REDACTED

EVERSOURCE

WORK METHOD STANDARD

ELECTRIC OPERATIONS ORGANIZATION

Distribution Wood Pole Inspection, Testing, and Restoration Requirements

Document Number:	Issued Date:	Revised Date:	Revision:	Applicability:
WMS 08.15	07-Jan-25	11-Sep-26	1	ALL

*****This Document Supersedes EMP 6.61A, WMS 08.02, WMS 08.03 & WMA 08.13*****

Scope:

This document outlines the steps to test, inspect, and treat Eversource owned wood poles and jointly owned, Eversource maintained wood poles, on public or private property. This shall encompass all distribution line poles, as well as push braces and guy stub poles.

Safety:

Providing a work environment, free of recognized hazards is a value at Eversource. Therefore, prior to the start of any work, ensure that you are familiar and knowledgeable with all Eversource Safety Rules, Policies and Procedures that are applicable to the work and tasks at hand and perform a job brief at the job site, prior to commencing work. PPE requirements to protect the worker shall be followed as required in the Eversource Employee Safety Manual.

Approved by: *Signature on File* [redacted] Date: 08-Sep-26

Vice President, Distribution Engineering

Rev No.	Description	Date
1	Removed section for C-Truss, no longer an acceptable method to restore a pole.	September 11, 2026
0	Document was reviewed as part of WMS Consolidation project. The content in the EMA (-1) version was identical to the CT/WMA/NH (-234) version. Content did not change, published signature date remains applicable.	October 17, 2025
0	Original Document. Document Supersedes EMP 6.61A, WMS 08.02, WMS 08.03 & WMA 08.13.	January 7, 2025

REDACTED

Table of Contents

Section		Page
1.0	Contractor Requirements	3
2.0	Reference Documents	3
3.0	Candidates for Inspection	3
4.0	Inspection Criteria for Rejecting Poles	4
5.0	Wood Pole Inspection & Testing Methods	5
6.0	Candidate Criteria for Reject Restoration	8
7.0	Data Collection	9

Appendix 1 – Instruction for the External and Internal Ground Line Inspection and Supplemental Treatment of Wood Poles 11

Appendix 2 – Reporting Format 19

1.0 Contractor Requirements

1.1 The approved pole inspection CONTRACTOR (hereafter "CONTRACTOR") shall provide all equipment, qualified labor, and materials to inspect and treat wood poles in the Eversource electric service territory. Relevant OSHA, DOT, EPA, state, and local regulations SHALL always adhered to.

1.2 CONTRACTOR standard specification and procedures, to be submitted and on file with Eversource, shall be followed unless otherwise stipulated in this Eversource specification and Appendix 1. Additional questions to be answered by CONTRACTOR in their final pole inspection reports are detailed in Appendix 2.

1.3 Relevant MSDS forms shall be provided to Eversource for all chemicals used in the preservation or pole restoration process.

1.4 Eversource area supervisors or personnel may stop CONTRACTOR crews if they are found to be working unsafely. All CONTRACTOR crews shall be fully trained before starting any work by the CONTRACTOR regarding the hazards of overhead and underground electric power lines.

1.5 Distribution Design Engineering may require a load analysis if a pole is suggested for reinforcement.

2.0 Reference Documents

NESC National Electric Safety Code (ANSI C2), 2023

EMP 5.61 Distribution and Sub-Transmission Wood Poles

WMS 08.14 Wood Pole Inspection Using the IML Inspection Drill

DTR 05.091 Pole Reflectors

3.0 Candidates for Inspection

3.1 Specific distribution poles shall be identified by Eversource for inspection, to require at least a visual inspection (for poles younger than twenty years of age).

3.2 When a pole is greater than 20 years old, or has failed a visual inspection, the IML Wood Inspection Drill shall be used to further evaluate.

3.3 Wood preservatives, pesticide treatments, fillers, and other repairing compounds shall be applied as needed on the same poles.

3.4 Internal treatments shall be applied to poles that cannot be partially excavated at two locations due to riser congestion or if the pole is set in asphalt or concrete.

3.5 Poles inspected by another pole inspection company within the six (6) years previous are not to be considered for sound and bore or excavation inspection and will be noted and billed simply as a visual report.

3.6 Poles to be inspected include all designated distribution line poles, guy stubs, and push brace poles. Marked privately owned poles on private property shall not be inspected. Poles that are marked with ownership by any telephone company will not be inspected.

4.0 Inspection Criteria for Rejecting Poles

4.1 PRIORITY REJECTS (P1) – Historically referred to as “danger” or “priority” poles. These poles pose an imminent risk to public safety and shall be immediately reported to the area line supervisor or Eversource designated contact for emergency attention. These poles shall be identified as “PRIORITY REJECT.” Poles must be checked within 48 hours to assess the immediate impact on public safety and determine the required “make-safe” methods. Pole must be made safe within 10 calendar days.

