS-1060	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Bill Wells-Substation(Floyd County) US 23, Prestonsburg KY			2018	
SAIDI 863.92 SAIFI 3.30				
Five Year Average: SAIDI 477.40 SAIFI 3.55				

Maintenance	45%	43
Cause Unknown	15%	14
Weather	14%	13
Public	9%	9

CORRECTIVE ACTION:

No action planned at this time.

MOTEL #658	MILES 2/ MEMBERS 39	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Bill Wells-Substation(Floyd County) Prestonsburg, KY			2018	
SAIDI 137.03 SAIFI 0.45				
Five Year Average: SAIDI 71.98 SAIFI .50				

Unknown	67%	2
Equipment-Design	33%	1

CORRECTIVE ACTION:

This is a very short distribution circuit. This circuit will be monitored, but no corrective action is planned at this time.

MT PARKWAY #608	MILES-25/MEMBERS-316	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Bonanza Substation (Floyd County) Rt 1427 Abbott Crk Rd		<b>2018</b>		
SAIDI 440.40 SAIFI 2.32				
Five Year Average: SAIDI 363.75 SAIFI 2.60				
Maintenance	60%			
Animals	13%	4		
Equipment-Design	10%	3		
Unknown	10%	3		
CORRECTIVE ACTION:				
No action planned, but will monitor circuit.				

BEECH FORK #416	MILES-36/ MEMBERS-456	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Jenny Wiley Substation (Floyd Co) KY Rt 3 Auxier KY		<b>2023</b>		
SAIDI 591.55 SAIFI 4.16				
Five Year Average: SAIDI 498.23 SAIFI 3.01				
Maintenance	51%			
Unknown	16%	12		
Other	14%	10		
Equipment-Design	5%	4		
CORRECTIVE ACTION:				
This circuit is currently being trimmed. Also, one large tap to be reconducted. One Three phase section has been reconducted and side trimmed with helicopter.				

MIDDLE CREEK #211	MILES-32/ MEMBERS 406	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Jenny Wiley Substation (Floyd Co) KY Rt 3 Auxier KY		<b>2009</b>		
SAIDI 586.93 SAIFI 5.37				
Five Year Average: SAIDI 463.91 SAIFI 4.07				
Maintenance	45%			
Unknown	20%	17		
Equipment-Design	7%	6		

Other

7%

6

**CORRECTIVE ACTION:**

This circuit is scheduled for trimming in 2023. We have updated OCR co-ordination and changed OCR & control.

BOONSCAMP #552	MILES-31/MEMBERS-331	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Martin Co Substation (Johnson Co) Rt 40 Whitehouse KY			<b>2014</b>	
SAIDI 538.63 SAIFI 1.27				
Five Year Average: SAIDI 390.21 SAIFI 2.21				
Maintenance		44%		20
Weather		16%	7	
Other		13%	6	
Unknown		9%	4	
Public		9%	4	

**CORRECTIVE ACTION:**

One large single-phase tap has been relocated to the road.

CALLOWAY #756	MILES-35/ MEMBERS-543	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Martin Co Substation (Johnson Co) Rt 40 Whiteshouse KY			<b>2021</b>	
SAIDI 909.34 SAIFI 5.46				
Five Year Average: SAIDI 569.04 SAIFI 3.22				
Maintenance		50%		20
Animals		13%	5	
Unknown		10%	4	
Planned Outage		8%	3	
Equipment-Design		8%	3	

**CORRECTIVE ACTION:**

Trees were the largest cause of outages. One small section of line has been relocated at Hinkle Valley.

SALT LICK #308	MILES-52 /MEMBERS-895	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Middle Creek Substation (Floyd Co) Rt 114 Prestonsburg KY				
SAIDI 439.97 SAIFI 3.08		2022		
Five Year Average: SAIDI 522.55 SAIFI 5.07				
Maintenance		35%		44
Unknown		22%		27
Planned Outage		12%		15
Animals		10%		12
Public		6%		8
Weather		6%		7

CORRECTIVE ACTION:

Circuit trimmed in 2022. Planning to relocate an underground one three-phase section.

KEATON #720	MILES-12/MEMBERS-125	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Red Bush substation (Johnson County) Red Bush, KY Rt 469				
SAIDI 709.26 SAIFI 2.24		2022		
Five Year Average: SAIDI 416.20 SAIFI 2.15				
Cause Unknown		26%		5
Maintenance		21%		4
Public		16%		3
Animals		16%		3
Planned Outage		11%		2

CORRECTIVE ACTION:

Right-of-Way trimmed in 2022. No other action planned.

