## BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a	)		
Ameren Missouri's 2010 Infrastructure	)	Case No. EO-2012	
Inspection Annual Report.	)		

#### UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI'S 2010 INFRASTRUCTURE INSPECTION ANNUAL REPORT

**COMES NOW**, Union Electric Company, d/b/a Ameren Missouri (AmerenUE or the Company) and in compliance with 4 CSR 240-23.020(3)(C) submits the attached report.

Respectfully submitted,

UNION ELECTRIC COMPANY, d/b/a AMEREN MISSOURI

/s/ Wendy X. 7atro\_

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Dated: July 1, 2011

#### **CERTIFICATE OF SERVICE**

I hereby certify that copies of the foregoing have been electronically mailed to all counsel of record this 1st day of July, 2011.

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### Ameren Missouri 4 CSR 240-23.020 Electrical Corporation Infrastructure Standards Annual Inspection Report for Calendar Year 2010

#### Introduction

This document is Union Electric Company, d/b/a Ameren Missouri's annual report detailing its compliance with Missouri Public Service Commission Rule 4 CSR 240-23.020, Electrical Corporation Infrastructure Standards (referred to in the remainder of this document as "the Rule"). This annual report is required by Section (3) (C) of the Rule which states, "Each electrical corporation subject to this rule shall file... an annual report detailing its compliance with this rule during the prior calendar year...." This report details the results of the infrastructure inspections conducted in calendar year 2010.

#### Definitions

For the purposes of this report, the following definitions shall apply:

- 1. <u>Patrol</u> A simple visual inspection, of applicable electrical corporation equipment and structures, which is designed to identify obvious structural problems and hazards. Patrols may be carried out in the course of other electrical corporation business.
- 2. <u>Visual Inspection</u> A careful visual examination of equipment and structures designed to identify structural problems, hazards, and defective or improperly operating equipment. Equivalent to "Detailed Inspection" as defined in Section (2) (B) of the Rule.
- 3. <u>Ground Line Inspection</u> A complete intrusive inspection of overhead poles whereby the pole is excavated to a depth of 18 to 24 inches, tested for internal and external decay, treated with a preservative, and then backfilled. Equivalent to "Intrusive Inspection" as defined in Section (2) (C) of the Rule.
- 4. <u>Overhead Equipment</u> Equipment used in the operation of the transmission and distribution system mounted on overhead poles including, but not limited to, conductors, transformers, fuses, switches, insulators, and lightning arresters.
- 5. <u>Underground Pad-Mounted Equipment</u> Underground Residential Distribution (URD) system equipment including single phase and three phase pad-mounted transformers, pad-mounted switchgear, junction boxes, non-traffic rated vaults, and pedestals. Equivalent to "Underground-direct buried and conduit" and the equipment noted under Note 3 on the table entitled, "Electrical Corporation System Inspection Cycles (Maximum Intervals in Years)" included with the Rule.
- 6. <u>Transmission System</u> That portion of the Ameren Missouri system operated at voltages of 100 kilovolts (kV) and above.
- 7. <u>Distribution System</u> That portion of the Ameren Missouri system operated at voltages below 100kV.
- 8. <u>Streetlights</u> Automatically controlled lighting for lighting of streets, alleys, walkways, and other thoroughfares open to and reserved for general public use when such lighting facilities are operated and maintained as an extension of Ameren



Missouri's distribution system as described in Service Classification 5(M). This definition does not apply to lighting installed on public or private premises for the purpose of providing area or security lighting (i.e., "dusk-to-dawn" lights), customerowned street and outdoor lighting as described in Service Classification 6(M), and incandescent municipal streetlighting or private streetlighting described under Service Classifications 7(M) and 8(M).

#### **Transmission System Inspections**

Ameren Missouri conducted inspections on its Transmission System during calendar year 2010 as required by Missouri Public Service Commission Rule 4 CSR 240-23.020, Electrical Corporation Infrastructure Standards. The inspections conducted, as well as the deficiencies discovered and repaired as a result of these inspections, are described below.

#### Transmission Circuits Inspected in 2010

Inspection Type	Inspections	Inspections	Inspections Not
	Scheduled	Completed	Completed
"Patrol"	140	140	0
"Detailed"	9	9	0
Ground Line	6	6	0

The results of the lines inspected are summarized as follows:

#### Results of Inspections

Component	Number	Number	%
	Inspected	Requiring	
		Repairs	
Wood Poles	2,665	85	3.2
Wood Structures	14,645	26	0.2
Non-Wood Structures	5,637	20	0.4
Conductors*	20,282	5	0.02
Insulators*	20,282	21	0.1



The numbers of components requiring repairs in the period are summarized below:

Component	Number Requiring Repairs in	Number of Repairs Completed in	%	Number of Repairs Not Completed in	%
	the Period	the Period		the Period	
Wood Poles	55	55	100	0	0.0
Wood Structures	12	12	100	0	0.0
Non-Wood Structures	15	15	100	0	0.0
Conductors*	0	0	100	0	0.0
Insulators*	6	6	100	0	0.0

\*Note: Because Ameren Missouri's Transmission System Inspection Program is carried out on a per line basis and only those components which required repair are recorded, the number of individual conductors and insulators inspected is not recorded. The number of wood structures (which includes poles) and non-wood structures inspected will be used as the reference for the percentage of equipment requiring corrective action in this annual report.

