

Overhead Transmission Inspection and Assessment Guidelines: The “Yellow Book”

This industry-standard reference—offered together with pictorial field guides and web-based training—helps utilities reduce costs, increase reliability, and extend the life of overhead transmission lines.

EPRI’s *Overhead Transmission Inspection and Assessment Guidelines* (1012310) provides a state-of-the-art resource on the latest inspection and assessment methods to help utilities increase reliability and reduce maintenance costs.

Comprehensive Suite of Information Resources

To support utility transmission maintenance and life extension, EPRI offers a suite of interrelated and complementary information resources.

Overhead Transmission Inspection and Assessment Guidelines

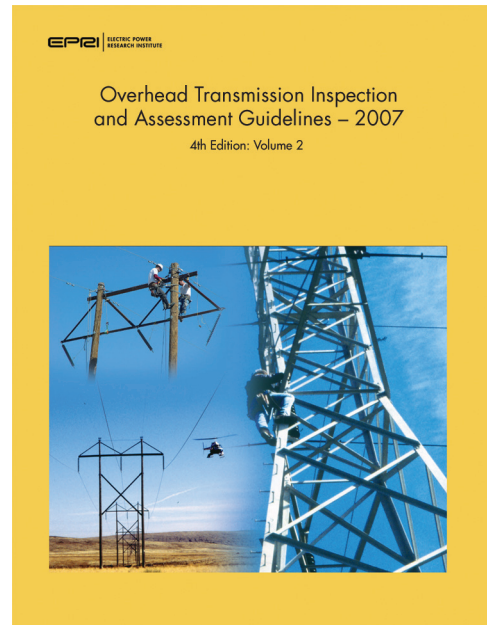
Known as the “Yellow Book,” this annually updated living document includes information on the following key topics:

- Establishing and refining inspection and assessment programs with an emphasis on asset management issues
- Degradation and failure modes of line components, including detectable conditions and technologies applicable to identifying and assessing such conditions
- Procedures and technologies for inspecting, assessing, and documenting line condition
- Use of inspection data to assess maintenance requirements
- Choosing effective equipment and test procedures—considering performance and life-cycle costs—to facilitate good grounding inspection practices

The Yellow Book is available in both print and electronic formats. The print version is printed in high-quality color in a ring binder with tabs, allowing for quick access and copying of sections as well as adding updated material. The electronic version is delivered in a searchable PDF format, allowing the material to be accessible to an entire engineering department.

Pictorial Field Guides for Assessment and Inspection of Overhead Transmission Lines

Field guides are designed to aid utility field crews in assessing observed conditions on structures, identifying specific problems, and deciding on a course of action. They also facilitate the discussion of findings and results among utility crews, engineers, managers, and EPRI researchers.



Each guide provides a catalog of photos illustrating various conditions and factors affecting transmission line structures and components as well as their likely causes. Also included are maintenance priority ratings and suggested actions. The following field guides are available:

- *Visual Inspection of Polymer Insulators*, 1013283
- *Corona Rings for Polymer Insulators*, 1008741
- *Visual Inspection of Steel Structures*, 1012311
- *Visual Inspection of Wood Structures*, 1014406
- *Visual Inspection of Steel Structure Foundations*, 1014396
- *Daytime Discharge Inspection of Transmission and Distribution Overhead Lines and Substations*, 1013895

Additional field guides will be added annually until a comprehensive set is completed.

Web-Based Training Resources

Drawing from the Yellow Book and the field guides, EPRI has developed the Overhead Transmission Online Training (OTLOT) program to train inspectors and evaluate their proficiency. The OTLOT Version 3.0 (1013738) web-based training program uses graphics, text, and animation to present concepts related to overhead transmission line inspection. It provides an introduction to best practices in general inspection techniques in addition to detailed information on transmission line components. Learners can interact with the content by answering questions and will receive feedback based on their responses. OTLOT modules include the following:

- Transmission Line IAM
- Steel Structures
- Polymer Insulators
- Avian Interactions
- Wood Structures
- Foundations
- Daytime Discharge Detection
- Porcelain Suspension Insulators
- Application and Value

Member utilities guide the content of these annually updated information resources that address all of the components of an inspection and assessment program—from methodology to inspection techniques, technologies, and component-specific issues. Together, these resources help transmission utilities to accomplish several objectives:

- Increase the reliability of overhead transmission lines and lower maintenance costs by illustrating best practices for equipment inspection, assessment, and maintenance—leading to a consistent approach
- Avoid and delay costs by providing members with tools to set up or refine an effective inspection and assessment process
- Improve reliability by identifying and assessing high-risk components prior to failure

Intended Audience

This set of guidelines is beneficial to asset managers and other maintenance stakeholders in establishing new inspection and assessment processes, revising processes, keeping abreast of and selecting technologies, performing condition and failure assessments, and recommending maintenance. In addition, the report is

useful to inspection personnel in performing field inspections and recommending maintenance, communicating results of inspections, and upgrading and enhancing their skills.

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2007 Revision of 1012310

The most recent updates to this guidebook (Chapters 14 and 15) are available as as 1013784. Order both 1012310 and 1013784 if you wish to receive the full product.

Contact Information

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