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ROBERT A. ANDERSON
(1920-1994)

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June 21, 2018

via e-filing EXPRESS

Ms. Lynn M. Retz, Secretary
Kansas Corporation Commission
1500 S. W. Arrowhead Road
Topeka, Kansas 66604-4027

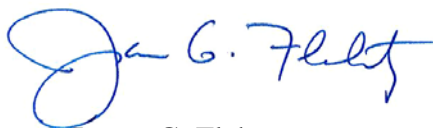
Re: Docket No. 17-EPDE-393-CPL

Dear Ms. Retz:

Enclosed for filing is a Revised 2017 Kansas Reliability Performance Report amended June 12, 2018 ("Revised Report"), of The Empire District Electric Company ("Empire"). The Revised Report is being filed pursuant to (1) Section II.A.vi. (paragraphs 50-56) and Appendix A of the Settlement Agreement approved by the Kansas Corporation Commission ("Commission") in its Order dated December 22, 2016, in Docket No. 16-EPDE-410-ACQ.

The Revised Report corrects the numbers contained in the "Number of Outages" and "Customers Affected" columns on page 4 of the Revised Report and the "Number of Outages" column on page 5 of the Revised Report. There are no other changes to the May 1, 2018 Report. Empire has discussed these corrections with Staff.

Sincerely,



James G. Flaherty
jflaherty@andersonbyrd.com

JGF:rr

Enclosure

cc: Thomas J. Connors
David W. Nickel
Della Smith
Dustin L. Kirk
Amber Smith
Christopher D. Krygier
Bethany Aborn



Liberty Utilities®
EMPIRE DISTRICT

**2017 Reliability Performance Report
16-EPDE-410-ACQ
17-EPDE-393-CPL
Amended 6-12-18**

**Sam McGarrah
Director, System Performance
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Empire District performs routine reliability activities for all customers. Transmission and distribution assets are inspected on a scheduled basis. Defects identified during inspections are scheduled for remediation. Vegetation clearing is also performed on a routine, scheduled basis.

Empire also identifies distribution circuits each year for reliability improvements. Each identified circuit is assessed by performing a “walk-through” of the circuit identifying visible defects and collecting engineering data to evaluate additional sectionalization and protective device coordination. Empire has made reliability improvements to 8 of the 21 Kansas circuits since the inception of the program in 2010.

Empire has also implemented Operation Toughen Up as a 10-year plan for system enhancements to improve electric service reliability. Empire has completed 6 years of the program to date with Kansas customers benefitting by additional transmission line construction, substation protection upgrades, and distribution rebuilds totaling over \$9.1M.

2017 Reliability Indices for Kansas Facilities

Kansas Indices Including Major Events

	SAIDI	SAIFI	CAIDI
January	3.48	0.040	85.85
February	2.94	0.033	89.61
March	29.10	0.314	92.77
April	14.73	0.128	115.20
May	45.14	0.410	110.02
June	28.44	0.123	232.13
July	2.18	0.032	67.70
August	18.13	0.184	98.63
September	2.12	0.026	80.58
October	2.82	0.042	67.45
November	2.81	0.051	55.32
December	4.44	0.071	62.42

