

— AT A GLANCE —

Enterprise-Wide Occupational Health and Safety

Program 62



RESEARCH VALUE

- Provides evidence-based solutions, tools, and knowledge that companies can apply to injury prevention, safety program targets, exposure controls, and intervention and training methods.
- Identifies data gaps and addresses critical issues related to risk assessment and design of intervention strategies.
- Provides insight into future health and safety challenges with the emerging energy grid.

MEMBER BENEFITS

- Receive actionable deliverables to inform decisions on controls, procedures, personal protective equipment, design, and risk management.
- Access easy-to-use ergonomic interventions and design recommendation handbooks.
- Access databases that track and analyze injuries, illnesses, and on-the-job exposures.
- Participate in working groups to guide key research areas, provide input on application tools, and conduct pilots or demonstrations.

Workplace injuries affect employee health, quality of life, productivity, and job satisfaction, while increasing the cost of doing business. While the rates of all injuries for electric utility workers combined have declined over the past twenty years, the rates of serious injuries and fatalities (SIFs) have been stable. Occupational risks can be posed by distraction or physiological fatigue, unrecognized or risk-normalized hazards, and long-term or repetitive physical and chemical exposures. Safety outcomes also are influenced by organizational culture, work practices and procedures, often considered within the framework of human performance.

EPRI's Enterprise-Wide Occupational Health and Safety program focuses on innovation and developing new knowledge to reduce SIFs. Program products, tools, and design recommendations help maintain safer, healthier work environments, identify injury and illness trends, develop cost-effective ergonomic interventions, and address occupational exposures. These measures also help control labor-related costs and minimize business interruptions.

Research results help advance awareness of how a company's safety performance is influenced by its culture, safety management systems, and business operations. The program also is working with predictive analytics tools and has applied natural language processing with artificial intelligence to identify SIF precursors through text incident reports.

Key Activities for 2023

RESEARCH PORTFOLIO

P62A: Case Studies in Predictive Analytics: Identification of Serious Injury and Fatality Precursors

Organizations are beginning to use predictive analytics in safety performance to determine incident causation and influential factors. This project will focus on the use of case studies to better understand the relationship between safety precursors and serious injuries and fatalities. This project reviews organizational approaches on the use of predictive analytics to identify SIF precursors and identifies new approaches that can leverage data interpretation effectiveness associated with safety events.

P62B: Evaluation of Driver Safety Technologies

Many organizations experience challenges associated with the management of fleet operations. This project will evaluate the current state of fleet safety technologies to provide guidance on those solutions that are most applicable to the electric sector and builds on prior EPRI countermeasure research focusing on reducing crashes with fixed objects. Its goal will be to review the current state of technology to identify new driver safety solutions to provide feedback on fatigue and unsafe driving behaviors that would be best suited for integration into electric utility fleet operations. Project tasks include:

- Completing a literature review and field testing of technologies used for safety improvement within the fleet safety arena
- Determine those technologies most suited for utility use
- Provide guidance on technology use and suitability

P62C: Human and Organizational Performance (HOP): Application to Signification Injury and Fatality (SIF) Precursor Reduction

Organizations can benefit from the implementation of Human and Organizational Performance (HOP) by understanding the context and conditions of work, and interactions between systems and people. This approach helps us to understand how humans perform and provides a framework for developing strategies to minimize the potential for significant injuries. This project assesses current approaches in HOP implementation and use across industries to develop a framework of methodologies that can be used to improve strategies for minimizing the potential for SIFs in the electric utility sector.

SUPPLEMENTAL PROJECTS

Current supplemental research beyond the annual portfolio include:

- [Seeing Hazards in the Design: Using Visual Literacy to Improve Hazard Recognition in Electric Utility Designs: Fact Sheet](#)
- [Practical Fatigue Measurement Approaches for Utility Job Sites](#)
- [Company-specific project: Custom Ergonomics Assessments for Electric Utilities](#)
- [Safety Excellence Maturity Assessment](#)
- [Heat Stress Monitoring and Management Tools for Worker Health and Safety](#)

For more information, contact: John Shober, Principal Technical Leader, P62 Manager, 970.302.5556, jshober@epri.com.