4.1.1 Imminent electrical safety hazards observed shall be immediately communicated to the same Eversource contact. Other lesser safety or reliability hazards (such as vegetation growth) shall be identified through the routine reporting process as required by Eversource.

4.1.2 Priority Reject Poles shall be identified as follows:

.2.1. Use the C-aluminum pole tag which measures 2 inches high and 2 ½ inches wide. It has a clear aluminum arrow with an “X” inscribed in a circle imposed on the shaft of the arrow on a red background.

.2.2. Paint a yellow “X,” approximately 1 foot square in size, on the roadside of the pole, centered approximately 6 feet above the ground line. Then, attach one C tag centered on the “X” and attach another C tag at approximately the same height on the field side of the pole.

.2.3. If the pole is defective in the ground line section, place the tags so the arrow points downward. If the pole is defective in the upper portion, place the tags so the arrow points upward. If, however, the pole is defective in both the ground line section and in the upper portion, place a double set of tags; one set with the arrow pointing downward and the other set with the arrow pointing upward. Attach the tags with 1 ¼ inch galvanized roofing nails.

4.2 NON-RESTORABLE REJECTS (NRR) – Deteriorated wood poles having reduced ground line circumferences that effectively reduce pole strength to less than 2/3 of the original pole strength (or, 67% of the original circumference) for the pole class shall be rejected. These are too deteriorated to be restored or do not meet the Eversource criteria for restoration (see Section 6.1). Refer to National Electric Safety Code (ANSI C2), Table 261-1, Rule 250B.

4.2.1 Normal Reject Poles shall be identified as follows:

.1.1. Use the B-aluminum pole tag which measures 2 inches high and 2 ½ inches wide. It has a clear aluminum arrow on a red background.

.1.2. Attachment instructions for the B tag are the same as for the C tag used to identify priority poles in the preceding section.

4.3 Industry-standard criteria or conventions used by CONTRACTOR inspectors for rejecting poles shall be used. These include visual damage including shell rot, decay pockets, excessive checking, spiral grain, large woodpecker holes, splits at the pole top, extensive wood damage or decay where loaded steel hardware bolts to pole, etc. Minimum avg. shell thickness shall be 2 inches for distribution poles.

4.4 If there are multiple defects at different locations on a pole, do not compound (or deduct them) from the approximate ground line circumference unless defects are within five feet of the ground line area. If defects are less than five (5) feet above ground level, deductions from the ground line circumference can be taken. Other observed defects can be recorded in the comments and the poles identified as a non-restorable reject if appropriate. However, if the defects are severe enough at any one location that a pole failure is imminent or likely, only then shall the pole be classified as a Priority reject pole. Otherwise, poles with scattered defects shall be a standard non-restorable reject.

4.4.1 Exception where defects are to be compounded: Poles that are set in concrete/asphalt that cannot be excavated can have defects compounded if those defects suggest there may be advanced decay that would otherwise be found with excavation. Particular attention shall be paid to unguyed angle or dead-end poles that are leaning due to wire loads.

4.5 Rejected poles require additional notations regarding the types of construction on the pole. This will help Eversource in prioritizing pole replacements. This shall include the following four categories:

4.5.1 Transformer/ large equipment pole (exclude risers, lighting, and fuses).

4.5.2 Three- or two-phase primary wires at pole top (with no large equipment).

4.5.3 Single-phase primary wire at pole top (with no large equipment).

4.5.4 Secondaries only or load bearing (includes push brace/guy stubs).

5.0 Wood Pole Inspection & Testing Methods

5.1 Visual Inspection

5.1.1 Included in the visual inspection of each pole, the following shall be noted:

.1.1. Accurate pole stencil tag and reflectors

.1.2. Pole top split or deteriorated

.1.3. Species of wood

.1.4. Height and class

.1.5. Original treatment date (If applicable and legible)

.1.6. Ground line circumference

.1.7. Leaning pole

.1.8. Cracks or breaks across the grain

.1.9. Mechanical or fire damage

.1.10. Woodpecker holes or/and Insect damage

.1.11. Conks (i.e., fungus, fruiting bodies), knot clusters or holes

.1.12. Any unauthorized attachments, such as flags, signs, etc.

5.1.2 Construction & Hardware Inspection:

.2.1. Crossarm damaged or decayed.

.2.2. Broken or damaged insulators, spacers, or brackets.

.2.3. Broken or loose tie wire.

.2.4. Condition of the conductor and guy wire(s).

.2.5. Trees, limbs, or vegetation encroaching on conductors or equipment.

.2.6. Condition of ground wire and rod(s).

.2.7. Any unusual conditions or safety hazards.

NOTE: Any pole inaccessible due to water, obstructions, etc. will be visually inspected and the obstructions shall be reported.