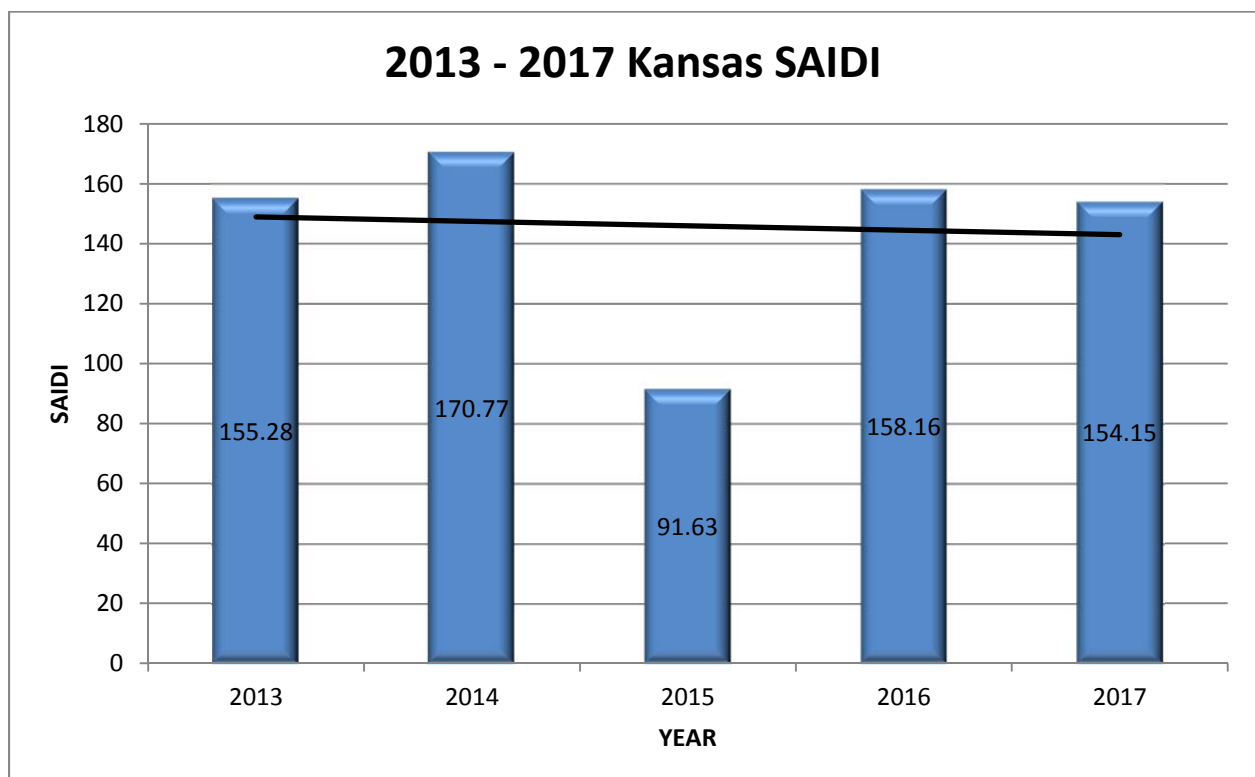
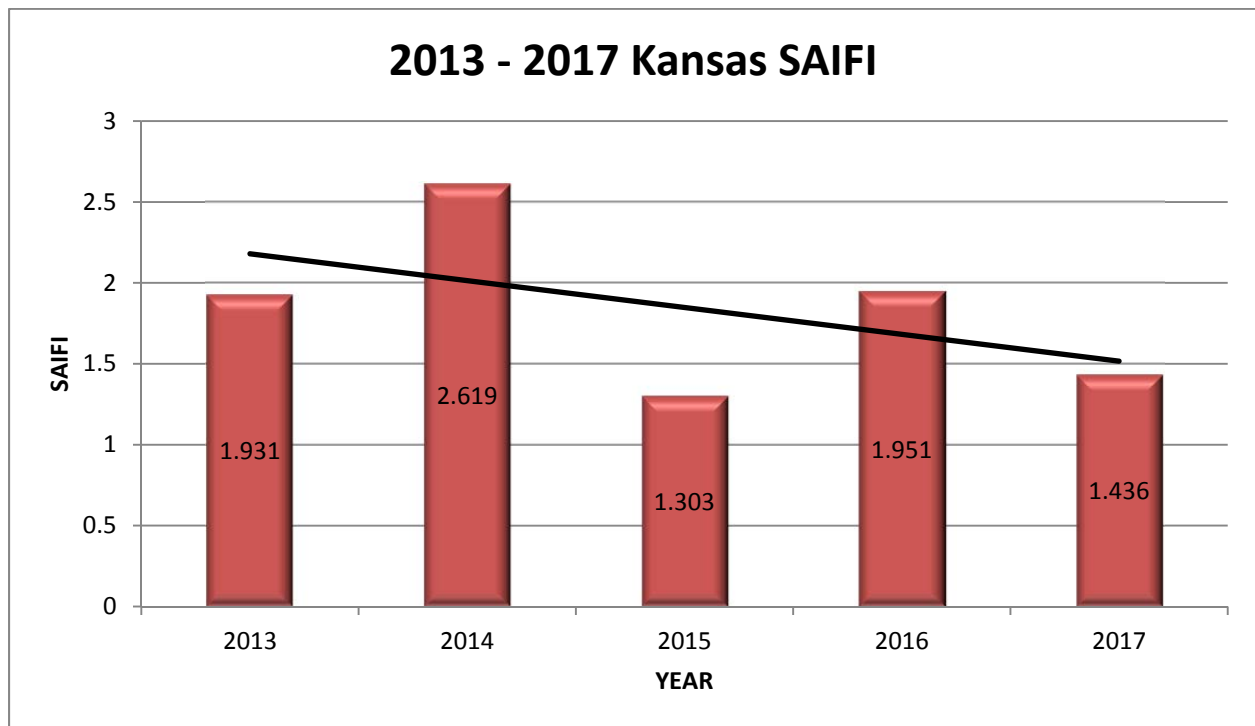
Kansas Indices Excluding Major Events

