



# Fire Protection Training

Procedures Handbook 4300

STRUCTURE FIRES

**TOPIC:** Structure Fire Size-Up

**TIME FRAME:** 45 Minutes

**LEVEL OF INSTRUCTION:** Level II

**BEHAVIORAL OBJECTIVE:**

*Condition:* A written quiz

*Behavior:* The student will list and describe the major considerations in sizing-up a structure fire.

*Standard:* With a minimum of 70% accuracy

**MATERIALS NEEDED:**

- Appropriate visual aids
- Audio visual equipment

**REFERENCES:**

- NFPA, Fire Fighting Tactics, Lloyd - Layman, 1953
- NFPA, Fire Command, Brunacini, 1985
- IFSTA, Safety
- Fire Attack, Emergency Resources, Inc., 1987, Command II
- CDF, Health and Safety Handbook 1700, 1999

**PREPARATION:** Although no two emergency incidents are the same, a professional fire officer will use a systematic method of gathering and evaluating information as a basis for an incident action plan. Every firefighter should understand the value of this process and how the process can minimize property damage and personal injuries.



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## STRUCTURE FIRE SIZE-UP APPLICATION

### PRESENTATION

#### I. SIZE-UP

A. Defined - A Continuous Evaluation of Incident Conditions Which Form the Basis for the Incident Action Plan

1. The incident is dynamic and as conditions change the IC must stay abreast of those changes
2. If actions taken on the incident are not achieving the desired results the IC must determine why and re-evaluate the plan

B. Size Up Should Indicate to the IC:

1. What has happened
2. What is happening
3. What will happen

C. Responsibility for Size-up

1. At the outset it is the initial attack IC's responsibility
  - a) Gather as much critical information as possible in a short period of time
  - b) Not sufficient time to gather all information
    - 1) Actions in first 5 minutes can be more important than those taken in the next 5 hours
  - c) Ability to do size-up will improve with practice/experience
2. Once plan is executed everyone is accountable for size-up and relaying information back to the IC

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STRUCTURE FIRE SIZE-UP  
APPLICATION

PRESENTATION

- D. Critical Size-up Factors Vary Depending Upon Conditions but Might Include:
1. Pre-plan information specific to fire building
    - a) Access to the building
    - b) Construction features
    - c) Contents
    - d) Special hazards
    - e) Water requirements
    - f) Water availability
    - g) Location of hydrants
    - h) Fire protection systems
  2. Fire history
    - a) How long has fire been burning
    - b) Stage/phase of fire
    - c) Percent of structure involved
    - d) Size of fire
    - e) Location of fire
    - f) Likely direction of fire spread
    - g) Best access to fire
  3. Building construction factors
    - a) Type of construction
    - b) Age of structure
    - c) Value of structure

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PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>d) Size of building</li><li>e) Height of building</li><li>f) Interior arrangement</li><li>g) Vertical/horizontal openings</li><li>h) Concealed spaces</li><li>i) Utility shut-offs</li><li>4. Life safety factors<ul style="list-style-type: none"><li>a) Number of occupants</li><li>b) Location of occupants</li><li>c) Condition of occupants</li><li>d) Crowd control</li><li>e) Alternative rescue/escape routes</li><li>f) Access to victims</li></ul></li><li>5. Arrangement of exposures<ul style="list-style-type: none"><li>a) Internal exposures</li><li>b) External exposures</li><li>c) Access for apparatus</li></ul></li><li>6. Resource factors<ul style="list-style-type: none"><li>a) Resources available<ul style="list-style-type: none"><li>1) 2 in/2 out</li></ul></li><li>b) Non-traditional resources needed</li><li>c) Reflex times</li></ul></li></ul>	

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## STRUCTURE FIRE SIZE-UP APPLICATION

### PRESENTATION

#### E. Size-up Techniques

1. Consult pre-plan enroute
2. On approach drive past farthest corner of burning structure to view at least three sides of the building
3. Conduct walk-around
  - a) Note, delineate, and communicate existence of any life hazards
    - 1) Yellow and black flagging 25' radius
    - 2) Post sentry if necessary
    - 3) Notify all on-scene units
    - 4) Notify ECC
      - ECC transmits three emergency alert tones
      - ECC announces hazardous condition to all units assigned to the incident
      - ECC confirms receipt of announcement with each assigned unit
      - ECC advises IC of any units not acknowledging announcement
      - IC and ECC continue attempting to contact units not acknowledging announcement
      - ECC advises IC when all units acknowledge announcement

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<ul style="list-style-type: none"><li>b) Note fire location</li><li>c) Note probable direction of fire extension</li><li>d) Shut off appropriate utilities<ul style="list-style-type: none"><li>1) Electricity<ul style="list-style-type: none"><li>• Assume that all downed electrical power lines are energized until confirmed with power company that they are dead and grounded</li><li>• Whenever possible let power company shut off power<ul style="list-style-type: none"><li>i) Especially if high KV lines or substations involved</li><li>ii) May mean no extinguishment until power is shut off</li><li>iii) Life versus property risk analysis</li></ul></li><li>• When firefighters shut off power use one of following methods:<ul style="list-style-type: none"><li>i) Shut off master power switch at meter</li><li>ii) Remove circuit breaker</li></ul></li></ul></li></ul></li></ul>	

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<p>iii) Remove fuses</p> <p>2) Safety precautions</p> <ul style="list-style-type: none"><li>• Building may have back-up power system/generator</li><li>• Do not restore power once shut off</li><li>• Suspect that vehicles, guardrails, wire fences, phone lines, etc., have been energized if in contact with power line</li><li>• Building may be wired in parallel and removing meter does not shut off electricity</li><li>• Single power panel may not service the entire building</li><li>• Do not pull meters may cause explosion</li></ul> <p>3) Natural gas</p> <ul style="list-style-type: none"><li>• Shut off gas on walk-around<ul style="list-style-type: none"><li>i) At storage tank</li><li>ii) At service entry (regulator/meter) to building</li><li>iii) At street junction box</li></ul></li></ul> <p>4. After initial walk-around establish ICP</p>	

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5. Insure that subordinates report changes/progress to you at the ICP

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## ***SUMMARY:***

Size up is a skill which improves with practice. For it to be effective, the initial attack Incident Commander must use a logical system for analyzing information retaining that which is essential and passing by the remainder.

The critical factors then become part of the Incident Action Plan.

## ***EVALUATION:***

A written quiz.

## ***ASSIGNMENT:***

To be determined by instructor(s).