

2014 Reliability Compliance Report
Submitted to Missouri Public Service Commission



SERVICES YOU COUNT ON

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Table of Contents

Affidavit.....	3
Introduction.....	4
Compliance Statement	4
2014 Inspection Plan Summary	5
Distribution	5
Transmission.....	6
2014 Work Order Rating Summary	7
Distribution	7
Transmission.....	8
2014 Corrective Action Summary	9
Distribution	9
Transmission.....	10

AFFIDAVIT

State of Missouri

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County of Jasper

I, Brent Baker, having been duly sworn upon my oath, state that I am the Vice President of Customer Service, Transmission and Engineering of The Empire District Electric Company (Empire), that I am duly authorized to make this affidavit on behalf of Empire, and that the matters and things stated in the foregoing are true and correct to the best of my information, knowledge and belief.

Brent A. Baker

Subscribed and sworn before me this 25th day of June, 2015.



JANET L. HUNLEY
My Commission Expires
September 20, 2015
Jasper County
Commission #11243846

Janet L. Hunley
Notary Public

Introduction

The Empire District Electric Company (Empire) is continuing to evolve its System Reliability Department and maintenance program to comply with requirements of Missouri's Electrical Infrastructure Standards 4 CSR 240-23.020. The System Reliability department is in its sixth full year of operation and continues to improve the process of managing infrastructure inspections, corrective action monitoring, data management and reporting necessary to comply with 4 CSR 240-23.020. Empire anticipates the infrastructure inspection program will continue to evolve during the first full inspection cycle. This evolution is necessary to streamline the inspection processes, data collection, maintenance crew collaboration, and reporting documentation.

Osmose Utility Services, Inc. (Osmose) is currently contracted to perform infrastructure inspections on Empire facilities. They have been inspecting Empire facilities since 2008. Empire utilizes its own personnel to perform detail inspections on pad mounted equipment, three-phase reclosers, capacitors, and regulators. Empire contracted with Hot Shot Services, Inc. (Hot Shot) to perform an annual aerial patrol inspection of the transmission system and an infrared inspection of equipment on the transmission system. Empire also utilizes a work management software solution (Maximo) to maintain records and track the progress associated with the infrastructure inspections and corrective actions.

Compliance Statement

The Empire District Electric Company has complied with the rules established in the State of Missouri's Electrical Corporation Infrastructure Standards, 4 CSR 240.23-020 for the 2014 calendar year.

2014 Inspection Plan Summary

Distribution

Empire completed patrol inspections on 37,687 overhead components, 2,858 streetlight components and 5,289 underground components in 2014 using the services of Osmose. Empire completed detail inspections on 42,879 overhead components and 5,153 streetlight components using the services of Osmose. Empire completed detail inspections on 3,511 underground components in 2014 using Empire's own personnel. Empire completed 13,558 intrusive inspections in 2014 using the services of Osmose.

Empire did not complete two schedule distribution inspections in 2014. A patrol inspection and a detail inspection were delayed due to data issues related to the circuit. Both circuits are scheduled for inspection in 2015.

Distribution 2014 Inspection Plan Summary					
Inspection Type	Facility Type	Components	Inspections Planned for 2014	Inspections Completed During 2014	Inspections Not Completed in 2014
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	38,079	37,687	392
	Streetlight System	Structures	2,914	2,858	56
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	5,289	5,289	0
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	44,477	42,879	1,598
	Streetlight System	Structures	5,245	5,153	92
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	3,558	3,511	47
Intrusive	Wood Poles	Poles	13,558	13,558	0

Transmission

Empire completed an aerial patrol inspection on 15,301 poles out of the 15,301 poles that were planned using the services of Hot/Shot Infrared Inspections. Using the services of Osmose, Empire completed 4,633 detail inspections and 1,365 intrusive inspections.

Transmission 2014 Inspection Plan Summary					
Inspection Type	Facility Type	Components	Inspections Planned for 2014	Inspections Completed During 2014	Inspections Not Completed in 2014
Patrol	Overhead Structures & Equipment	Poles	15,301	15,301	0
Detail	Overhead Structures & Equipment	Poles, Switches	4,633	4,633	0
Intrusive	Overhead Structures & Equipment	Poles	1,365	1,365	0

2014 Work Order Rating Summary

Empire has developed a priority rating system to classify corrective actions and provide appropriate remediation schedules. The priority rating system allows Empire to balance its resources to remediate corrective actions in a timely and economical manner while improving the service reliability to its customers. Only items identified during the course of infrastructure inspections will be rated using this system. A listing of the priority ratings description and corresponding scheduling period are detailed in the table below.

Priority Rating	Description	Corrective Action Scheduling Period
5	Emergency/Safety/Load Limiting/Customer Outage	Immediate
4	Urgent/May Affect Load	180 days
3	Time Critical/Seasonal	365 days
2	Routine/Non-Critical	365 days
1	Project/Operational Improvements	Empire's discretion

Distribution

Distribution 2014 Work Order Rating Summary							
Inspection Type	Facility Type	Components	Priority 5	Priority 4	Priority 3	Priority 2	Priority 1
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	2	51	0	1,462	4
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	0	1	0	132	6
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	0	45	0	1,275	0
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	1	3	0	58	2
Intrusive	Wood Poles & Equipment	Poles	8	205	0	1,140	0

Transmission

Transmission 2014 Work Order Rating Summary							
Inspection Type	Facility Type	Components	Priority 5	Priority 4	Priority 3	Priority 2	Priority 1
Patrol	Overhead Structures & Equipment	Poles	1	20	0	76	0
Detail	Overhead Structures & Equipment	Poles & Switches	0	9	0	231	0
Intrusive	Overhead Structures & Equipment	Poles	0	1	0	180	0

2014 Corrective Action Summary

Distribution

Empire completed 4,196 work orders of the 5,171 that were planned in 2014. Another 544 work orders were completed in 2015. The remaining 431 work orders will be completed by December 31, 2015.

Distribution 2014 Corrective Action Summary							
Inspection Type	Facility Type	Components	Corrective Action Planned in 2014	Corrective Action Completed in 2014	Corrective Action Incomplete in 2014	Corrective Action Completed in 2015	Corrective Action to Complete in 2015
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	2,328	2,041	287	161	126
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	54	54	0	0	0
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	883	330	553	325	228
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	112	109	3	0	3
Intrusive	Wood Poles & Equipment	Poles	1,794	1,662	132	58	74

Transmission

Empire completed 340 work orders of the 404 that were planned in 2014. Another 28 work orders were completed in 2015. The remaining 36 work orders will be completed by December 31, 2015.

Transmission 2014 Corrective Action Summary							
Inspection Type	Facility Type	Components	Corrective Action Planned in 2014	Corrective Action Completed in 2014	Corrective Action Incomplete in 2014	Corrective Action Completed in 2015	Corrective Action to Complete in 2015
Patrol	Overhead Structures & Equipment	Poles	28	16	12	1	11
Detail	Overhead Structures & Equipment	Poles & Switches	147	91	56	23	33
Intrusive	Overhead Structures & Equipment	Poles	257	249	8	5	3