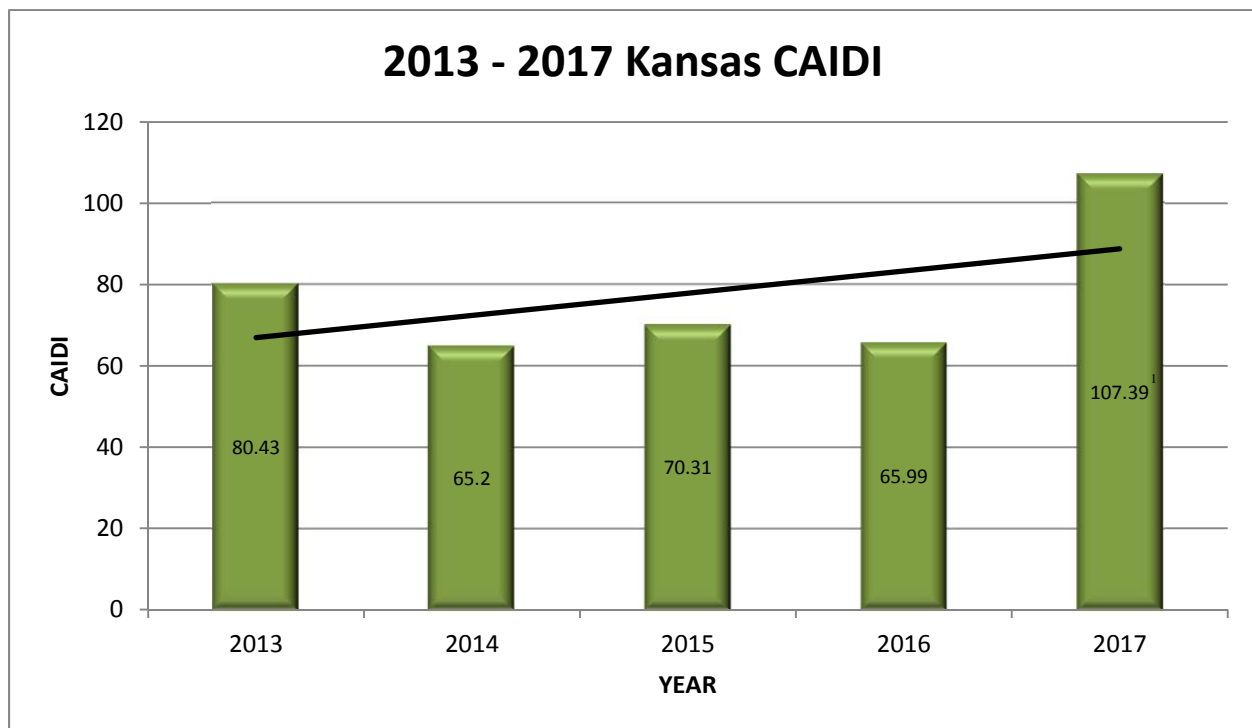
	SAIDI	SAIFI	CAIDI
January	3.48	0.040	85.85
February	2.94	0.033	89.61
March	29.10	0.314	92.77
April	14.73	0.128	115.20
May	19.14	0.269	71.22
June	5.47	0.028	193.19
July	2.18	0.032	67.70
August	18.13	0.184	98.63
September	2.12	0.026	80.58
October	2.82	0.042	67.45
November	2.81	0.051	55.32
December	4.44	0.071	62.42

