



ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

**Environment, Health, & Safety
Training Program**

**EHS 0553 QEW2 Electrical Safe Work Controls
Course Syllabus**

Subject Category: Electrical Safety
Course Length: 5 hours
Delivery Mode: Classroom

Course Prerequisites: EHS: 0549, 0370, 0550, 0551, 0552
Medical Approval: None
Frequency: Every 3 years

Course Purpose:

This is the fourth course in a series required for QEW2. The course builds upon the work in EHS 0550, 0551 and 0552, applying ISM and expanding discussion on Modes of Work for electrical work, transitioning between modes and the appropriate Electrical Safe Work Controls for the QEW2 performing electrical work.

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

- Outline the concepts associated with Control of Work as it applies to electrical work at LBNL.
- Define a Qualified Electrical Worker.
- Describe Lockout/Tagout and Test Before Touch.
- Follow LBNL written electrical safety forms including EEWP, ESWP and Written Electrical Procedures.
- Describe the LBNL two person rule.
- Differentiate the responsibilities of an Electrical Standby Person and an Electrical Safety watch.
- Explain QEW Self-Controls.
- Interpret the Electrical Hazard Classification tables and their appropriate application.
- Explain when it is permissible to work alone.
- Describe electrical hazard classifications structure.
- Develop necessary skills to anticipate failure in switching devices
- Recognize what mode of work you are tasked with.
- Demonstrate use of ESM section 3 for various hazards.
- Interpret Control Mode tables and how they affect daily work.
- Explain when a QEW1 can perform a task versus when a QEW2 (or QEW3) is necessary.
- Explain other precautions that need to be taken for electrical work per ESM section 10.
- Assist non-QEW and QEW1 personnel with developing appropriate electrical safe work controls.

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 Job Briefing; two person rule for electrical work, electrical work formality and procedures used in conjunction with QEW self-control; transitioning between Modes of Work and associated required electrical safe work controls in accordance with the Lab's Electrical Safety Program to receive course credit.

Web Resource: <http://electricalsafety.lbl.gov/>; Field Guide 6: Performing a Job Briefing.