





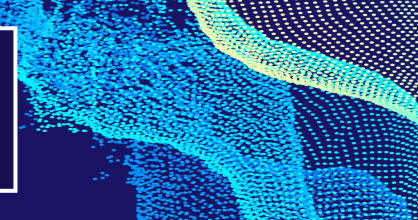


Assessment of DCOI and Alternative Wood Pole Treatments





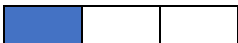

Objective	 <p>Utilities install approximately 2.5 million wood poles each year for T&D structures. To maximize expected life, the poles must be treated with a preservative to mitigate degradation caused by environmental stressors, fungi, and insects & animals. This research intends to investigate alternative wood pole treatments, including DCOI, a new treatment for wood utility poles.</p>			
Value	 <p>This project plans to subject poles and sample materials treated with DCOI and other treatments to a multitude of tests to understand mechanical performance, environmental implications, and potential health risks. The outcome of the research could enable utilities to develop specifications, inspection programs, environmental programs, and end-of-life plans for various types of treated pole.</p>			
Schedule	 <p>36 months</p>	Price	 <p>\$120k per year, SDF qualifies</p>	 <p>Underway</p>
Contact	 <p>Joe Potvin; (413) 445-3709; jpotvin@epri.com Product ID: 3002020814 Click here for two-page summary of project</p>			

Utility Digital Worker Initiative







Objective	With the ever-increasing advances in mobile and wearable technologies, workers have access to more information and capability than ever before. Digital Worker integrates technology to provide field workers with the information and capability to perform their jobs safer and more effectively. EPRI and the utility members of these past projects recognize the rapid pace of advancement in this space, the benefit of shared learnings across all stakeholders. The Utility Digital Worker (DW) Initiative is focused on advancing successful implementation of applications that most effectively enhance the safety and performance of digital workers.			
Value	The public benefits of this project include providing decision-making guidance on the most effective and beneficial digital worker applications utilities may consider implementing. As a result, utilities will be informed to pursue the projects that support goals associated with safe, affordable, and reliable electricity.			
Schedule	24 months	Price	\$	\$30k per year, SDF qualifies
Contact	Drew McGuire; (704) 595-2425; dmcguire@epri.com Product ID: 3002022001 Click here for two-page summary of project			Underway



Electromagnetic Threats & Mitigation Approaches for Distribution

Objective	 <p>The detonation of a nuclear weapon at high altitude or in space (~30 km or more above the earth’s surface) can generate an intense electromagnetic pulse (EMP) referred to as a high-altitude EMP or HEMP. The primary objective of this work is to assess the potential impacts of HEMP on distribution assets (insulators, reclosers, rooftop PV, smart meters, etc.) and to identify mitigation options that can be utilized to improve system resiliency against such impacts.</p>			
Value	 <p>This project aims to provide the following benefits:</p> <ul style="list-style-type: none">• Technical guidance and tools for assessing the potential impacts of HEMP on distribution system and developing engineering solutions for mitigating the impacts.• Improved understanding of the costs and potential unintended consequences associated with HEMP hardening of distribution systems.			
Schedule	 <p>24 months</p>	Price	 <p>\$70k >20,000 GWhr / Year \$30k All Others SDF Qualifies</p>	 <p>Beginning</p>
Contact	 <p>Randy Horton; (571) 312-0554; rhorton@epri.com Product ID: 3002020707 Click here for two-page summary of project</p>			





Alternative Technologies for Recloser Backup Power

Objective		Utilities are expanding the use of reclosers as part of distribution grid modernization efforts. Experience has shown that battery maintenance represents the largest O&M expense related to recloser management. As such, these expanded deployments may increase O&M spending related to battery maintenance. The objective of this project is to investigate the suitability of alternative energy storage technologies to provide recloser backup power.			
Value		This project plans to document current backup power practices, explore and evaluate new battery alternatives, understand the environmental effects on battery life, investigate new approaches to battery health monitoring, and assist utilities with long term monitoring and evaluation of new energy storage technologies. This research may help utilities reduce O&M expenses through more cost-effective maintenance for control backup power systems and by reducing the number of battery replacements.			
Schedule		24 months	Price 	\$30k + \$15k optional task, SDF qualifies	 Underway
Contact		Jason Anderson; (704) 595-2857; janderson@epri.com Product ID: 3002020031 Click here for two-page summary of project			

