

CHAPTER II Operations

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SUBJECT 2 Command**TOPIC 2 Pre-Planning****A. OBJECTIVE**

To establish a standard pre-planning format for the Cincinnati Fire Division, including a written outline and drawing using symbols.

To establish a formal policy requiring pre-plans for structures or groups of structures that present special problems and/or a high degree of hazard to occupants or firefighters.

B. POLICY

Pre-plans are required for buildings equipped with Fire Suppression Systems, high rise buildings (as defined by the Cincinnati Fire Prevention Code), industrial complex or any high hazard building.

Pre-plans shall include all important information specific to the building or complex, but shall not address items covered under other topics in this manual. Establishing Standard Operating Procedures is the first step in the situation evaluation (size-up). Pre-planning is step two. Pre-plans should be a natural extension of Standard Operating Procedures. For example, there is a written procedure for operations conducted in buildings protected by sprinkler systems. These standard procedures should not be repeated in the pre-fire plan, but any deviations from normal operations should be delineated. An important feature of a good pre-plan is its utility as a field use document. There is a tendency to repeat SOP items unnecessarily and to include minor details. A pre-plan that is much more than two double-spaced typewritten pages in outline form, plus drawing/drawings tends to be useless.

C. SIZE-UP

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Size-up includes eight main categories or factors including:

1. BUILDING
2. FIRE
3. OCCUPANCY
4. LIFE HAZARD
5. ARRANGEMENT
6. RESOURCES
7. ACTION
8. SPECIAL CIRCUMSTANCES

Under these eight main categories, are many subcategories. Given the compressed time element at the scene of an emergency, it is virtually impossible to consider all of the contributing factors, evaluate their importance, and finally devise a plan of attack. Close examination of these factors reveals that many factors are less important than others. Their consideration can be delayed. Further examination of the Fireground Factors reveals that many questions can be answered through pre-planning. Having well established procedures and pre-plans allows on-scene units to begin operations without specific orders, giving the Incident Commander time to adequately size-up the situation and develop a plan of action, concentrating on factors that can be changed.

D. WRITTEN OUTLINE INFORMATION

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The written outline section of the pre-plan shall include the following information, as a minimum:

1. Building Address
2. Building Name including occupancy type
3. Owner and/or Occupants name, address and telephone number
4. Emergency Contact Person's name, address and telephone number (for gaining access when building is secured)
Also list alternate names
5. Type of Alarm System and the Alarm Company
State whether the alarm company responds or not, including the method of contacting them for a response
How to reset alarms
6. Annunciator panel information, including details of command center use, where so equipped
7. Emergency Access and Ventilation (windows, lock boxes, etc.) (built in ventilation) (See Emergency Ventilation in "G")
8. Fire Suppression System Information
Type of System
Area/areas protected
How to reset the system and alarm
How to start the fire pump and general information as to type, G.P.M. etc.
9. Construction type (use categories from NFIRS book)
10. Structural Problems, including fire extension probability

D. Written Outline Information (continued)

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11. Special Life Hazards (large numbers of people or occupants in special need of assistance)
12. Special content hazards (fire load)
13. Special exposure problems (closely built structures, nearby properties presenting a special hazard)
14. Worst case scenario, required fire flow (see required fire flow in "F")
15. Apparatus placement, including any staging area for first alarm companies
16. Hazardous Materials locator lists
17. Remarks - special information not otherwise categorized.

Do not address categories that are not applicable, for example, do not state "NO SPRINKLER SYSTEM". If the details of a sprinkler system are not mentioned it is assumed that the structure is not protected by sprinklers.

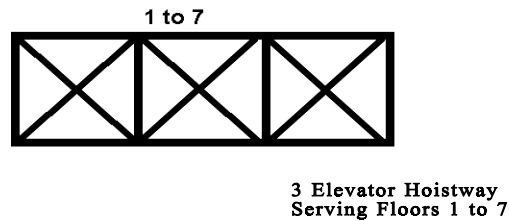
E. BUILDING DRAWINGS

As a minimum, building drawings shall include:

1. A plan view of building/buildings, including dimensions of length, width and height. If the building is a multi-storied structure, a floor plan of each floor whose layout is significantly different shall be added to the drawing section of the pre-plan.
2. All interior fire walls shall be indicated with a solid line, showing the location of fire doors and other fire wall openings.

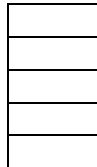
3. Elevator locations displayed as follows:

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If the elevator serves
all floors including basement and sub-basements, floor numbers and/or letters are not necessary.
If the elevator does not serve the entire structure, then floor designation numbers and letters
shall be placed next to the elevator location symbol, as shown.

