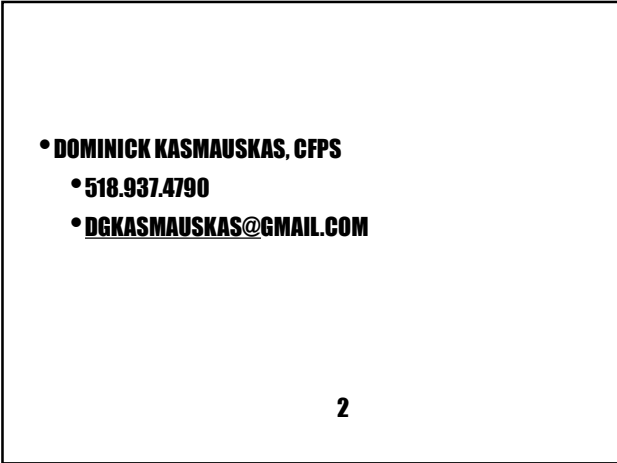
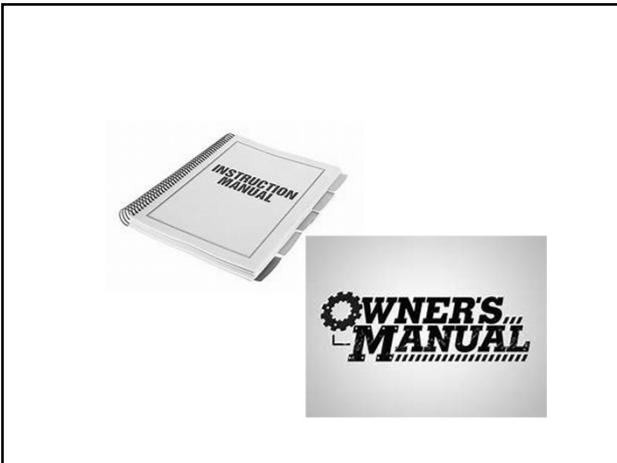


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WHAT GETS US TO NFPA 25?

- 2020 NYS FIRE CODE, CHAPTER 9
 - 901.6 "...SHALL BE INSPECTED.."
 - TABLE 901.6.1
 - WATER BASED FIRE PROTECTION SYSTEMS
 - NFPA 25 (2017 EDITION)

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WHAT GETS US TO NFPA 25?

- ILLINOIS LIFE SAFETY CODE
 - TITLE 41 ILLINOIS ADMIN CODE 100
 - NFPA 101 (2015 ED) EFF. 01JAN20
 - CHAPTER 9.11.1
 - "ALL..." SP AND FS SYSTEMS REQUIRED, ETC
 - NFPA 25 (2014 EDITION)
- IFC
 - CHAPTER 9
 - 901.6 "...SHALL BE INSPECTED.."
 - TABLE 901.6.1
 - WATER BASED FIRE PROTECTION SYSTEMS
 - NFPA 25



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NYSPMC 2020

- 2020 NYSPMC CHAPTER 7
 - EXCELLENT CHECKLIST OF WHAT NEEDS TO BE CHECKED
 - REVIEW INSPECTION, TESTING DOCUMENTS!!!

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MAKING ENTRY-

- SCHEDULE INSPECTIONS.
- VOLUNTARY COMPLIANCE OR "CONSENT" BY THE PROPERTY OWNER IS THE BEST.
- TEST FOR VALID CONSENT
 - AGE OF CONSENT
 - 18 YEARS OLD
 - MENTAL CAPACITY
 - COMPREHENSION

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NEXT UP~

- OVERVIEW OF NFPA 25
- KEY DEFINITIONS
- OWNERS RESPONSIBILITIES
- OBSTRUCTION INVESTIGATIONS
- IMPAIRMENT PROCEDURES
- OTHER ISSUES

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AHJ QUESTIONS

- WILL THE SYSTEM WORK?

- HOW DO WE KNOW?

- WHO IS RESPONSIBLE?

- WHY NFPA 25?

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WILL THE SYSTEM WORK?

