

KCP&L
2009 Annual Infrastructure Compliance Report
Pursuant to 4 CSR 240-23.020

KCP&L Greater Missouri Operations Company
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Infrastructure Inspection and Maintenance Program

July 1, 2010

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Introduction and Summary

Kansas City Power & Light Company, Inc. (“KCP&L” or “Company”) and KCP&L Greater Missouri Operations Company, Inc. (“GMO”), submit their 2009 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, 2009, through December 31, 2009, incorporating by reference KCP&L and GMO’s infrastructure compliance plans filed July 1, 2008.

Distribution System Summary

KCP&L’s operation and maintenance of its distribution system is help shaped by KCP&L’s Comprehensive Energy Plan (“CEP”), MPSC Case No. EO-2005-0329. As reflected in KCP&L’s CEP quarterly reports to staff, the distribution system inventory and condition assessment programs were completed on the overhead distribution system in 2008. The requirements set forth under the CEP Inventory and Condition Assessment Program are more aggressive and eclipse the Detailed Inspection requirements of the MoIR.

KCP&L recognizes the CEP Inventory and Condition Assessment Program as a best practice and incorporated the program into GMO’s service territories beginning in 2009 with scheduled completion in 2011. In addition to the OH Detailed Inspections, KCP&L initiated inventory and visual assessments on the underground facilities in the GMO Service Area. By using inventory and visual assessments—like those found in the CEP program—in GMO’s territories, the MoIR’s detailed and simple patrols requirements will be met. The inventory schedule is more aggressive than MoIR’s requirements and it is expected overhead detailed

patrols and overhead and underground visual patrols will be completed earlier than timeframes required under the MoIR.

When KCP&L's current Inventory and Inspection Plan is complete, the company will begin an inspection plan that aligns with the Overhead and Underground Inspections schedule set forth in the MoIR.

Corrective action is taken immediately when conditions discovered during the course of inspection are identified as critical to safety or service reliability. Corrective work on conditions not rising to that critical threshold is bundled together as planned work with a focus and priority on improving performance of poorly performing feeders and laterals. Corrective work is also completed within the normal course of construction work.

In 2009, KCP&L and GMO Metro Area streetlights were all inspected and necessary corrective actions completed within a month of reporting. Streetlights outside of the Metro Area are scheduled for inspection over the next two years. In addition, inspections of all wood streetlight poles are being incorporated into the intrusive inspection program. Also, the Overhead Detailed Inspections include inspection of streetlights.

In 2009, KCP&L completed a program to inventory and complete detailed inspections of underground manholes and vaults in the underground "network" and "looping" distribution circuits located in the Downtown and Plaza areas of Kansas City. The schedule was aggressive and exceeded MoIR requirements. Also, Underground Structures were inspected during routine work and new construction; these structures are included in the reported inspections. In the event conditions are identified as critical to safety or service reliability, corrective actions are taken immediately.

Intrusive Wood Pole Inspections began in 2009. Inspections were conducted in KCP&L's service area as inventory and pole tagging in GMO's service areas were advanced. In

2009, the Intrusive Wood Pole Inspections were accelerated ahead of the timeframe outlined in the compliance plans filed with the Commission. All of the poles identified as “reinforceable rejects” were reinforced with a portion of the work scheduled for completion in 2010 and not captured in this report’s data. Work began on replacing “non-reinforceable” rejects and is planned for completion at a pace to ensure keeping up with the continuing inspections.

On a trial basis, the Company began to include inspection of telephone company poles. Telephone company poles were only inspected and not treated or reinforced. We reported priority poles to the telephone company and it is replacing the subject poles. Also, a list of other rejected poles owned by the telephone company was provided and we are now working with the telephone company toward an agreed plan to address flaws in their poles. The joint use agreement between the Company and the telephone company is silent on inspection and restoration requirements. Furthermore, the joint use partners are not held to MoIR standards. The Company is re-evaluating if it will continue inspection of joint use poles owned by the telephone company.

Transmission System Summary

All KCP&L and GMO transmission lines are inspected annually by aerial and ground patrol, as was the case in spring 2009. This is more robust than the schedule required under the MoIR. Corrective actions, based on the patrols, were completed in the second half of 2009, except for 3 items scheduled in 2010 identified in Table 10.

Detailed and intrusive inspections were completed on transmission lines in KCP&L and GMO’s service areas. Items of potential concern identified during the inspections were addressed and corrective actions scheduled and completed in 2009.

