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THE INSPECTION AND REMEDIAL TREATMENT OF IN-SERVICE WOOD POLES

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1. Introduction

Utilities can improve system reliability, lower risks, lower operating costs and save natural resources by implementing and maintaining a systematic pole inspection and remedial treatment program. However, there are many variables in inspection and remedial treatment programs that can impact the success of those programs.

2. Pole Inspection

Pole inspection is performed in order to identify certain conditions or collect certain information that the pole owner requires. The requirements vary from one pole owner to the next, depending on customer need. Following are some common reasons that utilities perform pole inspections:

- To identify above ground defects
- To identify code violations
- To identify reject and priority poles
- To identify decay in its early stages
- To perform inventories and gather data

Poles are generally inspected with one or more of the following methods:

- Visual inspection
- Sound and bore inspection
- Electronic inspection devices
- Partial excavate at groundline
- Full excavate at groundline

The training and experience of the individual performing the inspection can dramatically impact the accuracy of the inspection and the accuracy of the data collected. Each inspection method provides varying degrees of accuracy in identifying the extent and the location of any decay. As an example a full excavate inspection will do a much better job of identifying external decay below ground than a sound and bore inspection will.

3. Remedial Treatment

Remedial treatments are used to control existing decay conditions as well as help prevent future decay. There are currently four types of remedial treatment systems available. They are:

- External pastes and bandages
- Fumigants
- Liquid internal treatments
- Solid diffusible rods

These remedial treatment systems are designed to control or prevent certain decay conditions. For the remedial treatments to be effective, they must be matched to the type of decay they are designed to control or prevent. External pastes and bandages are used to control and prevent external decay below ground. Fumigants are used to control and prevent internal decay above and below ground. Fumigants quickly move from the point of application to arrest decay in a several foot section of the pole. Solid diffusible rods are used to control and prevent internal decay above and below ground, however they must first dissolve, then diffuse through the wood to provide protection. Movement is usually more limited than the movement of fumigants. Liquid internal treatments are used to control internal decay and insects and prevent re-infestation. These are usually applied to voids within the pole.

There are no standards for the performance of remedial treatments. They are made with different active and inert ingredients, contain different percentages of active ingredients, have different application rates and provide varying degrees of efficacy. The performance of the remedial treatment chosen can have a dramatic impact on the success of the inspection and treatment program.

4. Discussion

The impact that an inspection method, inspector or remedial treatment has on an inspection and treatment program will not be fully known until the group of poles is re-inspected on a subsequent cycle. In some cases higher than expected reject or decay rates can be attributed to inaccurate inspection methods or remedial treatments that were expected to protect against decay conditions they were not intended to protect against. It is also possible that a specific formulation or application rates were ineffective for the period of time between cycles.

5. Conclusion

There are many variables that can impact the outcome of a pole inspection and remedial treatment program. It is important that a pole owner is aware of all the options available to them regarding inspection methods and remedial treatments and that they understand any limitations associated with each option. Once the owner understands their options, they can choose the combination of inspection method(s) and remedial treatment(s) that best meet their needs.