

KCP&L
2018 Annual Infrastructure Compliance Report
Pursuant to 4 CSR 240-23.020

KCP&L Greater Missouri Operations Company
2018 Annual Infrastructure Compliance Report
Pursuant to 4 CSR 240-23.020

Infrastructure Inspection and Maintenance Program

June 7, 2019

Table of Contents

Introduction	3
Distribution System Summary.....	3
KCP&L Area Inspections	4
Table 1: KCP&L Inspection Corrective Action Inspections	4
GMO Area Inspections.....	5
Table 2: GMO Inspection Corrective Action Inspections.....	5
Table 3: Combined Distribution Equipment Rating Summary	6
Distribution Corrective Action Summary	6
Table 4: Combined Distribution Corrective Action Summary	6
Transmission System Summary	7
Table 5: KCP&L Transmission Facility Inspection Summary	7
Table 6: GMO Transmission Facility Inspection Summary.....	8
Table 7: KCP&L Transmission Equipment Condition Rating Summary	8
Table 8: GMO Transmission Equipment Condition Rating Summary.....	8
Table 9: KCP&L Transmission Corrective Action (CA) Summary.....	9
Table 10: GMO Transmission Corrective Action (CA) Summary	9

Introduction

Kansas City Power & Light Company (“KCP&L”) and KCP&L Greater Missouri Operations Company (“GMO”) (collectively, “Companies”), submit their 2018 Annual Infrastructure Compliance Reports as required under the State of Missouri’s *Electrical Corporation Infrastructure Standards*, 4 CSR 240-23.020 (“MoIR”). This report covers the period January 1, 2018, through December 31, 2018, incorporating by reference KCP&L and GMO’s infrastructure compliance plans filed July 1, 2008.

Distribution System Summary

KCP&L and GMO are aligned with the Overhead and Underground Infrastructure Inspection schedule set forth in the MoIR. Immediate corrective action is taken when conditions are identified as critical to safety and/or service reliability. Whenever possible, corrective work on non-critical conditions is bundled with future reliability work targeting underperforming feeders and laterals.

In 2018, Intrusive Wood Pole, Overhead Circuit Structure Patrol, Detail & Patrol of Underground Structure and Equipment, and Pad-mounted Equipment Patrol inspections were scheduled in both the KCP&L and GMO areas. Inspections are on schedule to be completed by the end of the cycle.

KCP&L Area Inspections

Overhead Patrols, Pad-mount Patrols, Manhole Patrols, Manhole Detailed, and Overhead Detailed & Wood Pole Intrusive inspections were scheduled for KCP&L's service area in 2018.

KCP&L is currently on schedule for all inspection types with the first 12-year cycle spanning from 2009-2020. The current schedule for inspections is as follows:

- 1) Overhead Patrols (Cycle 2 Rural 2015-2020) (Cycle 3 Urban 2017-2020)
- 2) Pad-mount Patrols (Cycle 3, 2015-2018)
- 3) Manhole Patrols (Cycle 3, 2015-2018)
- 4) Pad-mount Detailed (Cycle 2, 2015-2022)
- 5) Manhole Detailed (Cycle 2, 2015-2022)
- 6) Overhead Detailed and Wood Pole Intrusive (Cycle 1, 2009-2020)

Table 1: KCP&L Inspection Corrective Action Inspections							
KCP&L Distribution				Completed Through December 2018			
System Class	Inspection Type	Facility Type	Units	Inspections Scheduled (Annual Plan)	Inspections Completed	Inspections Completed Prior to 2018 (Ahead of Cycle Plan)	Inspections Pending Outside of Plan
Distribution	Patrol	Overhead Circuits Structures & Equipment ¹	Structures	28,685	28,685	0	0
		Pad-mounted Equipment	Equipment Locations	2,465	2,465	0	0
		Underground Structures and Equipment	Structure Locations	703	703	0	0
	Detail	Overhead Circuits Structures & Equipment	Structures	41	41	0	0
		Pad-mounted Equipment	Equipment Locations	0	0	0	0
		Underground Structures and Equipment	Structure Locations	703	703	0	0
	Intrusive	Wood Poles	Poles	41	41	0	0

¹ Inclusive of conductors, transformers, reclosers, regulators, capacitors, switching/protective devices as required under the MoIR.