Tracking and Data Management Summary

KCP&L continues to develop an asset condition database with a link to the Company's work management and AM/FM GIS programs. When completed, this program will facilitate recording, tracking and reporting of the MoIR inspection and corrective work process.

DISTRIBUTION

Table 1: KCP&L Corrective Action and Equipment Conditions							
KCP&L Distribution				Completed in 2009			
System Class	Inspection Type	Facility Type	Units	Inspections Scheduled	Inspections Completed	Inspections Completed Prior to 2009-- ahead of schedule	Inspections Not Completed as scheduled
Dist	Patrol	Overhead Circuits Structures & Equipment ¹	Structures	0	0	48,013	0
		Pad-mounted Equipment	Equipment Locations	0	0	0	0
		Underground Structures and Equipment	Structure Locations	0	406	0	0
	Detail	Overhead Circuits Structures & Equipment ¹	Structures	0	0	48,013	0
		Streetlight System	Structure	5,467	5,467	0 ⁽²⁾	0
		Pad-mounted Equipment	Equipment Locations	0	0	0	0
		Underground Structures and Equipment	Structure Locations	406	406	0	0
	Intrusive	Wood Poles	Poles	15,725	49,964	0	0

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

Note 2: All KCP&L Area street lights are inspected every year.

Only streetlight and intrusive wood pole inspections were completed in the KCP&L Missouri service areas in 2009. A complete overhead assessment was completed in the KCP&L Missouri Service Area in the KCP&L service area in 2008. Detailed inspections of both Underground Structures and Pad-Mounted Equipment will begin in the KCP&L service area after the completion of detailed overhead and underground inspections in the GMO areas.

The intrusive wood pole inspections began in 2009 in the KCP&L areas and are scheduled for completion in advance of MoIR requirements.

Table 2: GMO Corrective Action and Equipment Conditions							
GMO Distribution				Completed in 2009			
System Class	Inspection Type	Facility Type	Units	Inspections Scheduled	Inspections Completed	Inspections Completed Prior to 2009— ahead of schedule	Inspections Not Completed in 2009 as scheduled
Dist	Patrol	Overhead Circuits Structures & Equipment ¹	Structures	35,000	76,060	0	0
		Pad-mounted Equipment	Equipment Locations	5,000	23,286	0	0
		Underground Structures and Equipment	Structure Locations	0	0	0	0
	Detail	Overhead Circuits Structures & Equipment ¹	Structures	35,000	76,060	0	0
		Streetlight System	Structures	24,729	24,729	0	0
		Pad-mounted Equipment	Equipment Locations	0	154	0	0
		Underground Structures and Equipment	Structure Locations	0	0	0	0
	Intrusive	Wood Poles	Poles	0	0	0	0

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

There were no planned inspections in the GMO service areas in the last half of 2008.

Detailed overhead inspections and both overhead and underground patrol inspections began in 2009 and are scheduled for completion in 2011—ahead of the schedule requirements under the MoIR. Detailed Underground Equipment and Below Grade Structure Inspections are scheduled to begin in 2010 for the GMO service areas.

We currently are working on, and will complete, the GMO system inventory in 2011.

This project will install pole numbers and allow us to complete the intrusive pole inspections.

We plan to have the intrusive inspections completed ahead of the MoIR requirements.

Table 3: Combined GMO and KCP&L Distribution Equipment Condition Rating Summary for 2009						
System Class	Inspection Type	Facility Type	Component	Immediate Repair or Next Day	Scheduled for Future Repair	Scheduled Corrective Action Not Required
Distribution	Detail	Overhead Circuits Structures & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches, Line Fuses, Arresters.	15 (.1%)	5,927 (12.2%)	42,827 (87.8%)
		Pad-mounted Equipment	Transformers, Capacitors, Switchgear.	1050 (0)	0 (0)	0 (0)
		Underground Structures and Equipment	Manhole, Vaults, Transformers, Network Protectors, Switches, Cable and Joints, Cable Hangers	0 (0%)	12 (.1%)	400 (99.9%)
Distribution	Intrusive	Poles and Structures - Wood	Poles	42 (.2%)	2,571 (99.8%)	0 (0)

Note 1: Reject poles identified with the Intrusive Pole Inspections were all restored in 2009 and the first half of 2010.

