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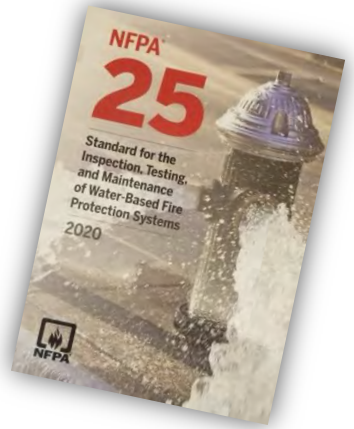
2020 NFPA 25 UPDATE



40th Annual FPC Seminar + Expo

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LEARNING OBJECTIVES

1. Review important changes to the 2020 edition of NFPA 25
2. Evaluate the impact of these changes to inspection and testing technicians
3. Discuss reason for changes

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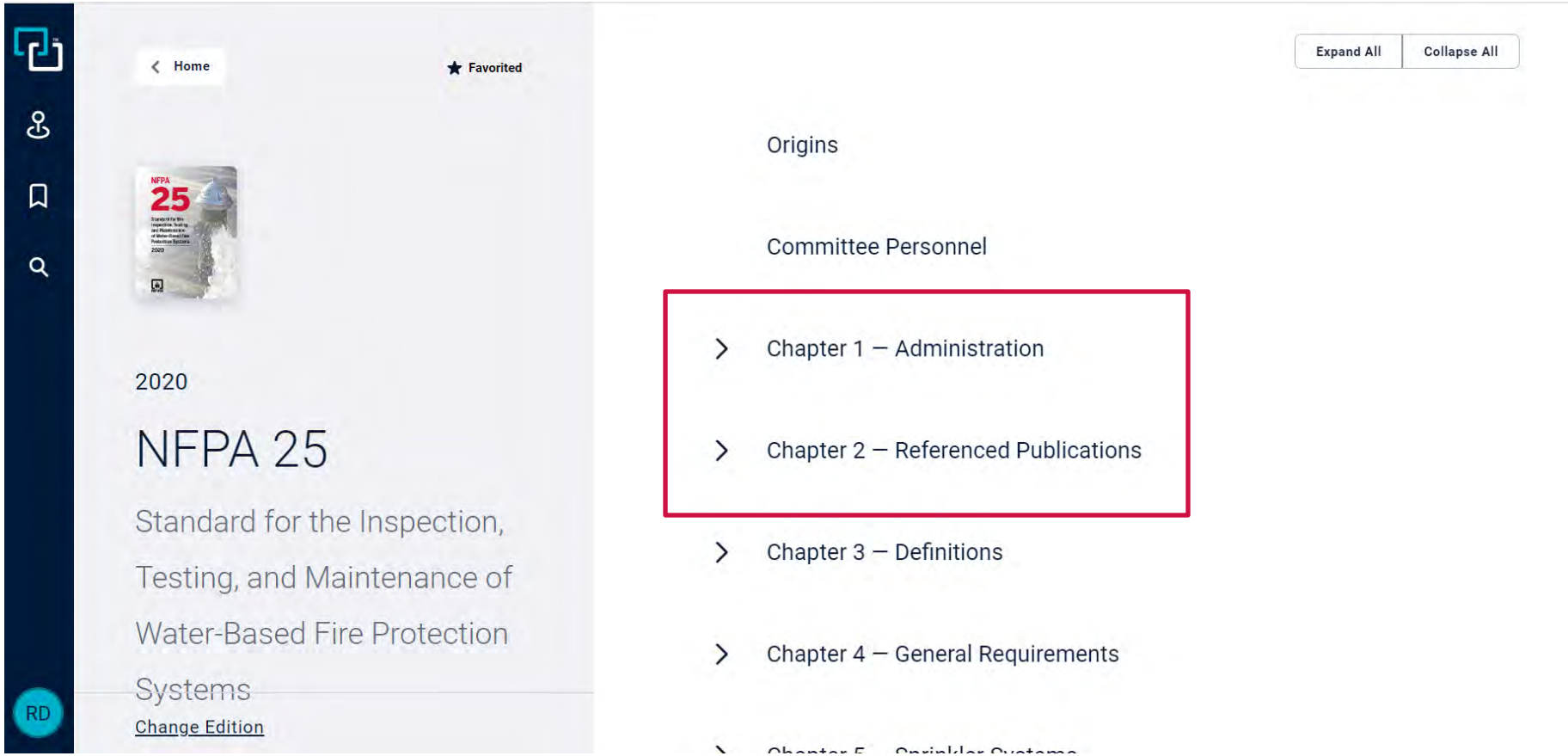
“ORIGINS”

