This Month's "Working Fire"...

Volume 97-5: May 1997
Approx. Program Length 59:54

FIRELINE

House Fire/Firefighter Fatalities **Approx. Length: 17:27**
Stockton, CA

In this incident analysis, the Stockton Fire Department chronicles the house fire that claimed the lives of two firefighters and the homeowner. We analyze the layout and construction of the house and how the fatal collapse occurred. Videotape includes the rescue effort and scenes from the memorial for Firefighters Bryan Golden and Brett Laws. Discussion Topic: Discuss the importance of size-up and establishing "burn time" early in an incident. For more information on this incident, contact: Marty Galindo, P.I.O., Stockton Fire Dept., 425 N. El Dorado St., Stockton, CA 95202. Or call: (209) 937-8801.

Six-Alarm Warehouse Blaze **Approx. Length: 5:53**
Philadelphia, PA

Firefighters knew they would let this vacant warehouse burn, but they were concerned about the exposures to the east and west of the building that had been free-burning for a long time. On one side, a set of row hoses stood 15 feet from the involved structure and on the other side a public transit elevated subway track was in danger. Incident/Tactical Command set up a collapse zone shortly before one side of the building came down. Videotape includes the dramatic collapse and shows apparatus placement. Discussion Topic: How much space should a collapse zone involve and where should apparatus be placed? For more information on this incident, contact: Capt. Kenneth Dolberry, Philadelphia Fire Dept. 240 Spring Garden St., Philadelphia, PA 19123-2991. Or call: (215) 686-1300.
Note: Look for additional discussion questions on this segment included with this month's training material.

HANDS-ON

Confined Space Rescue **Approx, Length: 11:48**
Part VII: Claustrophobia Course

In this final part of our series, we focus on the "confidence course". This test involves crawling through long pipes with appropriate retrieval systems. It helps build self-confidence and creates trust and confidence in one's confined space rescue teammates. This segment also addresses adapting to changing conditions during confined space scenarios. Be looking for related training materials included this month. For more information on confined space rescue, contact: Carl Levon Kustin, Lee & Associates, P.O. Box 99, Boulder Creek, CA 95006.
Or call: (408) 338-7692

This Month's "Working Fire"

HANDS-ON (cont.)

Hand-Held Fire Extinguishers **Approx. Length: 11:00**

This segment is a refresher course on the proper use of a variety of hand-held fire extinguishers. The segment includes demonstrations with dry chemical, $C0_2$, and Class A water pipe extinguishers on a variety of props. Look for enhanced training materiasl to complement this hands-on segment. For more information on hand-held extinguishers, contact: Steven Stokely, Lamar University Institute of Technology, P.O. Box 10043, Beaumont, TX 77710. Or call: (409) 896-3508.

FIRE MEDICS

Accidental Bag Deployment **Approx. Length: 2:38**

This segment is important for any crew that is involved with any aspect of vehicle extrication. Dayton, Ohio firefighters were working a vehicle extrication when one firefighter inadvertently activated the airbag. The thrust of the bag's deployment ejected the firefighter from the car, causing injuries to his neck and back. This segment shows the actual deployment of the bag and touches on the controversy surrounding air bag safety. For more information on this incident, contact: Tom Trimbach, Dayton Fire Dept., 300 North Main St., Dayton, OH 45402. Or call: (937) 461-1715.

EVOLUTIONS 2000

NFPA 1200: One Perspective **Approx. Length: 4:48**

The NFPA 1200 standard has evoked a lot of controversy among firefighters around the country. In this segment, Chief John Buckman of the German Township (Evansville, IN) Fire Department and Chair of the Volunteer Chief's Section of the IAFC expresses his concerns about response times and other minimums mandated by the proposed standards and his hope that the standard will be revised. We will present the "pro" viewpoint in an upcoming edition of *Working Fire*.

This Month's "Working Fire"

QUESTIONS FOR FIREFIGHTER FATALITY SEGMENT

Before answering these questions, participants should review the first segment on *Working Fire* 97-5 dealing with the Stockton, CA firefighter fatalities.

1. How did the construction affect the collapse and rescue effort?

2. Based on the information provided, do you believe the firefighters could have predicted the collapse? Why or why not?

3. What factors help you determine "burn time" at an incident like this?

4. What would your department do differently at a scene like this? Why?

5. Discuss your department's accountability system and how it would have or would not have worked in a scenario such as this.

Enhanced Training

Confined Space Rescue, Part VII

Objectives

After watching this program the student shall:
1. understand the importance of the instructor's responsibility to help build the student's confidence
2. understand how to adapt to a "change in condition" while entering a confined space for rescue operations
3. identify the resources needed to provide confined space rescue training props.

