

Area Review 2022

FEBRUARY 2023

Contents

- 1** Introduction and Program Structure
- 2** Overhead Distribution Assets – P180.001
- 3** Underground Distribution Assets – P180.002
- 4** Distribution Automation Assets – P180.003
- 5** Distribution Work Practices & Safety – P180.004
- 6** Distribution Asset & Reliability Analytics – P180.005
- 7** Program 51 – T&D Environmental Issues
- 8** Program 60 – Electric and Magnetic Fields and Radio-Frequency Health Assessment and Safety
- 9** References & Tools
- 10** Value Statements
- 11** Applications & Resources
- 12** Key Strategic Areas



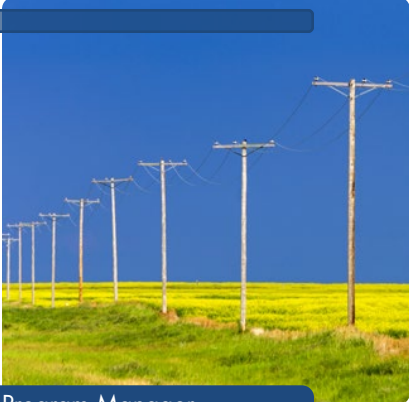
EPRI 3420 Hillview Avenue, Palo Alto, California, 94304-1338 • PO Box 10412, Palo Alto, California, 94303-0813 USA
800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com

© 2023 Electric Power Research Institute (EPRI), Inc. All rights reserved.

Introduction

Distribution system owners and managers are responsible for addressing a broad range of challenges. Asset performance, environmental compatibility, and worker & public safety are all important considerations. In order to support these utility needs more effectively, EPRI has multiple teams of experts working on each of these issues. The research performed by these teams is presented in this document to give utility personnel a comprehensive view of the R&D that is needed to manage a modern distribution system.

P180
Distribution Systems



Program Manager
Joe Potvin
jpotvin@epri.com

- Overhead Distribution
- Underground Distribution
- Distribution Automation
- Safety & Work Practices
- Asset & Reliability Analytics

P51
T&D Environmental Issues



Program Manager
Yamille del Valle
YdelValle@epri.com

- Vegetation Management & Remote Sensing
- Avian & Animal Interactions
- Substation Environmental Issues
- Environmental Aspects of Siting, Construction, & Maintenance of T&D Infrastructure
- Environmental Considerations of Utility Poles

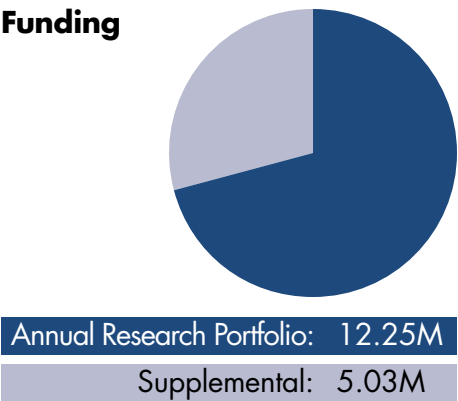
P60
EMF and RF Health and Safety



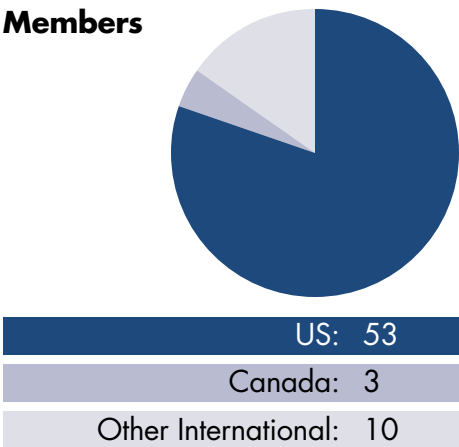
Program Manager
Phung Tran
ptran@epri.com

- Health Studies & Risk Communication
- Exposure Characterization & Management
- End-User EMF/RF Environments at the Grid-Edge