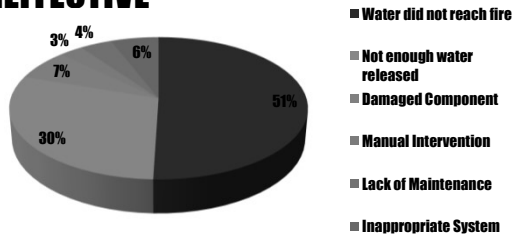
FIRE SPRINKLER SYSTEM SUCCESS RATE:

- PUBLIC ASSEMBLY – 96%
- EDUCATIONAL – 93%
- HEALTH CARE – 96%
- RESIDENTIAL – 98%
- STORE / OFFICE – 96%
- MANUFACTURING – 93%
- STORAGE – 79%
- ALL STRUCTURES – 96%*

10 - NFPA 2017 FACT SHEET-CONTROLLED 96% OF FIRES

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WHEN FIRE SPRINKLERS INEFFECTIVE

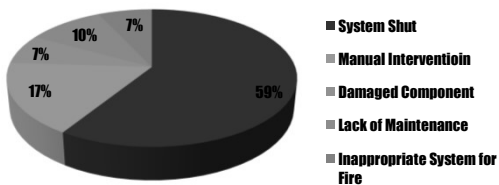


Source: U.S. Experience With Sprinklers. John R. Hall, Jr. NFPA Fire Analysis And Research, Quincy, MA, September 2017

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FIRE SPRINKLER SYSTEM FAILURE



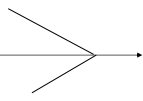
Source: U.S. Experience With Sprinklers. John R. Hall, Jr. NFPA Fire Analysis And Research, Quincy, MA, September 2017

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HOW DO WE KNOW?

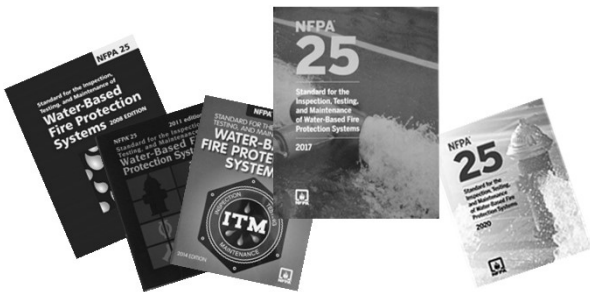
- INSPECTION
- TESTING
- MAINTENANCE
- REPORTS & MAINTAINING RECORDS~
 - WHERE ARE THE REPORTS?
 - WHO SEES THEM?



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NFPA 25



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CONTENTS

1. ADMINISTRATION
2. REFERENCED PUBLICATIONS
3. DEFINITIONS
4. GENERAL REQUIREMENTS
5. SPRINKLER SYSTEMS
6. STANDPIPE & HOSE SYSTEMS
7. PRIVATE FIRE SERVICE MAINS
8. FIRE PUMPS

15

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CONTENTS

9. WATER STORAGE TANKS

10. WATER SPRAY FIXED SYSTEMS

11. FOAM-WATER SPRINKLER SYSTEMS

12. WATER MIST SYSTEMS

13. VALVES, VALVE COMPONENTS AND TRIM

14. INTERNAL PIPING CONDITIONS & OBSTRUCTION INVESTIGATION

15. IMPAIRMENTS

16. SPECIAL REQUIREMENTS 16

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SCOPE

- TO WHAT DOES THE STANDARD APPLY
- JUST AS IMPORTANTLY, TO WHAT DOES IT NOT APPLY

17

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SCOPE

- ESTABLISHES MINIMUM REQUIREMENTS FOR PERIODIC INSPECTION, TESTING & MAINTENANCE
- REQUIRES COORDINATION WITH NFPA 72 REQUIREMENTS
- ADDRESSES THE TYPES OF SYSTEMS COVERED
- ASSUMES THE SYSTEM HAS BEEN PROPERLY INSTALLED

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SCOPE

- NOT INTENDED FOR ADDRESSING DESIGN DEFICIENCIES

- REQUIRES CORRECTIVE ACTION IN ACCORDANCE WITH THE APPROPRIATE DESIGN STANDARD

- DOES NOT APPLY TO 13D SYSTEMS*

- THE PURPOSE IS TO PROVIDE A REASONABLE DEGREE OF PROTECTION THROUGH MINIMUM ITM

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*EXCEPT AS NOTED IN SECTION 16.2