5.2 Check to see if the pole is set to the appropriate depth. The following table indicates the correct distance from the ground line to the bottom of the pole brand.

Table 1 – Pole Depth vs Ground Line

Length of Pole (in feet)	Ground Line Distance	
	To Butt	To Brand
25	5	5
30	5.5	4.5
35	6	4
40	6	4
45	6.5	3.5
50	7	3
55	7.5	6.5

5.3 Measure the distance from the ground line to the bottom of the pole brand. If the distance is more than 6 inches than the value in the 3rd column of Table 1:

5.4 Attach an aluminum pole tag letter “S” just below the bottom of the pole brand. Record the information into the appropriate inspection record.

5.5 Do not record this pole as set shallow if there is an “R” tag attached to the pole just below its brand, as this indicates the presence of enough rock to support the pole.

5.6 Install Pole ID tag if necessary.

5.7 Install appropriate reflectors on all wood poles located within three feet (3 feet) of any roadway if no guard rail is present.

5.8 Evaluate a pole if its effective ground line circumference has been reduced by decay or insect pockets, hollow heart, mechanical damage or has had exterior decayed wood removed by chipping prior to ground line treatment.

5.9 Remove from service, any corner (angle) poles, dead end poles, guy stubs and push braces with less than 80% of their original ground line circumference. Circumference measurements for new poles are listed in the following table.

Table 2 – Pole Dimensions Measured 5 feet from the Bottom of the Pole

Length of Pole of Feet from Top	Minimum Dimension (in inches)	Class						
		H-2	H-1	1	2	3	4	5
0'	Diameter	9.9	9.2	8.6	8.0	7.3	6.7	6.0
	Circumference	31.0	29.0	27.0	25.0	23.0	21.0	19.0
2'	Diameter	10.2	9.5	8.8	8.2	7.5	6.9	6.3
	Circumference	31.9	29.8	27.8	25.8	23.7	21.7	19.7
5'	Diameter	10.6	9.9	9.3	8.6	7.9	7.3	6.6
	Circumference	33.2	31.1	29.1	25.8	24.9	22.8	19.7
10'	Diameter	11.3	10.6	9.6	8.9	8.3	7.7	7.0
	Circumference	35.4	33.2	30.0	28.0	26.0	24.0	22.0
15'	Diameter	12.0	11.2	9.9	9.2	8.6	8.0	7.3
	Circumference	37.6	35.3	31.0	29.0	27.0	25.0	23.0
20'	Diameter	12.7	11.9	10.7	10.0	9.4	8.8	8.1
	Circumference	39.8	37.4	33.5	31.5	29.5	27.5	25.5
25'	Diameter	13.4	12.6	11.6	10.9	10.2	9.5	8.7
	Circumference	42.0	39.5	36.5	34.0	32.0	29.5	27.5
30'	Diameter	13.8	13.2	12.4	11.6	10.9	10.0	9.2
	Circumference	43.5	41.5	39.0	36.5	34.0	31.5	29.0
35'	Diameter	14.6	13.8	13.1	12.3	11.5	10.7	9.9
	Circumference	46.0	43.5	43.5	38.5	36.0	33.5	31.0
40'	Diameter	15.4	14.5	13.7	12.8	11.9	11.1	10.3
	Circumference	48.5	45.5	43.0	40.5	37.5	35.0	32.5
45'	Diameter	16.1	15.1	14.3	13.3	12.0	11.7	
	Circumference	50.5	47.5	45.0	42.0	39.0	36.5	
50'	Diameter	16.6	15.8	14.7	13.8	12.9		
	Circumference	52.0	49.5	46.5	43.5	40.5		

5.10 IML Testing

5.10.1 When a pole is greater than 20 years old, or has failed the visual inspection for any reason, the IML Wood Inspection Drill shall be used to further evaluate suspected issues.

5.10.2 The IML wood inspection drill is used to penetrate utility poles and accurately measure resistance to detect any soft wood, rot or cavities present in the wood. These tools use a minimally invasive technique to identify internal defects and help us maintain a safe and reliable system. This inspection is a health assessment of the pole. (Refer to **WMS 08.14** for further details).

.2.1. The IML drill measures the percent remaining strength of the pole, determining whether it retains sufficient structural integrity. If the strength is inadequate, the meter will indicate the specific type of defect and log the data accordingly.

5.10.3 Prior to drilling, take note of any obstruction (risers, C-Truss, concrete, etc.) that would interfere with drill bit exiting the backside of drilling sample. Eversource has two drilling sequence presets based on field conditions.

.3.1. 3BGL (three below grade level) test sequence is comprised of one horizontal and three below grade drillings. This is the default testing sequence at Eversource and to be used where there are little to no obstructions.

.3.2. 4BGH (four below grade, half drills) test sequence is comprised of one horizontal and four, below grade half drillings. This is an alternate testing sequence to be used when obstructions are present.