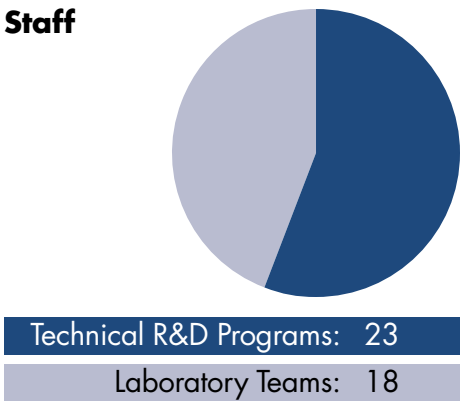
Funding



Members



Staff

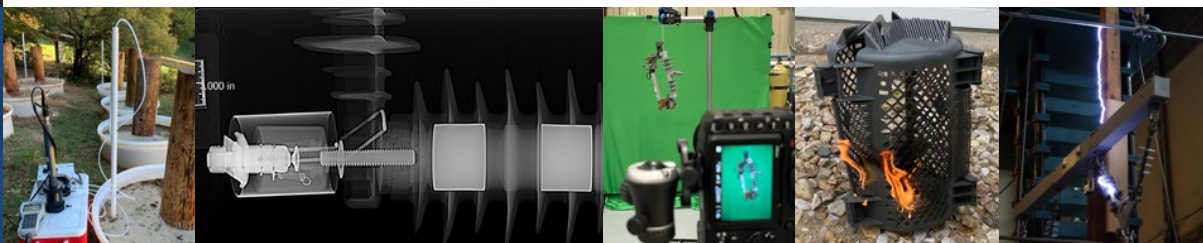




Joe Potvin, Ph.D.
jpotvin@epri.com

Overhead Distribution Assets – P180.001

Improves utilities' ability to design resilient and reliable systems, perform inspection and maintenance, and perform advanced monitoring and diagnostics. Key drivers are resilience, reliability, and cost management.



RESEARCH TOPIC

Overhead Distribution
Structure Performance

2022 Accomplishments & Key Deliverables

Developed and assessed the performance of a novel resilient structure design, focused on mechanical coordination, lightning performance, fallen branch capture, and wildlife interference susceptibility.

3002024686 *Design and Performance of Overhead Structures: 2022 Update*

Overhead Distribution
Connectors

Analyzed commercially available corrosion inhibitors to determine which contained chemical corrosion inhibitors or moisture blockers. Performed extensive failure analyses on secondary connectors.

3002024687 *Overhead Connector Performance Testing: 2022 Update*

Composite Crossarm and Poles

Tested mechanical strength of attachments to crossarms and poles, including shear-out and pull-through tests on poles and vertical load strength, longitudinal strength, and hardware overtightening tests on crossarms.

3002024681 *Composite Structure Performance – Pole and Crossarm Hardware Testing*

Wood Pole Inspection

Evaluated commercial pole inspection technologies against lab testing, including destructive tests to determine actual pole strength.

3002024691 *Evaluation of Pole Inspection Technologies: 2022 Update*

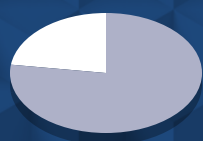
Online Condition Monitoring

Deployed an online monitoring system at the EPRI Power Delivery Laboratory on a 1-km long line. Collected baseline signals and documented the installation and operation of the monitoring system.

3002021657 *Online Condition Monitoring of Overhead Systems*

2023 Plan

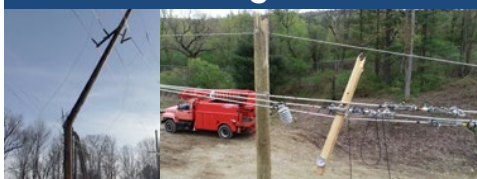
- Create a resilient design guide for overhead distribution structures, gathering ten years of test results and insights into one document.
- Assess the performance of bolted and explosive-based wedge connectors.
- Investigate how fault currents affect the mechanical strength of full tension connectors.
- Perform accelerated aging tests on composite crossarms.
- Investigate NDE approaches to assessing remaining strength of composite poles.
- Continue to collect field data using these inspection tools, along with other methods.
- Includes field testing at utility sites and additional laboratory testing.
- Expand laboratory testing of online monitoring systems, subjecting them to a regimented and controlled test protocol to quantify performance.
- Remote sensing technology evaluations for distribution inspection: handheld cameras, drones, and automobiles.