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SCOPE

- MAY USE OTHER TYPE ITM PROGRAMS
 - PROVIDE EQUIVALENT LEVEL OF PERFORMANCE
 - APPROVED BY THE AHJ

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SCOPE

- WHAT IS NOT IN THE STANDARD
 - REQUIREMENT FOR ENGINEERING JUDGMENT

 - REQUIREMENT FOR HAZARD ANALYSIS

 - REQUIREMENT FOR SYSTEM CERTIFICATION

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**1.2 PURPOSE SECTION
1.2.1**

•“...PROVIDE A REASONABLE THAT ENSURE A REASONABLE DEGREE OF PROTECTION FOR LIFE AND PROPERTY FROM FIRE THROUGH MINIMUM INSPECTION, TESTING AND MAINTENANCE METHODS FOR WATER-BASED FIRE PROTECTION SYSTEMS.”

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WHY NFPA 25

• CIGNA PROPERTY STUDY (1991)

• NFPA STATISTICS (2008)

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CIGNA PROPERTY STUDY

CIGNA SELECTED 368 HPR PROPERTIES TO SURVEY IN 1991

• HEALTH CARE, HOTEL, MERCANTILE, OFFICES (81)

• PETROCHEMICAL, MANUFACTURING (155)

• UTILITY, WAREHOUSE (110)

• OTHER (22)

DEFICIENCIES FOUND IN 202 OF THE PROPERTIES!

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CIGNA PROPERTY STUDY

PROBLEM AREAS

- **DESIGN DEFICIENCIES (92)**
- **FIRE PUMP PROBLEMS (66)**
- **WATER SUPPLY DEFICIENCIES (52)**
- **WATER SUPPLY VALVES SHUT (29)**

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APPLICATION

- **OTHER ITM PROGRAMS PERMITTED**
- **EQUIVALENT LEVEL OF SYSTEM INTEGRITY AND PERFORMANCE**
- **AHJ APPROVAL REQUIRED**

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KEY DEFINITIONS

- **INSPECTION**
- **TESTING**
- **MAINTENANCE**
- **ITM SERVICE**
- **DEFICIENCY (CRITICAL / NON-CRITICAL)**
- **IMPAIRMENT**
- **QUALIFIED**

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DEFINITIONS

- **FREQUENCIES IN NFPA 25 ARE CRITICAL TO THE ITM CONCEPT**
- **CLARIFICATIONS WERE ADDED ESTABLISHING MINIMUM AND MAXIMUM ELAPSED TIMES**

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DEFINITIONS

- **3 YEARS – *ONCE EVERY 36 MONTHS, WITH A MINIMUM OF 30 MONTHS AND A MAXIMUM OF 40 MONTHS.***
- **5 YEARS – *ONCE EVERY 60 MONTHS WITH A MINIMUM OF 54 MONTHS AND A MAXIMUM OF 66 MONTHS.***

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DEFINITIONS

- **WEEKLY FREQUENCY - *ONCE PER CALENDAR WEEK.***
- **MONTHLY FREQUENCY - *ONCE PER CALENDAR MONTH.***
- **QUARTERLY FREQUENCY - *FOUR TIMES PER YEAR WITH A MINIMUM OF 2 MONTHS, MAXIMUM OF 4 MONTHS.***

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DEFINITIONS

- SEMIANNUAL FREQUENCY - *TWICE PER YEAR WITH A MINIMUM OF 4 MONTHS, MAXIMUM OF 8 MONTHS.*
- ANNUAL FREQUENCY - *ONCE PER YEAR WITH A MINIMUM OF 9 MONTHS, MAXIMUM 15 MONTHS.*

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CHAPTER 4

- RESPONSIBILITY OF OWNER OR DESIGNATED REP.
- IMPAIRMENTS
- CORRECTIVE ACTIONS
- RECORDS (WHERE ARE THEY?)
- INSPECTION
- TESTING
- MAINTENANCE

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OWNER OR DESIGNATED REP.

