

INSTRUCTOR GUIDE

TOPIC: HOW'S YOUR APPARATUS STAFFING?

LEVEL OF INSTRUCTION:

TIME REQUIRED: TWO HOURS

MATERIALS: APPROPRIATE AUDIO-VISUAL MATERIALS

REFERENCES: FIRE ATTACK 1 AND 2, WARREN Y. KIMBALL, NFPA

PREPARATION:

MOTIVATION: Adequate staffing at the scene of any emergency can have a direct relationship on the outcome. Inadequate staffing can also contribute to the potential for harm to operating personnel. We owe it to each other to insure that there is a staffing level appropriate for the incident. All the newest and best equipment in the world is useless unless there are people to utilize it.

OBJECTIVE (SPO): 1-1

The individual will demonstrate a basic understanding of the need for adequate staffing for a structural fire incident and the assignment of duties among the available personnel.

OVERVIEW:

HOW'S YOUR APPARATUS STAFFING?

- * Introduction
- * Engine Company Duties
- * Utilization of Personnel

YOUR APPARATUS STAFFING?

SPO 1-1 The individual will demonstrate a basic understanding of the need for adequate staffing for a structural fire incident and the assignment of duties among the available personnel.

EO 1-1 Demonstrate an understanding of the requirements related to staffing for a structural fire incident.

EO 1-2 Demonstrate an understanding of the duties and responsibilities of an engine company for a structural fire incident.

EO 1-3 Demonstrate how to apply the engine company duties for a structural fire incident to various staffing levels.

A. INTRODUCTION (EO 1-1)

1. Two documents address staffing in terms of operational safety
 - a. 29 CFR 1910.134(e) addresses operations in IDLH atmospheres
 - 1) Primary emphasis on working in teams of at least two in IDLH atmospheres
 - 2) Regulation addresses the need for additional people in unaffected areas to be available with proper rescue equipment to be able to assist the personnel in the IDLH atmosphere in case of emergency
 - 3) While the regulation does not address apparatus staffing, it does address staffing for operations at the fire scene (two-in/two-out rule)
 - b. NFPA 1500 (2002), Standard on Fire Department Occupational Safety and Health Program
 - 1) Section 6-4.3 states "Members operating in hazardous areas at emergency incidents shall operate in teams of two or more."
 - 2) Section 6-4.4 states "In the initial stages of an incident where only one team is operating in a hazardous area at a working structure fire, a minimum of four individuals is required, consisting of two individuals working as a team in the hazard area and two individuals present outside this hazard area for assistance or rescue at emergency operations where entry into the danger area is required."
2. Primary emphasis in both the Federal regulation and the NFPA standard is utilization of the buddy system and having a rescue team available outside the hazard area to rescue the firefighters in the hazard area in the event of an emergency
3. One other item which should be considered when operating at an emergency scene is that of safety
 - a. Section 6-4.1 of NFPA 1500 states "Operations shall be limited to those that can be safely performed by the personnel available at the scene."
 - b. Any operation must include a consideration of safety of the emergency response personnel
 - c. To do otherwise, would be negligent on the part of the leadership of the department

B. ENGINE COMPANY DUTIES (EO 1-2)

At this point, take the opportunity to review the duties normally assigned to an engine company.

1. Water Supply

- a. Delivering water from a source to the fireground
- b. Laying supply lines
- c. Pumping supply lines from hydrant or static source
- d. Tanker operations
- e. Shuttling water
- f. Relay operations

2. Rescue

- a. Line placement initially to effect rescue
- b. Search of immediate operational area when truck or squad personnel are available to search above
- c. Search of entire structure when on alarms without truck or squad or when they have long travel time

3. Exposures

- a. Interior exposures or possible spread of fire to undamaged portions of building
- b. Checking the extension of fire in concealed spaces
- c. Exterior exposures of adjacent buildings, structures, or materials
- d. Types and sizes of streams for various types of exposure problems

4. Attack Lines

- a. Proper size and length of hose lines carried for immediate operation using tank water
- b. Various hose evolutions with minimum staffing for most efficient advancement of hose lines into different types of buildings
- c. Extending the reach of various size hose lines
- d. Efficient placing in operation various special purpose nozzles from operating hand lines

5. Back-Up Lines

- a. Specific companies assigned this duty, yet all companies should be prepared to advance back-up lines
- b. Hose line or appliance that will flow a greater amount of water than the attack lines in operation
- c. These lines are taken to the location of the operating attack line
- d. Lines are charged to the nozzle or in the case of using master stream appliances as back-up lines, the supplying engines should have lines ready to be charged to the appliances at a moments notice

6. Protective Systems

- a. Standpipe connection always supplied and charged immediately
- b. Companies prepared to operate with handlines larger than 1-1/2-inch from standpipe outlets
- c. Use of gated wyes to enable more than one company to operate from standpipe outlet
- d. Sprinkler system always connected to and charged upon indication of fire, water flow, or orders

7. Master Stream Appliances

- a. Monitor pipe - quick operation either piped directly to pump or by use of short sections of hose
- b. Deluge sets - master stream appliances should be easily removed and made portable for advancement on ground, to roof, and other points of advantage
- c. Solid stream tips should be used for efficient reach, less effect by wind and less cost
- d. Directed into building upon command of fireground command and only when sure all personnel have left the building
- e. Applicators - restricted to personnel required and caution should be used to prevent injury to other personnel as this is a master stream appliance
- f. Engines supplying ladder or monitor pipe should be as close as possible to eliminate high friction loss in supply lines

- g. When master streams are needed, it should be remembered they can be supplied by two or three engines to take advantage of existing pump reserve

8. Overhaul

- a. Less quantity of water needed because emergency is over
- b. Clear hose lines from busy streets
- c. Operate with hose connected directly to hydrants
- d. Free companies not needed
- e. Assist truck company in checking and wetting down hot spots

C. UTILIZATION OF PERSONNEL (EO 1-3)

Below are some examples of tasks assignments for the first arriving engine company based on various staffing levels.