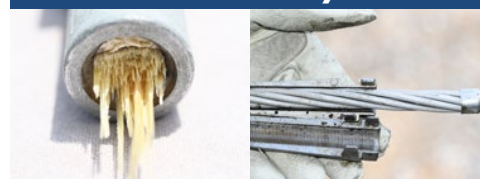
PARTICIPATION
24 US 7 International

KEY APPLICATION AREAS

Structural Testing for Resilience



Forensic Analysis

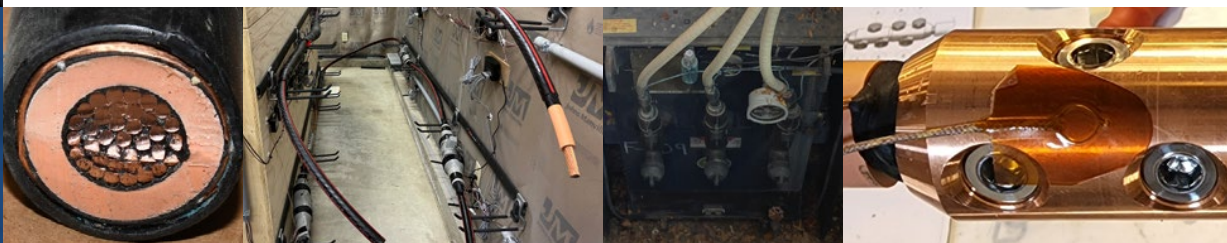




John Tripolitis
jtripolitis@epri.com

Underground Distribution Assets – P180.002

Addresses unique technical challenges faced by underground distribution system owners. Robust research on asset health diagnostics, performance, and failure analysis. Focused strategic research on manhole event and underground structure risk mitigation. Results are captured and shared in reference guides, online tools, and topical interest groups.



RESEARCH TOPIC

Distribution
Underground Switches

2022 Accomplishments & Key Deliverables

Published content for first edition Underground Switch Guide content incorporating learnings from switch failure analyses.
3002024694 *Distribution Underground Switches: 2022 Update*

2023 Plan

- Examine life-cycle performance of MV UG automated switches with a particular focus on automation assets. Complete the Guide.

Cable Accessory Research

Performed forensic investigations of various joints, separable connectors, and LV connectors. Completed research to understand the impact of workmanship on the anticipated health of MV cable terminations.
3002024695 *Cable Accessory Research: 2022 Update*

- Continue examination of cable accessories to understand life-cycle performance.
- Investigate newer cable materials such as EPR and EAM insulations.
- Develop visual tools to aid workers in accessory construction.

Diagnostics / IR

Completed long term LV connector heating study, including image and data analyses and component forensics. Designed and started construction of a MV test bed for informing the use of IR as a diagnostic tool for cable accessories.
3002024696 *Infrared Thermography in Underground: 2022 Update*

- Complete MV cable accessory test bed construction.
- Examine heating to understand the relationship between internal temperatures and IR measurements to improve field effectiveness of IR assessments.

Dissolved Gas Analysis for
Network Transformers

Developed test boxes to examine the performance of a remote DGA monitor for use on ester based fluid filled network transformers.
3002024698 *Network Transformers: 2022 Update*

- Examine DGA monitor performance using ester based insulating fluids.
- Investigate relationships between dissolved gas information and other attributes.

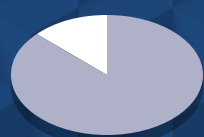
Risk Mitigation of Manhole
Events / UG Structures

Completed thermal and electrical (arcing) tests of various LV cable materials to identify gas production and behavior. Examined URD inspection and corrosion assessment, including the use of AI / image processing technology.
3002024693 *Risk Mitigation of Manhole Events: 2022 Update*
3002024701 *UG Corrosion Identification and Assessment: 2022 Update*

- Experiment with alternate sensors and placement for gas monitoring informed by this research.
- Continue research into detection of other (non-gas) manhole event precursors.
- Develop URD inspection use cases leveraging AI/Image processing technology.

