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|  | Pennsylvania State Fire Academy | |
| | 717.248.1115 In PA: 1.800.459.4096 | 1150 Riverside Drive Lewistown, PA 17044-1979 |
| | FAX 717.248.3580 | www.osfc.pa.us |
| Minimum Standard for Accreditation (MSA) | | |

Date: June 1, 2015
Last Revision: -----

Course Title: Responding to Utility Emergencies: Electrical

SFA Course Code: RTUEE

Course Length: 4 Hours

Lecture/Lab Breakdown: 4/0

Prerequisites: none

Referenced Text(s): “Responding to Electrical Emergencies” by Michael Callan (recommended)

Course Goal: This program is designed to increase general awareness of electricity at the scene; provide responders with specific safety skills to recognize hazards and develop proper attitudes when responding to electrical emergencies.


Course Description: This course will address the hazards, risks, response and players (utility and public service) involved in responding to emergencies involving or threatened by electricity.

Description of Methodology: This program is delivered through lecture, illustration methods, PowerPoint materials, embedded visuals, case histories, and periodic exercises support the classroom lecture. Quizzes are provided for a course evaluation. There is also a web based learning component that can be used in a pre or post classroom support that is referenced in the participant (student) text.

Student Equipment & Supplies: Pen or pencil. The referenced text is recommended for students during training. Departments should contact their local service provider to seek assistance in obtaining student (text) manuals for training.

Equipment/Audiovisual/Facility/Supply Requirements: Classroom setup with table and chairs: AV equipment needed is a computer/monitor, speakers and projector to show PowerPoint presentation and embedded videos.

Special Notes & Conditions: Whenever possible contact your local electrical company to attend to help with specific questions. If they cannot attend acquire a contact that you can contact with any questions that arose during the delivery.

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Course Outline

| <u>Time</u> | <u>Topic</u> | <u>Notes</u> |
|-------------|---------------------------------------|--------------|
| :30 | Introduction and overview | |
| :60 | Understanding electricity | |
| :60 | The electrical grid and equipment | |
| :60 | Responding to electrical emergencies | |
| :30 | Exercises, case history or evaluation | |

Competency Evaluation Mechanism:

The program is supported by several methods of competency that are available for the instructor. There are unit quizzes based on objectives to allow the instructor to evaluate the student mastery of the objectives. In addition to quizzes there are three exercises that assess electrical terminology and step and touch potential flash potential. Each session is also supported by an actual case history to discuss in groups the lessons learned within each unit.

Learning Outcomes (Behavioral Objectives):

1. Identify at least three key players (public and utility) involved in a utility electrical emergency.
2. Describe the limitation of a first responder emergency responder at an incident involving electricity.
3. Briefly explain the difference between voltage, amperage and resistance.
4. Given a scenario, identify the step potential and touch potential conditions.
5. Describe three types of effects that electrical energy has on a human body.
6. Describe the following operations in the electrical grid system: Generation, Transmission, Distribution and Customer service.
7. Identify at least four pieces of equipment found in the distribution system.
8. Given a scenario recognize the presence of Step potential and Touch potential.
9. Describe at least one escape method when exposed to a possible step-potential emergency.
10. Identify at least three hazards associated with downed wires.
11. Describe the limitations of using fire-service and emergency-services equipment around electricity.

Questions/Comments: Please contact the Assistant State Fire Academy Administrator