



**Kansas City Power & Light Company  
2018 Reliability Performance Report**

Annual reporting completed pursuant to 4 CSR 240-23.010

April 24, 2019

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**4 CSR 240.23.010 (1)(A), (B), (C), (D), and (3) – Reliability Statistics 2018**

**Table 1: 2018 KCP&L Reliability Indices**

Total Customers (Meter Counts)		296,505
Adjusted	SAIFI	0.98
	SAIDI	92.00
	CAIDI	93.77
	CAIFI	1.08
Unadjusted	SAIFI	1.24
	SAIDI	199.14
	CAIDI	161.19
	CAIFI	1.20

Excludes the following 2018 storm dates from the normalized data: June 2, June 12, June 26, August 28, November 25.

**4 CSR 240-23.010 (6), (7) – Highest 5% SAIFI Circuits Assessment**

Patrols and repairs were completed in the 3<sup>rd</sup> and 4<sup>th</sup> Quarters of 2018. For circuits where an analysis is being completed, a systematic patrol plan is developed based on identified outage causes. When and where feasible, repairs are made during the initial patrol. Additionally, KCP&L 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 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Quarters of 2019. Tree patrols were also performed where indicated, and spot trimming was completed as needed. Other maintenance, modifications or upgrades not completed during the initial patrol will be completed by the 3<sup>rd</sup> Quarter of 2019. Table 2 lists circuits identified as having the highest 5% of adjusted SAIFI statistics in 2018, as set forth in 4 CSR 240.23.010 (6).

**Table 2: Highest 5% SAIFI Circuits**

<b>KCPL MO</b>	<b>Substation</b>	<b>Action Plan</b>	<b>SAIFI</b>	<b>SAIDI</b>
5381	53	Spot trimmed trees; replaced insulators; installed CFCIs (Communicating Faulted Circuit Indicators); ultrasound tested	6.27	611.14
4311	43	Replaced insulators, crossarms, and poles; ultrasound tested	4.43	681.83
5644	56	Spot trimmed trees; replaced insulators and crossarms	4.00	701.14
3114	31	Replaced insulators and installed CFCIs; ultrasound tested	3.81	377.52
7492	74	Spot trimmed trees; replaced insulators; installed CFCIs; ultrasound tested	3.62	285.74
7491	74	Spot trimmed trees; replaced fuse mounts, suspension insulators, and arresters; ultrasound tested	3.56	264.46
6131	61	Replaced arresters; installed CFCIs and installed repair sleeves for conductors at various locations; ultrasound tested	3.14	573.66
1111	11	Spot trimmed trees; replaced fuse mounts and arresters; ultrasound tested	3.13	403.25
6012	60	Replaced suspension insulators; installed varmint guards on overhead recloser; ultrasound tested	3.03	208.71
2372	23	Spot trimmed trees; replaced insulators; installed CFCIs; ultrasound tested	2.67	330.91
3012	30	Spot trimmed trees; replaced insulators and tie wire; installed CFCIs; ultrasound tested	2.65	148.18
5614	56	Spot trimmed trees; replaced insulators, tie wires, and poles; installed CFCIs; ultrasound tested	2.47	387.85
2713	27	Replaced insulators and installed CFCIs; ultrasound tested	2.37	128.65
2334	23	Spot trimmed trees; replaced insulators, tie wires, and poles; installed CFCIs; ultrasound tested	2.32	336.72
12012	120	Replaced inline suspension insulators; repaired overhead conductors; ultrasound tested	2.25	89.33
1565	15	Replaced suspension insulators and overhead jumpers; installed CFCIs; ultrasound tested	1.83	116.44
6333	63	Spot trimmed trees; replaced insulators and tie wires; installed CFCIs; ultrasound tested	1.69	68.50
6111	61	Spot trimmed trees; replaced insulators, tie wires, and suspension insulator; installed CFCIs; ultrasound tested	1.51	331.48
5663	56	Spot trimmed trees; replaced pin and suspension insulators; ultrasound tested	1.48	734.01
9842	98	Spot trimmed trees; replaced pin and suspension insulators; installed CFCIs; ultrasound tested	1.43	89.96
2394	75	Spot trimmed trees; replaced insulators and tie wires; installed CFCIs; ultrasound tested	1.40	114.86
2724	27	Spot trimmed trees; repaired conductors; installed CFCIs; ultrasound tested	1.10	41.00
3513	35	Trimmed trees, repaired damage overhead conductors; ultrasound tested	1.09	422.85
7494	74	Varmint proofed equipment in various locations; installed CFCIs; ultrasound tested	1.09	422.85

Excludes the following 2018 storm dates from the normalized data: June 2, 12, 26; August 28, November 25

**4 CSR 240-23.010 (8) – Multi-Year Worst Performing Circuit Reporting**

The referenced rule requires the plan and a 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.

**Table 3: Multi-Year Worst Performing Circuit Report**

<b>Year</b>	<b>Centers</b>	<b>Circuits</b>	<b>Substation</b>	<b>Action Plan</b>	<b>SAIFI</b>	<b>SAIDI</b>
2017 2018	FM	12012	120	Remedial action was completed in 2015 and 2016; no further action was required in 2017 based upon anticipated improvement from 2016 efforts, and SAIFI improvement already realized from 2014-2016. Ultrasound tested in 2018 remedial action was completed in 1 <sup>st</sup> quarter 2019	2.25	89.33
2016 2018	FM	5381	53	Remedial action was completed in 2015 and 2016; no further action was required in 2017 based upon anticipated improvement from 2016 efforts, and SAIFI improvement already realized from 2014-2016. Spot trimmed trees; replaced insulators; installed CFCIs	6.27	611.14
2016 2018	DOD	3012	30	Spot trimmed trees, replaced insulators, tie wire, installed new CFCIs, Ultrasound tested in 2018 remedial action was completed in 1 <sup>st</sup> quarter 2019	2.65	148.18