KEY RESOURCES

Bronze Book - **3002024700**
Network Reference Book - **3002023996**
UG Practices Repository - **DRC**
Interest Groups - **NADUUWG / U-DIG**



PARTICIPATION
27 US 4 International



Jason Anderson

janderson@epri.com

Distribution Automation Assets – P180.003

Supports distribution automation (DA) deployment and management with laboratory testing to assist in utility specification and selection, analysis to understand failure and degradation modes, and improved inspection techniques and maintenance procedures. Also creates reference books, asset databases, practices, and guidelines to assist with asset deployment and management, and offers a collaborative environment for sharing lessons learned and leading practices.



RESEARCH TOPIC

Grounding and
Lightning Protection

2022 Accomplishments & Key Deliverables

Performed laboratory testing to understand the performance of different approaches to grounding, lightning protection, and installation options for automation controls and reclosers.

3002024704 *Distribution Automation Assets: Grounding and Lightning Protection*

2023 Plan

- Additional laboratory testing to understand best practices for grounding and lightning protection on DA devices.
- Investigate potential methods to detect failed arrester on DA equipment.

Recloser Failure Analysis

Analyzed additional failed reclosers to understand degradation mechanisms and failure modes.

3002024706 *Distribution Automation Assets: Recloser Failure Analysis*

- Perform additional failure analysis and begin sensor failure analysis.
- Begin to collect failure data from utility members.

Recloser Control Cables
and Voltage Sensors

Investigated recloser control cable failures and performed testing to help inform specification and selection decisions of control cables and connectors. Assessed effects of environmental factors on internal voltage sensor measurement accuracy.

3002024708 *Distribution Automation Assets: Control Cables and Connectors*

- Expand control cable and connector tests through long-term outdoor testing, accelerated aging, and analysis of failed cables in the laboratory.

Virtual Inspection
and Maintenance

Evaluated approaches to perform virtual inspections based on remote operational measurements and event reports.

3002021667 *Distribution Automation Assets: Virtual Inspection and Maintenance*

- Perform lab and field demonstrations to monitor the health of reclosers and controls in field.

Laboratory Evaluation
of New Designs

Performed laboratory testing and evaluation of new designs to help in form specification and deployment decisions

3002024702 *Distribution Automation Assets: Laboratory Evaluation Results*

- Continue testing of Siemens CMR and ABB Eagle Recloser.
- Add additional new devices and sensors to testing program.

Distribution Automation
Guidebook

Added chapters to guidebook on security and IED management.

3002024710 *Distribution Automation Guidebook*

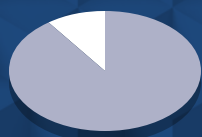
- Revise and add additional content to the guidebook.

DA Inspection and
Maintenance Guide

Published best practices for recloser capacitor bank and voltage regulator inspections.

3002024712 *Distribution Automation Inspection and Maintenance Guide: Reclosers, Capacitor Banks, and Voltage Regulators*

- Explore advanced technologies for DA asset inspection.



PARTICIPATION

27 US 3 International



Tom Short
tshort@epri.com

Distribution Work Practices & Safety – P180.004

Provides technical results, resources, and tools to assist utilities in reducing risk to workers and the public. Focuses on unique distribution challenges such as arc flash, grounding, and downed conductors.



RESEARCH TOPIC

Arc flash

2022 Accomplishments & Key Deliverables

Evaluated industry vs. utility practices for arc flash. Evaluated DC arc flash at photovoltaics and battery systems. Found surprising results from tests of arc-rated clothing from a major online vendor.

distribution.epri.com/safety/2022/fr-clothing

Compared improper vs. proper wear of FR clothing.

distribution.epri.com/safety/2022/proper-fr/

Downed-conductor detection and prevention

Evaluated use of single-phase reclosers on taps to limit downed conductors. Tested burndowns on small, bare conductors. Updated industry practices on use of AMI to detect downed conductors. Tested vegetation contacts.

3002024738 *Detection and Mitigation of Live, Downed Conductors: Industry Update*

PPE and Tools

Evaluated industry practices around use and care of rubber gloves. Collected and evaluated over 80 gloves provided by utilities.

Work practices

3002024745 *Safety Concerns with Backfeeds on Distribution Systems*

3002024744 *Insulation and Isolation Practices for Live Work on Distribution Systems*

2023 Plan

- Test additional FR clothes.
- Produce short video showing proper vs. improper FR clothing.

- Test technologies to detect downed conductors, including “falling conductor” detection systems.

