KCP&L
2010 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, 2011

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Introduction and Summary

Kansas City Power & Light Company ("KCP&L" or "Company") and KCP&L Greater Missouri Operations Company ("GMO" and collectively, "Companies"), submit their 2010 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, 2010, through December 31, 2010, 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 influenced by KCP&L's Comprehensive Energy Plan ("CEP"), MPSC Case No. EO-2005-0329. In 2010, for all intents and purposes, KCP&L successfully completed the CEP 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 Inspection Program were more aggressive and eclipsed the Detailed Inspection requirements of the MoIR.

KCP&L recognized the CEP inventory and inspection program as a best practice and incorporated the program into GMO's service territories beginning 2009 and with scheduled completion mid-year of 2011. By continuing inventory and visual inspections—like those found in the CEP program—in GMO's territories, the MoIR's detailed and simple patrols requirements were met. The CEP's schedule was 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, it will provide a good foundation and the company will then transition to an inspection plan aligned 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 with planned work—focusing on the priority of improving performance of poorly performing feeders and laterals. Corrective work is also completed within the normal course of construction work.

In 2010, all KCP&L and GMO streetlights were inspected concurrently with the Overhead Inventory Inspection Program and corrective actions completed as required. Wood streetlight poles were also inspected as part of the intrusive inspection program.

In 2009, KCP&L completed in advance of the MoIR 12-year cycle the required detailed inspection of the Distribution Network located in the downtown Kansas City and the Plaza areas. This work also satisfied the Detailed Underground Manholes and Vault Inspection requirements. The aggressive inspection schedule exceeded the 12-year inspection requirement under MoIR. In 2021, future Detailed Underground Manholes and Vault Inspections will be integrated consistent with the cycle set forth in MoIR.

The Detailed Underground Structure Inspections are currently completed during routine work and new construction. The Underground Structures not inspected during routine work and new construction will be identified and inspections completed within the required 8-year cycle.

Intrusive Wood Pole Inspections began in 2009. KCP&L service area inspections were temporarily halted as inventory and pole tagging in GMO's service areas were advanced. In 2010, completed Intrusive Wood Pole Inspections were 20% over inspections originally planned in the 2009 report. All of the poles identified as "reinforceable rejects" were reinforced. Work

started on replacement of non-reinforceable rejects and is planned to be completed on a pace to keep up with the continuing inspections.

The Companies continue to inspect poles owned by Joint Use Partners. In 2010, their condition was reported to our Joint Use Partners and they have implemented restoration and replacement plans.

Transmission System Summary

All KCP&L and GMO transmission lines are inspected annually by aerial and ground patrol, as was the case in Spring 2010. This schedule is more vigorous than that required under the MoIR. Corrective actions, based on the patrols, were completed in the second half of 2010, including three items originally scheduled in 2009.

Detailed and intrusive inspections were completed on transmission lines in the GMO's service areas. No detailed and intrusive inspections were completed in 2010 in the KCP&L's service areas. In 2010, 1,583 poles were inspected with 1,017 poles scheduled for completion in 2011. The scope of the detailed and intrusive inspections was expanded to include steel poles in 2010. Conditions identified during the inspections were addressed and corrective actions scheduled and completed in 2010.

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.

Table 1: 2010 KCP&L Inspection Corrective Action Inspections

KCP&L MO Distribution				Completed Through December 2010			
System Class	Inspection Type	Facility Type	Units	Inspections Scheduled (Original Plan)	Inspections Completed	Inspections Completed Prior to 2010 (Ahead of Plan)	Inspections Pending Outside of Plan
Distribution	Patrol	Overhead Circuits Structures & Equipment[a]	Structures	-	-	-	0
		Pad-mounted Equipment	Equipment Locations	-	-	-	0
		Underground Structures and Equipment	Structure Locations	-	-	-	0
	Detail	Overhead Circuits Structures & Equipment	Structures	-	-	-	0
		Pad-mounted Equipment	Equipment Locations	-	-	-	0
		Underground Structures and Equipment	Structure Locations	400	208	0	192
	Intrusive	Wood Poles	Poles	3,000	3,604	604	0

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

KCP&L Area Inspections

All Overhead Patrol and Overhead Detailed Equipment inspections in the KCP&L service area were completed ahead of the required cycle. Therefore, no planned inspections were recorded in 2010. The next inspection cycle is planned for 2012.

