



Big Sandy Rural Electric Cooperative Corporation

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April 7, 2022

Linda Bridwell
Public Service Commission
211 Sower Blvd
Frankfort KY 40602-0615

RE: 2021 Annual Distribution Reliability Report

Dear Honorable Executive Director,

Big Sandy RECC is filing this report in accordance with PSC requirements. Attached is Big Sandy's 2021 Annual Distribution Reliability Report. Please contact me with any questions.

Sincerely,

A handwritten signature in black ink that reads "Jeff Prater".

Jeff Prater
VP Operations
Big Sandy RECC

Enclosure

KENTUCKY PUBLIC SERVICE COMMISSION

Excluding MED			
	5 YEAR AVERAGE		REPORTING YEAR
SAIDI	488.66	SAIDI	490.050
SAIFI	3.44	SAIFI	2.87

Including MED			
	5 YEAR AVERAGE		REPORTING YEAR
SAIDI	1831.70	SAIDI	6551.0
SAIFI	4.23	SAIFI	5.098

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

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)

KENTUCKY PUBLIC SERVICE COMMISSION

8. LIST OUTAGE CAUSES FOR CIRCUIT ALONG WITH PERCENTAGE OF TOTAL OUTAGE N NUMBERS REPRESENTED BY EACH CAUSE
9. CIRCUIT 5 YEAR AVERAGE (SAID)
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

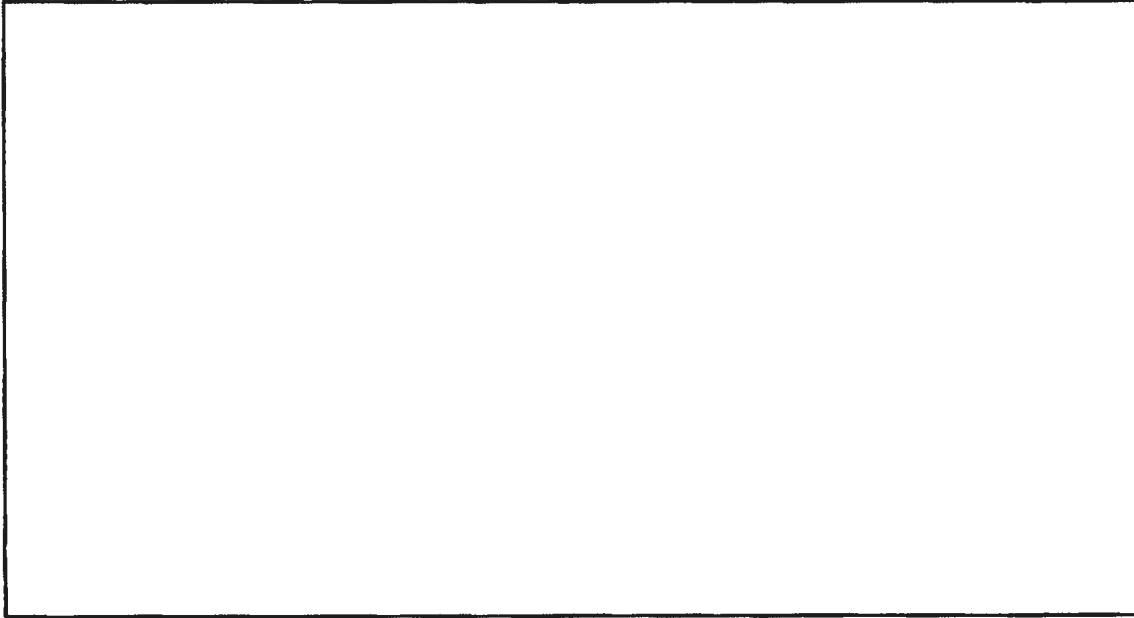
SECTION 6: VEGETATION MANAGEMENT PLAN REVIEW

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

SEE ATTACHMENTS: ATTACHMENT A

KENTUCKY PUBLIC SERVICE COMMISSION

SECTION 7: UTILITY COMMENTS

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BIG SANDY RECC 2018 REPORTING OUTAGE CAUSES FOR CIRCUIT AND PERCENTAGES

SAIDI/ SAIFI

ARKANSAS #655	MILES-35 / MEMBERS-812	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Bill Wells-Substation(Floyd County) US 23, Prestonsburg KY			2010	
SAIDI 533.59 SAIFI 1.82				
Five Year Average: SAIDI 341.4 SAIFI 1.78				
Maintenance		96%		28
Cause Unknown		2%		18

CORRECTIVE ACTION:

This circuit has heavy exposure to out of Right-of-Way trees. Completed helicopter side trimming and will schedule circuit trimming as soon as practicable.

STEAK HOUSE #656	MILES 4/ MEMBERS 81	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Bill Wells-Substation(Floyd County) Prestonsburg, KY			2018	
SAIDI 472.08 SAIFI 1.44				
Five Year Average: SAIDI 208.99 SAIFI 1.63				
Maintenance		95%		1
Equipment or Installation		3%		1

CORRECTIVE ACTION:

Most outages were caused by Right-of-way. This circuit was trimmed in 2018. Circuit will be monitored, but no corrective action planned at this time.

ABBOTT #346	MILES-23/MEMBERS-418	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Bonanza Substation (Floyd County) Rt 1427 Abbott Crk Rd				
SAIDI 287.71 SAIFI 1.51				
Five Year Average: SAIDI 230.51 SAIFI 2.23				

2013

Equipment or Installation	63%	2
Maintenance	32%	13
Unknown	4%	4

CORRECTIVE ACTION:

Out of Right-of-way trees were the largest outage cause, no action planned, but will monitor circuit.