- Test gloves provided by utilities for mechanical performance.
- Investigate use of AI to verify coverage.

- Workshops to reduce Serious Injuries and Fatalities (SIFs).
- Continue work on practices for insulation and isolation.

ONLINE RESOURCES

distribution.epri.com/safety/

198 Technical Pages

12 Online Apps

9 Videos



NEW

Print and post these flyers

Easy videos

No passwords

Targeted at field workers

distribution.epri.com/sp



PARTICIPATION
21 US 2 International





Doug Dorr
ddorr@epri.com

Distribution Asset & Reliability Analytics – P180.005

Data science and analytical approaches to provide utilities with industry leading decision support tools, metrics and methodologies based on current and future equipment performance, and the understanding of appropriate approaches to risk management.



RESEARCH TOPIC

Wood Pole Fleet Management

Distribution Transformer
Fleet Management

Reliability and Resilience
Analytics Projects

2022 Accomplishments & Key Deliverables

Gathered 10.9 million inspection records from 31 different companies. Utilized data to better understand the useful life of wood pole populations by species, original treatment type and climate zone. Applied results at five new utilities.

3002024717 *Distribution Asset Performance Analysis: Data Model and Analysis Results*

Analyzed visual inspection data from four utilities. Identified patterns of oil leaks and corrosion by age, size and manufacturer. Developed data models that utilities can use for developing pad mount transformer visual inspection program. Surveyed Distribution Utilities to better understand Analytics Using Meter Data Management System to Assess Transformer Loading Levels.

Developed an update to the Fuse vs Recloser Software with added functionality.

3002025478 *Distribution Lateral Circuit Protection Device Cost-Benefit Tool v3.0 Beta*

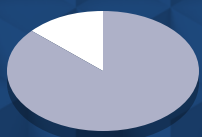
Produced a new report for extreme weather and resilience analytics. Curated a repository to begin member benchmarking for deeper reliability analytics. Updated industry jargon library of terms for natural language processing use case enhancement.

3002024838 *Distribution System Reliability & Resilience Analytics for Data Driven Decisions*

Curated a repository and dashboard to begin member benchmarking for deeper reliability analytics.
distribution.epri.com/analytics/reliability/dashboard/
Updated industry jargon data repository of terms for natural language processing use-case enhancement.
distribution.epri.com/analytics/public/data-science/nlp/

2023 Plan

- Continue to collect and curate additional raw data from new and existing funders.
- Develop new metrics for additional pole species, investigating the benefit of retreating wood poles.
- Initiate efforts to benchmark industry wide performance.
- Investigate analytic tools, methods and metrics for distribution transformers, including analysis of metering data.
- Collect data from utilities and develop metrics for population assessment and algorithms to identify transformers at risk.
- Populate the member benchmarking reliability and resilience database with member and industry circuit metrics.
- Expand resilience analytics to include cost and outage improvement metrics.
- Continue to expand on Artificial Intelligence reliability improvement use cases.
- Collect member provided reliability data sets and develop mechanisms for anonymously comparing and benchmarking member circuits against similar circuits within the database
- Collect member recordings and other jargon examples to continue updating and expanding the industry jargon data repository



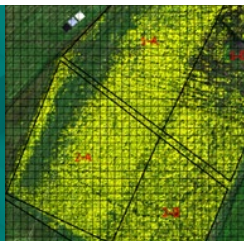
PARTICIPATION
26 US 4 International



Yamille del Valle
YdelValle@epri.com

Program 51 – T&D Environmental Issues

Focused on enhancing the safe and reliable delivery of electricity while protecting environmental and cultural resources, as well as supporting corporate reliability, resilience, sustainability, and conservation goals.



RESEARCH TOPIC

Vegetation Management
& Remote Sensing

2022 Accomplishments & Key Deliverables

Published a practical guide on how to implement biodiversity exposure assessments on utility lands. Determined the technological feasibility of developing models with UAV collected imagery capable of detecting native flowers commonly used in pollinator seed mixes.

3002024725 *ESG Biodiversity Handbook*
3002024726 *Using UAV Technology to Identify Pollinator Plant Species in the Midwestern U.S.*

2023 Plan

- Continue investigation on how remotely sensed data can be used to evaluate pollinator habitat establishment.
- Assess suitability of Advanced Topographic Laser Altimeter System (ATLAS) for vegetation management applications.
- Identify how satellite imagery can leverage LiDAR data over time.