1. Three Person Crew

- a. Driver
 - 1) Operate the fire pump controls
 - 2) Establish water supply if using a hydrant in very close proximity to the engine
- b. Officer
 - 1) Provide supervision and direction to crew
 - 2) Perform initial size-up of scene
 - 3) Provide communications to incident commander
 - 4) Assist with entry
 - 5) Assist with rescue, if rescue is required
 - 6) Assist with initial attack line (operations should be limited to exterior attack until a standby crew is available)
- c. Firefighter
 - 1) Assist with entry

- 2) Assist with rescue, if rescue is required
- 3) Assist with initial attack line (operations should be limited to exterior attack until a standby crew is available)
- d. Comment: With a three-person crew, the officer is required to be part of the attack crew which limits size up or supervision. The establishment of water supply is very limited to operating from the booster tank or connecting to a hydrant in very close proximity to the engine. It is, however, conceivable that a supply line could be dropped from a water source so that an incoming unit could connect it and establish the water supply. The initial attack is limited to one line and exterior operations until more personnel arrive to permit interior entry or activation of additional attack lines.

2. Four Person Crew

a. Driver

- 1) Operate the fire pump controls
- 2) Break supply line or establish water supply if using a hydrant in very close proximity to the engine

b. Officer

- 1) Provide supervision and direction to crew
- 2) Perform initial size-up of scene
- 3) Provide communications to incident commander
- 4) Assist with entry
- 5) Assist with rescue, if rescue is required
- 6) Assist with initial attack line (operations should be limited to exterior attack until a standby crew is available)

c. Firefighter 1

- 1) Assist with entry
- 2) Assist with rescue, if rescue is required
- 3) Assist with initial attack line (operations should be limited to exterior attack until a standby crew is available)

d. Firefighter 2

- 1) Pull supply line and connect to hydrant or wait for supply engine
- 2) Once water supply established, assist driver at scene
- 3) Perform exterior operations such as setting up master streams

e. Comment: With a four-person crew, the officer is required to be part of the attack crew which limits size up or supervision. The initial attack is limited to one line and exterior operations until more personnel arrive to permit interior entry or activation of additional attack lines. While there are four people on the scene, the driver has other duties and is not available to be part of the standby team.

3. Five Person Crew

a. Driver

- 1) Operate the fire pump controls
- 2) Break supply line or establish water supply if using a hydrant in very close proximity to the engine

b. Officer

- 1) Provide supervision and direction to crew
- 2) Perform initial size-up of scene
- 3) Provide communications to incident commander
- 4) Assist with entry
- 5) Assist with rescue, if rescue is required
- 6) Assist with initial attack line (operations should be limited to exterior attack until a standby crew is available)

c. Firefighter 1

- 1) Assist with entry
- 2) Assist with rescue, if rescue is required

- 3) Assist with initial attack line (operations should be limited to exterior attack until a standby crew is available)
- d. Firefighter 2
- 1) Pull supply line and connect to hydrant or wait for supply engine
 - 2) Assist Firefighter 3 with standby safety line
 - 3) Perform exterior operations such as setting up master streams
- e. Firefighter 3
- 1) Assist driver at scene
 - 2) Assist with standby safety line
 - 3) Perform exterior operations such as setting up master streams
- f. Comment: With a five-person crew, the officer is required to be part of the attack crew which limits size-up or supervision. The initial attack is limited to one line and exterior operations until the remainder of the crew is available to permit interior entry or activation of additional attack lines. This is probably the minimum crew that should be available to initiate interior operations without having to wait for additional personnel. It should be pointed out, however, that additional personnel and apparatus will be needed to provide relief for the initial attack crew as well as performing other fire scene duties.
4. At the conclusion of the discussion, open the floor for an interactive discussion of how the members would utilize personnel to perform the various duties based on various staffing levels. Start with the maximum staffing for the piece of apparatus based on available and continue the exercise by eliminating one person for each round. You may want to incorporate the department's standard operating procedures into the discussion. Consideration may also be given to the priority of the tasks.
 5. Understand that the discussion involves only the first arriving engine. As more units arrive, the duties can be shared with the staffing on those units.
 6. This discussion could be very thought-provoking when the next unit is delayed in arrival and/or the staffing level is low.
 7. The safety of operating personnel must be the primary consideration of the incident commander and everyone on the scene.

REVIEW:

HOW'S YOUR APPARATUS STAFFING?

- * Introduction
- * Engine Company Duties
- * Utilization of Personnel

REMOTIVATION: Understanding the duties and responsibilities of the engine company and how to deploy the available personnel to carry out those duties requires coordination and teamwork. It needs to be practiced on a regular basis so that the team can perform effectively and efficiently when called upon. As in sports, it is very difficult to win when you do not have adequate personnel.

ASSIGNMENT: None.

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