

# This Month's "Working Fire"...

**Volume 94-1: August, 1994**  
**Program Length: 58:25**

## **FIRELINE**

**Northridge Earthquake**  
**Los Angeles, CA**

**Approx. Length: 12:00**

Sam Chu Lin reports on the L.A. City Fire Department and mutual aid response to the January quake. Included in this segment is the dramatic rescue of Salvador Pena from a collapsed parking structure. Training elements include the demonstration of a diamond blade saw to cut through earthquake debris and backup communications necessities when a natural disaster hits. Discussion topic: necessary tools for natural disaster search & rescue. For more information on this response contact: Capt. Leonard Thompson, P.I.O.; Los Angeles, City Fire Dept.; 200 S. Main Street, Los Angeles, CA 90012. Or call: 213-485-6008.

**Apartment Building Fire**  
**St. Louis, MO**

**Approx. Length: 9:00**

This full first alarm assignment involves the use of St. Louis' quint apparatus. The building's stability, the threat of flashover and firefighter safety is the focus of this response as Incident Command pulls all firefighters from an aggressive interior attack to a defensive mode. Watch for personal protective gear infractions on the fireground, accountability from chief officers to firefighters and radio communications among responding crews. Discussion topic: personal protective gear. For more information on this response, contact: Deputy Chief Frank Schaper; St. Louis Fire Dept. Headquarters; 1421 N. Jefferson Ave., St. Louis, MO 63106. Or call: 314-533-3406.

**Abandoned Warehouse Blaze**  
**Indianapolis, IN**

**Approx. Length: 6:00**

This response is complicated by the call coming in during shift change, by cold, icy weather and by threats to nearby exposures because of rapid fire spread. Watch for the use of Indianapolis' accountability tag system and note the problems of using it when mixed crews respond. Discussion topic: accountability options. For more information on this response, contact: Lt. John Gammon, P.I.O.; Indianapolis Fire Dept.; 555 N. New Jersey Ave., Indianapolis, IN 46204. Or call: 317-327-6086.

## This Month's "Working Fire"

### HANDS-ON

#### Flashover Training Hands-On Review

Approx. Length: 7:00

Assistant Chief Ken Hines covers flashover awareness training and provides a solid review of flashover elements and appropriate actions. Note the Enhanced Training section of this collateral material for lesson outline, discussion questions and quiz. For more information on flashover, contact: Assistant Chief Ken Hines; 3700 Bray, Columbia, MO 65203. Or call: 314-445-2526.

#### Wildland Fire Preparations Sacramento, CA

Approx. Length: 7:00

With the wildland fire season upon us, we look at the changes being made to personal protective gear and equipment to get firefighters ready. Discussion topic: protection when faced with rural/urban interface—why both types of equipment may be necessary. For more information on preparations, contact: Batt. Chief Frank Curry; 15670 Monterey Street, Morgan Hill, CA 95037. Or call: 408-779-2121.

### FIRE MEDICS

#### Medical Priority Dispatch System EMS Dispatching

Approx. Length: 6:00

In our EMS segment, we look at the set of standardized protocols used by emergency medical dispatchers to get and give the most detailed information to 911 callers and responding fire and EMS crews. Discussion topic: compare this system to the one your crews are using. (If you are using it, discuss its advantages and disadvantages.) For more information on this system, contact: Dr. Jerry Clawson; Medical Priority Consultants, Inc.; 139 East-South Temple Avenue, Salt Lake City, UT 84111. Or call: 801-363-9127.

### DEMAND ATTENTION

#### Personal Fitness Upper-Body Strength

Approx. Length: 6:00

As part of our ongoing effort to help you comply with proposed NFPA Standard 1582, this segment features a fitness trainer to cover exercises to build upper body strength. Future segments will include tips on nutrition and stress reduction. As with any fitness program, consult your physician before you begin. Discussion topic: review proposed NFPA Standard 1582.

# Enhanced Training: Flashover Training

## Objectives

After watching this program the student should:

1. Understand the conditions which allow flashover.
2. Understand the steps to reduce the flashover hazard.
3. Understand the safety procedures necessary to protect firefighters.

