



**Evergy Missouri West 2020 Reliability
Performance Report**

Annual reporting completed pursuant to 20 CSR 4240-23.010

April 30, 2021

CONFIDENTIAL

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20 CSR 4240.23.010 (1)(A), (B), (C), (D), and (3) – Reliability Statistics 2020

Table 1: Evergy Missouri West Reliability Indices

2020		MO West
Total Customers (Meter Counts)		313,681
Adjusted	SAIFI	1.15
	SAIDI	120.82
	CAIDI	105.38
	CAIFI	1.89
Unadjusted	SAIFI	1.47
	SAIDI	247.95
	CAIDI	168.73
	CAIFI	2.23

Excludes the following 2020 storm dates from the normalized data:
Jan 10, May 4, Jun 4, Jun 5, Jun 27, Dec 29

20 CSR 4240-23.010 (6), (7) – Highest 5% SAIFI Circuits Assessment

Patrols and repairs are planned to complete in the 2nd and 3rd Quarters of 2021. For circuits where analysis is required, a systematic patrol plan is developed based on identified outage causes. When and where feasible, repairs are made during the initial patrol. Additionally, Evergy Engineering will work with an external provider to perform predictive diagnostic testing (ultrasound) on some recurring problems and issue corrective action jobs for completion during the 2nd and 3rd Quarters of 2021. Tree patrols will be performed where indicated, and spot trimming performed as needed. Other maintenance, modifications, or upgrades not completed during the initial patrols will be completed by the end of the 3rd Quarter of 2021. Table 2 lists circuits identified as having the highest 5% of adjusted SAIFI statistics in 2020, as outlined in 20 CSR 4240.23.010 (6).

Table 2: Highest 5% SAIFI Circuits

Centers	Circuit	Substation	Action Plan	SAIFI	SAIDI
BLTN	40414	404	Outages related to weather, wind, and equipment failures; ultrasound test the feeder and replace failed equipment.	11.60	1589.2
STJO	38211	382	Outages related to equipment failure and varmints; ultrasound test the feeder, install varmint protection, and replace failed equipment.	7.33	969.93
TRTN	26712	267	Outages related to weather, high winds, lightning, vegetation, and equipment failures; ultrasound test the feeder, trim trees, install arrestors and replace failed equipment.	7.31	2151.57
HNTA	31011	310	Outages related to weather, varmint, equipment failure; ultrasound test the feeder, install varmint protection, and replace failed equipment.	7.22	594.71
TRTN	26711	267	Outages related to weather, high winds, lightning, vegetation, and equipment failures; ultrasound test the feeder, trim trees, install arrestors and replace failed equipment.	7.15	1822.05
HNTA	31012	310	Outages related to weather, high winds, lightning, vegetation, and equipment failures; ultrasound test the feeder, trim trees, install arrestors and replace failed equipment.	6.49	540.38
STJO	40121	401	Outages related to weather, high winds, lightning, vegetation, and equipment failures; ultrasound test the feeder, trim trees, install arrestors and replace failed equipment.	5.99	1085.38
STJO	39161	391	Outages related to weather, high winds, vegetation, and equipment failures; ultrasound test the feeder, trim trees, and replace failed equipment.	5.94	89.92
STJO	39711	397	Outages related to equipment failure, varmints, and lightning; ultrasound test the feeder, replace failed equipment, install varmint protection, and install lightning arrestors.	5.67	464.79

Center	Circuit	Substation	Action Plan	SAIFI	SAIDI
STJO	42611	426	Outages related to weather, high winds, lightning, vegetation, and equipment failures; ultrasound test the feeder, trim trees, install arrestors and replace failed equipment.	5.20	754.23
SDLA	34812	348	Outages related to equipment failure, vegetation, and lightning; ultrasound test the feeder, replace failed equipment, trim trees, and install lightning arrestors.	5.15	525.16
NVD	35011	350	Outages related to equipment failure, lightning, and varmints; ultrasound test the feeder, replace failed equipment, install lightning arrestors, and install varmint protection.	5.08	446.73
TRTN	35811	358	Outages related to vegetation, equipment failure and weather; ultrasound test the feeder, trim trees, and replace failed equipment.	4.87	243.54
MRYV	42213	22	Outages related to vegetation, equipment failure and varmints; ultrasound test the feeder, replace failed equipment, and install varmint protection.	4.79	267.26
STJO	40122	401	Outages related to lightning, weather, and equipment failures; ultrasound test the feeder, install arrestors, and replace failed equipment.	4.57	951.63
MRYV	39612	396	Outages related to equipment failure, varmints, and vegetation; ultrasound test the feeder, replace failed equipment, install varmint protection.	4.57	325.63
STJO	39815	398	Outages related to equipment failure, lightning, and weather; ultrasound test the feeder, replace failed equipment, and install arrestors.	4.53	634.46
LBRT	29022	290	Outages related to equipment failure, varmints, and weather; ultrasound test the feeder, replace failed equipment, and install varmint protection.	4.47	352.97

Center	Circuit	Substation	Action Plan	SAIFI	SAIDI
STJO	42612	426	Outages related to weather, high winds, vegetation, and equipment failures; ultrasound test the feeder, trim trees, and replace failed equipment.	4.31	440.47
BLTN	20311	203	Outages related to varmints and equipment failure; install varmint protection and replace failed equipment.	4.17	56.61
MRYV	43411	434	Outages related to varmints and equipment failure; install varmint protection and replace failed equipment.	4.08	289.19
MRYV	41811	418	Outages related to equipment failure, varmints, lightning, and vegetation; ultrasound test the feeder, replace failed equipment, install arrestors, and trim trees.	4.00	280.36
WRBG	26313	263	Outages related to weather, high winds, vegetation, and equipment failures; ultrasound test the feeder, trim trees, and replace failed equipment.	3.98	530.77
HNTA	33322	333	Outages related to equipment failure, varmints, and vegetation; ultrasound test the feeder, replace failed equipment, and install varmint protection.	3.96	279.89

Excludes the following 2020 storm dates from the normalized data: Jan 10, May 4, Jun 4, Jun 5, Jun 27, Dec 29

20 CSR 4240-23.010 (8) – Multi-Year Worst Performing Circuit Reporting

The referenced rule requires a plan and schedule to lower SAIFI metrics on circuits that are listed on the highest 5% SAIFI list for two out of three of the preceding years. Table 3 reflects the action plans identified to lower the SAIFI metric for these circuits. Additional patrols and root-cause analysis, where required, plan to complete in 3rd Quarter 2020.

Table 3: Multi-Year Worst Performing Circuit Report

Year	Center	Circuits	Substation	Action Plan	SAIFI	SAIDI
2019 2020	STJO	38211	382	Outages related to equipment failure and varmints; ultrasound test the feeder, install varmint protection, and replace failed equipment.	7.33	969.93
2018 2019 2020	BLTN	20311	203	Outages related to varmints and equipment failure; install varmint protection and replace failed equipment.	4.17	56.61