Avian and Animal Interactions

Published a guide to help utilities better understand and mitigate avian collisions with power lines.

3002024724 *Best Management Practices for Line Marking: Reducing Avian Collisions with Power Lines*

- Conduct survey and literature review on successful nest management techniques, pest species deterrence, and strategies to promote avian conservation.

Substation Environmental Issues

Provided members with information on deployable spill prevention and containment equipment and spill response and cleanup equipment for use on water. Performed industry survey to provide benchmark on methods, processes, and procedures that utilities use to evaluate and comply with SPCC regulations.

3002023414 *Spill Prevention and Containment: Deployable Equipment and Response Methods*
3002024728 *Electric Utility Industry Common Practices for SPCC Evaluation and Compliance*

- Create educational material about retrofits options that can improve sustainability, resilience, and reduce nuisance conditions in substations.

Environmental Aspects of Siting,
Construction, & Maintenance of
T&D Infrastructure

Tested different seeding rates and seeding techniques in ROW, performed ground surveys to document metrics such as time to 70% cover, soil erosion, percent bare soil, percent cover native vs non-native vegetation. Performed study to determine if the structure of prairie vegetation ROW alters its susceptibility to invasion by non-native invasive and woody species.

3002025946 *Hydroseeding Native Seed Mixes: Evaluating Germination Success and Establishment*
3002024721 *Can Spatial Arrangement of Prairie Vegetation Suppress the Invasion of Undesirable Species on Utility Rights-of-Way?*

- Evaluate seed mats for postconstruction revegetation.
- Identify methods to incorporate equity and justice into siting procedures.

Environmental Considerations
of Utility Poles



PARTICIPATION
22 US 2 International

Completed the evaluation of Thermolyzer technology as an end-of-life treatment for wood poles. Performed a risk assessment of DCOI as a utility wood pole treatment.
3002024730 *Utility-Focused Risk Evaluation of DCOI for Wood Utility Poles*
3002023933 *Evaluation of Thermolyzer™ and CCA Removal from Biochar as a Potential End-of-Life Solution for Treated Wood Utility Poles*

- Continue yearly soil and porewater samples to assess the fate and transport of DCOI from treated wood utility poles in soil and groundwater.



Phung Tran
ptran@epri.com

Program 60 – Electric and Magnetic Fields and Radio-Frequency Health Assessment and Safety

Focuses on addressing the potential health effects of EMF and RF on humans and non-human biota and provides exposure management tools and resources to address impacts to workers and the public.



RESEARCH TOPIC

60A: Health Studies and Risk Communication

2022 Accomplishments & Key Deliverables

Conducted preliminary analysis of data from four countries for the TransExpo Multi-national Childhood Leukemia Study. Submitted manuscript for the assessment of an alternative cause for childhood leukemia risks and pesticide exposures from plant nurseries situated near powerlines. Created a FAQ Information Brief on Electromagnetic Hypersensitivity (EHS) to facilitate risk communication. Began evaluation of health and environmental impacts from HVDC and Hybrid overhead lines.

3002024733 *Electromagnetic Hypersensitivity FAQ Information Brief*

60B: Exposure Characterization and Management

Completed RF field measurements and exposures analysis at two 5G pilot sites. Completed the EMF Occupational Exposure Database v 1.0 that contains exposure data for typical equipment and job categories relevant to the electric industry. Completed first major update to the EMF Field Management Reference Book (Blue Book). Began evaluation of an EMF criteria and characterization methodology for submarine HVDC cables.

3002021620 *5G Exposure Measurement Pilot Study: Radiofrequency Measurements Near Two 5G New Radio Base Stations in Belgium*

3002024850 *Electric and Magnetic Fields Occupational Exposure Database (EMF-OED) v 1.0*

3002024734 *EMF Management Reference Book: 2022 Edition*

Technical Webinars and EMF Now Publications

Conducted four technical webinars to facilitate knowledge transfer and to provide a peer-to-peer forum for sharing experiences. Disseminated twelve editions of the monthly technical newsletter, EMF Now to keep members informed of EMF/RF research and news from around the world. A compilation of the 2021 EMF Now editions were also published. Created the EMF/RF Resource Center (emf.epri.com) to communicate information on key EMF and RF topics of concern.