4. Stairways and Fire Escapes shall be indicated as below:



If a stairway serves all floors including basement and sub-basements, floor numbers and/or letters are not necessary. If the stairway does not serve the entire structure, then floor designation numbers and letters shall be placed next to the stairway location symbol. Likewise, a fire escape that does not serve all floors above ground level shall indicate the floors served.

5. Gas and electric shut-off locations shall be indicated, using the following symbols:

G | Gas Shut Off

E | Electric Shut Off

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6. Alarm System indicated using



Annunciator Panel locations shall be the following symbol:

7. Sprinkler fire department connections (intakes) shall be designated using the following symbol:



Note: This symbol is also used to identify a combination sprinkler and standpipe system

8. Sprinkler risers shall be designated as follows:



9. Sprinkler valves shall be indicated as follows with letter designations representing the type of valve:

PIV = Post Indicator Valve

OS&Y = Outside Stem and Yolk

Any other type of valve shall be indicated in the outline portion of the pre-plan

OS&Y



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10. Standpipe fire department connections (intakes) shall be designated using the following symbol:



11. Standpipe risers shall be indicated using the following symbol:



12. Standpipe valves are to be represented by the following symbol:



13. Fire Pumps shall be placed on the drawing using the following symbol:



Instructions for starting the fire pump and general information as to type, GPM, etc. shall be included in the outline portion of the pre-plan.

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14. Nearest fire hydrants, by type and G.P.M., as shown below:



1275 GPM

Hydrant Flow = 1275 G.P.M.

Any hydrants on the owners private property shall be shown. In addition, at least the two closest public fire hydrants to the property will be shown.

15. Hazardous Materials locations shall be indicated as shown: The number placed in the center of the diamond corresponds to the locator list. A diamond with a "2" would indicate that this is hazardous location #2 for the property in question. Locator list should be attached so responding units can determine what is stored in the various hazardous materials locations.



F. CALCULATED FIRE FLOW

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1. Fire flows will be determined for each major area (area divided by fire walls or floors) within a structure. The purpose of the fire flow in determining the maximum G.P.M. necessary to extinguish an entire area, is to allow the Incident Commander to develop a plan of action that can successfully combat a given fire.
2. The action plan and strategy should apply enough G.P.M. during offensive fire control operations to extinguish the area actually on fire.

For example: If an area calculated as needing 1000 G.P.M. had 50% of the area involved in fire, the Incident Commander would need to apply 500 G.P.M. to extinguish the fire. Any area requiring less than 100 G.P.M. does not require a fire flow listing.
3. The preferred fire flow formula is a commodity specific flow as established by the National Fire Protection Association or Factory Mutual. If sufficient information is not available to use these formulas simply use the formula:

$$\text{Area divided by 3}$$
4. Fire flows are rough calculations that must be applied as approximations. It may be possible to extinguish many different areas one at a time, by going from area to area. The Area divided by 3 formula tends to be a high estimate and should be understood as such.

G. EMERGENCY VENTILATION

1. When buildings are equipped with emergency vents, it should be noted on the pre-plan under "Emergency Access and Ventilation".
2. Many industrial buildings have manual or automatic vent systems, usually in the form of roof vents. These vents should be noted as to location, with a brief explanation of how they operate and location of controls.

G. Emergency Ventilation (continued)

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3. In high rise buildings, there may be vent openings above the stairways. New high rise buildings may have windows or panels provided for emergency ventilation. Buildings equipped with emergency ventilation panels or windows will have 2" x 8" signs on the inside with ½" red letters identifying the window or panel and stating whether the window is:
 - A. Manually Operated
 - B. Remotely Operated
 - C. To be broken stating "Tempered Glass"

H. FAMILIARIZATION

1. Members responding to properties on the first alarm will be familiar with the general building features and shall be thoroughly familiar with the pre-fire plan file kept on each apparatus.
2. District Chiefs shall discuss pre-plan information with officers and members who normally respond to pre-planned properties.
3. The Company responsible for inspecting a building or complex where a pre-plan is required shall keep pre-plan information updated and distribute copies of the pre-plan to companies and districts responding on the first and second alarms, and to the Supervisor of Fire Equipment Maintenance. Districts will coordinate and facilitate the distribution of pre-plans.

I. FILING OF PRE-PLANS

1. Each company shall file a copy of all pre-planned buildings in their first alarm running district. This file should be kept in three ring binders on apparatus and staff cars, readily accessible to the responding officer. Districts shall file a copy of all pre-planned buildings in their first and second alarm running district.
2. Company Commanders are responsible for the accuracy and completeness of pre-plan files.
3. The Supervisor of Fire Equipment Maintenance shall maintain a file of all pre-plans on the "Command Van".