TOPIC: Pumping Automatic Sprinkler Systems

TIME FRAME: 30 Minutes

LEVEL of INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will describe the parts and operations associated with pumping automatic sprinkler systems.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- Audio visual equipment

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 16
- IFSTA, Fire Department Pumping Apparatus, 7th Edition, Chapter 6

PREPARATION: Many properties have private fire protection equipment provided to protect lives and preserve property. Each year fire departments respond to thousands of alarms in properties having sprinkler systems. If this private protection equipment is to do the job for which it is designed, it is essential that we use correct procedures when operating them.
I. AUTOMATIC SPRINKLER SYSTEM

A. Design Goals
   1. Contain or control small fires
   2. Activate limited number of sprinklers in fire area only
   3. Provide capability for auxiliary system support
      a. On site secondary system
      b. Engine support via fire department sprinkler connection

B. Fire Department System Support
   1. Fire department sprinkler connection located on exterior of sprinklered building
      a. a. Cluster of 2 1/2" female connections
      b. Single large diameter, sexless, clappered connection
   2. Support Guidelines
      a. Position apparatus at hydrant on feeder line different than one supporting sprinkler system
      b. Check automatic sprinkler system main control valve to ensure it is open
         (1) Do not open if tagged as being repaired
      c. If system has its own pump, see that it is working
      d. Use at least one 2 1/2" supply line to support system
(1) Must use additional 2 1/2" lines if:

(a) Volume of fire indicates sprinklers not effective

(b) Interior attack team indicates less than full discharge pattern from heads

e. Support sprinkler system with 150 PSI discharge pressure

(1) Do not exceed 200 PSI since piping may break

3. Shutdown guidelines

a. Wait for order from proper fire officer

b. Disengage pump but leave all hoses in place

c. Close main control valve on sprinkler system

d. Assign firefighter to remain at main control valve to re-open should fire re-kindle
**SUMMARY:**

The key to proper sprinkler system operations includes Standard Operating Procedures (S.O.P.s) for utilizing the proper pumper and hose lines to supply the system. All control valves should be open and the correct engine pressure provided.

It is easy to overtax the water system feeding the sprinklers if other engines are allowed to tie into it. This can be avoided if the fire department personnel have knowledge of the water system and auxiliary water sources.

The sprinkler system should not be shut down until the proper officer so indicates and the supplying pumper should not be disconnected until after overhaul.

**EVALUATION:**

A written quiz.

**ASSIGNMENT:**

To be determined by instructor(s).