



**Evergy Missouri West 2019 Reliability
Performance Report**

Annual reporting completed pursuant to 20 CSR 4240-23.010

April 30, 2020

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20 CSR 4240-23.010 (1)(A), (B), (C), (D), and (3) – Reliability Statistics 2019

Table 1: Evergy Missouri West Reliability Indices

2019		MO West
Total Customers (Meter Counts)		325,493
Adjusted	SAIFI	1.189
	SAIDI	125.16
	CAIDI	105.23
	CAIFI	1.56
Unadjusted	SAIFI	1.641
	SAIDI	333.40
	CAIDI	201.99
	CAIFI	1.82

Excludes the following 2019 storm dates from the normalized data: January 11-14th, May 20th & 24th, June 21-22nd, July 10th & 21st, August 10th and 21st, and September 27th

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

Patrols and repairs planned to complete in the 2nd and 3rd Quarters of 2020. For circuits where analysis is required, a systematic patrol plan is developed based on identified outage causes. When and where feasible, repairs made during the initial patrol. Additionally, Evergy Engineering worked with an external provider to perform predictive diagnostic testing (Ultrasound) on some recurring problems and issued corrective action jobs scheduled for completion during the 2nd and 3rd Quarters of 2020. Tree patrols performed where indicated, and spot trimming performed as needed. Other maintenance, modifications, or upgrades not completed during the initial patrol plans to complete them by the end of the 3rd Quarter of 2020. Table 2 lists circuits identified as having the highest 5% of adjusted SAIFI statistics in 2019, as outlined in 20 CSR 4240-23.010 (6).

Table 2: Highest 5% SAIFI Circuits

Center	Circuit	Substation	Action Plan	SAIFI	SAIDI
LBRT	29042	290	Outages related to vegetation, equipment failures, and varmints; tree trimming required, ultrasound test the feeder, equipment repaired and varmint protection applied; work in progress	4.81	543.23
NVD	30711	307	Outages related to varmints and weather; ultrasound test the feeder, install varmint protection and replaced damaged equipment; work in progress	4.71	958.54
PLCT	35522	355	Outage related to vegetation and equipment failures; ultrasound tested feeder, requires tree trimming, replaced failed equipment, work in progress	4.45	533.62
PLCT	31922	319	Outages related to trees; required tree trimming, feeder cable failed; replaced fail cable and ultrasound test the feeder	4.12	307.77
BLSP	35112	351	Outages related to vegetation and varmints; ultrasound test the feeder, required tree trimming and varmint protection work in progress.	4.11	553.61
STJO	38231	382	Outages related to pole, vegetation, and equipment failures; one major outage caused the feeder breaker to lock-out 3 times; pole replaced and equipment repaired, ultrasound test the feeder, and tree trimming required	3.90	327.38
HNRT	28511	285	Outages related to trees and varmints affecting protected device SF452; required extensive patrols, tree trimming and varmint protection, and ultrasound tested feeder	3.19	331.29
MRYV	38712	387	Outages related to equipment failures on overhead conductors at various locations and vegetation; ultrasound test the feeder, conductors repaired and vegetation work in progress.	2.58	328.21
BLTN	25411	254	Outages related to weather and lightning, pole hit by a vehicle on two separate occasions and replaced, and ultrasound tested feeder	2.41	281.60

Center	Circuit	Substation	Action Plan	SAIFI	SAIDI
NVD	30713	307	Outages related to varmints and equipment failures; ultrasound test the feeder, recloser SF41 equipment and jumpers replaced; work in progress	2.40	317.13
STJO	38211	382	Outages related to vegetation and equipment failures on laterals; and ultrasound test the feeder, required trees trimmed and replaced equipment, work in progress	2.24	285.85
NVD	101501	101	Outages related to vegetation issues and equipment failures; equipment replaced and vegetation completed	2.05	476.38
BLTN	20311	203	Outages related to vegetation and weather; conductor replacement caused 3-phase recloser to open several times; repairs completed and ultrasound tested feeder, required tree trimming; work in progress	2.08	181.03
LBRT	25322	253	UG Terminator feeding into a large manufacture facility; made emergency repairs in July 2019; work completed and ultrasound test the feeder	1.00	562.00

Excludes the following 2019 storm dates from the normalized data: March 6th – 7th, April 29th-30th, May 18th-19th, June 16th-18th, June 29th -30th, July 22nd-24th, July 26th-27th, August 21st -22nd, October 14th, - 15th

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

The referenced rule requires the 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 implemented and completed in 2019 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	Centers	Circuits	Substations	Action Plan	SAIFI	SAIDI
2014 2015 2018 2019	BLNT	20311	203	Outages related to vegetation and weather; conductor replacement caused 3-phase recloser to open several times; repairs completed and ultrasound test the feeder, required tree trimming; work in progress	6.03	1,319.43
2017 2018 2019	STJO	31922	319	Outage related to trees; require tree trimming, cable failed: replaced fail cable and ultrasound test the feeder	4.12	307.77
2017 2019	BLSP	35112	351	Outages related to vegetation and varmints; and ultrasound test the feeder, required tree trimming and varmint protection work in progress.	4.11	553.62
2017 2019	HNRT	28511	285	Outage related to trees and varmints affecting protected device SF452; required extensive patrols, tree trimming and varmint protection, and ultrasound test the feeder	3.19	331.29
2017 2019	STJO	38211	382	Outage related to vegetation and equipment failures on laterals; ultrasound test the feeder, required tree trimming and replaced equipment	2.24	285.85
2017 2019	STJO	38833	388	Outage related to vegetation and equipment failures on laterals; ultrasound test the feeder, required tree trimming and replaced equipment	2.24	285.85