GMO Area Inspections

Overhead Patrols, Pad-mount Patrols, Manhole Patrols, and Overhead Detailed & Wood Pole Intrusive inspections were scheduled for GMO's service area in 2018.

GMO is currently on schedule for all inspection types with the first 12-year cycle spanning from 2009-2020. The current schedule for inspections is as follows:

- 1) Overhead Patrols (Cycle 2 Rural 2015-2020) (Cycle 3 Urban 2017-2020)
- 2) Pad-mount Patrols (Cycle 3, 2015-2018)
- 3) Manhole Patrols (Cycle 3, 2015-2018)
- 4) Pad-mount Detailed (Cycle 2, 2015-2022)
- 5) Manhole Detailed (Cycle 2, 2015-2022)
- 6) Overhead Detailed and Wood Pole Intrusive (Cycle 1, 2009-2020)

Table 2: GMO Inspection Corrective Action Inspections							
GMO Distribution				Completed Through December 2018			
System Class	Inspection Type	Facility Type	Units	Inspections Scheduled (Annual Plan)	Inspections Completed	Inspections Completed Prior to 2018 (Ahead of Cycle Plan)	Inspections Pending Outside of Plan
Distribution	Patrol	Overhead Circuits, Structures, Equipment and Street Lights ²	Structures	42,425	42,425	0	0
		Pad-Mounted Equipment	Pads	20,176	20,176	0	0
		Underground Structures and Equipment	Structures	0	0	0	0
	Detailed	Overhead Structures, Circuits, Equipment and Street Lights	Structures	54,029	54,029	0	0
		Pad-mount Equipment	Pads	0	0	0	0
		Underground Structures and Equipment	Structures	0	0	0	0
	Intrusive	Wood Poles	Poles	54,029	54,029	0	0

² Inclusive of conductors, transformers, reclosers, regulators, capacitors, switching/protective devices as required under the MoIR.

Distribution Equipment Rating Summary

Table 3: Combined Distribution Equipment Rating Summary						
System Class	Inspection Type	Facility Type	Units	Immediate Repair or Next Day	Bundled for Future Work	Corrective Action Not Required
Distribution	Detail	Overhead Circuits Structures & Equipment	Structures	238 (.18%)	52,556 (40.56%)	76,773 (59.25%)
		Pad-mounted Equipment	Equipment Locations	785 (4.49%)	13,625 (77.96%)	3,068 (17.55%)
		Underground Structures and Equipment	Structure Locations	830 (20.04%)	3,292 (79.48%)	20 (.48%)
	Intrusive	Wood Poles	Poles	320 (13.98%)	1,964 (85.80%)	5 (0.22%)

Distribution Corrective Action Summary

The number of corrective actions completed as the result of facility inspection concerns or in conjunction with Worst Performing Circuit and Lateral Improvement jobs are included in Table 4. Corrective efforts include infrared inspections of splices, ultrasound detection of insulators, ground wire repairs, varmint guards, riser conduit repairs, arrester replacements, critical pole and cross arm replacements, repair/replace transformers, and reinforce or replace wood poles, etc.

Table 4: Combined Distribution Corrective Action Summary							
System Class	Inspection Type	Facility Type	Component	CA Scheduled in 2018	CA Completed in 2018	CA Planned in 2019	CA Planned after 2019
Distribution	Patrol and Detailed Patrol	Overhead Circuits Structures & Equipment, Street Lights	Structures	5,000	6,036	5,000	4,500
		Pad-mounted Equipment	Pads	500	11,635	500	300
		Underground Structures and Equipment	Structures	30	60 ³	30	30
	Intrusive	Wood Poles	Poles	750	1305	750	750

³ Structural Integrity work takes up to 2-years to schedule and complete due to the complexity of the remediation necessary.

Transmission System Summary

All KCP&L and GMO transmission lines are inspected annually by aerial and/or ground patrol, as was the case in the spring of 2018. This schedule is more rigorous than that required under the MoIR. There were 177 combined corrective actions, based on aerial and ground patrols, completed in 2018. There are 62 combined corrective actions scheduled for 2019 completion.

