TODAY’S SPRINKLER SYSTEMS & OWNER RESPONSIBILITY

What did I commit to?

April 12, 2022

CRAIG VESELY, PE, CET

• Fire Protection Program Manager
• Principal & Owner
• Licensed Fire Protection Engineer in 2 States
• Professional Member of SFPE
• President of the Wisconsin Chapter
• NFPA Technical Committee Member

DISCLAIMER
What are sprinkler systems?

**SPRINKLER SYSTEMS**

**AUTOMATIC SPRINKLERS**

A fire suppression or control device that operates automatically when its heat-activated element is heated to its thermal rating or above, allowing water to discharge over a specified area.

*Source: Johnson Controls, Inc.*

NFPA 13, Standard for the Installation of Sprinkler Systems
COMMON TYPES OF SPRINKLER SYSTEMS

1. **Wet Pipe Systems**
COMMON TYPES OF SPRINKLER SYSTEMS

1. Wet Pipe Systems
2. Dry Pipe Systems
3. Preaction Systems
   A. Non-interlock
   B. Single-interlock
   C. Double-interlock
4. Deluge
STOCK OF SPARE SPRINKLERS

- NFPA 13 Section 6.2.9
  - Facilities < 300 sprinklers
  - 6 spare sprinklers
  - Facilities > 300 & ≤ 1,000 sprinklers
  - 12 spare sprinklers
  - Facilities > 1,000 sprinklers
  - 24 spare sprinklers
- NFPA 13 Section 6.2.9.6
  - One sprinkler wrench for each type of sprinkler installed
- NFPA 13 Section 6.2.7.9
  - List of sprinklers installed in the property shall be posted in the sprinkler cabinet.
RESPONSIBILITY

4.1.1 Responsibility for Inspection, Testing, Maintenance, and Impairment. The property owner or designated representative shall be responsible for properly maintaining a water-based fire protection system.

4.1.1.1 Buildings. The building owner shall ensure that all areas of the building containing water-filled piping shall be maintained at a minimum temperature of 40°F (4.4°C) and not exposed to freezing conditions.

RECORDS

6.3 Records.
6.3.1 Records shall be made for all inspections, tests, and maintenance of the system and its components and shall be made available to the authorities having jurisdiction upon request.
6.3.2 Records shall indicate the procedures performed (e.g., inspections, tests, or maintenance), the organization that performed the work, the results, and the date.
6.3.3 Records shall be maintained by the property owner.
6.3.4 All original construction drawings, batch, calculations, original acceptance test records, and device maintenance/inspection reports shall be maintained for the life of the owner.
6.3.5 Subsequent record shall be made if required by 4.2 requires the new inspection, tests or maintenance of that type required by the standard.
Notable Losses

3/25/2022

WISCONSIN SAFETY COUNCIL

April 12, 2022

GENERAL ELECTRIC

• April 3, 2015
• Louisville, KY
• 700,000 ft² warehouse
• Estimated $110 million in damages
  • 9 at the scene
  • 6 at the burn center
• Electrical failure or lightning strike
• Originally used to manufacture air conditioners
  • At the time of the fire, 85% of the building was used for storage
  • 12-foot-high solid pile storage
  • 24-foot-tall single- and double-row racks
GENERAL ELECTRIC

- GE had an onsite water supply
- In earlier reports, FM Global previously noted several fire pumps and hydrants were not working properly
- Only 1 of 8 fire pumps operated correctly during the fire
- Local fire service unaware of facility updates
- GE maintained self-inspection status
- AP-6 building had never been inspected by a fire service agency prior to this fire event
- GE had been working on a plan to upgrade sprinklers, alarms, piping & fire pumps

CHEMTOOL INCORPORATED

- June 14, 2021
- Rockton, IL
- 5-day evacuation for residents within 1 mile
- Scissors lift accident – “sufficient mechanical force to cause the release of mineral oil”
- 2 firefighters suffered minor injuries

FINAL REMINDER