.3.3. If additional tests are desired due to inconclusive data or suspicions, they can be added when the initial testing sequence is complete. The meter's display will prompt the user if any additional drillings are to be conducted and added to this pole location's test data.

5.10.4 The inspection drill captures the measurements based off the resistance of the wood so the wear and tear on the bit is widely varied based off the density level of the wood. Good practice to prevent this is to always check the bit quality/shape throughout the day, ensuring there is an edge to the bit. If the operator experiences hitting a rock, nail, or any other hard object, they will typically hear the sound and see the change on the graph. If this happens, the next step should be to extend the bit and check its condition to ensure the edge is still in good working condition. On average, you can do 100+ drillings per bit.

5.10.5 If testing is done by a contractor, all pole testing raw data from the IML tool must be provided with the final testing report provided to Eversource.

6.0 Candidate Criteria for Reject Restoration

6.1 Poles evaluated as **normal reject poles** by the inspector shall be noted in the computer database as "Restorable" if there is sufficient shell thickness to transfer the strength of the steel reinforcing member to the wood pole. A normal reject pole is restorable with one of the following options if it meets the following minimum criteria.

6.2 All the following requirements must be met in order to qualify a pole for restoration:

6.2.1 No circuit rebuild requiring taller or larger class poles is planned within the present planning period. Search the Work Management System by pole number to determine if other work has been planned for that pole and proceed accordingly.

6.2.2 No equipment additions (capacitors, reclosers, regulators, switches, or transformers) that would require a taller or larger class pole are expected in the near future.

6.2.3 Telephone Company concurs with pole restoration for those poles jointly owned. (Refer to guidelines for jointly owned poles below.)

6.2.4 If applicable, State Highway Department concurs with pole restoration for poles along state highways. For the State of Connecticut, written approval must first be obtained from the appointing authority of the local municipality of the state route where pole restoration is planned. A permit is required by the State of Connecticut.

6.2.5 Department of Transportation will not be issued unless approval from the municipality is included with the request.

6.3 Additionally, reject poles meeting any of the following criteria shall not be considered for restoration:

6.3.1 Poles showing advanced decay or large splits along lines of stress.

6.3.2 Poles with risers that need Eversource or other utility crew assistance in order to complete reinforcement.

6.3.3 Poles with less than 50% of the base circumference.

6.3.4 Poles with an excessive or severe lean, guyed or unguyed.

6.3.5 If severe rock or tree root conditions exist at the base of the pole, replace the pole.

6.3.6 Poles that are approaching or are beyond their expected service life. Most utilities estimate that the average service life of a pole is approximately 40 years.

6.3.7 Poles that will lead to a violation of the 36 inches minimum clearance required for wheelchair passage on any side per Mass. A.A.B. guidelines and the U.S.A.D. A's requirements. Also, consider ramps that may be near a pole.

6.3.8 Assess the need to climb the pole in the future. If the pole cannot be easily reached with a bucket truck and the condition of the pole above the ground line is not sufficient to allow climbing, then replace the pole.

6.4 Replace all poles found to be Priority Reject poles. Evaluate the condition of the entire pole. If there are cracks, splits, or rot at the top, extensive woodpecker holes, or other damage that would make it impractical to extend the life of the pole by restoring the pole at the ground line, then the pole should be replaced rather than restored.

6.4.1 **Exception to this rule**: If you know that the pole will be relocated or replaced for other reasons within the next five (5) years, and restoration will extend its life at least for that period, then restore the pole instead of replacing it.

6.5 Determine if the pole is the correct class and height to support the facilities that are on it. The Eversource Distribution standards provide the required clearances and guidance to calculate the strength requirements to support electric and communications equipment. If it is determined that the existing pole is not sufficient due to strength or clearance issues, then replace it with the correct class and height pole.

6.5.1 Return to Distribution Maintenance and Construction a list of those poles which you have confirmed can be restored. For those which you have determined cannot be restored, state the reason(s) in writing why they cannot be restored.

7.0 Data Collection

7.1 All documented comments and questions are to be reported in a consistent order, providing one column per comment/question throughout the report. Some agreed-upon questions shall be detailed by Eversource, and answers will be included in the final report (see appendix).

7.2 To allow for a timely review of restorable poles and redress for priority poles, a separate excel file shall be provided after completing all inspections on a circuit or in a town depending on the inspection type.

REDACTED

7.2.1 This file shall have separate tabs to list all poles that are the three reject types (priority rejects, non-restorable rejects, restorable reject candidates). File name format shall be “EVERSOURCE_DELIVERABLE_DATE WEEK ENDING (e.g. 06-22-21).xls”. Returning data delivery shall include Eversource GIS Data supplied for each pole.

7.3 One complete database shall be provided for each town after all inspections are completed. At the end of the project, all database information shall be corrected to reflect what poles were restored by the CONTRACTOR, if the CONTRACTOR is the same. Any poles that were not restored as planned must be clearly indicated.

