

IMPROVING ELECTRICAL SAFETY WITH SHORT CIRCUIT PROTECTION ARC FLASH CONSIDERATIONS



WHEN

DATES:

- **Part 1:** Tuesday, September 22, 11:00 am – Noon EDT
- **Part 2:** Thursday, September 24, 11:00 am – Noon EDT

HOW TO REGISTER:

- Visit training.kendallelectric.com

ABOUT THIS SEMINAR

- New incident energy equations in the 2018 edition of IEEE 1584 may provide different results than existing arc flash studies. Learn what “electrode configuration” means for the data collection step of your next analysis. Learn the new technique available to take advantage of the current limiting ability of modern-day fuses.
- Learn why NFPA70E dropped the 240V exception for arc flash analysis and what the change to IEEE1584-2018 will require.
- Gain insight into what is meant by “exposed to the arc flash hazard” and who may be affected.
- Do some of your circuits have incident energies greater than 1.2 cal/cm² even when protected by dual element Class RK1 or J fuses? Or Class L. Learn what options you have to lower energies to “Category 0” Level.
- Review a simple primary fuse change that can help lower energies to below “Category 3” PPE levels at substations that have incident energies much greater than 40 cal/cm².
- New information will be presented on coordination between fuses and upstream circuit breakers in the ‘short circuit’ region to address issues that can arise as settings of upstream devices are lowered to reduce arc energies.
- Can your storeroom enhance your electrical safety program? Review a simple “5S” program to ensure safe fuse replacements.

THE PRESENTER

Mike Lang, Principal Field Engineer for Mersen, has participated in over 1,000 arc flash tests in Mersen’s high power test lab as leader of the Mersen arc flash team. He has coauthored several prize-winning IEEE papers on arc flash including papers at the 2006 PCIC Conference, the 2008 PPIC Conference and 2016 PPIC Conference. He was also awarded the 2011 I&CPS Ralph H. Lee Department Prize Paper Award for his work on 208V arc flash research. He recently received the 2018 Technical Award for Excellence in Prevention Through Design by the Electrical Safety Committee of the IEEE Industrial Application Society.

Mike is currently co-chairman of the IEEE/NFPA Collaboration on Arc Flash Research effort and has served as a member of the Research, Test and Planning Committee and on the Technical Advisory Committee as part of Mersen’s Platinum sponsorship of the Collaborations research. Mike is an active member of the IEEE 1584 Working Group.

WEBINAR AGENDA

PART 1 - 60 MINUTES

Hazards of Overcurrents

- Electromagnetic Force
- Heat
- Arc Energy

Importance of Adequate Short Circuit Ratings

- SCCR
- AIR
- High Fault Current Ratings

Enhancing Short Circuit Safety with Current Limiting Fuses

- Current limiting Performance and Advantages
- Fuses for optimum short circuit protection of equipment and components
- Dual Element, Time Delay, or Fast Acting?
- Fuses for minimizing arc flash hazards
- Choosing a U/L Class as a Standard

PART 2 - 60 MINUTES

Brief Review of Short Circuit Safety with Current Limiting Fuses

- Current limiting Performance and Advantages
- Fuses for optimum short circuit protection of equipment and components
- Minimizing arc flash hazards

Protecting Against Arc Flash Hazards

- Overview of Arc Flash hazards
- Factors affecting Arc Flash energies
- Update on NFPA 70E
 - ...exposed to the arc flash hazard...?
 - Risk Assessment Concepts
 - Hierarchy of Risk Controls
 - Hazard Analysis Discussion

Arc Flash Hazard Analysis - Concepts and Updates

- Introduction to IEEE 1584
- New IEEE 1584 Equations
- New approach for current limiting fuses
- Guidelines for 208V
- Overview of the ten steps of an arc flash hazard analysis

Addressing High Arc Energy Problems

- Reducing Arc Flash energy with current-limiting fuses
- Addressing high energy / low fault current circuits
- Addressing high energy on transformer secondaries

Choosing a U/L Class as a Standard

- Overview of fuse ratings and classifications