Advanced Distribution Inspection: Using Automation for Inspection

Objective	It is challenging and costly to inspect distribution infrastructure. Drone automation for data collection and artificial intelligence for data review could improve the inspection process. While automated drones and AI have potential, they are not yet proven.			
Value	This research will perform lab and field testing to develop guidance on how to deploy automated drones in distribution. Then the project will evaluate AI systems for inspection quality. The results will help utilities understand how to deploy drones for inspection, and how to use AI to automate the data review.			
Schedule	18 months	Price	\$ \$60k, SDF qualifies	<div><div></div></div> Underway
Contact	Dexter Lewis; (205) 332-5963; dlewis@epri.com Product ID: 3002019622 Click here for two-page summary of project			



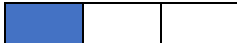

Unmanned Aircraft System (UAS) for Cybersecurity and Hardware Performance

Objective	Utilities are using UAS, or drones, for various operations across their organizations, including generation, distribution, transmission, and other areas to improve safety and operational efficiencies. While the value of utility UAS programs is recognized by many, some concerns were raised regarding the integrity of the supply chain and potential abuse of data. An alert from the Department of Homeland Security (DHS), Cybersecurity and Infrastructure Security Agency (CISA), warning of a possible data or network breach via Chinese manufactured UAS further increased the worries.			
Value	A utility can obtain a deeper understanding of the issues involving UAS. The technical security and performance assessments of selected UAS should provide in-depth knowledge of the actual and/or perceived threats.			
Schedule	 18 months	Price	 \$45k, SDF qualifies	 Underway
Contact	 Dexter Lewis; (205) 332-5963; dlewis@epri.com Product ID: 3002018236 Click here for two-page summary of project			

Grid Modernization Strategic Roadmapping

Objective	Developing a strategy for grid modernization is complicated. Investments are significant and must be sequenced over several years to add new capabilities. EPRI has developed a structured methodology and a set of tools to help utilities navigate this process. Through this project, EPRI will apply this approach with utilities to help them develop a detailed strategic roadmap, or review an existing roadmap, to help the utility accomplish desired objectives.			
Value	A utility may save time and money by leveraging EPRI’s experience with other utilities, its industry expertise, and its world-class subject matter experts to develop a strategic roadmap that meets its specific needs. Each participant will receive a company-specific report documenting the results of the grid modernization roadmap development or assessment.			
Schedule	12-18 months	Price	\$ Public for Purchase, SDF qualifies	<div><div></div><div></div><div></div></div> Underway
Contact	Bruce Rogers; (423) 341-4606; brogers@epri.com Product ID: 3002019704 Click here for two-page summary of project			

Underground Structure Monitoring Guiding Alarm Settings and Monitor Deployment






Objective	As underground cables and components degrade, they can generate a variety of gases. These gases may be combustible and can build up and lead to an explosive event which can endanger the public, utility workers, and damage equipment. This research seeks to understand the expected movement, migration, pocketing, and dissipation characteristics of selected gases within an underground structure to inform detection sensor placement, sensitivities, and alarm settings.			
Value	This research is expected to increase industry understanding of combustible gas behavior in underground structures. Findings from this research will enable utilities to better leverage underground structure monitoring technologies to identify precursor conditions of underground structure events, enabling them to respond and minimize or prevent these events from occurring, and increase public safety.			
Schedule	 15 months	Price	 \$50k, SDF qualifies	 Beginning
Contact	 John Tripolitis; (610) 385-0884; jtripolitis@epri.com Product ID: 3002022789 Click here for two-page summary of project			

DISTRIBUTION SYSTEMS (P180) SUPPLEMENTAL PROJECTS

Overhead Distribution Structure Testing

Objective	The objective of full-scale overhead distribution structure testing is to collect performance data for a member, such as failure modes and fallen branch capture rates, and identify approaches to increase structural strength and reduce restorations time and frequency.			
Value	Because utilities provide the test materials and designs to be tested, engineers can directly apply the test results to improve structure resiliency through enhancements to construction standards or component selection.			
Schedule	3-6 months, depending on test requirements	Price	Varies based on test requirements, SDF qualifies	Ongoing
Contact	Joe Potvin; (413) 445-3709; jpotvin@epri.com Click here to learn more			

Terrestrial Imagery

Objective	 <p>This research aims to evaluate and quantify the performance of vehicle-mounted data collection systems for distribution inspection. The research will begin with the identification of distribution use cases, then will transition into utility hosted pilot studies.</p>			
Value	 <p>This class of technology has potential to be a low-cost screening and risk mitigation tool that is easily deployed and could require minimal resources to implement. These technologies could increase a utility’s geospatial situational awareness to conditionally manage overhead distribution assets which could improve reliability for end-users and the public.</p>			
Schedule	 <p>TBD</p>	Price	 <p>TBD</p>	<div><div></div><div></div><div></div></div>
Contact	 <p>Dexter Lewis; (205) 332-5963; dlewis@epri.com</p>			Beginning