7.4 Final reports shall be provided in Microsoft Excel, with the filename in the following format: “EVERSOURCE_INSPECTION YEAR (e.g.2021) _POLE INSPECTIONS.mdb.” At the end of the work year, one master compiled file shall be provided.

Appendix 1 – Instruction for the External and Internal Ground Line Inspection and Supplemental Treatment of Wood Poles

A. GENERAL

A.1 CONTRACTOR REQUIREMENTS

The CONTRACTOR shall furnish all supervision, labor, tools, equipment, transportation, materials, and field handheld portable computers to complete the inspection and supplemental treatment of any poles as authorized by the Company. Eversource will furnish the CONTRACTOR with copies of this specification, maps showing locations of the poles to be inspected and/or treated. The CONTRACTOR is responsible for performing all inspections, internal and external treatments as specified in this contract.

The CONTRACTOR shall be responsible at all times for the safety of the general public and for the protection of any individual who may enter the limits of work being completed under the terms of this contract. The CONTRACTOR shall conduct his operations to provide and maintain at all times a safe passage of traffic along all highways, driveways, roads, and detours within the limits of work completed under the terms of this contract. The CONTRACTOR shall furnish all necessary safety precautions to give warning to the public or to others of any dangerous condition to be encountered as a result of this work or their operation. All work shall conform to any safety rules enforced by the Company.

All work shall be performed in a workmanlike manner and shall be in accordance with this specification and all applicable Federal and State regulations. The contractor shall strictly adhere to federal, state, and local environmental regulations and the use of any chemicals in protected or water supply areas. The CONTRACTOR shall exercise care to prevent injury to any persons and to prevent damage to any property during the performance of work under the terms of this specification.

A.2 PESTICIDE LICENSING AND REPORTING

Each crew shall be under the supervision of a full-time, on-site foreman who shall be a Massachusetts State certified pesticide applicator for “wood preservation, remedial treatments.” The CONTRACTOR shall furnish proof of such license requirements to Eversource before initiating any work on such property. The CONTRACTOR shall be responsible for the accurate recording and submitting of all pesticide usage forms required by the various pesticide regulatory agencies and for meeting all Massachusetts State and local municipal rules and regulations.

The CONTRACTOR shall be required to submit MSDS information on all chemicals to be used when submitting their bid and to have in their possession copies of any product labels for all preservatives and fumigants used on the Company’s property. These labels shall list the chemical composition, description, direction for use, precautionary statements, warnings, environmental hazards, storage, and disposal instructions and any other relevant information about the product used. Upon request, these labels must be shown to anyone desiring this information. All field crews will carry copies of the MSD sheets. The same crew will also be required to maintain daily inventories of all preservatives used as a precaution against any possible lost product.

A.3 SPILL PREVENTION

Chemical spills shall be immediately corrected in a manner consistent with label law following all Federal and State regulations. If a reportable quantity (RQ) is spilled, the incident shall be duly noted to the Company representative in a timely manner.

The CONTRACTOR shall provide to each field crew a spill kit containing all of the following as minimum requirements:

1. Absorptive materials (Speedi-dri) minimum 5 pounds
2. Baking soda
3. A watertight container
4. Rubber gloves
5. Tyvek suit (not white- natural brown or green colors only)
6. Ammonia
7. Protective apron
8. Washing soap

A.4 PERSONNEL QUALIFICATIONS

All pole and/or treating inspectors and work foremen performing these procedures shall be trained and/or experienced in the inspection and supplemental treatment of wood poles for a minimum of four (4) months. Eversource reserves the right to review and approve evidence of previous experience and training in the form of a letter of reference and/or resumes.

Supervision of pole inspectors, treating inspectors and work foremen shall be performed by the CONTRACTOR using qualified supervisors with a minimum of three (3) years of experience in the art of pole inspection and supplemental treatment. This supervision must reside with the Eversource service territory or adjacent Utility's property. The Supervisor must maintain a telephone with an answering device or service to accept incoming Eversource phone calls. In addition, all Supervisors will carry a cellular telephone.

CONTRACTOR supervisors shall review and spend a minimum of ten (10%) percent of the hours logged by each work foreman (i.e., one foreman working forty (40) hours would require a minimum of four (4) hours of supervision per week) on the job site every week. The CONTRACTOR shall supply documentation of this time at the request of Eversource.

A.5 REPORTING & INVOICING

Before starting work, the CONTRACTOR must notify the authorized Company representative of all plans. Should the CONTRACTOR close their operation in one area/district/region / etc. again the Company representative must be notified. The CONTRACTOR's supervisor shall keep the Company's representative well informed of their work progress and all action taken accordingly. The CONTRACTOR's supervisor will provide daily email notifications showing towns to be inspected the following day.