**Table 4: Combined GMO and KCP&L Distribution Corrective Action (CA) Summary
Through December 2009**

System Class	Inspection Type	Facility Type	Component	CA Scheduled in 2009	CA Completed in 2009	CA Planned in 2010	CA Planned after 2010
Distribution	Detail	Overhead Circuits Structures & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches, Line Fuses, Arresters	0	145	1,226	2,963
		Pad-mounted Equipment	Transformers, Capacitors, Switchgear.	0	796	1544	0
		Underground Structures and Equipment	Manhole, Vaults, Transformers, Network Protectors, Switches, Cable and Joints, Cable Hangers	8	12	6	0
Distribution	Intrusive	Poles and Structures - Wood	Poles	2,300	2,200	100	0

TRANSMISSION

Table 5: KCP&L Transmission Corrective Action and Equipment Conditions

KCP&L Transmission				Completed Through December 2009			
System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2009	Inspections Completed During 2009	Inspections Completed Prior to 2009 (ahead of schedule)	Inspections Not Completed in 2009 (as scheduled)
Transmission	(Aerial and Ground Patrol)	Overhead Circuits Structures & Equipment	Structures	7,279	7,279	0	0
		Underground Structures and Equipment	Structures	30	30	0	0
	Detail and Intrusive	Wood Poles	Poles	986	1,424	0	0

Note 1: Aerial patrols of the transmission system are completed annually.

Table 6: GMO Transmission Corrective Action and Equipment Conditions

GMO Transmission				Completed Through December 2009			
System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2009	Inspections Completed During 2009	Inspections Completed Prior to 2009 (ahead of schedule)	Inspections Not Completed in 2009 (as scheduled)
Transmission	(Aerial and Ground Patrol)	Overhead Circuits Structures & Equipment	Structures	14,530	14,530	0	0
		Underground Structures and Equipment	Structures	1	1	0	0
	Detail and Intrusive	Wood Poles	Poles	1,496	1,374	0	122

Note 1: Aerial and ground patrols of the transmission system are completed annually.

Note 2: Intrusive inspections were completed for KCP&L and GMO's service area in 2009. KCP&L plans to do intrusive/detailed inspections on 8.3% of the transmission system each year.

Table 7: KCP&L Transmission Equipment Condition Rating Summary

System Class	Inspection Type	Facility Type	Component	Immediate Repair to one year.	Scheduled for Future Repair- 12 Mo to 3 yrs.	Corrective Action Not Required
Transmission	(Aerial and Ground Patrol)	Overhead	Poles, Switches.	12 (0.16%)	519 (7.13%)	6,748 (92.71%)
		Underground Structures	Manholes.	0	0	30
Transmission	Detail and Intrusive	Poles and Structures - Wood	Poles	0	4 (0.28%)	1,420 (99.72%)

Table 8: GMO Transmission Equipment Condition Rating Summary						
System Class	Inspection Type	Facility Type	Component	Immediate Repair to one year.	Schedule for Future Repair 12 Mo to 3 yrs	Corrective Action Not Required
Transmission	(Aerial and Ground Patrol)	Overhead	Poles, Switches.	25 (0.17%)	1,167 (8.03%)	13,338 (91.80%)
		Underground Structures	Manholes.	0	0	1
Transmission	Detail and Intrusive	Poles and Structures - Wood	Poles	2 (0.15%)	16 (1.16%)	1,356 (98.69%)

Table 9: KCP&L Transmission Corrective Action (CA) Summary							
System Class	Inspection Type	Facility Type	Component	CA Planned in 2009	CA Completed in 2009	CA Planned in 2010	CA Planned after 2010
Transmission	(Aerial and Ground Patrol)	Overhead Structures & Equipment	Poles, Switches	12	12	0	519
Transmission	(Aerial and Ground Patrol)	Underground Structures and Equipment	Manhole	0	0	0	0
Transmission	Detail and Intrusive	Poles and Structures - Wood	Poles	0	0	0	4

Table 10: GMO Transmission Corrective Action (CA) Summary							
System Class	Inspection Type	Facility Type	Component	CA Planned in 2009	CA Completed in 2009	CA Planned in 2010	CA Planned after 2010
Transmission	(Aerial and Ground Patrol)	Overhead Structures & Equipment	Poles, Switches	25	22	3	1,167
Transmission	(Aerial and Ground Patrol)	Underground Structures and Equipment	Manhole	0	0	0	0
Transmission	Detail and Intrusive	Poles and Structures - Wood	Poles (treated or replaced)	2	2	0	16