Detailed inspections of pad-mounted equipment in the KCP&L service area is schedule to begin in mid-year 2011 when the Inventory is completed in the GMO service areas. The strategy is to suspend the planned cycle and accelerate completion of the OH inspections for completion at the same time as the inventory. The Detailed underground equipment inspections for KCP&L

and GMO service areas will be scheduled and completed within the required 8-year cycle, as will meeting the underground equipment patrol inspection requirements.

The Manhole and Vault Patrol Inspections will be completed at the same time and scheduled as part of the underground equipment patrol.

Structuring an inspection process for the Below Grade Manhole and Vault Detailed Inspections has impacted the schedule. Random inspections along with the normal work schedule did not yield the desired efficiencies. The program is being reevaluated and the new procedure will complete the detailed inspections of the remaining manholes and vaults on the system within the required cycle time.

Network Inspections were completed in 2008 and 2009. Future inspections will be aligned with the MoIR schedule.

The Intrusive Wood Pole Inspections plan continued in KCP&L's service areas in 2010 based on the MoIR 12-year cycle.

GMO Area Inspections

Patrol and Detailed Overhead pole and equipment inventory and inspections began in the GMO area in 2009 and will be completed mid-year 2011—well ahead of the 4 and 8-year cycles required under the MoIR.

The underground "pad mounted equipment" and Below Grade Patrol Inspections were completed at the same time as the overhead inventory inspections. It is expected these inspections will be completed ahead of plan.

Intrusive wood pole inspections were completed in the GMO service areas between 2001 and 2007—prior to the MoIR. In light of the recent completion of intrusive wood pole inspections, the Company advanced the pole inventory and numbering program in the GMO

areas. The Company believes completion of the pole inventory will enhance the future intrusive inspection process in the GMO area without detriment to reliability or infrastructure management. The intrusive wood pole inspections will resume at the completion of the pole inventory process.

Table 2: GMO 2010 Inspection Corrective Action Inspections

GMO Distribution					Completed in 2010		
System Class	Inspection Type	Facility Type	Units	Inspections Scheduled (Original Plan)	Inspections Completed	Inspections Completed Prior to 2010 (Ahead of Plan)	Inspections Pending Outside of Plan
Distribution	Patrol	Overhead Structures, Circuits, Equipment and Street Lights	Structures	144,000	145,774	1,774	0
		Pad Mounted Equipment	Pads	14,000	14,629	629	0
		Underground Structures and Equipment	Structures	400	670	270	0
	Detailed	Overhead Structures, Circuits, Equipment and Street Lights	Structures	144,000	145,570	1,570	0
		Padmounted Equipment	Pads	0	100	100	0
		Underground Structures and Equipment	Structures	-	-	-	0
	Intrusive	Wood Poles	Poles	-	-	-	0

Priority

During the course of inspections, the condition of equipment is prioritized as P1, P2, P3, or P4—highest to lowest.

- P1 and P2 Conditions are scheduled for completion within one week.
- P3 Conditions are bundled with work on the same structures or in the same general area.
- P4 Conditions are not scheduled for remediation. Inspection reports are maintained for information purposes.

Table 3: 2010 Distribution Equipment Rating Summary

System Class				Inspection Type		
Dist	Patrol	Facility Type	Units	Conditions P1 and P2: Immediate Repair or Next Day	Condition P3: Unscheduled, Bundled for Future Work	Condition P4: No Planned Corrective Action
	Detail	Overhead Circuits Structures & Equipment[a]	Structures	187 (.2%)	28310 (40.2%)	42162 (59.6%)
		Pad-mounted Equipment	Equipment Locations	10 (.2%)	6274 (98.4%)	91 (1.4%)
		Underground Structures and Equipment	Structure Locations	0	75 (98.7%)	1 (1.3%)
	Intrusive	Wood Poles	Poles	1 (1%)	118 (99.9%)	0

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

Table 4: 2010 Distribution Corrective Action Summary							
System Class	Inspection Type	Facility Type	Component	CA Scheduled in 2010	CA Completed in 2010	CA Planned in 2011	CA Planned after 2011[1]
Distribution	Patrol and Detailed Patrol	Overhead Circuits Structures & Equipment, Street Lights	Structures	1,009	1,009	2350	2360
		Pad-mounted Equipment	Pads	789	789	522	522
		Underground Structures and Equipment	Structures	125	125	125	125
	Intrusive	Wood Poles	Poles	50	50	120	120

Corrective Actions Completed: The number of corrective actions completed on worst performing circuits and is inclusive of corrective efforts such as: infrared inspections of splices, ground wire repairs, riser conduit repairs, arrester replacements, and, additionally, critical pole and cross arm replacements.