When submitting invoices for payment, each invoice will be cross-referenced to indicate the corresponding foreman, work completed by category, and dates completed. Invoicing shall only be done after complete circuit inspection data is submitted to Eversource. Invoices are only to be submitted after all inspections on each circuit pole line are completed. Each invoice shall indicate the district, circuit, and town. Invoices for restorations are only to be submitted when all are completed for each circuit. Circuits that may extend into more than one town shall require an invoice for each town. Each invoice shall identify the district, circuit, and town.

Accurate records of all work and evaluation of each pole must be generated on the field, handheld computers supplied and maintained by the CONTRACTOR. Samples of all reports to be generated along with any information pertinent to the unit can be supplied to the Company before work commences. The successful CONTRACTOR of this specification must have the capability to collect, process, and deliver all generated field information, billing, work summaries, pole maintenance summaries, and rejected pole summaries using this technology. Weekly progress updates are necessary, or as otherwise required by Eversource. CDs formatted to the Company's specification will be supplied if requested. Information may be transferred to the Company by email as an option.

A.6 QUALITY CONTROL

At the option of the Company, their representative and the CONTRACTOR's representative may inspect completed work on a regular basis. The quality control check is intended to satisfy the Company of the proper performance of the CONTRACTOR according to the provisions of this specification and is not intended to substitute for careful supervision by the CONTRACTOR's personnel. The cost of the CONTRACTOR portion of the quality controls will be included in the bid-documented prices.

The original ground line inspection plug shall be bored out with the hole depth measured to comply with Section B.4 of this specification.

Fumigant plug(s) will be bored out and the depth of these holes measured to ensure compliance with Section D of this specification. If for reasons beyond the CONTRACTOR's control, the fumigant holes cannot be bored to the required depth, this fact and associated reasons will be recorded into the pole file. All short holes will be reviewed and may have to be re-bored and retreated with the full quantity of the fumigant required, at the Company's discretion. The CONTRACTOR's cost of reapplication shall be borne by the CONTRACTOR.

Inspection of the external treatment shall consist of selecting at random two to four or more externally treated poles per inspection. These poles may be re-excavated, the wrap partially or completely removed, and be completely re-inspected and/or retreated. Hammer marks should be evident to show that the pole has been adequately sounded.

Inspection of any pole receiving internal treatment for voids or insects shall consist of examination by Supervisory personnel to locate the series of holes used to apply the treatment itself. The inspection shall note that all holes have been plugged properly.

Any discrepancies will be brought to the attention of the CONTRACTOR and corrective action satisfactory to the Company shall be taken by the CONTRACTOR to remedy the situation before the next quality control. The corrective action may include re-inspecting and retreating each pole back to the previous acceptable quality control at no cost to the Company. At the discretion of the Company, any, and all of the CONTRACTOR's in-house quality controls may be examined. If requested, copies of the actual quality controls will be submitted to the Company.

B. POLE INSPECTION

B.1 GENERAL

During the progress of the work, the treating crew foreman shall email the company's representative with crew status and locations for the following day. Notification is also required if not working on a normal weekday.

When an excavation is done close to a home or private property, the individual owner should be notified of this work's nature. Brush will be removed from around the pole to allow for proper excavation, inspection, and/or treatment unless the property owner denies permission for removal. If permission is not granted, the pole will be visually inspected, IML Drill tested, and treated with fumigant (if necessary). Should the owner protest the use of any type of preservative treatment, only an inspection will be completed. Poles as such will be noted accordingly in the reports.

Before any work is started, the CONTRACTOR shall take all reasonable precautions to ensure that no pole failure will occur. If there is any question of a pole being in danger of failure, no excavation will take place without prior notification of the Company.

The type of inspection each pole receives is based on its age unless otherwise specified. Each pole generally follows the table before for inspection and treatment procedures:

Table 1 – Distribution Poles

Age of Poles	Year Bran on Pole	Procedure
0 – 19	Current Year minus 19 or Less	Pole (visual)
20+	Current Year minus 20 or More	Visual, IML Drill, Treatments

Poles determined to be non-rejects shall not receive any type of supplemental treatment except for those poles which will be restored. Treatment can be applied during the inspection and treatment process, when the restoration is completed, or both.

Poles set in concrete or in asphalt are excluded from an excavation under this specification unless specifically requested by the Company. Such poles shall receive an extensive inspection with no excavation. Poles in this category having internal decay shall be treated in accordance with Section C., Unlike poles that can be partially excavated to measure the decay, for concrete encase poles defects found above the ground line area may be factored into the assessment of the pole. Deductions for decayed top, checks, etc. may be compounded to derate poles that exhibit advanced decay throughout.

Care must be taken not to break the ground wire or to disconnect it from the ground rod. When found, the ground wire should be carefully pulled away from the pole so as not to interfere with the work, then restored to its original location when all work is completed.