Detailed and intrusive inspections were completed on transmission lines in both KCP&L and GMO service areas in 2018. A total of 3,697 poles were inspected in the combined service areas, of which, 96 were found in need of corrective action. There were 48 combined corrective actions, based on detailed and intrusive inspections, completed in 2018. There are 16 poles scheduled for completion in 2019.

Table 5: KCP&L Transmission Facility Inspection Summary							
KCP&L Transmission				Completed Through December 2018			
System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2018	Inspections Completed During 2018	Inspections Completed Prior to 2018 (Ahead of Plan)	Inspections Pending in 2018 Outside of Plan
Transmission	Aerial and Ground Patrol	Overhead Circuits Structures & Equipment	Structures	7,215	7,215	0	0
		Underground Structures and Equipment	Structures	22	22	0	0
	Detail and Intrusive	Wood/Steel Poles	Poles	802	824	0	0

Table 6: GMO Transmission Facility Inspection Summary							
GMO Transmission				Completed Through December 2018			
System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2018	Inspections Completed During 2018	Inspections Completed Prior to 2018 (Ahead of Plan)	Inspections Pending in 2018 Outside of Plan
Transmission	Aerial and Ground Patrol	Overhead Circuits Structures & Equipment	Structures	14,779	14,779	0	0
		Underground Structures and Equipment	Structures	1	1	0	0
	Detail and Intrusive	Wood/Steel Poles	Poles	2,754	2,873	0	0

Table 7: KCP&L Transmission Equipment Condition Rating Summary						
System Class	Inspection Type	Facility Type	Component	Repairs Completed Within 12-Months	Schedule for Repair Within 12 to 36 Months	Corrective Action Not Required
Transmission	Aerial and Ground Patrol	Overhead	Poles, Switches	27 (0.37%)	18 (0.25%)	7,170 (99.38%)
		Underground Structures	Manholes	2 (9.09%)	0 (0.00%)	20 (90.91%)
	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	16 (1.94%)	37 (4.49%)	771 (93.57%)

Table 8: GMO Transmission Equipment Condition Rating Summary						
System Class	Inspection Type	Facility Type	Component	Repairs Completed Within 12-Months	Schedule for Repair Within 12 to 36 Months	Corrective Action Not Required
Transmission	Aerial and Ground Patrol	Overhead	Poles, Switches.	55 (0.37%)	44 (0.30%)	14,680 (99.33%)
		Underground Structures	Manholes.	0 (0.00%)	0 (0.00%)	1 (100%)
	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	32 (1.11%)	11 (0.38%)	2,830 (98.50%)

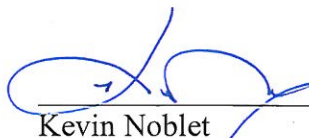
Table 9: KCP&L Transmission Corrective Action (CA) Summary							
System Class	Inspection Type	Facility Type	Component	CA Planned in 2018	CA Completed in 2018	CA Planned in 2019	CA Planned after 2019
Transmission	Aerial and Ground Patrol	Overhead Structures & Equipment	Poles, Switches	27	28	18	18
	Aerial and Ground Patrol	Underground Structures and Equipment	Manhole	0	0	0	0
	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	3	16	15	22

Table 10: GMO Transmission Corrective Action (CA) Summary							
System Class	Inspection Type	Facility Type	Component	CA Planned in 2018	CA Completed in 2018	CA Planned in 2019	CA Planned after 2019
Transmission	Aerial and Ground Patrol	Overhead Structures & Equipment	Poles, Switches	55	149	44	44
	Aerial and Ground Patrol	Underground Structures and Equipment	Manhole	0	0	0	0
	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	3	32	1	10

VERIFICATION

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

I, Kevin Noblet, being duly affirmed according to law, depose and hereby state that I am authorized to make this affidavit on behalf of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company, as Vice President, and that the facts above set forth are true and correct to the best of my knowledge, information and belief.



Kevin Noblet
Kansas City Power & Light Company

Subscribed and affirmed before me this 6th day of June, 2019.


NOTARY PUBLIC

My Commission Expires:

1-14-2023