The following equipment was scheduled for repairs outside the reporting period:

Component	Total Number Requiring Repairs Outside the Reporting Period	Number of Open Repairs Outside the Reporting Period	Cor	rective 1	Action S	Schedule	ed Comp	olete	Percent of Equipment in Need of Corrective Action, but with a Scheduled Date Beyond the Reporting Period
			3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	
Wood Poles	30	30	0	0	0	15	0	15	100
Wood Structures	14	14	0	0	0	8	3	3	100
Non-Wood Structures	5	5	0	4	0	1	0	0	100
Conductors	5	5	0	1	0	2	0	2	100
Insulators	15	15	0	6	3	3	0	3	100



#### **Distribution System Inspections**

Ameren Missouri conducted inspections on its Distribution System during calendar year 2010 as required by Missouri Public Service Commission Rule 4 CSR 240-23.020, Electrical Corporation Infrastructure Standards. The inspections conducted, as well as the deficiencies discovered and repaired as a result of these inspections, are described below.

#### <u>Distribution Circuits and Components Inspected in 2010</u>

Inspection	Inspection Units	Inspections Scheduled	Inspections Completed	Inspections Not Completed
Overhead Visual*	Circuit	822	822	0
Overhead Ground Line*	Circuit	270	270	0
Capacitors	Equipment	4,808	4,808	0
Reclosers	Equipment	2,416	2,416	0
Sectionalizers	Equipment	57	57	0
Voltage Regulators	Equipment	544	544	0
Underground Patrol* #	Circuit	199	199	0
Underground Detailed* #	Circuit	215	215	0
Network Vaults	Equipment	125	125	0
Manholes ##	Equipment	1,897	1,512	385
Other Underground Structures**	Equipment	120	120	0

<sup>\*</sup>Note: Streetlight inspections were performed in conjunction with Overhead Visual and Ground Line inspections, as well as the Underground Patrol and Detailed inspections.

<sup>\*\*</sup>Note: Other Underground Structures include Indoor Rooms and Manhole Transformers.



#Note: During the Underground Patrol and Detailed circuit inspections, Ameren Missouri inspectors encountered various obstructions that prevented inspection of some individual pieces of equipment such as pad-mounted transformers. The obstructions encountered were customer facilities such as fences or landscaping in close proximity to equipment, thereby preventing its full inspection. Many of these situations require negotiations with customers to determine the best remedy for the customer and Ameren Missouri. Ameren Missouri has resolved most of the issues and continues to work with customers to resolve the remaining obstructions in order to complete the inspections of the equipment.

##Note: 385 manholes were not inspected in 2010 due to inaccessibility for various reasons such as paved over manholes, manholes located in construction areas, and manholes located in fenced areas on private property. 384 of these manhole inspections have since been completed. The remaining manhole inspection will be completed by the end of 2011.

The following inspections were scheduled to be completed in 2010 but were not:

#### Inspections Scheduled But Not Completed in 2010

Inspection Type	Circuit Number	Component Number	Reason Inspection Not Completed	Date Inspection Will Be Completed
Manhole	N/A	384 manholes	Inaccessible due to paved over in streets, in construction areas, on private property in fenced areas, on airport property, and on railroad property.	Complete
Manhole	N/A	1 manhole	Inaccessible due to flooding.	12/31/11



The results of the inspections are summarized as follows:

#### Results of Inspections

Component	Number	Number Requiring	Percentage
-	Inspected	Repairs	
Poles/Towers	225,805	4,306	1.9
Lightning Arresters*	225,805	600	0.3
Crossarms*	225,805	511	0.2
Crossarm Braces*	225,805	402	0.2
Fuses*	225,805	27	0.01
Insulators*	225,805	512	0.2
Overhead Transformers*	225,805	623	0.3
Conductors*	225,805	468	0.2
Switches*	225,805	20	0.01
Guy Wires*	225,805	32,033	14.2
Grounding*	225,805	6,125	2.7
Anchors*	225,805	278	0.1
Minor Hardware*#	225,805	2,951	1.3
Capacitors	4,808	306	6.4
Reclosers	2,416	44	1.8
Sectionalizers	57	1	1.8
Voltage Regulators	544	36	6.6
UG Pad-Mounted	26.200	7.660	21.1
Equipment**	36,308	7,660	21.1
Vaults	125	0	0.0
Manholes	1,897	255	13.4
Other Underground Structures***	120	3	2.5
Streetlights	54,821	3,984	7.3

\*Note: Because Ameren Missouri's Distribution System Circuit Inspection and Ground Line Inspection programs were performed on a per circuit basis and only those components which required repair were recorded, the numbers of these individual devices inspected were not recorded. For these components, the number of poles where problems were identified divided by the number of poles inspected was used as the reference for the percentage of equipment requiring corrective action. Where the actual number of components inspected, such as reclosers, sectionalizers, voltage regulators, and capacitors could be ascertained, these numbers were used to calculate the percentage of equipment requiring corrective action.