- Every NFPA Document has a history page



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SIMPLIFICATION

- Corrected tables (hopefully)
- Changes to text. e.g., replaced check with inspect
- Electrical portions of preaction and deluge covering NFPA 72 requirements in chapter 1

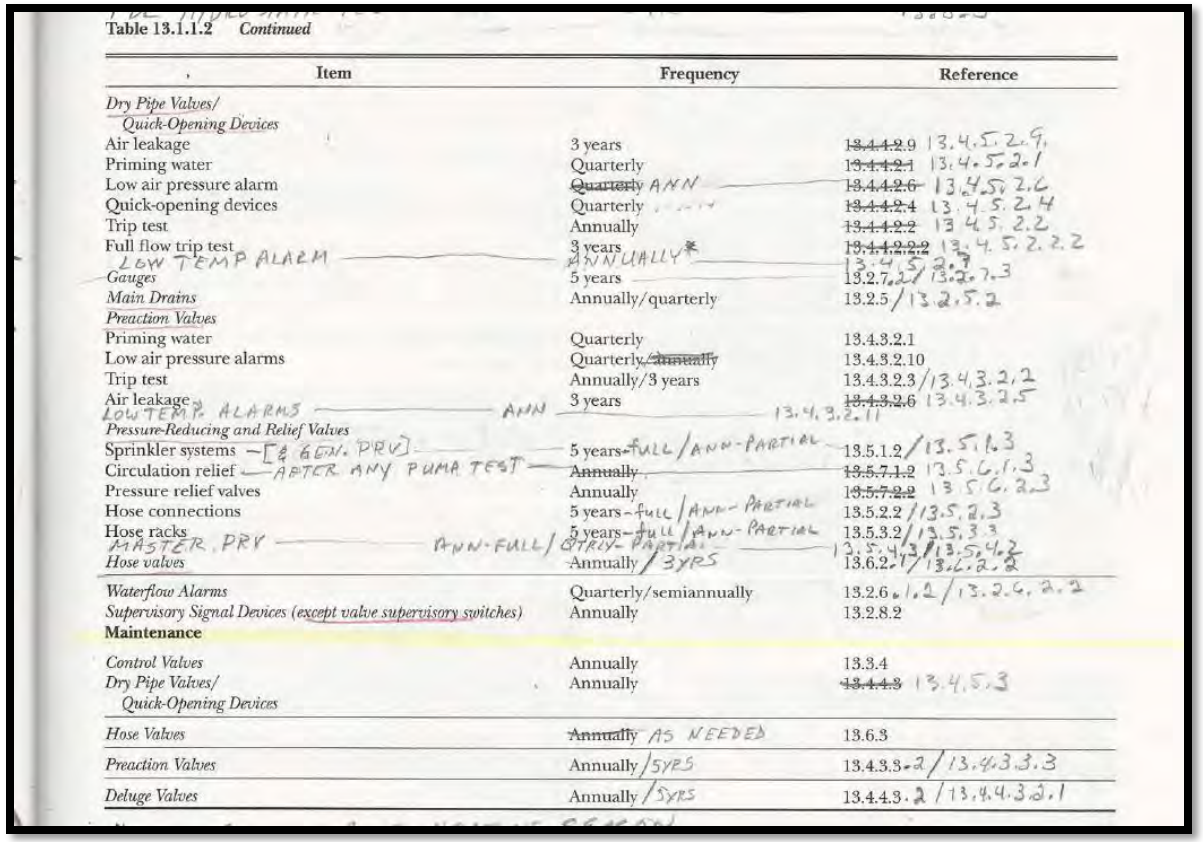

Table 13.1.1.2 *Continued*

Item	Frequency	Reference
Dry Pipe Valves/ Quick-Opening Devices		
Air leakage	3 years	~~13.4.4.2.9~~ 13.4.5.2.9
Priming water	Quarterly	~~13.4.4.2.1~~ 13.4.5.2.1
Low air pressure alarm	~~Quarterly~~ ANN	~~13.4.4.2.6~~ 13.4.5.2.6
Quick-opening devices	Quarterly	~~13.4.4.2.4~~ 13.4.5.2.4
Trip test	Annually	~~13.4.4.2.2~~ 13.4.5.2.2
Full flow trip test	3 years	~~13.4.4.2.2.2~~ 13.4.5.2.2.2
LOW TEMP ALARM	ANNUALLY*	13.4.5.2.7
Gauges	5 years	13.2.7.2 / 13.2.7.3
Main Drains	Annually/quarterly	13.2.5 / 13.2.5.2
Preaction Valves		
Priming water	Quarterly	13.4.3.2.1
Low air pressure alarms	Quarterly ~~/annually~~	13.4.3.2.10
Trip test	Annually/3 years	13.4.3.2.3 / 13.4.3.2.2
Air leakage	3 years	~~13.4.3.2.6~~ 13.4.3.2.5
LOW TEMP. ALARMS — ANN	13.4.3.2.11	
Pressure-Reducing and Relief Valves		
Sprinkler systems — [2 GEN. PRV]	5 years-FULL/ANN-PARTIAL	13.5.1.2 / 13.5.1.3
Circulation relief — AFTER ANY PUMA TEST	~~Annually~~	~~13.5.7.1.2~~ 13.5.6.1.3
Pressure relief valves	Annually	~~13.5.7.2.2~~ 13.5.6.2.3
Hose connections	5 years-FULL/ANN-PARTIAL	13.5.2.2 / 13.5.2.3
Hose racks	5 years-FULL/ANN-PARTIAL	13.5.3.2 / 13.5.3.3
MASTER PRV — ANN-FULL/QTRLY-PARTIAL		13.5.4.3 / 13.5.4.2
Hose valves	Annually / 3YRS	13.6.2.1 / 13.6.2.2
Waterflow Alarms	Quarterly/semiannually	13.2.6.1.2 / 13.2.6.2.2
Supervisory Signal Devices (except valve supervisory switches)	Annually	13.2.8.2
Maintenance		
Control Valves	Annually	13.3.4
Dry Pipe Valves/ Quick-Opening Devices	Annually	~~13.4.4.3~~ 13.4.5.3
Hose Valves	~~Annually~~ AS NEEDED	13.6.3
Preaction Valves	Annually / 5YRS	13.4.3.3.2 / 13.4.3.3.3
Deluge Valves	Annually / 5YRS	13.4.4.3.2 / 13.4.4.3.2.1

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CHAPTER 3 DEFINITIONS

Definition Additions

- **Automated Inspection and Testing**-allows inspection and tests at a distant location
- **Electrically Operated Sprinkler**- sprinkler equipped with an integral means of activation
- **Variable Speed Pump-** variable speed pressure limiting control or self-regulating.
- **Lowest Permissible Suction Pressure-** what is permitted by this standard and AHJ