C. INTERNAL TREATMENTS

C.1 INTERNAL TREATMENT WITH FUMIGANTS

Poles without internal voids should be internally treated with fumigants according to the following schedule:

- Distribution Poles - All distribution poles greater than 20 years of age requiring partial excavation should be fumigated.
- Poles with internal voids should be treated according to Section D.2. OBJ

The approved fumigant for internal decay for decay will be MITC-FUME or another product as approved by the Company. A maximum of **three** MITC-FUME vials are to be installed in any distribution pole, with approx. 120-degree separation and at three different heights. Also, **no vial shall be installed more than 13" above grade**, with the middle vial at approx. 7" and the lowest vial no lower than 1" above grade. Any preexisting treatment holes in this low area shall be reused.

Hole Chart for Pole Diameters for Applying (MITC-FUME)

Diameter of Hole	Total Length (inches)	Pole Circumferences			
		30"- 35"	36" - 49"	50" - 59"	60" +
7/8" Hole	15" Depth	3 vials	3 vials	3 vials	3 vials

The effective length of all holes is 2 inches less to allow for inserting a 2" treated wooden dowel. Starting at the ground line, adjacent to the largest check, drill towards the pole center at a steep (45 degree) angle. Do not drill deeper than 15". If a check is intersected, one additional hole may be bored adjacent to that hole, but at an angle away from the actual check. In this case, both holes must be plugged. Equally, space the holes around the pole. Starting at the ground line, move upwards in a spiral manner with a vertical height distance of 6 inches between holes.

The lowest hole (1 inch above grade) is the first to be filled with a fumigant. Once a vial has been properly inserted, with an open-end pointed downward, a plastic plug will be inserted into the hole. A tight fit with the plug is necessary. Working upwards and around the pole, insert the vials followed by plugging the holes. An appropriate tag should be placed five to six feet above the ground line, facing the street if there is one, indicating the year and type of treatments and fumigant used.

Precautions should be used in the handling of all fumigants. Label directions must be followed in all handling, application, and disposal procedures. Fumigants must be applied following all State and Federal laws. Special attention is necessary when working near any waterways, wetlands, drinking supply areas, and wells.

C.2 INTERNAL TREATMENT FOR VOIDS, HEART ROT OR INSECTS

Poles having internal voids should be treated with Osmose COP-R-NAP or equivalent as approved by the Company. After the extent of the void has been determined through proper boring (as described by Section B.4), the preservative shall be pumped into the bottom hole until it begins to exit the pole from the next higher hole. This procedure should be followed until the cavity is filled or a maximum of one (1) gallon (or more as approved by the Company) has been applied. All holes should be plugged with a properly treated and sized wooden or plastic dowel.

C.3 TREATMENT OF POLES WITH CARPENTER ANT – TERMITE DAMAGE

Evidence of carpenter ant or termite damage is illustrated by (1) fresh wood saw dust around the base of the pole (usually below a seasoned check) and/or (2) boring around the check reveals noticeable voids. Hammer sounding the pole will indicate a localized area where the problem may exist. The amount of sawdust can also be a sign of the amount of damage. Poles exhibiting clear signs of carpenter ant or termite damage should be treated as described below. Poles having severe damage may be candidates for restoration or possibly replacement.

Before applying any treatment, remove the wood dust from the base of the pole. This will facilitate re-inspection when looking for evidence of re-infestation.

To treat the infested pole, use a power drill and bore a minimum of four holes next to the infested seasoned check. A sudden release of torque will indicate entry into the insect chambers. Drilling should continue until solid wood is encountered. Drill downward at a forty-five-degree angle and parallel to the seasoned check. All holes need to be flooded with the insecticide/preservative solution (Osmose COP-R-NAP or other approved product by the Company) until either rejection of the solution or a maximum of one (1) gallon has been applied. All holes will be plugged with a treated wooden dowel.

Care should be taken in handling the solution to avoid any spillage and/or skin contact. Care must be specially taken when inserting the wooden dowels into the treated holes. Splash or spray from the solution can be present and appropriate protective eyewear is required. All product label instructions must be followed. The Company may recommend additional precautions over and above the label requirements.

C.4 GENERAL PRECAUTIONS AND REQUIREMENTS FOR FUMIGANTS, PRESERVATIVES, AND INSECTICIDES

The wood preservatives used under the scope of this specification are potentially toxic to man and may cause damage to the environment if not handled and used properly following all label requirements and applicable laws. No product will be used if the pole is located within fifty (50) feet of any surface water unless such water is deemed temporary. If any State or Federal law exceeds this requirement, that law(s) will be followed.

Any container containing any wood preservative will be kept under lock and key unless under the direct control of a CONTRACTOR's employee having authority to use such product.

Empty preservative containers will be removed from the worksite and disposed of in accordance with all rules, laws, and regulations both on a Federal and State level.

