

2007 reliability analysis
Grayson RECC

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COMMISSION

System as a whole

# of customers (NT)	15,734
# of customer interruptions (CIT)	20,163
Total cust. Interruption minutes (CMIT)	2,483,621
SAIDI (CMIT/NT)	157.9
CAIDI (CMIT/CIT)	123.2
SAIFI (CIT/NT)	1.28

Statistics based on cause of intrruption – sorted by SAIDI

Cause	# events	CI	CMI	SAIDI
TREES	200	4745	879,276	55.88
OTHER	158	4349	456,502	29.01
SCHEDULED	171	5137	315,165	20.03
LINE DOWN	30	1002	234,187	14.88
STORM	55	1320	171,136	10.88
LIGHTNING	84	1283	127,333	8.09
POLE	6	188	76,304	4.85
LIGHTNING ARRESTOR	8	607	63,925	4.06
FUSE	142	704	62,358	3.96
WILDLIFE	104	453	34,621	2.20
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NEUTRAL DOWN	2	71	24,485	1.56
TRANSFORMER	55	162	20,308	1.29
INSULATOR	4	51	8,847	0.56
BROKEN JUMPER	4	30	3,652	0.23
CONNECTION	15	34	2,910	0.18
OCR	2	26	2,420	0.15
SUPPLIER	1	1	192	0.01

Definitions

System as a whole

NT = Total customers served by system
CIT = Total number of custustomer interruptions
CMIT = Total customer interruption minutes

Individual causes, substations, circuits, etc.

CI = Numer of customer interrupted for specified variable e.g. Cause, Substation, Circuit
CMI = Customer interruption minutes for specified variable
SAIDI = CMI/NT
SAIFI = CI/# cust -- calculated for individual substations only

Notes:

- (1) Based on how the variables are defined and used, CAIDI will always be a constant x SAIDI. CAIDI is therefore not an independent variable and so no separate analysis has been done based on CAIDI.
- (2) Data on the number of customers served by each circuit is not reliable enough to make calculation of individual circuit SAIFI possible.

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Analysis by substation

Ranked by SAIDI

Substation	# cust	# events	CI	CMI	SAIDI	SAIFI
Elliottville	1842	165	4789	603,326	38.35	2.60
Newfoundland	1752	110	3121	468,805	29.80	1.78
Warnock	1417	118	1781	233,684	14.85	1.26
Low Gap	1224	71	1214	167,104	10.62	0.99
Airport Road	1147	68	1283	166,599	10.59	1.12
Argentum	1455	82	1400	153,455	9.75	0.96
Carter City	1102	96	1403	139,370	8.86	1.27
Sandy Hook	1183	73	971	125,480	7.98	0.82
Pactolus	1264	91	1155	119,813	7.61	0.91
Mazie	1184	59	721	118,606	7.54	0.61
Leon	940	49	1652	104,531	6.64	1.76
Pelfrey	832	59	673	82,848	5.27	0.81
Elliott Co. Prison	2	0	0	0	0	0

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Analysis by circuit

**10 Worst circuits ranked by SAIDI Most common cause
based on**

Circuit	SAIDI	SAIDI	# events
Newfoundland (1)	19.84	Trees	Trees
Elliottville (1)	18.41	Trees	Fuse
Elliottville (3)	12.59	Other	Other
Warnock (1)	10.77	Trees	Other
Airport Road (2)	10.59	Other	Lightning
Elliottville (2)	7.35	Scheduled	Scheduled
Pactolus (1)	7.31	Lightning	Trees
Mazie (2)	7.18	Line down	Scheduled
Newfoundland (4)	5.78	Storm	Other
Low Gap (2)	5.46	Trees	Trees