## Standards and Regulations

This training is compatible with NFPA Standard 1001 for Firefighter Professional Qualifications (1992 Edition).

## Flashover Training

### **A Definition:**

Flashover is defined as a stage in the development of a contained fire in which all exposed surfaces are heated and reach their ignition temperature essentially simultaneously.

### **B. How Flashover occurs:**

1. As fire burns it gives off flammable vapors. These vapors burn and preheat other items in the area. In the free burning stage, sufficient fuel and oxygen are available to support burning.
2. Heat builds up throughout the area and travels to other unburned items and preheats them. Air movement is still adequate to support free burning.
3. Within a matter of moments, all contents in the room may ignite simultaneously.

### **C. Indicators of Flashover can include:**

1. Significant free burning in a room.
2. Firefighters being forced to stay low due to intense heat.
3. Rapid heat buildup in the area.

## Flashover Training

4. Heavy, hot, dark smoke banking down with an increase in heat being felt.

### **D. Difference between Rollover and Flashover:**

1. Rollover occurs when the combustible gases released during the beginning stages of a fire gather at the ceiling.
2. These gases push from the burned area into unburned areas.
3. Rollover appears to firefighters to roll up the walls and across the ceiling.
4. Rollover does not have as great a thermal radiation as flashover does.
5. Rollover does not cause a room to ignite in a matter of seconds as does flashover.

### **E. Fire company operations when faced with potential flashover situation:**

1. Maintain company integrity, accountability and communications through the use of the Incident Command System.
2. Interior firefighters must wear full protective clothing including bunker pants, nomex hood and SCBA with facepiece in place.
3. Company officer must understand the construction elements and occupancy type of the fire structure.
4. Company officer must understand basic fire behavior.
5. Ensure that initial strategic objectives have or are being met:
  - a. life safety; rescue of victims; safety of firefighters.
  - b. incident stabilization; protect exposures, contain and extinguish fire.
6. If an aggressive interior fire attack is attempted, the correct size hose lines with adequate personnel and adequate backup hose lines must be quickly advanced and utilized. An adequate water supply must be available to provide the necessary water.

**Answers to Enhanced Training Quiz on following page:**

1. False 2. False 3. True 4. d. 5. e.

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7. Ensure a coordinated fire attack and ventilate the building to remove hot fire gases before they ignite.
8. If heat continues to build up as hose lines are advanced to the fire, cool the atmosphere to reduce the heat buildup.
9. If conditions deteriorate, crews should advise Command and then follow department procedures for exiting the building as needed.
10. The company officer must constantly be evaluating fire conditions and be aware of hazards associated with building construction type and occupancy class.

### **Bibliography**

*Fire Department Occupational Safety*; International Fire Service Training Association; Stillwater, OK; 2nd edition, 1991.

*Firefighter Safety and Survival: The Company Officers' Responsibility*; National Fire Academy; Emmitsburgh, MD; 1985.

*Standard for Firefighter Professional Qualifications 1001*; National Fire Protection Association; 1992 edition.

## Flashover Training: Quiz

1. True or False: Flashover occurs when the fire is in the smoldering stage.
2. True or False: Rollover occurs when the contents of the room ignite simultaneously.
3. True or False: The Incident Command System is one of the best methods to track personnel on the emergency scene.
4. The indicators of flashover may include:
  - a. significant free burning in a room with firefighters being forced to stay low due to intense heat.
  - b. rapid heat buildup in the area with heavy, hot, dark smoke banking down with an increase in heat being felt.
  - c. little or no heat but intense smoke conditions being encountered.
  - d. a & b only.
  - e. all of the above.
  - f. none of the above.
5. When encountering potential flashover conditions, the company officer might:
  - a. exit the building quickly.
  - b. make a coordinated fire attack with hose lines while ventilation is occurring.
  - c. put water into the air to cool the atmosphere.
  - d. None of the above.
  - e. All of the above might occur depending upon numerous variables.

*(See answers at the top of the previous page)*