

Distribution Wood Poles			
Component Classification Categories			
Criticality	I	X	All applications
Duty Cycle	Heavy Load	N/A	
	Normal Load	N/A	
Service Condition	In Service	N/A	
	Spare	N/A	
Condition Monitoring Tasks			
	Task Frequencies	Failure Codes	Comments
Visual Inspection	10Y	1b-g, 2a-b, 3a-b	
Ground Line/Detailed Visual Inspection	10Y	1a, 1c-d	For poles 12 years and older
Failure Finding Tasks			
	Task Frequencies	Failure Codes	Comments
Sound and Bore Test	10Y	1a	For poles 12 years and older
Time Directed Tasks			
	Task Frequencies	Failure Codes	Comments
None	N/A		
Condition Directed Tasks			
	Task Frequencies	Failure Codes	Comments
Pole Treatment [1]	AR	1a	

[1] - If inspection shows sign of wood decay, pole shall be treated with applicable wood preservative.

FAILURE MODES

- 1. Failure to Provide Adequate Conductor Support
- 2. Failure to Provide Adequate Grounding
- 2. Failure to Provide Adequate Grounding
- 3. Fails to Provide Adequate Insulation Level
- 3. Fails to Provide Adequate Insulation Level

FAILURE CAUSES

- 1a. Wood Decay/Damage
- 1a. Wood Decay/Damage
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- 1b. Mechanical Fastening Failure (weld, bolt, etc.)
- 1c. Wood Cracks (Weather)
- 1c. Wood Cracks (Weather)
- 1d. Woodpeckers Damage
- 1d. Woodpeckers Damage
- 1e. Guy Wire Failure
- 1f. Cross Arm
- 1g. Broken Pole / Pole Top Extension
- 2a. Metal Corrosion
- 2b. Broken Down-leads/Connectors
- 3a. Surge Arrester Failure
- 3b. Insulator Failure

MAINTENANCE TASKS

- Ground Line/Detailed Visual Inspection
- Sound and Bore Test
- Wood Treatment
- Visual Inspection
- Ground Line/Detailed Visual Inspection
- Visual Inspection
- Ground Line/Detailed Visual Inspection
- Visual Inspection

TASK	DEFINITION
Ground Line/Detailed Visual Inspection	Inspection includes partial excavation of wood pole at ground line. Those reject poles which are candidates for steel reinforcement are identified.
Pole Treatment	Performed on poles that have decay that does not require replacement. Included in the scope are: <ul style="list-style-type: none"> - External Treatment – A wood preservative is applied to the external surface of the pole from 18” below ground-line to 3” above the ground-line. - Internal Treatment – Poles with internal voids or insect infestations are treated with an approved liquid and/or fumigant.
Visual Inspection	Visual inspection of the pole to identify significant/obvious external damage.
Sound and Bore Test	Sound with a hammer from either ground-line or above ground-line as applicable, to as high as the inspector can reach in order to locate exterior decay or interior pockets of decay. Poles shall be bored at a 45 degree angle past the center of the pole to identify and quantify if internal decay exists.

Distribution Wood Pole Template Summary

The Preventive Maintenance program is documented via maintenance templates. Templates have been developed that address transmission, substation, and distribution equipment that is owned and maintained by Exelon Utilities. 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 maintenance 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 shaft or pole and wooden arms.

Basis For Template Tasks

Ground Line/Detailed Visual Inspection: Identifies deterioration not visible during an external visual inspection.

Sound and Bore Test: Identifies deterioration not visible during a routine external visual inspection.

Pole Treatment: Treatment is designed to extend the life of the asset by arresting the decay that is evident.

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 (R3007)		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 (R3007)		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 (R3007)		Date 11/14/2012
Writer	Rodolfo Patriarca	
Reviewer(s)	Ken Wendt (Mgr. Material Condition),Pete Yan, Gerri Paramore, Dan Brotzman, Bill Gannon	
Approver(s)	Bill Fluhler	
Reason Written	Revise maintenance frequency from variable to 10 years	

Revision 0		Date 07/14/2015
Writer	Dave Darji, Engineer/Intern, Distribution Standards	
Reviewer(s)	Michael Keller, Mgr Distribution Standards(PECO); Wasif Qazi, Distribution Standards(PECO); Daniel Brotzman, Mgr Reliability Programs (ComEd); Gerri Paramore, Reliability Programs(ComEd), David Barnard, Prin Engineer Electric Distribution Engineering & Standards, Suzanne Maxa-Albers, Workload Planning and Inspection(BGE)	
UFAM Approver (s)	Michael Moy (ComEd UFAM), Preventative Maintenance	
Reason Written	EU Alignment on Minimum inspection cycle	

Revision 1		Date 07/23/2018
Writer	Jimi Conway (ComEd)	
Reviewer(s)	Tom Kuksuk (ComEd); Lucy Ballesteros (ComEd); Bolanle Sosina (ComEd)	
UFAM Approver (s)	Michael Moy (ComEd UFAM), Preventative Maintenance	
Reason Written	Three-year review cycle. No changes made.	