NFSA
The Voice of the Fire Sprinkler Industry

Understanding and Applying NFPA 25

Texas Edition

1

Learning Objectives

- Describe the scope of NFPA 25.
- Distinguish between sprinkler system problems that fall within the scope of NFPA 25 and those that do not.
- Discuss ways to best deal with important concerns outside the scope of NFPA 25.
- Interpret TX ITM rules and how they compare with the scope of NFPA 25.
- Identify significant changes to NFPA 25-2014.

2

Four Questions

What are the things the stakeholders in the ITM process (owner, AHJ, & contractor) want to know about a fire protection system?

3

Four Questions

1. Will the system work?
2. How do I know?
3. Why NFPA 25?
4. Who is responsible?

4

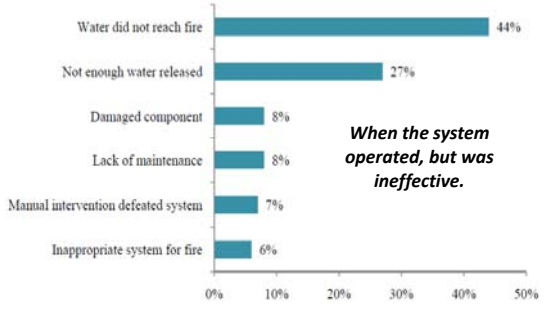
Will the system work?

Sprinkler System Success Rate

- Public Assembly – 96%
- Educational – 93%
- Health Care – 96%
- Residential – 98%
- Store / Office – 96%
- Manufacturing – 93%
- Storage – 79%
- All Structures – 95%

5

Will the System Work?



Source: *U.S. Experience With Sprinklers, John R. Hall, Jr., NFPA Fire Analysis And Research, Quincy, MA, September 2010*

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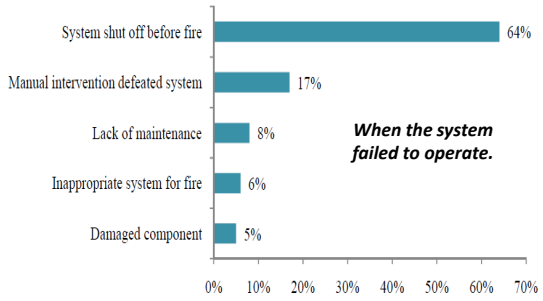
Will the System Work?



When the system failed to operate.

Source: *U.S. Experience With Sprinklers, John R. Hall, Jr., NFPA Fire Analysis And Research, Quincy, MA, September 2010*

NFSA 7

How Do I Know?

- Inspection
- Testing
- Maintenance

NFSA 8

How Do I Know?

- Inspection
- Testing
- Maintenance

"Reasonable degree" of assurance that the system will work when its needed

NFSA 9

How Do I Know?

- Inspection
- Testing
- Maintenance

"Reasonable degree" of assurance that the system will work when its needed

ITM Reports
provide the evidence…

NFSA 10

NFPA 25 Documentation

- ITM reports are the primary source of information about the condition of the system
- Other documentation is also required

NFSA 11

NFPA 25 Documentation

- ITM Reports must contain (per NFPA 25-2014 section 4.3.2):
  1. *The procedure/activity performed*
  2. *The organization that performed the activity*
  3. *The required frequency of the activity*
  4. *The results and date*
  5. *The name and contact info of the qualified contractor or owner, including lead person for the activity*

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NFPA 25 Documentation

- What about things that are outside the scope of NFPA 25?
  - *Unsprinklered areas*
  - *Changes identified*
- Very important to point these things out, but not as part of routine ITM

NFSA 13

Why NFPA 25?

- Referenced in all national model building and fire codes
- Contains all the requirements for an existing system
- Strives to balance the cost of system maintenance with what provides the best return

NFSA 14

History of NFPA 25

NFSA 15

Organization of NFPA 25

- Chapters 1-4
  - *"Administrative Chapters"*
- Chapters 5-13
  - *"System Chapters"*
- Chapters 14 & 15
  - *"Corrective Chapters"*
- Chapter 16
  - Special Requirements from Other NFPA Documents *(new in 2014 edition)*
- Annexes A-F

NFSA 16

Scope of NFPA 25

1.1 Scope. This document establishes the minimum requirements for the periodic inspection, testing, and maintenance of water-based fire protection systems, including land-based and marine applications and actions to undertake when changes in occupancy, use, process, materials, hazard or water supply that potentially impact the performance of the water based system are planned or identified.

NFSA 17

Scope of NFPA 25

1.1.3.1 * This standard does not require the inspector to verify the adequacy of the design of the system.

NFSA 18

What is not in NFPA 25?

- Requirement for Engineering Judgment
- Requirement for Hazard Analysis
- Requirement for System Certification

Important Definitions

- Chapter 3
  - Inspection
  - Testing
  - Maintenance
  - Deficiency
  - Impairment

Definition of Inspection

- **Inspection -** Defined as *"a visual examination…to verify that it appears to be in operating condition and is free of physical damage."*

Definition of Testing

- **Testing.** A procedure used to determine the operational status of a component or system …
- Follows up on original acceptance tests

Definition of Inspection

- **Maintenance.** …work performed to keep equipment operable or to make repairs.

Definition of Deficiency

- **Deficiency**.
  - For the purposes of inspection, testing, and maintenance of water-based fire protection systems, a condition in which a system or portion thereof is damaged, inoperable, or in need of service, but does not rise to the level of an impairment.

