

Investigating Fires in Sprinklered Buildings

Investigate Suppression Equipment

- Obtain information on the design and type of system (flow requirements)
- Make/model/year/SIN/detailed information on the sprinkler heads involved
- Make/model/year/detailed information on the valves involved
- Make/model/year/detailed information on the fire pump (if provided)
 - Type of driver (diesel/electric?)
 - Design flow/pressure

Investigate Sprinkler Water Supply

- Obtain piping drawings for the fire area(s)
- Determine the valves that supply the fire area(s)
- Check the position of these valve(s) at the time of the fire
 - Open/closed?
 - Locked/unlocked?
- Confirm sprinkler lines not frozen or obstructed

Investigate Sprinkler Water Supply

- If fire pump provided
 - Check for proper operation
 - Transfer switch working?
 - Check battery (diesel)
 - Check heat in pump room
- If provided, confirm fire water tank had water when fire occurred, and was not frozen.
- Confirm water supply flow/pressure at the time of the fire
 - Flow -
 - Pressure (at least get pressure at riser(s) -
 - If possible, do flow test at site
 - Get records from water department
- Conduct flow test (2" drain) downstream of sprinkler valve(s) to verify no impairments
- Conduct flow test of end-of-line inspector's test to verify no impairments/proper operation

Investigate Fire Dept. Operations w/System (Ref NFPA 13E)

- Did the apparatus operator(s) have any difficulties with the system?
- Did the fire department connect to the siamese?
 - If not, why not?
 - Was it marked correctly?
 - Were the correct adapters available?
 - Was there a preplan, and if so, was it used?
- Was it the sprinkler or standpipe (or combined) siamese?
- If so, was it pumped and at what pressure?
 - Is there a specific pressure it is to be pumped at?
- Was the valve/pump attended?

Investigate Types of Systems

- Obtain copies of all alarm printouts
- Dry Systems
 - Confirm air supply operating properly
 - Confirm valve setup/arrangement
 - Any obstructions noted?
- Deluge/Preaction Systems
 - Confirm air supply operating properly
 - Confirm alarm/activation system operations
 - Confirm valve setup/arrangement
 - Sprinklers properly aligned & clear?

Investigate System Maintenance

- Obtain copies of maintenance/testing records
 - Sprinklers
 - Detectors for Preaction/Deluge Systems
 - Fire pumps
- Verify valves tested
- Obtain information on trip tests

Interaction of Sprinkler System with Occupancy

- Determine fuel in the area where the system operated
 - Fuel type (commodity classification)
 - Fuel load
 - Fuel configuration (racks, shelving, height, aisle widths, flue spaces, pile size, encapsulated?)
 - Unusual Hazards
- Confirm system was designed for fuel type, loading and configuration
- Determine how many "systems" operated?

Tips

- Get Input From Firefighters on the Scene Prior to Them Leaving
- Start at Either the Supply End of the System or the Far End of the System and Work Your Way Through the System to the Opposite End
- Use Independent System Experts if Available
- Take photos/videos of everything investigated

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