# 2010 Reliability Compliance Report Submitted to Missouri Public Service Commission



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#### **AFFIDAVIT**

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.

Subscribed and sworn before me this **297** day of June, 2011.

SHERRI J. BLALOCK Notary Public - Notary Seal State of Missouri

Commission Expires: November 16, 2014
Commission Expires: November 16, 2014
Commission Number: 10969626

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#### 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 third 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 2010 calendar year.

## **2010 Inspection Plan Summary**

#### **Distribution**

Empire completed patrol inspections on 25,403 overhead components, 2,787 streetlight components, and 1,668 underground components in 2010 using the services of Osmose. Empire completed detail inspections on 15,938 overhead components and 1,316 streetlight components using the services of Osmose. Empire completed detail inspections on 2,581 underground components in 2010 using Empire's own personnel. Empire completed 13,294 intrusive inspections in 2010 using the services of Osmose. One patrol inspection, including 175 assets, scheduled for 2010 was not completed until the first week of 2011. Four hundred thirty capacitors scheduled to have detail inspections in 2010 were not completed and will be completed in 2011.

	Distribution 2010 Inspection Plan Summary									
Inspection Type	Facility Type	Components	Inspections Planned for 2010	Inspections Completed During 2010	Inspections Not Completed in 2010					
	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	25,559	25,403	156					
Patrol	Streetlight System	Structures	2,790	2,787	3					
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	1,684	1,668	16					
	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	16,368	15,938	430					
Detail	Streetlight System	Structures	1,316	1,316	0					
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	2,581	2,581	0					
Intrusive	Wood Poles	Poles	13,294	13,294	0					

### **Transmission**

Empire completed an aerial patrol inspection on 18,969 poles using the services of Aerial Patrol, Inc. Using the services of Osmose, Empire completed 5,270 detail inspections out of the 5,840 planned. The remaining incomplete detail inspections were due to inclement weather delays and four out of the five line segments were completed the first quarter of 2011. The remaining line segment is scheduled to be completed in 2011. Empire completed 1,582 intrusive inspections using the services of Osmose.

Transmission 2010 Inspection Plan Summary									
Inspection Type	Facility Type	Components	Inspections Planned for 2010	Inspections Completed During 2010	Inspections Not Completed in 2010				
Patrol	Overhead Structures & Equipment	Poles	18,969	18,969	0				
Detail	Overhead Structures & Equipment	Poles, Switches	5,840	5,270	570				
Intrusive	Overhead Structures & Equipment	Poles	1,582	1,582	0				

## **2010 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 2010 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	3	53	0	1,250	8	
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	0	11	0	39	3	
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	0	8	0	536	1	
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches,	2	0	0	31	2	
Intrusive	Wood Poles & Equipment	Poles	1	167	0	1,696	0	

## Transmission

Transmission 2010 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	33	0	467	0	
Detail	Overhead Structures & Equipment	Poles & Switches	0	38	0	1,101	22	
Intrusive	Overhead Structures & Equipment	Poles	0	0	0	16	0	

## **2010 Corrective Action Summary**

### **Distribution**

Empire completed 3,760 work orders of 4,525 that were planned in 2010. Another 269 work orders were completed in 2011. Due to delays caused by the May 22, 2011 tornado in Joplin, the remaining 496 work orders will completed by December 1, 2011.

Distribution 2010 Corrective Action Summary									
Inspection Type	Facility Type	Components	Corrective Action Planned in 2010	Corrective Action Completed in 2010	Corrective Action Incomplete in 2010	Corrective Action Completed in 2011	Corrective Action to Complete in 2011		
Patrol	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	1,305	1,111	194	106	88		
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	231	210	21	20	1		
Detail	Overhead Circuits, Structures, & Equipment	Poles, Transformers, Capacitors, Regulators, Reclosers, Switches	874	524	350	73	277		
	Underground Structures & Equipment	Sectionalizing Cabinets, Vaults, Transformers, Switches	6	1	5	0	5		
Intrusive	Wood Poles & Equipment	Poles	2,109	1,914	195	70	125		

### Transmission

Empire completed 645 work orders of the 1,194 that were planned in 2010. Another 70 work orders were completed in 2011. Due to delays caused by the May 22, 2011 tornado in Joplin, the remaining 496 work orders will completed by December 1, 2011.

	Transmission 2010 Corrective Action Summary									
Inspection Type	Facility Type	Components	Corrective Action Planned in 2010	Corrective Action Completed in 2010	Corrective Action Incomplete in 2010	Corrective Action Completed in 2011	Corrective Action to Complete in 2011			
Patrol	Overhead Structures & Equipment	Poles	422	167	255	4	251			
Detail	Overhead Structures & Equipment	Poles & Switches	372	177	195	54	141			
Intrusive	Overhead Structures & Equipment	Poles	400	301	99	12	87			