#Note: Minor Hardware includes risers, pins, flying loops, connectors, and spacer cable brackets.



\*\*Note: Underground Pad-Mounted Equipment includes pad-mounted transformers, switchgear, junction boxes, non-traffic rated vaults, and pedestals.

\*\*\*Note: Other Underground Structures includes indoor rooms and manhole transformers.

The numbers of components requiring repairs in the period are summarized below:

	Number	Number of		Number of		
Commonant	Requiring	Repairs	%	Repairs Not	%	
Component	Repairs in	Completed in	%0	Completed	70	
	the Period	the Period		in the Period		
Poles/Towers	2,773	2,773	100	0	0.0	
Lightning Arresters	232	232	100	0	0.0	
Crossarms	249	249	100	0	0.0	
Crossarm Braces	160	160	100	0	0.0	
Fuses	22	22	100	0	0.0	
Insulators	210	210	100	0	0.0	
Overhead Transformers	258	258	100	0	0.0	
Conductors	227	227	100	0	0.0	
Switches	19	19	100	0	0.0	
Guy Wires	13,550	13,550	100	0	0.0	
Grounding	3,104	3,104	100	0	0.0	
Anchors	112	112	100	0	0.0	
Minor Hardware	1,332	1,332	100	0	0.0	
Capacitors	240	240	100	0	0.0	
Reclosers	33	33	100	0	0.0	
Sectionalizers	1	1	100	0	0.0	
Voltage Regulators	35	35	100	0	0.0	
UG Pad-Mounted	4,973	4,973	100	0	0.0	
Equipment	4,973	4,973	100	U	0.0	
Vaults	0	0	100	0	0.0	
Manholes	70	70	100	0	0.0	
Other Underground	0	0	100	0	0.0	
Structures	U	U	100	U	0.0	
Streetlights	1,035	1,035	100	0	0.0	

All equipment repairs required in the reporting period were completed in the period.



The following equipment was scheduled for repairs outside the reporting period:

Component	Total Number Requiring Repairs Outside the Reporting Period	Number of Open Repairs Outside the Reporting Period	Corr	Corrective Action Scheduled Complete				Percent of Equipment in Need of Corrective Action, but with a Scheduled Date Beyond the Reporting Period	
			1Q11	2Q11	3Q11	4Q11	2012	2013	
Poles/Towers	1,533	849	14	176	251	407	1	0	55.4
Lightning Arresters	368	136	6	10	56	64	0	0	37.0
Crossarms	262	90	6	27	21	36	0	0	34.4
Crossarm Braces	242	83	5	19	32	27	0	0	34.3
Fuses	5	0	0	0	0	0	0	0	0.0
Insulators	302	117	3	39	23	52	0	0	38.7
Overhead Transformers	365	112	2	2	3	105	0	0	30.7
Conductors	241	86	5	11	18	52	0	0	35.7
Switches	1	0	0	0	0	0	0	0	0.0
Guy Wires	18,483	7,150	525	1,949	2,263	2,413	0	0	38.7
Grounding	3,021	1,264	61	185	592	426	0	0	41.8
Anchors	166	62	2	13	23	24	0	0	37.3
Minor Hardware	1,619	575	44	92	113	326	0	0	35.5
Capacitors	66	28	0	1	6	6	15	0	42.4
Reclosers	11	2	0	0	0	2	0	0	18.2
Sectionalizers	0	0	0	0	0	0	0	0	0.0
Voltage Regulators	1	1	0	0	1	0	0	0	100
UG Pad-									
Mounted	2,687	1,329	8	223	156	848	94	0	49.5
Equipment									
Vaults	0	0	0	0	0	0	0	0	100
Manholes	185	185	0	0	0	0	0	185	100
Other Underground Structures	3	3	2	0	0	0	0	1	100
Streetlights	2,949	23	0	0	4	19	0	0	0.8

# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's 2010 Infrastructure Inspection Annual Report.	) Case No. EO-2012					
AFFIDAVIT OF I	RICHARD J. MARK					
STATE OF MISSOURI						
CITY OF ST. LOUIS ) ss						
Richard J. Mark, being first duly sworn on l	his oath, states:					
1. My name is Richard J. Mark	. I work in the City of St. Louis, Missouri,					
and I am employed by Union Electric Company d/b/a Ameren Missouri as Senior Vice						
President, Customer Operations.						
2. I hereby swear and affirm that	at I am the individual who sponsors the					
attached report filed in accordance with 4 C	SR 240-23.020; that said report was prepared					
under my direction and supervision; that if i	nquiries are made as to the facts, I would					
respond as therein set forth; and that the afo	resaid is true and correct to the best of my					
knowledge, information, and belief.	lul Mark					
	Richard J. Mark					
Subscribed and sworn to before me this 1st	day of July, 2011.					
My commission expires: 4-11-2014	Notary Public  Mary Hoyt - Notary Public Notary Seal, State of Missouri - Jefferson County Commission #10397820 My Commission Expires 4/11/2014					