Boons Camp #552	MILES-31/ MEMBERS-331	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Martin Co Substation (Johnson Co) Rt 40 Whitehouse KY				
SAIDI 343.52 SAIFI 1.70				
Five Year Average: SAIDI 324.65 SAIFI 2.47				

2014

Maintenance	42%	14
Equipment or Installation	33%	3
Planned Outage	21%	8
Public	3%	4

CORRECTIVE ACTION:

Out of Right-of-Way trees were the largest cause of outages. We will evaluate the possibility of aerial side trimming.

CALLOWAY #756	MILES-35/ MEMBERS 608	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Martin Co Substation (Johnson Co) Rt 40 Whitehouse KY				
SAIDI 523.41 SAIFI 2.14				
Five Year Average: SAIDI 420.18 SAIFI 2.34				

2021

Planned Outage	71%	4
Maintenance	28%	23

CORRECTIVE ACTION:

Out of Right-of-Way trees were the largest cause of outages. We will monitor circuit.

WHITE HOUSE #550	MILES-51/MEMBERS-552	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Martin Co Substation (Johnson Co) Rt 40 Whitehouse KY				
SAIDI 944.31 SAIFI 8.21				
Five Year Average: SAIDI 899.61 SAIFI 7.58				
2013				
Maintenance		62%		31
Other		18%		7
Unknown		15%		12
Equipment or Installation		3%		3

CORRECTIVE ACTION:

Trees were the largest cause of outages. Right-of-Way work was performed on the main circuit in 2021.

SALT LICK #308	MILES-52/ MEMBERS-9898	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Middle Creek Substation (Floyd Co) Rt 114 Prestonsburg KY				
SAIDI 692.82 SAIFI 5.08				
Five Year Average: SAIDI 507.09 SAIFI 5.01				
2015				
Unknown		53%		12
Maintenance		46%		23

CORRECTIVE ACTION:

Trees were the largest cause of outages. Hot spot work and evaluate out of Right-of-way trees.

KEATON #720	MILES-12 /MEMBERS-125	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Red Bush substation (Johnson County) Red Bush Ky Rt 469				
SAIDI 534.34 SAIFI 3.05				
Five Year Average: SAIDI 384.16 SAIFI 2.07				
2022				
Maintenance		94%		14
Equipment or Installation		2%		1
Cause Unknown		2%		3

CORRECTIVE ACTION:

Circuit trimmed in 2022. No Action Planned.

OIL FIELD #34	MILES-12/MEMBERS-57	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Red Bush substation (Johnson County) Red Bush, KY Rt 469				
SAIDI 988.04 SAIFI 6.68		2022		
Five Year Average: SAIDI 711.23 SAIFI 4.39				
Maintenance		74%		14
Cause Unknown		8%		3
Equipment & Installation		8%		1
Weather		7%		2
CORRECTIVE ACTION: Right-of-Way being trimmed in 2022. No other action planned.				

VOLGA #225	MILES-29/MEMBERS-252	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Red Bush Substation (Johnson County) Red Bush KY Rt 469				
SAIDI 1197.57 SAIFI 2.70		2011		
Five Year Average: SAIDI 530.68 SAIFI 2.85				
Maintenance		73%		26
Public		20%		4
Other		2%		3
Unknown		2%		10
Corrective Action: Large amount of Maintenance outages occurred in 2021 for permanent repair from ice storm damage. No other action planned.				

SPORTS PLEX # 678	MILES-16/ MEMBERS-83	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Salt Lick-substation (Knott Co) KY HWY 2029 Hueysville KY				
SAIDI 829.41 SAIFI 3.61		2017		
Five Year Average: SAIDI 218.28 SAIFI 1.07				
Weather		41%		2
Maintenance		37%		13
Other		20%		3
Corrective Action: Outages were caused by a mixture of planned for highway maintenance and out of Right-of-Way trees. We will monitor the circuit for additional actions.				

REHAB #107	MILES-9/ MEMBERS-280	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Thelma Substation (Johnson County) Thelma KY				
SAIDI 316.93 SAIFI 0.99		2016		
Five Year Average: SAIDI 129.68 SAIFI 1.12				
Public		80%		2
Maintenance		7%		1
Equipment or Installation		5%		3

Corrective Action:

We experienced an apartment complex fire on this circuit which accounts for the majority of outage time. No action planned.

DENVER #466	MILES-33/MEMBERS-502	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Volga-substation (Johnson County) Stone Coal Ky Rt 172				
SAIDI-567.51 /SAIFI-4.04		2016		
Five Year Average: SAIDI-456.42/SAIFI-3.632				
Maintenance		68%		17
Equipment or Installation		15%		3
Planned outage		13%		6
Cause Unknown				11

CORRECTIVE ACTION:

Outages were caused by various causes. No action planned.

FLAT GAP #661	MILES-9/ MEMBERS-280	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Volga Substation (Johnson County) Stone Coal KY Rt 172				
SAIDI 787.95 SAIFI 1.70		2014		
Five Year Average: SAIDI 321.75 SAIFI 2.12				
Maintenance		95%		50
Planned Outage		3%		3
Equipment or Installation		1%		4

CORRECTIVE ACTION:

Maintenance outages to repair numerous ice storm damages. No further actions planned.

THELMA #392	MILES-76/ MEMBERS-1030	PERCENT	DATE OF LAST CIRCUIT TRIM	OUTAGES
Volga Substation (Johnson County) Stone Coal KY Rt 172				
SAIDI 646.09 SAIFI 4.80			2019	
Five Year Average: SAIDI 312.69 SAIFI 2.71				
Maintenance		60%		15
Equipment or Installation		20%		19
Planned Outage		12%		10
Animals		5%		14

CORRECTIVE ACTION:

This circuit is a very long and is scheduled for helicopter trimming in 2022. No other 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 rotations. Spraying is scheduled with a goal of 4-year rotations.

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