Emergency Restoration

Detailed Course Outline

An outage can cost thousands of dollars every hour the system is down — so it is critical to have a recovery program already in place for when problems do occur. Well-trained staff who are able to handle the emergency in a timely and cost-effective manner are an integral part of any restoration plan. This two-day instructor-led course focuses on fault location, troubleshooting, and test equipment with a heavy emphasis on hands-on skills training that simulates actual field restorations for both retrievable and non-retrievable slack scenarios. After attending this class, you will have the tools and skills necessary for your organization to better deal with outages.

Prerequisites: Any Light Brigade introductory courses like Fiber Optics 1-2-3, Utilities Level 1 Technician, or equivalent field experience.

Certifications and Credits: Light Brigade Certificate of Completion

---

What is Emergency Restoration?
- Causes of network outages
- Impacts of network outages
- Preparation is the best tool

Fiber Optic Basics
- How optical communication works
- Key fiber optic terminology
- Fiber optic cables
- Fiber optic connectors
- Fusion and mechanical splicing
- Important fiber optic tools
- Restoring service safely

HANDS-ON: Build a Network
- Build a fiber optic system consisting of two panels, one closure, and 200 feet of cable.

Restoration Preparation
- Preparation starts at installation
- Creating a plan
- SLAs and restoration priorities
- Assembling an ER team
- Identifying necessary outside resources
- Accurate documentation
- Network monitoring tools for practices
- Emergency restoration kits (ERKs)

HANDS-ON: Build an Emergency Restoration Kit
- Build an emergency restoration kit with a splice closure and 100 feet of cable

Resolving an Event
- Recognizing the event
- Failure location
- Effective restoration workflow
- Troubleshooting network segments
- Visual fault locators
- Fiber identifiers
- Optical inspection scopes
- Optical time-domain reflectometers (OTDRs)
- Reading OTDR traces
- Repairing the failure

HANDS-ON: Test and Repair a Failed Network
- Use a visual fault locator to find a stressed or broken fiber
- Measure span loss with an optical loss test set
- Identify and locate events with an OTDR
- Locate and fix the simulated failure

After the Event
- Updating documentation
- Planning for permanent repairs
- Refurbishing the ERK