OIL FIELD #34	MILES-12/MEMBERS-52	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Red Bush Substation (Johnson County) Red Bush KY Rt 469				
SAIDI 709.26 SAIFI 2.24		2022		
Five Year Average: SAIDI 486.66 SAIFI 2.45				
Maintenance		63%		13
Planned Outage		24%		5
Weather		5%		1



Corrective Action:

Large amount of Maintenance outages occurred in 2021 for permanent repair from ice storm damage. No other action planned.

MIDDLE CREEK #90	MILES-42/ MEMBERS-660	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Salt Lick-substation (Knott Co) KY HWY 2029 Hueysville KY				
SAIDI 979.57 SAIFI 5.78			2023	
Five Year Average: SAIDI 557.22 SAIFI 4.11				
Maintenance		54%		38
Unknown		23%		16
Equipment-Design		7%		5
Public		4%		3
Weather		4%		3

Corrective Action:

We will monitor the circuit. We are currently trimming this circuit.

ROCK FORK #679	MILES-22/ MEMBERS-156	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Salt Lick-Substation (Knott Co) KY HWY 2029 Hueysville KY				
SAIDI 627.03 SAIFI 3.65			2017	
Five Year Average: SAIDI 272.98 SAIFI 1.98				
Maintenance		47%		22
Unknown		21%		10
Public		11%		5
Planned Outage		6%		3
Weather		4%		2

Corrective Action:

No action planned.

ROUTE 7 MINE #169	MILES-9/MEMBERS-84	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Salt Lick-Substation (Knott Co) KY HWY 2029 Hueysville KY			2017	
SAIDI-259.42 /SAIFI-2.04				
Five Year Average: SAIDI-557.00/SAIFI-2.45				
Maintenance		67%		8
Unknown		17%	2	
Public		8%	1	
CORRECTIVE ACTION:				
No action planned.				

SPORTSPLEX #678	MILES-16/ MEMBERS-83	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Salt Lick-Substation (Knott Co) KY HWY 2029 Hueysville KY			2017	
SAIDI 679.27 SAIFI 2.44				
Five Year Average: SAIDI 351.83 SAIFI 1.55				
Maintenance		73%		8
Planned Outage		9%	1	
Other		9%	1	
Equipment-Design		9%	1	
CORRECTIVE ACTION:				
No action is planned.				

REHAB #107	MILES-9/ MEMBERS-280	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Thelma Substation (Johnson County) Thelma KY			2016	
SAIDI 535.81 SAIFI 4.39				
Five Year Average: SAIDI 235.48 SAIFI 1.97				
Maintenance		29%		10
Unknown		29%	10	
Equipment-Design		12%	4	
Public		9%	3	
Planned Outage		9%	3	
CORRECTIVE ACTION:				
No action is planned.				

RIVER #62	MILES-39/ MEMBERS-547	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Thelma Substation (Johnson County) Thelma KY			<b>2019</b>	
SAIDI 576.04 SAIFI 5.08				
Five Year Average: SAIDI 434.96 SAIFI 4.60				
Maintenance		47%		24
Unknown		16%	8	
Weather		12%	6	
Equipment or Installation		10%	5	
Animals		6%	3	

**CORRECTIVE ACTION:**

No action is planned.

VOLGA #95	MILES-29/ MEMBERS-402	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Thelma Substation (Johnson County) Thelma KY			<b>2014</b>	
SAIDI 932.14 SAIFI 6.76				
Five Year Average: SAIDI 730.38 SAIFI 4.66				
Maintenance		44%		20
Planned Outage		13%	6	
Unknown		11%	5	
Public		11%	5	
Weather		9%	4	

**CORRECTIVE ACTION:**

This circuit had helicopter trimming in 2022. No other action is planned.

DENVER #466	MILES-33/ MEMBERS-452	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Volga Substation (Johnson County) Stone Coal KY Rt 172			<b>2016</b>	
SAIDI 754.24 SAIFI 5.35				
Five Year Average: SAIDI 736.27 SAIFI 4.91				
Maintenance		43%		55
Planned Outage		16%	20	
Unknown		10%	13	
Public		9%	11	

Weather

7%

9

CORRECTIVE ACTION:

Recordination of circuit. We have applied for FEMA Mitigation Grant to relocate one frequently damaged section. No other action is planned.

