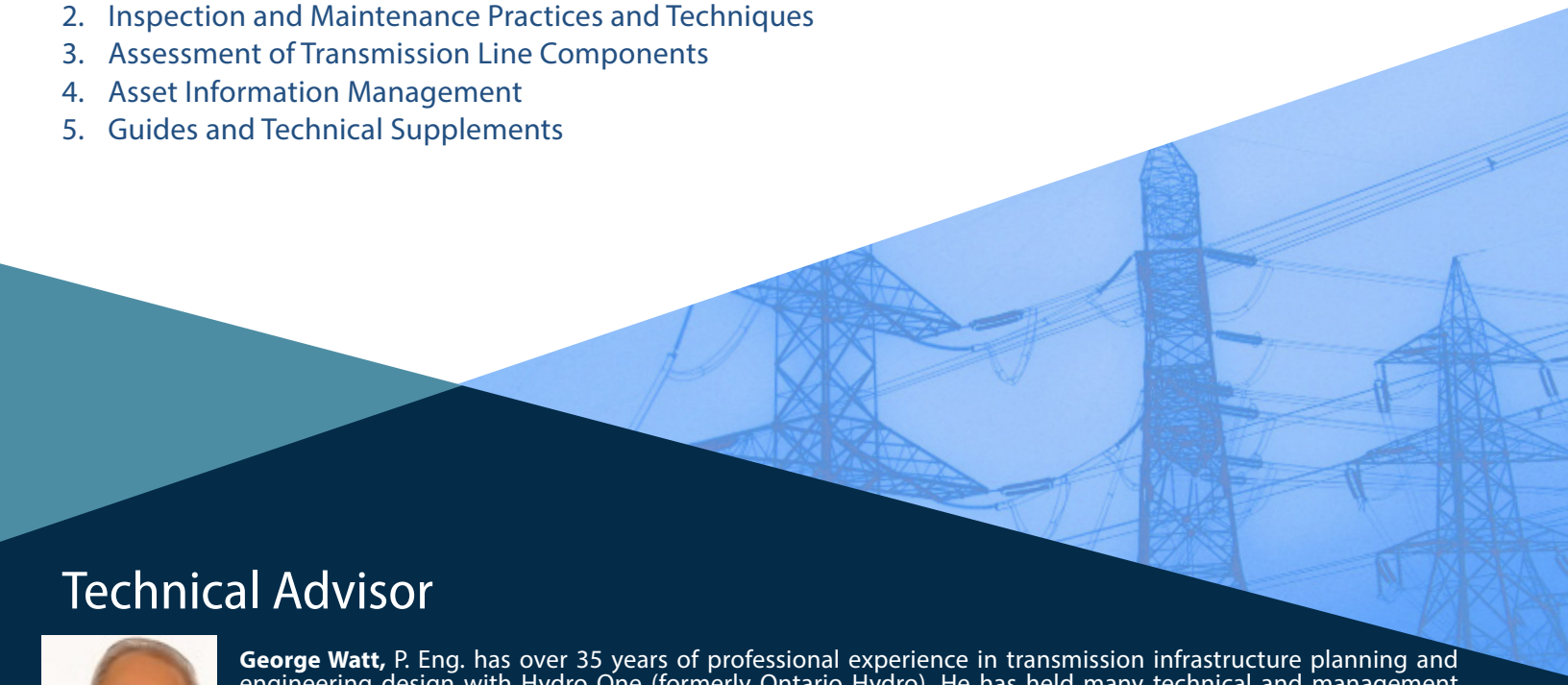
CEATI | Overhead Transmission Equipment

Many of the transmission lines built prior to the mid 1900s are still in service, and those built during the expansion years of the 1960s and 70s are beginning to show their age, requiring added maintenance and assessment. During the life of a transmission line, asset management decisions are made on an ongoing basis with an emphasis on extending the life of the assets, maintaining or improving reliability and performance, optimizing costs, and ensuring the safe operation of the transmission lines system.

