

ELECTRIC AND MAGNETIC FIELD (EMF) ENGINEERING SUPPORT



PROJECT HIGHLIGHTS

- EMF remain a point of concern, particularly in the context of recent infrastructure developments.
- An assortment of EMF management options exist but no one solution can be universally applied.
- Assessment of EMF impacts is necessary as part of a utility's permitting process.
- EPRI tools and knowledge can be leveraged to identify cost-effective EMF management strategies.
- Results of EPRI's EMF assessment informs Utility's EIA process to make better informed decisions.

Background, Objectives, and New Learnings

Concern about exposure to power-frequency (50/60 Hz) electric and magnetic fields (EMF) surfaced in the 1960s with the introduction of Extra High Voltage (EHV) transmission systems. Today, EMF continues to be a public concern and is often associated with new infrastructure projects, such as grid modernization. Addressing EMF issues is a vital component of expeditious grid expansion since project cost and delays can affect timely implementation of vital new assets, and a portfolio of effective EMF management techniques is central to this.

Engineering investigations have produced a variety of options for reducing EMF. This is essential for EMF management. While an assortment of EMF management options may exist, no one solution can be universally applied. Each situation that might require a reduction in EMF levels demands a practical and judicious evaluation of all implications beyond just EMF reduction. These would include factors such as cost, reliability, and safety concerns.

The objective of this project is to leverage EPRI vast EMF tools and knowledge to assist Utility's in conducting EMF engineering investigations. These evaluations may be needed to support grid modernization/expansion projects and/or address specific worker/public EMF concerns.

The two-way interaction with funders of this project will provide an opportunity for EPRI to better evaluate and address specific regional EMF issues facing an electric company, including regulatory and site-specific concerns. These learnings are expected to inform future P60 research to enhance protection of the environment and new learnings can be shared in collaboration with other EPRI members around the world.

Benefits

This project may provide the utility and public with the following benefits:

- Addresses potential utility gap when in-house EMF expertise or resources are not available
- Third party, independent analysis to address EMF challenges and concerns
- Increased understanding of design options and their EMF impact on the environment to inform cost effective EMF management strategies
- Informs the EIA processes to make better decisions, protect the environment, and promote sustainable development.

Project Approach and Summary

The project intends to:

1. Leverage EPRI's EMF engineering tools and knowledge to help address utility-specific EMF challenges
2. Assist utility's in modelling the EMF environment based on the Utility's design criteria and environmental conditions
3. Review utility designs to help identify cost-effective EMF mitigation options
4. Develop technical report to inform the Utility's environmental impact assessment

Deliverables

- Technical report
- Webinar to communicate the results

Price of Project

Project cost will be determined during the scoping session with EPRI project managers. Please contact EPRI for more details.

Project Status and Schedule

The project schedule will be determined during the scoping session with EPRI project managers.

Who Should Join

Any utilities or facility owners that have or will be deploying submarine power cables.

Contact Information

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 (askepri@epri.com).

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