

Technology Innovation Project



Project Brief

TIP 419: CEATI – Grounding and Lightning Program (GLP)

Context

The CEATI Grounding & Lightning program (GLP) is a consortium of international electric power utilities with several common goals that include benchmarking, sharing of information and knowledge on grounding and lightning protection of power systems and expanding the knowledge base through studies, R&D and the development of standards and guides. The Grounding and Lightning program (GLP) is interested in all aspects of grounding and lightning protection of Transmission and Distribution systems.

Electric power systems include the interconnection of the transmission, substation and distribution neutral grounding systems. It is a goal of the GLP program to remove barriers between these engineering areas to encourage the sharing of grounding and lightning knowledge and experiences. The effect of one system on another ground system is an important consideration.

It can be helpful, for instance, to understand how a substation grounding system is designed in order to develop a better grounding system for distribution pad-mounted equipment.

Focus Areas

The GLP Action Plan for 2020 takes its lead from the GLP Strategic Plan. Focus Areas are:

- Lightning Protection and Performance
- Substation Grounding
- Personal Protective Grounding (PPG)
- Distribution and Transmission System Grounding
- Copper Theft from Grounding Systems
- Pipelines Located Near Transmission and Distribution Lines and Stations

Each of the activities in the Action Plan has been identified by GLP members as important to them in their grounding practices. All activities in GLP are driven by its members.

Topics & Issues

1. Context of the Organization
2. Leadership
3. Planning
4. Support
5. Operations
6. Performance Evaluation
7. Improvement

Annual Activities

- 2 Face-to-Face Meetings
- 2-Day Industry Conference
- Training Webinars
- Conference Calls
- On-Demand Information Exchange
- Collaborative Project Development

Why It Matters

Today there is a greater awareness and desire to ensure that grounding for safety is achieved. BPA participation supports efforts to improve lightning performance of the transmission system as addressed in this program.

Goals and Objectives

The CEATI Grounding & Lightning program takes a broad spectrum view, providing clarity and understanding to grounding and lightning related topics. For BPA, it provides an avenue for moving information from one technical area to another through peer-to-peer guidance, collaboration with utilities, as well as indicating the direction for future areas of research of interest to the Agency.

About CEATI

The Centre for Energy Advancement through Technological Innovation (CEATI) is a user-driven organization committed to providing technology solutions to its electrical utility participants, who are brought together to collaborate and act jointly to advance the industry through the sharing and developing of practical and applicable knowledge.



Grounding
& Lightning

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Project Start Date: January 2020
Project End Date: December 2020

Links

www.ceati.com/GLP

Leverage

BPA's contributions are leveraged at a ratio of 25:1
This annual membership provides BPA access to reports and results of GLP projects.

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GLP Current Project Portfolio

T203700 3728 Guideline for Grounding Steel Poles

This project develops a recommended guideline on the best practices in grounding of steel poles. The study shall summarize grounding concerns and challenges such as gradient control, pole coatings and corrosion control as well as an investigation of different methods of grounding steel poles

T193700 3727 Grounding of Concrete Walls and Foundations

This project reviews the need for and methods of grounding concrete walls and foundations around and within substations.

T193700 3726 Mitigating Step/Touch Voltage Safety Issues Associated with Buried Metal Objects near Substations

This project reviews safety issues and practices to mitigate step and touch voltages on buried metal objects located near substations.