Non-Critical or Critical

- **Critical Deficiency** (2014 ed.)
  - A deficiency that, if not corrected, can have a material effect on ability of the system to function as intended in a fire event.
- **Noncritical Deficiency** (2014 ed.)
  - A deficiency that does not have a material effect on ability of the system to function as intended in a fire event, but correction is needed to meet the requirements of this standard…

Definition of Impairment

- **Impairment.** A condition where a fire protection system or unit or portion thereof is out of order, and the condition can result in the fire protection system or unit not functioning in a fire event.
- Emergency vs. Preplanned

Classification of Findings

- Annex E was added in 2011
- Moved to Annex A in 2014
- Provides guidance for how to classify various issues discovered during ITM process

Management of Change

4.1.6* Changes in Occupancy, Use, Process, or Materials. The property owner or designated representative shall not make changes in the occupancy, the use or process, or the materials used or stored in the building without evaluation of the fire protection systems for their capability to protect the new occupancy, use, or materials.

Management of Change

4.1.6.1 The evaluation required by 4.1.6 shall not be considered part of the normal inspection, testing, and maintenance required by this standard.

TX Rules (Current)

§34.721. **Yellow Tags.**

(a) If a fire protection sprinkler system is found to be noncompliant with the applicable NFPA standards at the time it was installed or found to contain equipment that has been recalled by the manufacturer, but the noncompliance or recalled equipment does not constitute an emergency condition, a completed yellow tag must be attached to the respective riser of each system…

TX Rules (Proposed)

§34.721. **Yellow Tags.**

(a) If a fire protection sprinkler system is found to be noncompliant with the applicable NFPA standards ~~at the time it was installed~~, is not being tested or maintained in accordance with adopted standards**,** or found to contain equipment that has been recalled by the manufacturer, but the noncompliance or recalled equipment does not constitute an emergency impairment condition, a completed yellow tag must be attached to the respective riser of each system…

Four Questions

~~1. Will the system work?~~

~~1. How do I know?~~

~~2. Why NFPA 25?~~

3. Who is responsible?

Who is responsible?

- There are 3 stakeholders in the NFPA 25 based ITM process
  - Owner
  - Contractor
  - AHJ

Stakeholder Responsibilities

- The **owner** is the one most responsible
- The **contractor's** job is to provide the owner with an idea of the condition of the system(s) to the owner
- The **AHJ's** role is enforcement (making sure NFPA 25 is being followed) and sometimes consultation

Owner Responsibilities

- Chapter 4 "General Requirements"
- Section 4.1 "Responsibility of Property Owner or Designated Representative"
- Most owner requirements were combined into 4.1 in the last few cycles of NFPA 25

Owner Responsibilities

- **Section 4.1** – Owner is responsible for:
  - *Proper ITM of the system*
  - *Maintaining temperature in the building*
  - *Providing access to important features*
  - *Notification of shutdown*
  - *Appointing an impairment coordinator*
  - *Corrections and repairs*
  - *NOT making changes without evaluation*
  - *Addressing changes*
  - *Maintaining records*

2014 Edition

- Scope clarified
- New Definitions
  - Frequency "windows"
- Fire Pump Test Frequency
- Diesel Fuel Quality
- Residential Board & Care
- Valve Status Tests
- Internal Inspections

2014 Edition

- Frequency "windows"

3.7 ITM Task Frequencies.

3.7.1* Frequency. Minimum and maximum time between events.

3.7.1.1 ***Daily Frequency.*** Occurring every day.

3.7.1.2 ***Weekly Frequency.*** Occurring once per calendar week.

3.7.1.3 ***Monthly Frequency.*** Occurring once per calendar month.

3.7.1.4 ***Quarterly Frequency.*** Occurring four times per year with a minimum of 2 months and a maximum of 4 months.

3.7.1.5 ***Semiannual Frequency.*** Occurring twice per year with a minimum of 4 months and a maximum of 8 months.

3.7.1.6 ***Annual Frequency.*** Occurring once per year with a minimum of 9 months and a maximum of 15 months.

3.7.1.7 ***Three Years Frequency.*** Occurring once every 36 months with a minimum of 30 months and a maximum of 40 months.

3.7.1.8 ***Five Years Frequency.*** Occurring once every 60 months with a minimum of 54 months and a maximum of 66 months.

2014 Edition

- Fire pump frequency
  - Primarily revolves around weekly tests for both
  - Frequencies can be modified with risk analysis
- Diesel Fuel Quality
  - New requirement in 2014 edition
  - Annual quality tests

2014 Edition

- New Chapter 16
  - 13D systems in small residential board & care
  - ITM rules extracted from NFPA 101

Control Valves	Inspect	Monthly
Gauges	Inspect	Monthly
Alarm Devices	Inspect	Quarterly
Alarm Devices	Test	Semi-Annually
Valve Supervisory Switches	Test	Semi-Annually
Visible Sprinklers	Inspect	Annually
Visible Pipe	Inspect	Annually
Visible Pipe Hangers	Inspect	Annually

  - Plus others…

2014 Edition

- Valve status test
  - Different from main drain
  - Designed to verify whether a valve is closed
  - Main drain test changes
- Internal inspections
  - New term "Assessment of Internal Condition"
  - 5-year frequency remains but can be modified

FPRF Workshop

- NFPA held a workshop in December to discuss possible scope changes to NFPA 25
- Discussions revolved around "wear and tear" vs. more thorough system evaluation
- Also discussed sprinkler performance

FPRF Workshop

- Our representatives put the "split" at approximately 75% in favor of keeping NFPA 25 like it is
- Most feel that changes are best handled by the fire code

Questions?

Thank You!

Jason Webb
Director of ITM
National Fire Sprinkler Association

webb@nfsa.org