FLAT GAP #661	MILES-56/ MEMBERS-597	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Volga Substation (Johnson County) Stone Coal KY Rt 172			<b>2014</b>	
SAIDI 763.45 SAIFI 3.79				
Five Year Average: SAIDI 444.19 SAIFI 2.49				
Maintenance		42%		27
Unknown		14%	9	
Planned Outage		13%	8	
Equipment-Design		9%	6	
Weather		9%	6	

CORRECTIVE ACTION:

No action is planned.

ST. HWY #497	MILES-12/ MEMBERS-159	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Volga Substation (Johnson County) Stone Coal KY Rt 172			<b>2011</b>	
SAIDI 949.81 SAIFI 5.43				
Five Year Average: SAIDI 527.77 SAIFI 2.99				
Maintenance		50%		10
Planned Outage		20%	4	
Other		20%	4	
Equipment-Design		10%	2	

CORRECTIVE ACTION:

No action is planned.

## ATTACHMENT A



# Big sandy RECC Right-of-Way Plan and Procedures

Big Sandy RECC has 968 miles of distribution line.

Big Sandy's Right-of-Way plan is designed to establish a systematic and sustainable maintenance schedule. Right-of-Way clearing is being scheduled on individual feeder circuits from each substation with clearing to the end of each feeder.

Circuit cutting is being scheduled with a goal of development of a 7-year rotation. Spraying is scheduled with a goal of 4-year rotation.

Spraying of vines that overtake poles and guys is a part of Big Sandy's vegetation Plan.

Big Sandy RECC plans to utilize hourly paid and firm price contracts for all right of way cutting and herbicide application.

### Circuit Prioritization

Big Sandy's staff is responsible for establishing a preventative maintenance strategy, identifying an appropriate routine maintenance cycle, prioritizing, scheduling and completing routine maintenance systematically and on the desired cycle.

Vegetation maintenance records, service interruption data, detailed Line Worker Reports, ground patrols and member-customer input all contribute to assigning priorities for vegetation maintenance each year.

There are several factors the Big Sandy's staff must consider when evaluating vegetation management needs. These include the frequency of service interruptions, vegetation quantities and characteristics, time elapsed since last treatment and member-customer requests.

### Right-of-Way Clearance Standards

1. Pruning Guidelines for On-R/W Trees - Effective tree clearance for line reliability is dependent on the voltage of the conductor, the type of tree, its growth rate and habit. Clearance shall be accomplished by ground cutting and removing all tall-growing tree species from within the R/vV, whenever approved. Where pruning of residential or landscape trees

become necessary, prune so as to provide a minimum of three (3) years of clearance. The guidelines for tree clearances apply at the time of pruning and clearing and are intended to protect the wires under normal operating conditions. Special clearances may be needed at times because of field conditions. Additional allowance should be made for wires with excess sag.

2. Pruning Along Distribution R/W Edge or Off-R/W Trees - Every tree shall be trimmed ground-to-sky in accordance with ANSI A-300. To the extent practicable, these limbs shall be trimmed back to the trunk of the tree except on species that are susceptible to sun scald.  
Clear the R/W of all trees or brush thirty-five (35) feet wide for three phase lines and thirty (30) feet wide for single phase lines.
3. Shaping or rounding-over trees beyond the extent required to achieve the desired conductor/vegetation clearance shall not be performed, unless specifically approved by BIG SANDY or it's REPRESENTATIVE.
4. Only trees that are directly involved with BIG SANDY' overhead lines, as defined by this specification shaft be pruned. Pruning trees for privately owned lines, other utility lines, or consumer lines or wiring is not permitted.
5. On all secondary lines and service drops, as directed by BIG SANDY or its REPERSENTATIVE, drops shall be cleared to the extent that the conductor can swing free of obstructions.
6. Big Sandy shall not prune trees solely for area lighting illumination.
7. All low growing desirable species, if present, may be left unless:
  - a. they create clearance problems,
  - b. mechanical, non-selective equipment (e.g. mowing) is used, or
  - c. they block access to the rights-of-way or prevent facilities maintenance.
8. Ingested wilting foliage of wild cherry is poisonous to livestock. Remove all wild cherry foliage from fields where livestock graze.
9. All stumps from manual clearing operations shall be treated with herbicides approved by BIG SANDY.

Jeff Prater,

VP Operations