ASSET MANAGEMENT ANALYTICS (P34) SUPPLEMENTAL PROJECTS

Conductor and Shield Wire Performance Modeling (based on condition assessment data)

Objective	Receive field aged samples. Perform laboratory testing and database forensic condition assessment results from laboratory testing of conductor samples. Utilize the data in statistical analysis to develop end of life models for various types of conductors and shield wire.			
Value	• Statistically valid end of life models to help utilities decide when to replace in-service transmission line conductors. • Help utilities better understand how conductor performance affects line risk.			
Schedule	36 months	*Price*	Scope Dependent, SDF qualifies	Underway
Contact	Bhavin Desai, (704) 595-2739, bdesai@epri.com			

Power Transformer Throughfault Risk Assessment: Algorithm Development & Validation – Phase 2

Objective	As part of phase 1 research an algorithm to assess the susceptibility of a power transformer to through faults was developed and implemented in EPRI's Power Transformer Expert System software. Phase 1 research also determined the need to test and validate the algorithm. The objective of phase 2 research is to validate the algorithm by testing reduced scale winding models in the lab and using the results to fine tune & validate it. The tests are designed to better understand the impact transformer mechanical conductor deformation and cumulative insulation wear which are they key failure mechanisms resulting due to through faults.			
Value	If successful the results would enable utility power transformer engineers in understanding through fault impact on power transformer end of life and apply the understanding in fleet management decisions – replacement, repairs (e.g., mid life clamping) or monitoring.			
Schedule	24 months	*Price*	$60k per utility, SDF qualifies	Underway
Contact	Tim Raymond, (518) 229-0194, traymond@epri.com			

Power Transformer Spare Strategy Evaluation Model Development

Objective	Transmission Companies desire to minimize adverse effects of power transformer failures. Currently, no industry standards or guidelines are available to help utilities determine the appropriate number or mix of spare power transformers. To address this gap, EPRI is developing and applying spare strategy evaluation methodology. The objective of this project is to understand the utility needs, adapt and enhance the existing analytical methodology and apply it to evaluate risk exposure as a function of: • Spares strategy • Transformer types and failure hazard rates • Mobile design specifications, applications & availability • Independent variables such as variable manufacturer lead times, & transportation times • Other scenarios that may be unique to the utility			
Value	Provides utilities a sound technical basis for power transformer inventory management. Results may be used by utility to evaluate: • Incremental benefit of additional spares & mobile transformer requirements • Impact of uncertainties in parameters such as lead times			
Schedule	12-24 months	*Price*	One-on-one member specific scope dependent	Underway
Contact	Bhavin Desai, (704) 595-2739, bdesai@epri.com			

Transmission Asset Management Maturity Assessment

Objective	EPRI has developed a unique, comprehensive, electric transmission specific asset management maturity assessment methodology to help a transmission utility assess the current state of its asset management program implementation. The methodology utilizes the characteristics and elements identified by EPRI as requirements for a mature power delivery asset management program. The objective of this project is to apply EPRI's assessment methodology to help transmission utilities: • Understand their capability to successfully implement critical aspects of a comprehensive asset management program. • Identify gaps in their current implementation and actions to fill those gaps. • Project a future state according to current plans. • Benchmark their implementation against aggregate anonymous results from peers.			
Value	The assessment results assist the participating companies in making continuous improvements to their asset management programs by identifying areas for improvement and providing targeted recommendations. It also enables them to benchmark performance in comparison to their peers.			
Schedule	12	*Price*	$75k - $175k	Kicking off
Contact	Bhavin Desai, (704) 595-2739, bdesai@epri.com			