The objective of the Overhead Transmission Equipment Program is to bring together interested transmission utilities to exchange information and knowledge on asset management practices and techniques and to facilitate studies and applied research that will optimize the management of overhead transmission line assets. Key focus areas of the group include life extension of assets to defer the need for major capital expenditures, the refinement and development of prudent and effective asset management practices, and maintenance techniques to reduce life cycle cost and maintain the performance of the transmission lines system.

Topics & Issues

1. Transmission Line Life Cycle Investment Planning
2. Inspection and Maintenance Practices and Techniques
3. Assessment of Transmission Line Components
4. Asset Information Management
5. Guides and Technical Supplements



Technical Advisor

George Watt, P. Eng. has over 35 years of professional experience in transmission infrastructure planning and engineering design with Hydro One (formerly Ontario Hydro). He has held many technical and management positions throughout his career and retired from the company as Director: Engineering. His areas of expertise include planning, developing, and implementing core business strategies and programs based on operational and performance requirements, as well as the detailed engineering and design of transmission lines. He remains active in international and national technical committees (CIGRÉ; CSA) and leads the effort of technical and standard development activities.

Gil Mourant, P. Eng. is a consulting civil engineer with over 40 years' experience in transmission line design, inspection, construction and testing, in Canada and internationally. He recently retired as VP Engineering and Special Projects with Valard Construction. Previously served as Transmission Line consultant for Teshmont Consultants. In his roles, he provided engineering leadership with senior management skills and technical insight on design and construction, ensuring projects achieved their goals of technical competency, quality, budget, schedule and risk mitigation. He continues to provide consulting services in a technical advisory capacity to CEATI.

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Selected Collaborative Projects

Transmission Line Life Cycle Investment Planning

- Guidelines for Managing Transmission Line Clearances
- Development of Health & Condition Indices for Transmission Lines
- Statistical Data and Methodology for Estimating the Expected Life of Overhead Transmission Line Components
- Guide to Optimizing Transmission Line Asset Replacement
- Increasing Capital Investments to Minimize Maintenance Costs
- Methodology for Ranking Transmission Lines
- Transmission Line Conductor Health Indexing and Estimation of Remaining Life
- Performance Metrics for Transmission Lines
- Transmission Line Reliability and Component Performance Measures and Their Application

Inspection and Maintenance Techniques and Practices

- Standardization of OHTL Inspection Data Collection
- Application of Inspection Data to Assist in Establishing the Appropriate Inspection Cycle for Transmission Lines
- Inspection Methods (Visual) for Transmission Line Assets/Components
- Transmission Line Defect Rating Criteria & Methodology for Rating Defects
- Air Break Switch Maintenance Strategies & Practices for Switches
- UAV Inspection Methods and Data Collection for Transmission Lines
- Prioritizing Lines to be Inspected
- Transmission Line Infrared Inspection Guide
- Transmission Line Inspections and Inspection Programs and Risks

Maintenance and Assessment of Transmission Line Components

- Transmission Line Pole & Tower Capacity Based on Corrosion Degradation
- Condition Assessment of Transmission Line Concrete Foundations
- New Below-Ground Coatings for Direct Embedded Steel Pole Transmission Line Structures and Assessment of Existing Coatings and Methods of Repair
- Prevention, Assessment & Remediation of Corrosion in Weathering Steel
- Evaluation of Transmission Line Steel Structure Coatings
- Guide for Cathodic Protection of Transmission Line Structures
- Transmission Line Asset Replacement Guide Based on Asset Condition
- Methods to Assess the Condition and Life Expectancy of Stockbridge and Spacer Dampers
- Condition Assessment of Lightning Arresters on Transmission Lines
- Technical Product Requirement Specifications to Help Formulate a Composite/Polymer Interphase Spacer Specification
- Condition Assessment of Overhead Transmission Line Steel Lattice Towers
- Best Practices for Transmission Line Insulator Condition Assessment
- Conductor Vibration and Galloping in Transmission Lines
- Guidelines for Specifying Polymer Insulators for Applications in Harsh Service Environments

Annual Activities

- 2 Face-to-Face Meetings
- Workshops/Conferences
- 5-7 Conference Calls
- On-Demand Information Exchange
- Collaborative Project Development

*Participation is open to Electrical Utilities.

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