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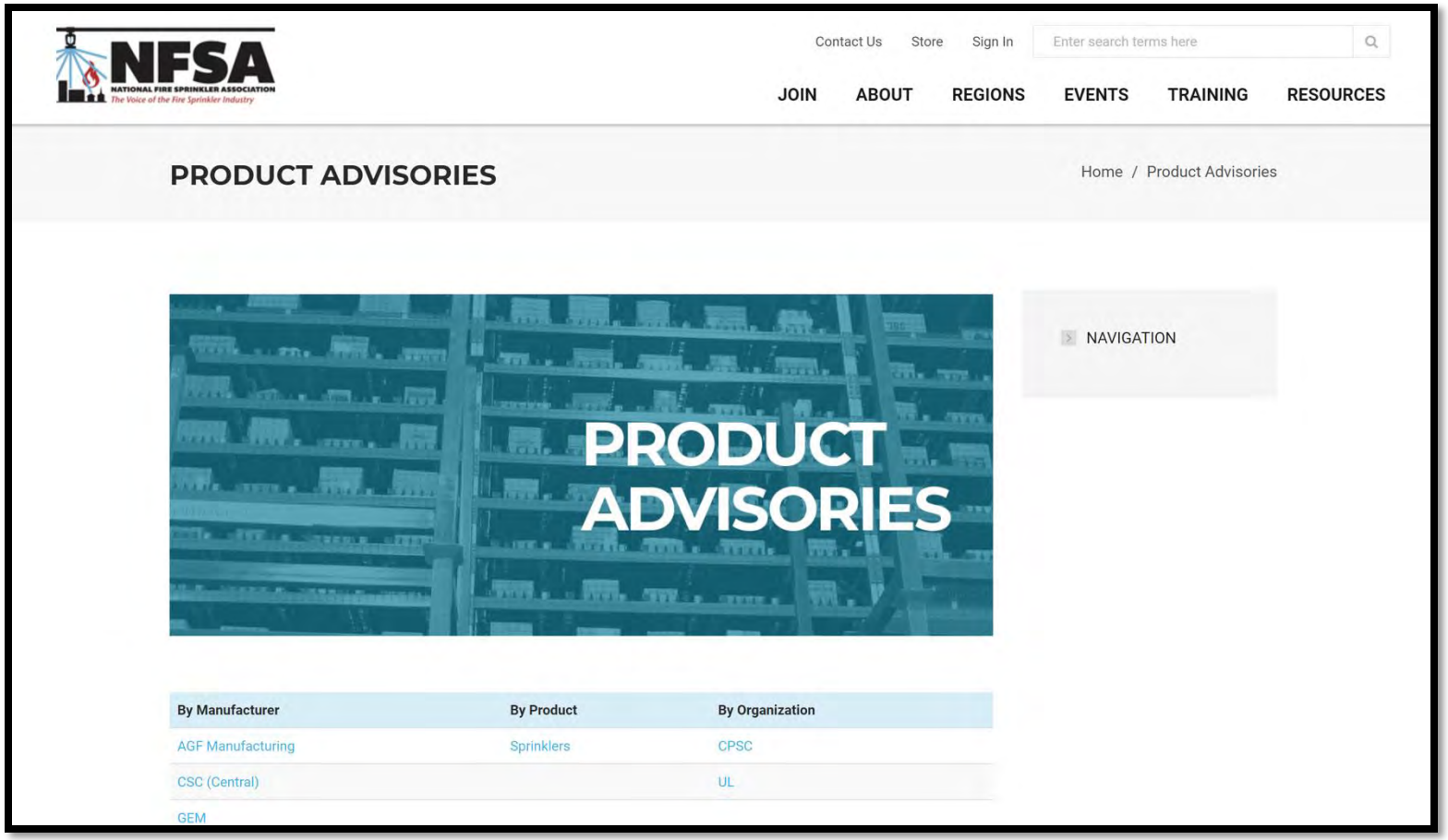
CHAPTER 4-OWNER AND GENERAL REQUIREMENTS

- Moved valve enclosure inspections to owner section
- Added recall or replacement programs
- Automated testing



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CHAPTER 5-SPRINKLER SYSTEMS

- Sprinkler 50-year testing requirement
  - Changed from in service to installed
- Dry sprinkler testing every 15 years
  - 20 years in 2023
- Corrosion resistant sprinklers in harsh environment-10 years
- Added electronic sprinklers

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UL FIELD TESTING