- SYSTEM INSPECTION, TESTING AND MAINTENANCE
- BUILDINGS
- ACCESSIBILITY
- NOTIFICATIONS
- CORRECTIONS AND REPAIRS
- CHANGES
 - OCCUPANCY, USE, PROCESS, MATERIALS

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WHAT IS NOT IN THE STANDARD

- REQUIREMENT FOR ENGINEERING JUDGMENT

- REQUIREMENT FOR HAZARD ANALYSIS

- REQUIREMENT FOR SYSTEM CERTIFICATION

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CHAPTERS 5-13

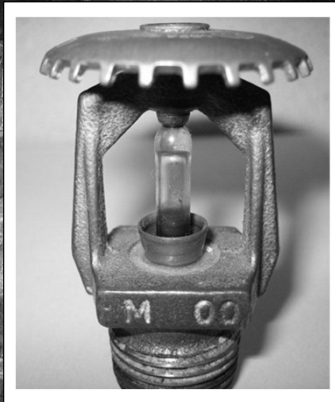
- GENERAL REQUIREMENTS
 - OVERVIEW TABLE
- INSPECTION REQUIREMENTS
- TESTING REQUIREMENTS
- MAINTENANCE REQUIREMENTS
- COMPONENT ACTION REQUIREMENTS
 - OVERVIEW TABLE

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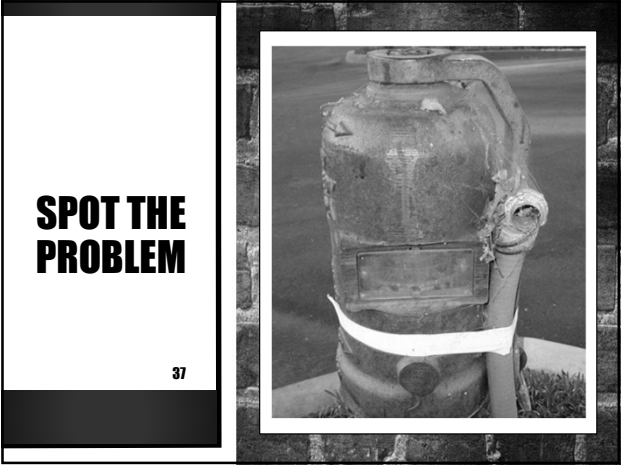
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SPOT THE PROBLEM

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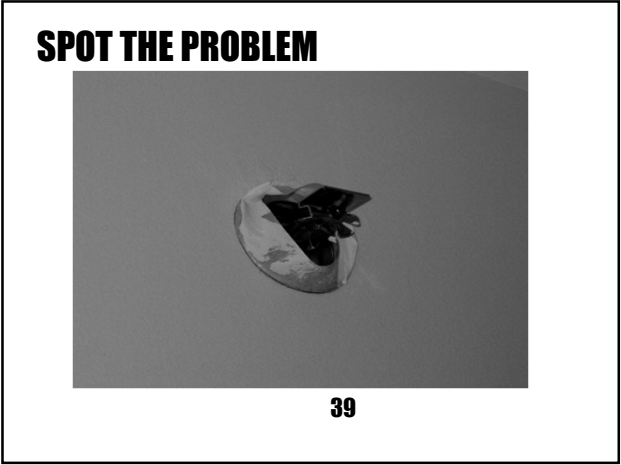
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CHAPTER 14

- OBSTRUCTION INVESTIGATION
 - INTERNAL INSPECTION OF PIPING
 - OBSTRUCTION INVESTIGATION AND PREVENTION
 - ICE OBSTRUCTION

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OBSTRUCTION INVESTIGATION



08/13/2010 10:25

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OBSTRUCTION INVESTIGATION



08/13/2010 10:25

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OBSTRUCTION INVESTIGATION



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CHAPTER 15

• IMPAIRMENTS

- IMPAIRMENT COORDINATOR
- TAG IMPAIRMENT SYSTEM
- IMPAIRED EQUIPMENT
- PREPLANNED IMPAIRMENTS
- EMERGENCY IMPAIRMENTS
- RESTORING SYSTEM TO SERVICE

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CHAPTER 16 – SPECIAL REQUIREMENTS 16.2



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RESIDENTIAL BOARD & CARE

- CHAPTER 16 ADDED TO BRING IN ITM REQUIREMENTS FROM OTHER NFPA STANDARDS
- 2014, 2017, 2020 EDITIONS, ONLY THE ITM REQUIREMENTS FROM NFPA 101 DEALING WITH 13D SYSTEMS IN "SMALL" RES. BOARD AND CARE FACILITIES ARE INCLUDED