All label requirements will be followed. All applications shall conform to any, and all federal, state, and local regulations having any jurisdiction over pesticide applications.

The CONTRACTOR must follow all Federal and State regulations for proper use of all safety equipment and/or articles of clothing. This includes but is not limited to hardhats, protective aprons, gloves, goggles, etc.

D. POLE TAGGING AND IDENTIFICATION

All inspected and/or treated poles shall be marked with a nailed metallic, weatherproof tag identifying the work performed, CONTRACTOR name, and date when work was completed. The Company must approve the tagging scheme used in advance.

The CONTRACTOR will supply all tags unless other arrangements are made in advance of the project starting. Tags are to be placed five to six feet above the ground line on the roadside of the pole and below the Company's identification marker. If the pole has been previously inspected and/or treated, the new tag will be attached directly below the existing tag(s).

Appropriate industry standard red tags shall be used to identify reject poles, and their climbability (Electromark Climbguard tags or equal). Two per pole shall be installed on the road and field-side at approx. 6 ft above grade. The following styles shall be used:

- Type C Tag- White arrow with a white encircled X on red background shall identify Priority 1 poles or any priority poles that are not safe to climb. Arrow will point in direction of the defect. (Electromark Climb-Replace Tag)

- Type B Tag- White plain arrow on red background shall be used on priority or restorable poles that are not in poor condition. Arrow will point in direction of the defect. (Electromark Climb-Care Tag)

E. WORK SUMMARIES

The CONTRACTOR shall track the course of all work in progress. Weekly summaries shall include but not be limited to the following information:

Total number of poles reviewed.

Total Dollars Invested

Breakdown of Each Pricing Category

Total Number of Rejected Poles

Total Number of Restorable Rejected Poles

Average Price per Pole Invested

Summaries will be completed by a foreman. In addition, a year-to-date summary will track the overall progress of the job collectively totaling “all” work completed to that specific date.

F. SPECIAL NOTES

The CONTRACTOR will complete all work in a timely and professional manner. The Company will be notified by the CONTRACTOR of a scheduled starting date. The Company will set a pre-arranged schedule for meeting with the CONTRACTOR to schedule the overall progress and completion of the project.

Appendix 2 – Reporting Format

Inspection results shall be provided in Microsoft Excel files with the following information, as a minimum. Other information, if part of standard Contractor format or which the Contractor uses for internal purposes, may also be included with proper labeling. One format (field location and identification, data types, etc.) shall be used for all reports.

Circuit – If provided by the Company – otherwise shall be left blank (if applicable)

Division – The Area Work Center (AWC) the inspections are taking place.

Town – This is typically provided in the pole inspection list – obtain from maps if not provided.

NOTE:	Pole identification numbers are unique by town, so it is extremely important that this information be listed correctly

Route Number, Pole Number, Sub ID Number – This is typically provided in the pole inspection list or taken in the field as part of the circuit checks.

General Information – Surface type (dirt, concrete, asphalt), year last inspected, previous cycle information, date of current inspection, and location information (street name, right-of-way number, or other)

Stencils – Indicate if equipment poles are properly stenciled.

Grounds – Indicate the condition of pole grounds (OK, damaged/broken, or do not exist)

Condition of Pole – Rejected, priority pole, restorable, and recommended reinforcement method.

Ground Line Inspection Details – Inspection code (Osmose standard designations), original circumference, effective circumference, primary reject code, and notes pertaining to ground line inspections (size of voids, type of insect, high priority needs, etc.)

Visual Inspection Results – Description of woodpecker holes (sizes and quantity, or state none found), pole splits or cracks, any pole top defects, any attachment defects (damaged cross arm, insulator, guy wire, etc.), notes on any or all of these items which would help the Company evaluate condition, and indication if above ground maintenance or follow-up is required due to these items (yes or no).

Inspection Restrictions – If a pole cannot be accessed for specified inspections due to a fence, water, etc., or if the pole cannot be treated due to environmental / community concerns, provide specific information.

Attachments on Rejected Poles – Rejected poles require additional notations regarding the types of construction on the pole in order to prioritize pole replacements. This shall include the following four categories (list revised in 2004):

- Transformer/ large equipment pole (exclude risers, lighting, and fuses).
- Single circuit, three-phase primary wires at the pole top
- Double circuit, three-phase primary wires at the pole top

Pole Steps – Are there any pole steps in the pedestrian area? (For heights lower than 7 feet only, note # of steps in remarks, and remove)

Roadway Markers – Is a reflective roadway marker needed? To clarify: Poles missing roadway markers shall be identified in locations that are extremely vulnerable to vehicle damage, on rural roads within 2 ft of pavement that are both curved and non-curbed, on roads with speed limits exceeding 30 mph, and on state roads.

Vegetation Issues – Note if vines or limbs are within six inches of primary.

In addition, each pole record shall include all original Eversource GIS data provided for poles inspected.