THE EMPIRE DISTRICT ELECTRIC COMPANY									
CUSTOMER OUTAGE STATISTICS AND INDICES FOR KANSAS									
1/1/2017 to 12/31/2017									
INCLUDING MAJOR EVENT DAYS									
CIRCUIT NUMBER	NUMBER OF OUTAGES	OUTAGE HOURS REPORTED	CUSTOMERS AFFECTED	CUSTOMER OUTAGE MINUTES	TOTAL CUST. ON AFFECTED CIRCUIT	SAIFI	CAIDI	SAIDI	ASAI
2711	20	25.86	170	14,443	256	0.665	84.96	56.53	0.99989
2781	3	4.11	3	246	1	3	82	246	0.99953
2782	25	37.22	3,841	396,103	811	4.734	103.12	488.23	0.99907
2783	7	10.05	1,339	150,192	161	8.304	112.17	931.42	0.99823
2784	6	8.43	2,304	261,970	744	3.097	113.7	352.11	0.99933
2821	19	41.7	1,221	201,017	459	2.66	164.63	437.95	0.99917
2822	12	13.45	299	25,369	253	1.182	84.85	100.27	0.99981
2823	25	42.15	173	19,122	527	0.328	110.53	36.28	0.99993
2824	15	16.29	191	7,831	1,096	0.174	41	7.15	0.99999
2911	26	37.93	616	37,785	999	0.617	61.34	37.82	0.99993
2913	28	38.57	573	73,853	890	0.644	128.89	83.03	0.99984
2914	20	28.6	961	39,731	571	1.682	41.34	69.53	0.99987
3391	31	48.3	978	85,908	523	1.87	87.84	164.26	0.99969
4061	30	86.22	506	95,714	790	0.641	189.16	121.19	0.99977
4062	20	23.68	721	101,646	490	1.472	140.98	207.56	0.99961
4251	17	28.86	617	101,228	195	3.164	164.06	519.12	0.99901
4772	39	50.25	532	37,995	986	0.539	71.42	38.53	0.99993
6601	31	30.61	662	39,444	829	0.799	59.58	47.6	0.99991
6602	13	13.74	311	30,508	517	0.602	98.1	59.01	0.99989
	NUMBER OF OUTAGES	OUTAGE HOURS REPORTED	CUSTOMERS AFFECTED	CUSTOMER OUTAGE MINUTES	TOTAL CUSTOMERS SERVED	SAIFI	CAIDI	SAIDI	ASAI
Total:	387	586.02	16,018	1,720,105	11,158	1.436	107.39	154.15	0.99971

THE EMPIRE DISTRICT ELECTRIC COMPANY									
CUSTOMER OUTAGE STATISTICS AND INDICES FOR KANSAS									
1/1/2017 to 12/31/2017									
EXCLUDING MAJOR EVENT DAYS									
CIRCUIT NUMBER	NUMBER OF OUTAGES	OUTAGE HOURS REPORTED	CUSTOMERS AFFECTED	CUSTOMER OUTAGE MINUTES	TOTAL CUST. ON AFFECTED CIRCUIT	SAIFI	CAIDI	SAIDI	ASAI
2711	20	25.86	170	14,443	256	0.665	84.96	56.53	0.99989
2781	2	1.34	2	80	1	2	40	80	0.99985
2782	24	34.15	3,399	314,702	811	4.19	92.59	387.9	0.99926
2783	6	7.02	889	67,993	161	5.513	76.48	421.66	0.99919
2784	5	5.35	1,658	142,412	744	2.228	85.89	191.41	0.99963
2821	17	37.87	1,219	200,787	459	2.656	164.71	437.44	0.99916
2822	11	11.08	298	25,227	253	1.178	84.65	99.71	0.99981
2823	24	40.75	172	19,038	527	0.326	110.69	36.13	0.99993
2824	15	16.29	191	7,831	1,096	0.174	41	7.15	0.99999
2911	26	37.93	616	37,785	999	0.617	61.34	37.82	0.99993
2913	26	31.02	457	31,001	890	0.514	67.84	34.85	0.99993
2914	20	28.6	961	39,731	571	1.682	41.34	69.53	0.99987
3391	31	48.3	978	85,908	523	1.87	87.84	164.26	0.99969
4061	21	23.88	267	20,262	790	0.338	75.89	25.65	0.99995
4062	19	20.71	244	16,327	490	0.498	66.91	33.34	0.99994
4251	13	14.95	419	54,237	195	2.149	129.44	278.14	0.99947
4772	39	50.25	532	37,995	986	0.539	71.42	38.53	0.99993
6601	31	30.61	662	39,444	829	0.799	59.58	47.6	0.99991
6602	13	13.74	311	30,508	517	0.602	98.1	59.01	0.99989
	NUMBER OF OUTAGES	OUTAGE HOURS REPORTED	CUSTOMERS AFFECTED	CUSTOMER OUTAGE MINUTES	TOTAL CUSTOMERS SERVED	SAIFI	CAIDI	SAIDI	ASAI
Total:	363	479.7	13,445	1,185,711	11,158	1.205	88.19	106.26	0.9998

2013-2017 Reliability Indices for Kansas Facilities





¹ The increase in CAIDI was due to the fact that the decrease in SAIDI was not as pronounced as the decrease in SAIFI for 2017; therefore, since CAIDI is SAIDI divided by SAIFI, the value for CAIDI increased.