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RESIDENTIAL BOARD & CARE

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

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RESIDENTIAL BOARD & CARE

- BUILDINGS ARE TO BE INSPECTED *ANNUALLY* PRIOR TO FREEZING WEATHER TO ENSURE ADEQUATE HEAT IN AREAS CONTAINING WATER-FILLED PIPE

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RESIDENTIAL BOARD & CARE

- REPRESENTATIVE SAMPLES OF FAST-RESPONSE SPRINKLERS TESTED ONCE THEY ARE 20 YEARS OLD
 - IF THE SAMPLE FAILS, ALL SPRINKLERS REPRESENTED SHALL BE REPLACED
 - IF THEY PASS, RE-TEST AT 10-YEAR INTERVALS

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RESIDENTIAL BOARD & CARE

- REPRESENTATIVE SAMPLES OF DRY-PENDANT SPRINKLERS TESTED ONCE THEY ARE 10 YEARS OLD
 - IF THE SAMPLE FAILS, ALL SPRINKLERS REPRESENTED SHALL BE REPLACED
 - IF THEY PASS, RE-TEST AT 10-YEAR INTERVALS

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RESIDENTIAL BOARD & CARE

- ANTI-FREEZE SOLUTIONS TESTED ANNUALLY
- CONTROL VALVES OPERATED THROUGH FULL-RANGE ANNUALLY
- OS&Y STEM LUBRICATED ANNUALLY
- DRY PIPE SYSTEMS THAT EXTEND INTO UN-HEATED AREAS ITM PER 13.4.4

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ANNEX B

- ATTEMPT TO BRING MANDATORY FORM INTO STANDARD
- WILL APPEAR AS ANNEX GUIDANCE IN 2017 ED.
- NO PARTICULAR "FORM" BUT MINIMUM INFORMATION RECOMMENDATIONS



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OTHER ISSUES

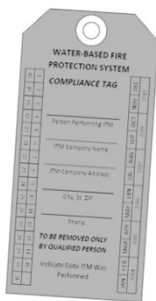
- SYSTEM TAGGING
- LICENSING REGULATIONS
- ENFORCEMENT AND REPORTING

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ANNEX G

- COLOR-CODED TAGGING GUIDANCE
- INTENDED TO BRING CONSISTENCY
- 4-COLOR SYSTEM WITH "REPAIR TAGS"



COMPLIANT	NON-CRITICAL DEFICIENCIES	CRITICAL DEFICIENCIES	IMPAIRMENTS
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REVIEW:

1. NFPA 25 SCOPE: WHO "SHALL BE RESPONSIBLE FOR PROPERLY MAINTAINING"?
 - 4.1.1 PROPERTY OWNER OR DESIGNATED REPRESENTATIVE
2. DOES NFPA25 REQUIRE LICENSING?
 - NO. REQUIRES "QUALIFIED".
3. DOES NFPA25 REQUIRE INSPECTION REPORTS TO BE FORWARDED TO AHJ?
 - NO. 4.3.3 "RECORDS SHALL BE MAINTAINED BY PROPERTY OWNER"

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REVIEW:

4. NFPA 25 REQUIRES WATER-FILLED PIPES TO BE MAINTAINED AT A MINIMUM TEMPERATURE OF ___?
 - SECTION "4.1.2 FREEZE PROTECTION", 40 DEG. F
5. WHERE ARE THE MINIMUM POLICIES FOR IMPAIRMENTS FOR...
 - FCNYS2020? "901.7 SYSTEMS OUT OF SERVICE"
 - NFPA25 (2017 ED)? CHAPTER 15
6. ARE COLOR CODED TAGS REQUIRED BY NFPA 25 OR FCNYS2020?
 - NO. ONLY IMPAIRMENT TAGS ARE REQUIRED AT THIS TIME.

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REVIEW:

7. NFPA 25 IS A DESIGN DOCUMENT?
 - NO. SECTION 1.1.3.1 "THIS STANDARD DOES NOT REQUIRE THE INSPECTOR TO VERIFY THE ADEQUACY OF THE DESIGN OF THE SYSTEM."

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