Standards and Regulations

This training is consistent with federal OSHA section 29 CFR 1910.146 ANSI Z117.1 Guidelines. NIOSH Publication No 80-1106 Guidelines. Underwriters Laboratories, Intrinsic Safety for Hazardous Locations, NFPA 1983, 1995 edition and NFPA 1904, 1991 edition.

Training Outline

A. INTRODUCTION

The instructor plays a key role in building a student's confidence while training for confined space rescue operations. Students learn by example and that means that sometimes the instructor needs to got first!

It is important to understand that it is common for conditions to change while you are in the middle of a confined space rescue operation. Understanding your responsibility when a change occurs and how to adapt is the key for rescuers to overcome such obstacles.

Providing realistic training props is time-consuming but necessary. An instructor has many options on what to use for confined space rescue training, what to shop for when looking for places to train, etc.

B. WORKING CLOSELY WITH INDUSTRY CONTACTS

Practice in team-building is essential during confined space rescue training. The instructor has the opportunity to build the individual's level of confidence as well as the confidence level of the team. This can only occur when the instructor teaches by example. Wearing the correct safety gear, following the procedures, and allowing the student to try it his/her way are all-important in helping the student learn from a positive role model. Trusting the student will also help to build his/her confidence.

During confined space rescue training it will be necessary for instructors to demonstrate procedures that will require them to get dirty. Being able to enter a tight space, perform an

operation, and exit the space safely is a great example of what an instructor can demonstrate to a student. This will also help the instructor to empathize with what the students will be experiencing.

It is important to remember that a good instructor is a teacher and a student. Being flexible, keeping an open mind, presenting information with a positive attitude, and learning from what one experiences are just a few of the key traits that the confined space rescue instructor will need in his/her own personal toolbox.

C. A CHANGE IN CONDITION

During training or an actual confined space rescue emergency, it is possible for conditions to change that can endanger the safety of the rescuers. Anticipating those problems and one's ability to overcome them quickly can be the difference between life and death.

Here's an example of a change in condition during a confined space rescue operation:

A fire department has responded to a utility worker who has fallen down a storm drain and has sustained a back injury. Because the victim is located in a permit-required confined space, the team follows the procedure to enter with a permit and follow the required rules.

While packaging the victim, the two rescuers notice that the water level in the storm drain, which was almost nonexistent during the beginning of the operation, is rising rapidly. At this time the Incident Commander is notified by a public works liaison that there has been a major water main break several blocks away.

Technically, this change in condition would warrant the immediate removal of the rescuers and cancellation of the entry permit. The actual change in condition would be the water run-off causing a potential engulfment hazard not anticipated prior to entry.

OSHA states that anytime there is a change in condition you must cancel the existing permit and issue a new permit identifying the new hazard and how you will protect your personnel from that hazard.

Answers to quiz on following page:

1. True 2. False 3. True 4. All of the above

5. An entry permit

Confined Space Rescue, Part VII

Closely monitoring the confined space rescue operation will allow instructors and rescuers to recognize when acceptable entry conditions have changed.

D. CONFINED SPACE TRAINING PROPS

Confined space rescue training can be conducted at site-specific industry locations and fire department training facilities. The more realistic the environment is, the more understanding the student will receive.

Site-specific industry locations can provide a variety of excellent confined space props. Not only are you practicing at your target hazard but you are training with the real thing. It takes a great deal of logistical planning to schedule training. Working with industry liaisons, finding a safe and user-friendly prop, transporting equipment, and working in a busy industry environment are just some of the factors involved with training at an industry site.

Fire department training facilities can provide very practical simulated props that can offer realistic simulations. Training facilities offer more space, controlled environment, classroom facilities, and are logistically easier for the movement of equipment. IF YOU ARE GOING TO TRAIN IN PERMIT-REQUIRED CONFINED SPACES, YOU ARE REQUIRED TO FILL OUT AN ENTRY PERMIT.

Fire department training facilities usually offer a great place to begin your confined space training. It is a familiar, safe place for students to gain confidence on equipment and with systems prior to going to a real industry site.

This type of training can be directly compared to training for structural firefighting. It starts in the classroom, then moves to the drill ground. After the basic skills have been learned, students are taken into simulated, smoked-out environments. Then students gain a more complete understanding when they are guided through an actual live burn.

As with live burns, confined space rescue training is dangerous. Careful planning of all exercises is critical and required. In these situations training can be as dangerous as a real event. The instructor’s competency and his understanding of this will help him provide realistic training while safeguarding the participants.

Confined Space Rescue, Part VII: Quiz

Date_____ **Chief/T.O.**_____

Firefighter (print)_____ **Education Credits/ Hours/Units**_____

Signature_____

Select the best answer:

1. True or False — The confined space rescue instructor can help build student confidence by safely demonstrating the correct procedure.

2. True or False — It is not always necessary for the instructor to adhere to safety procedures while they are only conducting training exercises.

3. True or False — During a confined space rescue operation you are required to cancel your existing permit if there has been a change of conditions.