3002024732 *EMF Now – 2021 Compilation*
www.epri.com/research/programs/025025/events

2023 Plan

- Update TransExpo epidemiology study to include data from the Netherlands.
- Continue investigations into alternative causes for childhood leukemia in populations living near powerlines.
- Create additional information briefs on most frequently asked questions on key EMF or RF exposure topics (e.g. 5G, microshocks, smart meters).
- Complete literature review and analysis of health and environmental impacts from HVDC and Hybrid overhead lines.
- Begin development of a standard measurement protocol for residential EMF measurements.

- Complete development of a resource for establishing an EMF evaluation criteria and characterization methodology for HVDC submarine cables.
- Begin review of potential EMF impacts from grid level energy storage technologies.
- Begin development of a consolidated resource for EMF considerations for public use of transmission line easements.

- Conduct four technical webinars to facilitate knowledge transfer and peer-to-peer exchange of experience.
- Disseminate twelve, monthly editions of EMF Now.
- Update the EMF/RF Resource Center to include categorization of past EMF/RF.



PARTICIPATION
13 US 4 International



ONLINE RESOURCES
emf.epri.com

REFERENCE NAME

**20 Online
Distribution Calculators**

P180

<https://distribution.epri.com/categories/app/>



Infrared Guide

P180.001

<https://www.epri.com/research/products/000000003002021658>



**Wood Pole
Management Guide**

P180.001

<https://www.epri.com/research/products/000000003002023592>



**Wood Pole Inspection
Technology Database**

P180.001

<https://distribution.epri.com/overhead/inspection-main/nde-wood-pole/>



Wildlife Guard Database

P180.001

<https://distribution.epri.com/overhead/components/wildlife-guard-database/>



**Underground Practice
Repository**

P180.002

<https://distribution.epri.com/underground/knowledge/repository/>



**Underground
Reference Book**

P180.002

<https://www.epri.com/research/products/000000003002021664>



Network Reference book

P180.002

<https://distribution.epri.com/underground/knowledge/network-reference/>



Network Training

P180.002

<https://distribution.epri.com/underground/public/knowledge/training/>



DA Guidebook

P180.003

<https://distribution.epri.com/automation/switching-devices/guide/>



EMF Reference Book

P60

<https://www.epri.com/research/programs/025025/results/3002024734>



EMFast

P60

<https://www.epri.com/research/programs/025025/results/3002022505>



Value Obtained

Consolidated Edison Mitigation Options for Midel 7131

EPRI designed testing for typical scenarios for releases of fluid from transformers to natural water bodies and tested commercially available and prototypes of equipment designed to either prevent the release or clean up a release of Midel 7131 to water. The research identified multiple scenarios where the equipment was unable to remove Midel 7131 to less than the regulatory limit.

This research allowed ConEdison to work with manufacturers to improve the equipment performance and ultimately install spill containment equipment capable of preventing a release of Midel 7131 under all typical release scenarios.



American Electric Power Resilient Overhead Distribution Design Testing

EPRI tested a new resilient overhead design developed by AEP at EPRI's full-scale structure test facility located in Lenox, MA. The facility supports construction and mechanical testing of entire overhead distribution structures to help utilities refine designs before wide-scale deployment.

Initial testing in cold temperatures using CCA-treated class-4 poles to support the design indicated that the pole was the weakest point, indicating the need for a stronger pole. Testing helped AEP identify the need for a design change prior to field deployment. The results also indicated that another design that tested well in warmer conditions should be retested in colder conditions that may affect pole strength.



Dominion Energy Pad Mount Transformer Fleet Performance Analysis

DE provided 175,843 unique inspection records, one record per transformer, spanning an eight-year inspection duration. Transformers inspected had a size ranging between 10 and 5000 kVA.

- EPRI applied analytical techniques to expeditiously curate and organize raw data into a format suitable for data manipulation and exploratory analysis.
- EPRI performed analysis to better the influence of various variables such as transformer size, location etc.