2019 UL Field Sprinkler Test Results Summary	
Sprinkler Type	**Percent of Tested Samples With Normal Operation**
Wet Type QR (no ESFR or O-rings)	**98.9%**
Wet Type QR (no ESFR or O-rings) >25 years	97.1%
Wet Type SR (no O-rings)	**97.4%**
Wet Type SR (no O-rings) >75 years	95.5%
Wet Type SR (no O-rings) >50 to ≤75 years	97.3%
Wet Type SR (no O-rings) >25 to ≤50 years	97.8%
ESFR without O-rings	**90.0%**
Dry Type without O-rings	**98.9%**
Wet Type with O-rings	**71.1%**
Dry Type with O-rings	**49.3%**

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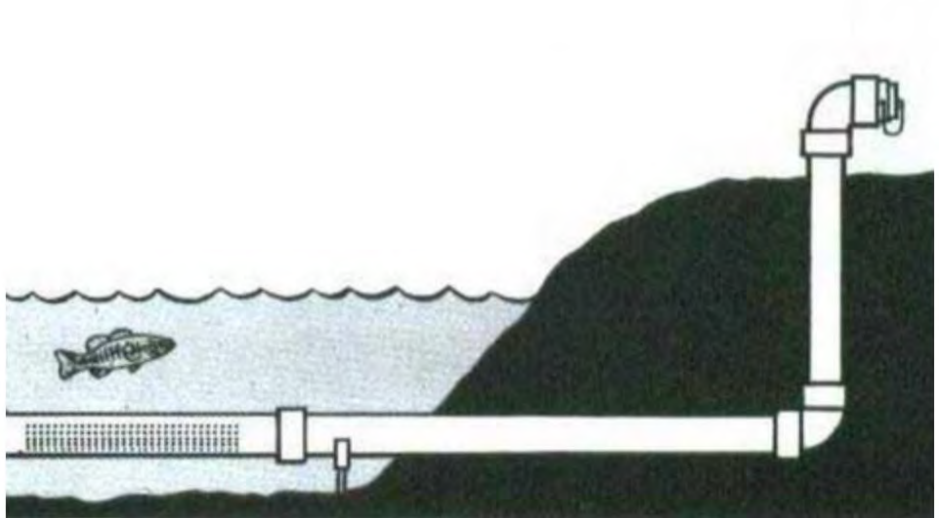
CHAPTER 7-PRIVATE FIRE SERVICE MAINS