4. Which one of the following is an example of a change in condition for a confined space?
   a. Sudden rise in water flow into the space
   b. Electrical hazards, unknown at the outset, that are discovered during entry to be located in the space
   c. Sudden drop in oxygen pressure
   d. All of the above.

5. What are you required to fill out prior to entering a permit-required confined space for training?

(Correct answers can be found at the top of the previous page)

Bibliography

Federal Register. Chapter 29, part 1910, Section 146 of the Code of Federal Regulations (CFR), Permit Required Confined Spaces: April 15, 1993

Confined Space Awareness, California State Fire Marshall: 1995

Rescue Systems 1, Fundamentals of Heavy Rescue, California State Fire Marshall: June, 1989

Confined Space Entry and Rescue, CMC Rescue, Inc.: April 1996

Enhanced Training

Hand-Held Fire Extinguishers

Objectives

After watching this segment the student shall:

1. have a basic working knowledge of all types of fire extinguishers in use in the field
2. describe the basic working methods for each extinguisher and their uses on various types of fires
3. explain the acronym P.A.S.S.
4. identify safety considerations for each class of fire.

Standards and Regulations

This training is compatible with NFPA 1001, *Standard for Firefighter Professional Qualifications*. 1992 edition.

Training Outline

A. Introduction

In the fire service today we tend to take small pieces of essential equipment for granted. We are in the habit of using large lines to fight fires. But, in some instances, this is far too much for certain sizes of fires. If the fire is small in nature and in the incipient stage or during mop-up at a large fire, we recommend the use of hand-held extinguishers. This month's training reemphasizes the basics of extinguisher use. We will review the classes of fire and what extinguishers should be applicable for use.

By utilizing the proper extinguisher we can minimize the damage to contents and improve public relations by not being over-zealous on small contained fires, not to mention helping out arson invetigators. By pulling our first-in hoseline and investigating the source of the fire we can determine if the attack lines are too much. If the fire is small enough to use a fire extinguisher, we should use this instead.

B. In-House Training

Over the years we as firefighters have grown to love bigger and better things and have placed the use of fire extinguishers on the back burner. If you ask your fellow firefighters when was the last time they practiced with a fire extinguisher, in most cases it was when they covered it in fire academy training. By establishing in-house training, you can:

1. educate front-line personnel on the basic uses of portable fire extinguishers
2. assist them in reevaluating when large lines are truly necessary

Answers to quiz on following page:

1. True 2. True 3. True 4. d
5. Class "A" – Green Triangle
Class "B" – Red Square
Class "C" – Blue Ball
Class "D" – Yellow Star

Hand-Held Fire Extinguishers

3. reemphasize the classes of fire and their hazards
4. identify those individuals who may need actual hands-on training of the various extinguishers
5. improve fire extinguisher inspections during routine building inspections and preplanning
6. establish a curriculum to educate civilian personnel about fire extinguisher use and safety.

C. Live Fire Training: Personnel

Live fire training is a must. By allowing our personnel to acquire the mastery of the extinguishers in the training environment, we will instill confidence via the real situation.

1. Formulate a training scenario where the personnel must use an extinguisher. When used, evaluate them on their performance.
2. If there is confidence and the use of the extinguisher was appropriate, then all you may require is the classroom portion.
3. If you find hesitation and a lack of coordination, you should consider establishing a time and date for live fire training for these personnel.
4. The live fire training will boost the firefighter's confidence to a level that will prepare him/her to effectively choose and use the various extinguishers.

D. Live Fire Training: Procedure

It is essential that the various types of extinguishers in your hazard area be available and that all personnel be involved and use the extinguishers with each class of fire.

1. The cost of the training agents and the actual agents is extremely reasonable if you compare it to the cost of fire or excessive water damage.
2. Training should consist of a short classroom lecture and then hands-on training.
3. The actual class may not last more than 2-3 hours and should cover all classes of fire and the basic operation and use of all fire extinguishers.
4. This form of training should be performed at least every two years or as necessary in your area.

Bibliography

Essentials of Firefighting, Third edition, Chapter 2; 1992

Enhanced Training

Hand-Held Fire Extinguishers: Quiz

Date_____ **Chief/T.O.**_____

Firefighter (print)_____ **Education Credits/ Hours/Units**_____

Signature_____

Choose the correct answer:

1. True or False A Class “B” fire may be extinguished with a CO_2 extinguisher

2. True or False The CO_2 agent must be administered from the top of the electrical box to the bottom.

3. True or False A Class “A” fire extinguisher may be used on a plastic chair fire.

4. What does the first “S” in the P.A.S.S. acronym mean?

   a. Pull
   b. Sweep
   c. Aim
   d. Squeeze

5. Name the four colors and symbols for the four classes of fire?

(Correct answers can be found at the top of the previous page)