Major Event Report

May 22, 2017

Insulators failed on the transmission line serving the #278 - Galena substation due to damage from a previous storm. The equipment failure resulted in an interruption for all four of the distribution circuits serving Galena and the surrounding vicinity. A transmission breaker failure occurred at one of the adjacent substations while attempting to isolate the original fault. This resulted in both segments of the transmission lines serving the #278 – Galena substation to be in a faulted condition. The complication extended the outage duration as the #278 – Galena substation could not be restored until the repairs were made to the faulted transmission breaker at the adjacent substation.

Interruption Cause:	Substation Equipment
Date of Interruption:	5/22/17
Regional Location:	Area 212 – Galena, Kansas
Customer % without power:	29.8% (3,336 out of 11,158)
Outage Start:	5/22/17 8:49 PM
Last Outage Restored:	5/22/17 10:55 PM

June 17, 2017

Storm related wind damage interrupted service to portions of Baxter Springs, Riverton, Hallowell, Sherman City and surrounding rural areas. Included among the damage was a toppled transmission structure supporting two transmission lines; a 161 kV interconnection to Westar and a radial 69 kV line serving Sherman City, Sherwin, Hallowell and a SEKAN Electric Co-Op substation. The structure was damaged prior to the storm by agricultural machinery and had been identified during a routine inspection. The structure was scheduled for replacement, but failed before the replacement could occur. The radial transmission line and additional interconnection transmission line caused the interrupted customers to be off an extended period of time.

Interruption Cause:	Wind
Date of Interruption:	6/17/17
Regional Location:	Area 212 – Columbus
Customer % without power:	12.7% (1,028 out of 11,158)
Outage Start:	6/17/17 6:43 AM
Last Outage Restored:	6/18/17 2:45 AM

Total Kansas System Outages

Outage Cause Description	Customer Minutes Interrupted	Customers Interrupted	Number of Outages
ACTS OF MAN	8554	147	9
BIRDS	27227	290	14
CONDUCTOR TROUBLE	861	21	8
CONNECTOR TROUBLE	5904	74	11
CUTOUT FAILURE	61	1	1
FIRE CALL	59	1	1
LIGHTNING	194520	2126	67
METER DAMAGED	67	1	1
OTHER ANIMALS	1918	48	5
POLES HIT	187	5	1
RECLOSER FAILURE	260	1	1
SNOW OR ICE	1492	22	3
SPLICE FAILURE	120	2	2
SQUIRRELS	56410	1108	76
STRUCTURE FAILURE	2502	45	1
SUBSTATION - ACTS OF MAN	153	1	1
SUBSTATION EQUIPMENT	283324	1539	4
TRANSFORMER FAILURE	15070	118	18
TRANSMISSION – EQUIPMENT FAILURE	169664	1687	3
TRANSMISSION – UNKNOWN	138555	2081	7
TRANSMISSION – WIND	46393	195	2
TREES IN SERVICE LINES	3696	38	21
UNKNOWN	448352	4216	92
VEGETATION – FALL IN PRIMARY	58651	177	2
VEGETATION – FALL IN SECONDARY	44	1	1
VEGETATION – GROW IN PRIMARY	895	20	3
VEGETATION - GROW IN SECONDARY	283	3	3
WIND	254883	2050	35

2017 Worst Performing Circuits

Worst Performing Circuits - System 2017 Measured by SAIFI									
Circuit Number	Substation	Location	Customer Outage Minutes	Customers Affected	Total Cust. On Affected Circuits	SAIFI	SAIDI	CAIDI	Previous Year Worst Performing Circuit?
2782	278	Galena – Northeast	314,702	3,399	811	4.190	387.90	92.59	No

Worst Performing Circuit Assessment

No multi-year worst performing circuits identified.