- Dry Barrel and Wall Hydrant
  - Corrosion detrimental to hydrant integrity
- Dry hydrant
  - Dry hydrant surveys for water supply
  - Paint hydrant risers to protect from UV
  - Annual flow test with approved pump
  - Dry hydrants quarterly inspection



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DRY HYDRANTS

Dry hydrant installations are included as part of water storage cisterns/tanks and should be included in this standard. Additionally, the standard currently includes criteria for ITM for manual dry standpipe systems which are similar in usage by Fire Department Personnel to a dry hydrant. New requirements were extracted from NFPA 1142 added in Chapter 7 on dry hydrants.

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CHAPTER 8 FIRE PUMPS

- Electrical connection inspection without opening energized controller
- Changed from checked to inspect
- Added isolation switch allowance to work in controller
- Fuel filter replacement requirements
  - 50 hours of use or annually

CHAPTER 8

- Replacement of coupling
  - Elastomeric (torsional) material 5-year replacement
- Personnel do not need to be present for pump run
  - Allows for remote visual operation
  - Qualified personnel must be able to respond to abnormal conditions within 5 minutes (2023 allows 4 hours)

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CHAPTER 8

- Variable speed pumps
  - Conduct normal annual flow test (churn,100,150)
  - Test variable speed function (churn,25,50,75,100,125,150)

CHAPTER 8

- **Δ 8.3.7.2.3** The fire pump test results shall be considered acceptable if all of the following conditions are satisfied:
  - (1) Fire pump meets the flow and pressure requirements of the most demanding system(s) being supplied by the fire pump based on owner-provided system design information
  - (2)* Fire pump supplies 100 percent of rated flow
  - (3)* The net pressure at each flow point is at least 95 percent of one of the following:
    - (a) Original manufacturer's pump curve
    - (b) Original unadjusted field test curve
    - (c) Test curve generated from the fire pump nameplate

CHAPTER 8

- **Δ 8.3.7.2.4*** The following actions shall be required upon failure to meet the criteria in 8.3.7.2.3:
- (1) The owner shall be notified in writing of the unacceptable test results.
- (2) An investigation shall be conducted into the cause of the unacceptable test results.
- (3) Failure to provide the maximum system demand shall be deemed an impairment.
- (4)Excessive vibration and/or excessively worn or loose components shall be deemed a deficiency.
- (5) Degraded performance that still provides the maximum system demand shall be deemed a noncritical deficiency.
- (6) The owner shall be notified in writing of corrections completed.

CHAPTER 9 & 11

- Tank shall be at full or at design level

- Foam sample testing to manufacture or qualified laboratory

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CHAPTER 12 WATER MIST

- Most additions of all chapters
- Open nozzles shall be removed, inspected, and cleaned during the flushing procedure for the mainline strainer.
- Individual water mist nozzle strainers and filters shall be inspected and cleaned after each operation or flow test.
- Several inspection requirements regarding damage, corrosion, etc. on pipe, hangers and other components.

