

2013 Reliability Compliance Report  
Submitted to Missouri Public Service Commission



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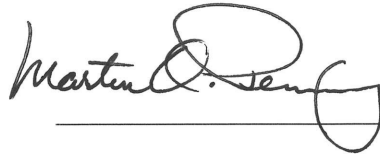
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State of Missouri

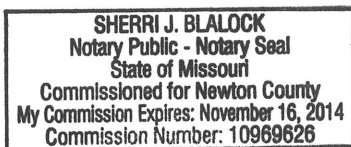
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County of Jasper

I, Martin O. Penning, having been duly sworn upon my oath, state that I am the Vice President of Commercial Operations 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.

  
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Subscribed and sworn before me this 25 day of June, 2014.



  
\_\_\_\_\_  
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 padmounted equipment, three-phase reclosers, capacitors, and regulators. Empire contracted with Hot/Shot Infrared Inspections, 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 2013 calendar year.

## 2013 Inspection Plan Summary

### Distribution

Empire completed patrol inspections on 56,082 overhead components, 4,577 streetlight components and 4,548 underground components in 2013 using the services of Osmose. Empire completed detail inspections on 31,327 overhead components and 4,532 streetlight components using the services of Osmose. Empire completed detail inspections on 5,054 underground components in 2013 using Empire's own personnel. Empire completed 12,948 intrusive inspections in 2013 using the services of Osmose.

Distribution 2013 Inspection Plan Summary					
Inspection Type	Facility Type	Components	Inspections Planned for 2013	Inspections Completed During 2013	Inspections Not Completed in 2013
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	56,082	56,082	0
	Streetlight System	Structures	4,577	4,577	0
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	4,548	4,548	0
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	31,327	31,327	0
	Streetlight System	Structures	4,532	4,532	0
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	5,054	5,054	0
Intrusive	Wood Poles	Poles	12,948	12,948	0

## Transmission

Empire completed an aerial patrol inspection on 14,278 poles out of the 15,123 poles that were planned using the services of Hot/Shot. There were 845 aerial patrol inspections incomplete due to scheduling conflicts and weather delays that will be inspected in 2013. Using the services of Osmose, Empire completed 4,817 detail inspections and 2,135 intrusive inspections.

Transmission 2013 Inspection Plan Summary					
Inspection Type	Facility Type	Components	Inspections Planned for 2013	Inspections Completed During 2013	Inspections Not Completed in 2013
Patrol	Overhead Structures & Equipment	Poles	15,123	14,278	845
Detail	Overhead Structures & Equipment	Poles, Switches	4,817	4,817	0
Intrusive	Overhead Structures & Equipment	Poles	2,135	2,135	0

## 2013 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 rating's 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 2013 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	44	0	2,262	1
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	0	2	0	53	8
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	0	24	0	839	1
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	1	2	0	107	3
Intrusive	Wood Poles & Equipment	Poles	0	52	0	1,664	3

## Transmission

Transmission 2013 Work Order Rating Summary							
Inspection Type	Facility Type	Components	Priority 5	Priority 4	Priority 3	Priority 2	Priority 1
Patrol	Overhead Structures & Equipment	Poles	0	11	0	19	0
Detail	Overhead Structures & Equipment	Poles & Switches	0	6	0	110	0
Intrusive	Overhead Structures & Equipment	Poles	1	1	0	257	0



## 2013 Corrective Action Summary

### Distribution

Empire completed 3,844 work orders of the 4,341 that were planned in 2013. Another 239 work orders were completed in 2014. The remaining 258 work orders will be completed by December 31, 2014.

Distribution 2013 Corrective Action Summary							
Inspection Type	Facility Type	Components	Corrective Action Planned in 2013	Corrective Action Completed in 2013	Corrective Action Incomplete in 2013	Corrective Action Completed in 2014	Corrective Action to Complete in 2014
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	1,413	1,373	40	27	13
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	219	205	14	13	1
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	796	563	233	155	78
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	117	114	3	3	0
Intrusive	Wood Poles & Equipment	Poles	1,796	1,589	207	41	166

## Transmission

Empire completed 461 work orders of the 570 that were planned in 2013. Another 21 work orders were completed in 2014. The remaining 88 work orders will be completed by December 31, 2014.

Transmission 2013 Corrective Action Summary							
Inspection Type	Facility Type	Components	Corrective Action Planned in 2013	Corrective Action Completed in 2013	Corrective Action Incomplete in 2013	Corrective Action Completed in 2014	Corrective Action to Complete in 2014
Patrol	Overhead Structures & Equipment	Poles	0	0	0	0	0
Detail	Overhead Structures & Equipment	Poles & Switches	473	376	97	9	88
Intrusive	Overhead Structures & Equipment	Poles	97	85	12	12	0