2011 Reliability Compliance Report Submitted to Missouri Public Service Commission



Rick Wallace
Director of System Performance
201 W. Brick
Ozark, MO 65721
417-625-6550
rwallace@empiredistrict.com

Table of Contents

Affidavit	3
Introduction	4
Compliance Statement	4
2011 Inspection Plan Summary	
Distribution	
Transmission	
2011 Work Order Rating Summary	
Distribution	
Transmission	8
2011 Corrective Action Summary	9
Distribution	
Transmission	

AFFIDAVIT

State of Missouri

)ss

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.

Subscribed and sworn before me this <u>45th</u> day of June, 2012.

NOTARY SEAL SEAL OF MISS

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

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 fourth 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 continues to use Aerial Patrol, Inc. (Aerial Patrol) to perform an annual aerial patrol inspection of 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 2011 calendar year.

2011 Inspection Plan Summary

Distribution

Empire completed patrol inspections on 26,415 overhead components, 2,378 streetlight components, and 2,751 underground components in 2011 using the services of Osmose. Empire completed detail inspections on 32,472 overhead components and 2,679 streetlight components using the services of Osmose. Empire completed detail inspections on 3,416 underground components in 2011 using Empire's own personnel. Empire completed 11,479 intrusive inspections in 2011 using the services of Osmose. Due to a shortage of personnel, Empire was unable to complete 1,436 underground patrol inspections and 792 underground detail inspections. These inspections were completed as of June 2012. Four hundred thirty capacitors scheduled to have detail inspections in 2011 were not completed and will be completed in 2012.

Distribution 2011 Inspection Plan Summary									
Inspection Type	Facility Type Components Inspections Planned for 2011		Inspections Completed During 2011	Inspections Not Completed in 2011					
	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	26,415	26,415	0				
Patrol	Streetlight System	Structures	2,378	2,378	0				
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	4,187	2,751	1436				
	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	32,902	32,472	430				
Detail	Streetlight System	Structures	2,679	2,679	0				
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	4,206	3,416	792				
Intrusive	Wood Poles	Poles	11,479	11,479	0				

Transmission

Empire completed an aerial patrol inspection on 19,056 poles using the services of Aerial Patrol, Inc. Using the services of Osmose, Empire completed 5,762 detail inspections. Empire completed 1,170 intrusive inspections using the services of Osmose.

Transmission 2011 Inspection Plan Summary									
Inspection Type	Facility Type	Components	Inspections Planned for 2011	Inspections Completed During 2011	Inspections Not Completed in 2011				
Patrol	Overhead Structures & Equipment	Poles	19,056	19,056	0				
Detail	Overhead Structures & Equipment	Poles, Switches	5,762	5,762	0				
Intrusive	Overhead Structures & Equipment	Poles	1,170	1,170	0				

2011 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 2011 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	1	46	0	1,389	51	
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	0	0	0	15	0	
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	3	81	0	19,620	20	
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	0	0	0	45	0	
Intrusive	Wood Poles & Equipment	Poles	1	46	0	1,656	2	

Transmission

Transmission 2011 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	25	0	896	0	
Detail	Overhead Structures & Equipment	Poles & Switches	0	36	0	729	0	
Intrusive	Overhead Structures & Equipment	Poles	0	3	0	72	0	

2011 Corrective Action Summary

Distribution

Empire completed 5,579 work orders of 6,816 that were planned in 2011. Another 996 work orders were completed in 2012. Due to delays caused by the May 22, 2011 tornado in Joplin, the remaining 241 work orders will completed by December 31, 2012.

	Distribution 2011 Corrective Action Summary								
Inspection Type	Facility Type	Components	Corrective Action Planned in 2011	Corrective Action Completed in 2011	Corrective Action Incomplete in 2011	Corrective Action Completed in 2012	Corrective Action to Complete in 2012		
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	1,957	1,597	360	317	43		
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	66	56	10	10	0		
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	1,669	1,401	268	215	53		
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	346	330	16	14	2		
Intrusive	Wood Poles & Equipment	Poles	2,778	2,195	583	440	143		

Transmission

Empire completed 860 work orders of the 973 that were planned in 2011. Another 44 work orders were completed in 2012. Due to delays caused by the May 22, 2011 tornado in Joplin, the remaining 69 work orders will completed by December 31, 2012.

	Transmission 2011 Corrective Action Summary								
Inspection Type	Facility Type	Components	Corrective Action Planned in 2011	Corrective Action Completed in 2011	Corrective Action Incomplete in 2011	Corrective Action Completed in 2012	Corrective Action to Complete in 2012		
Patrol	Overhead Structures & Equipment	Poles	310	261	49	10	39		
Detail	Overhead Structures & Equipment	Poles & Switches	556	500	56	30	26		
Intrusive	Overhead Structures & Equipment	Poles	107	99	8	4	4		