CHAPTER 12

- Cylinders for proper securement
  - Quarterly inspections for gas cylinders
    - Complete visual every 5 years in accordance with CGA C-6
  - Annual for high pressure cylinders
  - Must have a tag and suitable inspection report

- Reports must be retained by owner for life of the system.
- Pressure in electronically supervised cylinders inspected semi-annually
- Pressure in non supervised cylinders inspected monthly

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CHAPTER 12

- Water levels
  - Supervised-semiannually
  - Unsupervised-Monthly
- Water Quality-inspected, drained, and flushed annually (water recirculation tanks)
- Water supply
  - pressure inspected quarterly
  - Quality inspected semiannually for first year then annually thereafter

CHAPTER 12

- Open nozzles
  - Environments with residues, corrosive atmospheres, or corrosive water supply. Replaced or representative samples annually
    - Discusses sample testing requirements
    - 1% or 4 per sample

- Annual operational testing of initiating devices in accordance with NFPA 72
- Provides testing requirements
  - Hoses
  - Interlocks
  - Valves
  - Solenoids
  - Pumps

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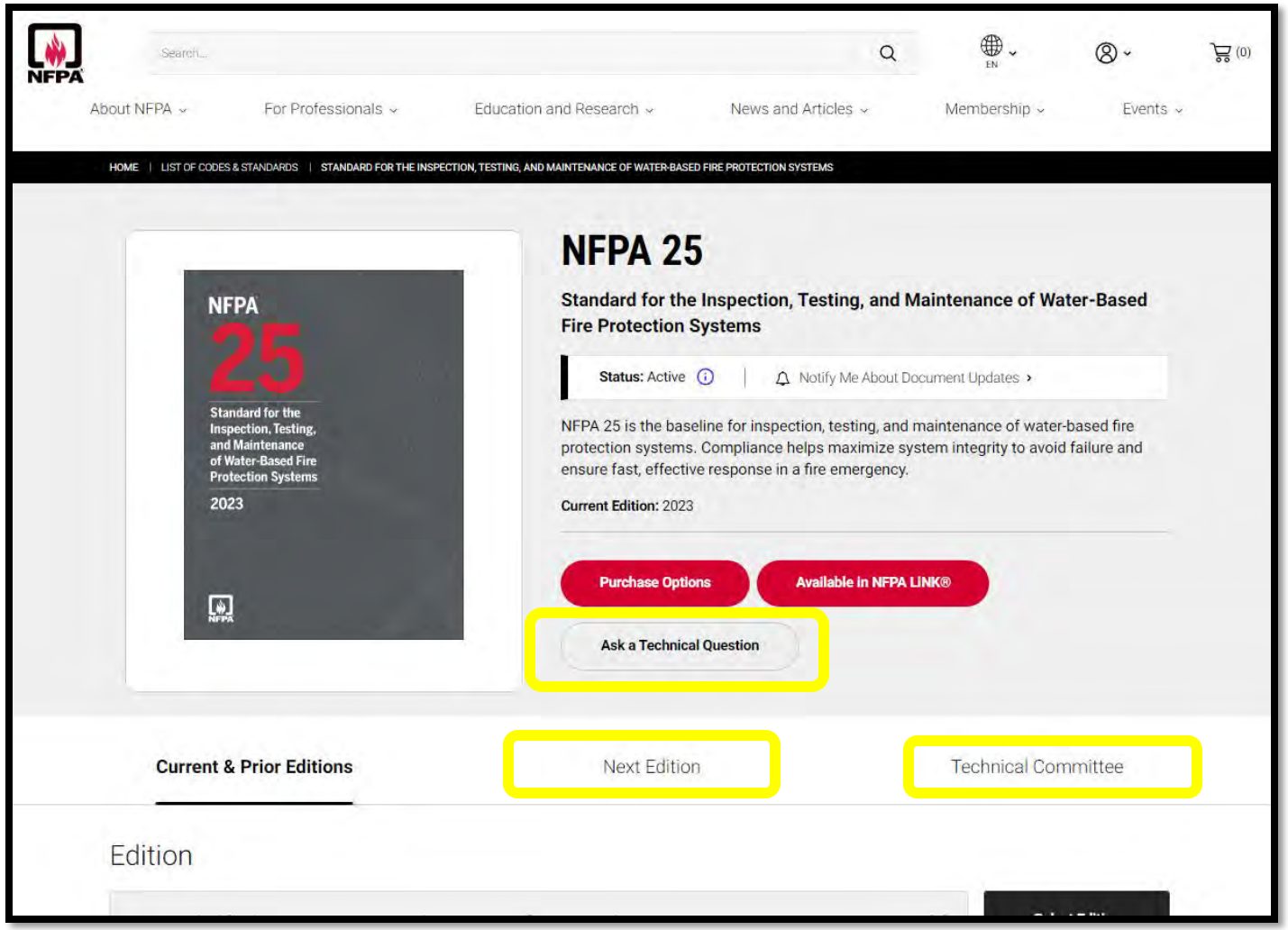
CHAPTER 13-COMMON COMPONENTS AND VALVES