Insights have helped DE:

- Better understand drivers behind pad mount transformer fleet performance e.g., location.
- Identify what data to collect as part of future inspections.
- Focus and prioritize inspections, and replacements across sub-populations.



Resilience Applications

EPRI offers a wide range of testing capabilities to increase distribution Resilience, with special focus on overhead distribution. Examples of our laboratory capabilities are the ability to test tree impacts to full-scale structures, and the ability to improve standards to minimize sustained outages from falling branches.



You can find more information at: <https://distribution.epri.com/resources/applications/structure-testing/>

Forensics Applications

Asset failures can significantly impact system operation, reliability, and safety. These failures are frequently difficult or impossible to predict, and they can sometimes seem random. A forensic analysis may be the best opportunity to learn why a component failed. This helps you prepare for the future by improving specifications, inspections, or maintenance practices.

EPRI frequently performs forensic analysis on a multitude of component types. Our capabilities include a suite of materials analysis techniques, electrical testing, and component tear-downs.



See more at <https://distribution.epri.com/resources/applications/forensics/>

Laboratory Testing and Field Trials

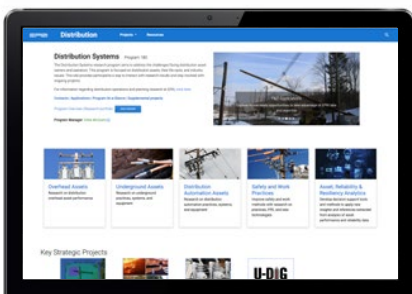
New technologies are continually being introduced to the marketplace for distribution systems. EPRI researchers use laboratories to evaluate new products, and the team is able to develop and execute field pilots to produce high-quality test data. The results of an EPRI lab or field test are designed to help you understand new technology performance, enabling you to make better decisions about technology deployment.



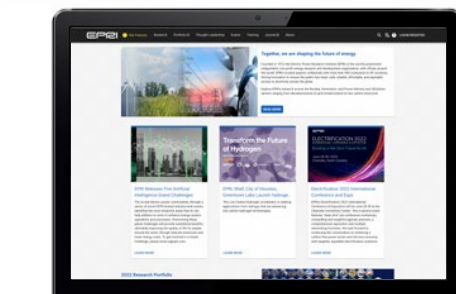
Online Resources

There are multiple ways to stay involved in the research on the web. Be sure to visit and bookmark the EPRI webpages so that you can stay involved and updated. These sites also contain a breadth of technical knowledge for your reference and use.

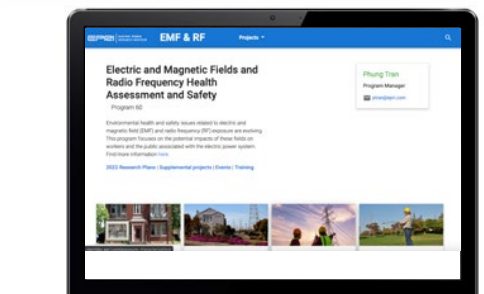
 [linkedin.com/company/epri/](https://www.linkedin.com/company/epri/)
 twitter.com/EPRINews



distribution.epri.com



epri.com



emf.epri.com

Climate READi

As extreme weather increases in frequency and intensity, along with society's dependence on electricity, the need for a comprehensive and consistent approach to physical climate risk assessment is an increasing imperative. EPRI is launching a new, three-year initiative, Climate READi: Power (REsilience and ADaptation initiative), convening global thought leaders and industry stakeholders to develop a common framework to address this challenge.

The distribution team is working to understand how the changing climate could impact distribution asset performance, particularly regarding extreme events.



Wildfire Risk Management

Mitigating the risk and impacts of wildfire events is a critical task for many distribution asset owners. EPRI has completed a three-year project focused on understanding potential assets and technologies that could reduce ignition risk from medium voltage equipment. Phase one of this research was completed in 2022, with additional work scheduled for 2023. This research leverages EPRI laboratories, expertise, and ability to pilot new technologies to help utilities focus on the highest value technology options and accelerate deployment to the system.





EPRI 3420 Hillview Avenue, Palo Alto, California, 94304-1338
PO Box 10412, Palo Alto, California, 94303-0813 USA
800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com

© 2023 Electric Power Research Institute (EPRI), Inc. All rights reserved.