

Aerial Gang Operated Switch						
Component Classification Categories						
Criticality	I	X			O'Hare circuits	
	II		X		Circuit Mainstem	
	III			X	Fused Taps	
Duty Cycle	Heavy Load	N/A	N/A	N/A		
	Normal Load	N/A	N/A	N/A		
Service Condition	In Service	N/A	N/A	N/A		
	Spare	N/A	N/A	N/A		
Condition Monitoring Tasks						
		Task Frequencies			Failure Codes	Comments
Visual Inspection		2Y	2Y	6Y	1a, 1d-f, 2a-b, 3a-b	
Failure Finding Tasks						
		Task Frequencies			Failure Codes	Comments
Thermography		6M	2Y	N/A	1a-c, 3a, 4a	
Time Directed Tasks						
		Task Frequencies			Failure Codes	Comments
None		N/A	N/A	N/A		
Condition Directed Tasks						
		Task Frequencies			Failure Codes	Comments
None		N/A	N/A	N/A		

FAILURE MODES	FAILURE CAUSES	MAINTENANCE TASKS
1. Fails to Close	1a. Blade Fails to Roll-in Completely	Visual Inspection
1. Fails to Close	1a. Blade Fails to Roll-in Completely	Thermography
1. Fails to Close	1b. Corroded Hinge Pivot Point	Thermography
1. Fails to Close	1c. Improper Blade Alignment	Thermography
1. Fails to Close	1d. Coupling/Linkage Failure	Visual Inspection
1. Fails to Close	1e. Structure/Foundation Alignment	Visual Inspection
1. Fails to Close	1f. Animal Intrusion (Bird Nest)	Visual Inspection
2. Fails to Open	2a. Coupling/Linkage Failure	Visual Inspection
2. Fails to Open	2b. Animal Intrusion (Bird Nest)	Visual Inspection
3. Fails to Insulate	3a. External Contamination	Visual Inspection
3. Fails to Insulate	3a. External Contamination	Thermography
3. Fails to Insulate	3b. Cracked/Broken Insulator	Visual Inspection
4. Fails to Provide Conductive Path	4a. High Contact Resistance	Thermography

TASK**DEFINITION**

Thermography

Infrared inspection of electrical equipment and power path components to identify any hot spots that exist.

Visual Inspection

Visual inspection of equipment and miscellaneous hardware that identifies broken / degraded components. Items inspected are documented via procedures posted to the Management Model under control element Conduct of Maintenance.

Aerial Gang Operated Switch Template Summary

The Preventive Maintenance program is documented via Performance Centered Maintenance (PCM) templates. Templates have been developed that address all transmission, substation, and distribution equipment that is owned, and / or, maintained by EED. Each template documents the program tasks, frequencies, failure modes, and maintenance basis for the associated equipment. Tasks and associated frequencies are designed to address known failure modes of the equipment covered by the template. In general, the tasks included in the PCM templates are the result of good industry practices, industry experience, and manufacturer recommendations.

References:

Internal reports and operating experience

Boundary Definition

The boundary is defined to include the switch, switch linkage, switch contacts, switch insulators, and wire and bus terminations. Excluded are upstream or downstream equipment.

Failure Experiences

Failures are subject to ACE/RCI investigation. Findings/recommended corrective actions are incorporated into the template as required.

Vendor Recommendations

N/A

Disposition of Vendor Recommendations

Basis For Template Tasks

Thermography: A primary tool for detection of hot spots and connection issues.

Visual Inspection: This inspection approximates real-time condition monitoring that can detect developing problems and degradation, and provides condition data used to initiate corrective actions.

Revision 0		Date 12/29/2006
Writer	Larry Griess (Strategic Programs)	
Reviewer(s)		
Approver(s)	Kathy McHugh (FAM Maintenance Planning)	
Reason Written	To document the maintenance program tasks, frequencies, failure modes, and maintenance basis	

Revision 1		Date 11/30/2010
Writer	Chuck Priebe	
Reviewer(s)	Ken Wendt (Mgr. Material Condition)	
Approver(s)	Bill Fluhler , Bill Gannon, Nitin Patel, Jim Crane, Bill Sullivan	
Reason Written	Added note to ensure template changes are communicated to affected work groups.	

Revision 2		Date 01/27/2014
Writer	Suneetha Parupalli, Sr Engineer, Material Condition	
Reviewer(s)	Ken Wendt (Mgr. Material Condition)	
Approver(s)	Mike Moy (UFAM)	
Reason Written	3 year review, reformat document, No content change	

Revision 0 (Previous version AM-CE-P034-R3004)		Date 08/21/2015
Writer	Suneetha Parupalli, Sr Engineer, Material Condition	
Reviewer(s)	Ken Wendt (Mgr. Material Condition), Peter Yan (Sr. Engineer, Reliability Programs), John Basten (Sr. Engineer, Reliability Inspections)	
Approver(s)	Mike Moy (ComEd UFAM)	
Reason Written	Alignment with EU 2Y Mainstem and 6Y Fused Tap Requirements	

Revision 1		Date 08/29/2018
Writer	Jimi Conway, Sr Engineer, Material Condition	
Reviewer(s)	Keith Frost (Mgr. Mgr Material Condition), Andrew Morris (Distribution Standards)	
Approver(s)	Mike Moy (ComEd UFAM)	
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