Note: In 2007 and 2008, KCP&L, prior to the effective date of the MoIR, was already engaged in inventory activities, inspections, identification of deficiencies, and corrective action work. The 2007 and 2008 work was captured in a database that did not subsequently interface with systems put in place in 2009. Although all 2007 and 2008 deficiencies were remediated by the conclusion of 2008, they are not clearly represented in the 2009 system. Incorporation of 2007 and 2008 data is slated for integration into the current systems.

Corrective Actions Scheduled in 2010: The number of noncritical or minor conditions. Noncritical or minor conditions are corrected in the regular course of operations.

Corrective Actions Scheduled after 2011: The number represents conditions noted during previous inspections and placed in the queue for corrective action.

[1] CA Planned after 2011 reflects the number of Corrective Actions planned on an annual basis through 2023.

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

KCP&L Transmission				Completed Through December 2010			
System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2010	Inspections Completed During 2010	Inspections Completed Prior to 2010 (Ahead of Plan)	Inspections Pending in 2010 Outside of Plan
Transmission	Aerial and Ground Patrol[a]	Overhead Circuits Structures & Equipment	Structures	7,267	7,267	-	0
		Underground Structures and Equipment	Structures	30	30	-	0
	Detail and Intrusive[b]	Wood/Steel Poles	Poles	1,017	0	-	1,017

[a]Aerial patrols of the transmission system are completed annually.

[b]The balance of 1,017 intrusive inspections in the KCP&L service are scheduled for completion in 2011.

Table 6: GMO Transmission Corrective Action and Equipment Conditions

GMO Transmission				Completed Through December 2010			
System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2010	Inspections Completed During 2010	Inspections Completed Prior to 2010 (Ahead of Plan)	Inspections Pending in 2010 Outside of Plan
Transmission	Aerial and Ground Patrol[a]	Overhead Circuits Structures & Equipment	Structures	14,530	14,530	-	0
		Underground Structures and Equipment	Structures	1	1	-	0
	Detail and Intrusive	Wood/Steel Poles	Poles	1,583	1,583	-	0

[a]Aerial and ground patrols of the transmission system are completed annually.

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.	21 (0.29%)	493 (6.96%)	6,748 (92.75%)
		Underground Structures	Manholes.	-	-	30
Transmission	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	-	-	0

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.	21 (0.15%)	605 (4.16%)	14,044 (95.69%)
		Underground Structures	Manholes.	-	-	1
Transmission	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	- (0.00%)	24 (1.54%)	1559 (98.46%)

Table 9: KCP&L Transmission Corrective Action (CA) Summary							
System Class	Inspection Type	Facility Type	Component	CA Planned in 2010	CA Completed in 2010	CA Planned in 2011	CA Planned after 2011
Transmission	(Aerial and Ground Patrol)	Overhead Structures & Equipment	Poles, Switches	195	195	45	274
Transmission	(Aerial and Ground Patrol)	Underground Structures and Equipment	Manhole	-	-	-	0
Transmission	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles	-	-	-	0

Table 10: GMO Transmission Corrective Action (CA) Summary							
System Class	Inspection Type	Facility Type	Component	CA Planned in 2010	CA Completed in 2010	CA Planned in 2011	CA Planned after 2011
Transmission	(Aerial and Ground Patrol)	Overhead Structures & Equipment	Poles, Switches	161	161	44	421
Transmission	(Aerial and Ground Patrol)	Underground Structures and Equipment	Manhole	-	-	-	0
Transmission	Detail and Intrusive	Poles and Structures - Wood/Steel	Poles (treated or replaced)	-	-	12	12

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

4 CSR 240-23.020 Electrical Corporation
Infrastructure Standards

VERIFICATION

State of Missouri)
) ss
County of Jackson)

I, Michael L. Deggendorf, 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 Senior Vice President, Delivery, and that the facts above set forth are true and correct to the best of my knowledge, information and belief.

Michael L. Deggendorf
Kansas City Power & Light Co.

Subscribed and affirmed before me this 30th day of June, 2011.

Nicole A. Wehry
Notary Public

My Commission Expires:

Feb. 4, 2015

NICOLE A. WEHRY
Notary Public - Notary Seal
State of Missouri
Commissioned for Jackson County
My Commission Expires: February 04, 2015
Commission Number: 11391200