



Environment, Health, & Safety
Training Program

EHS 0573 QEW Uninterruptable Power Supplies
Course Syllabus

Subject Category: Electrical Safety

Course Prerequisites: EHS 0370 (all), EHS 0538 (QEWR),
EHS0540 – EHS0541 (QEW1), EHS0550 – EHS0554 (QEW2),
EHS0570 (all), EHS0571 (all)

Course Length: 2 hours
Delivery Mode: Classroom

Medical Approval: None
Frequency: Every 3 years

Course Purpose:

This course builds upon the work in EHS 0570 QEW Electrical Safety for Capacitors and EHS 0571 QEW Electrical Safety for Batteries, applying ISM and addressing Electrical Hazards and safety concerns for Qualified Electrical Workers when working on Uninterrupted Power Supplies.

Course Objectives: Upon completion of the course the student should be able to:

- Implement the electrical safety requirements of LBNL ESM section 13.3.
- Address the specific issues associated with systems designed to remain energized and place them in an electrically safe work condition.
- Explain the internal hazards of batteries, capacitors and inverters as applied to UPS.
- Be familiar with kirk key systems used to prevent paralleling out of phase and the specific switching sequences that may be required.
- Selecting appropriate PPE and work controls, including requirements for LOTO.
- Assist non-QEW personnel.

Subject Matter Expert: Mark Scott, Stephanie Collins

Training Compliance Requirements: LBNL Electrical Safety Manual, EHS Safety Manual (formerly PUB-3000)- Chapter 8, *Electrical Safety Program*, 29CFR 1910.147, 29CFR 1910.333, NFPA 70E

Course Instructional Materials: PowerPoint presentation and video

Performance Criteria: Student must pass a written test to demonstrate their ability to use the classroom resources and prove understanding regarding when and how to conduct an electrical hazard analysis; determining the appropriate equipment, tools, metering devices and controls needed to perform work safely on uninterruptable power supplies in accordance with the Lab's Electrical Safety Program to receive course credit.

Web Resource: <http://electricalsafety.lbl.gov/>