- Water flow alarms
  - Mechanical, 5-minute audible alarm
  - Electronic, 90 seconds at device

- Air Compressors and Nitrogen Generator requirements
  - Inspections-piping, damage, anchoring and oil level
  - Testing- Annually for operation, restoration of air in proper time, does not overheat



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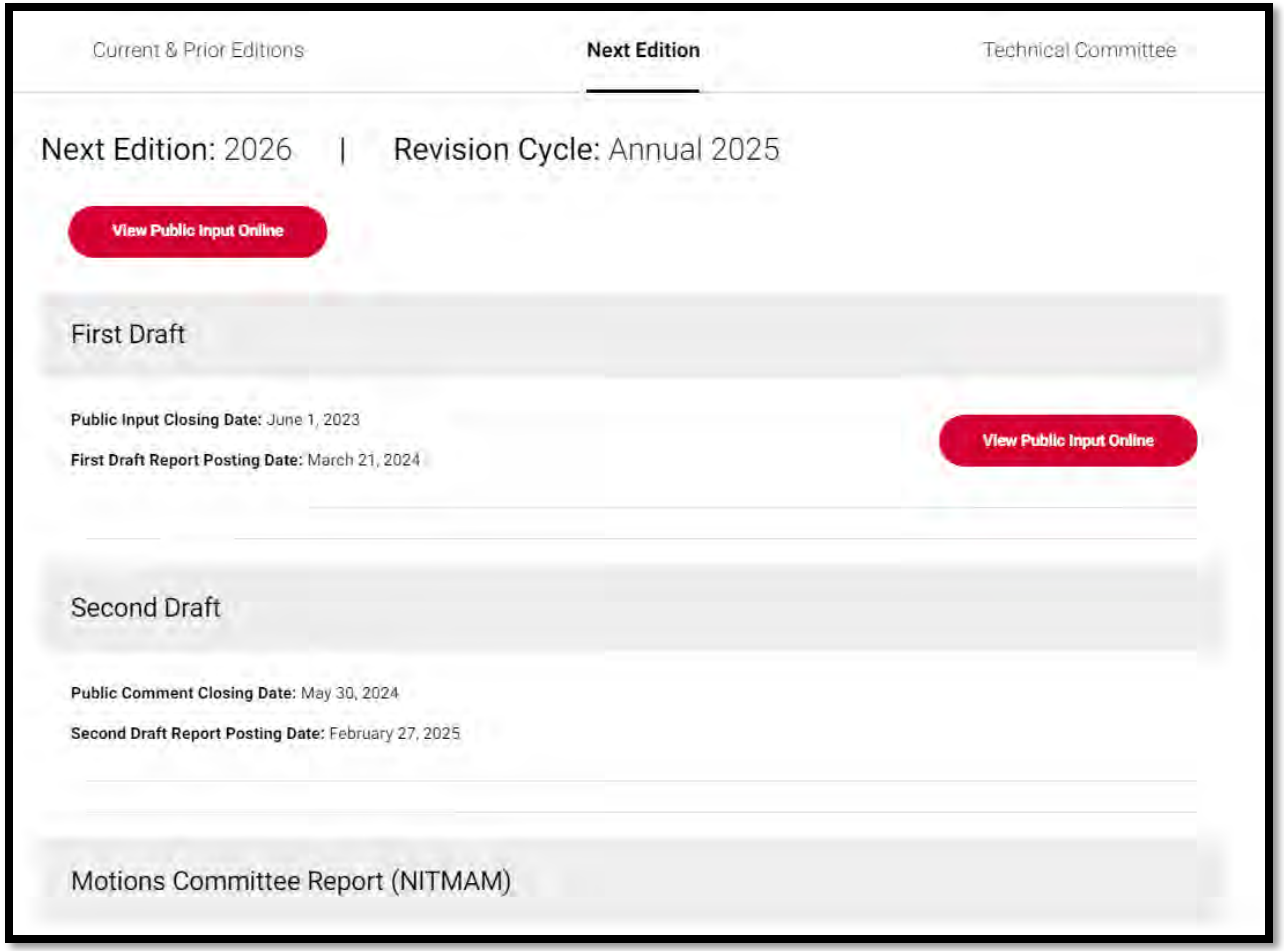

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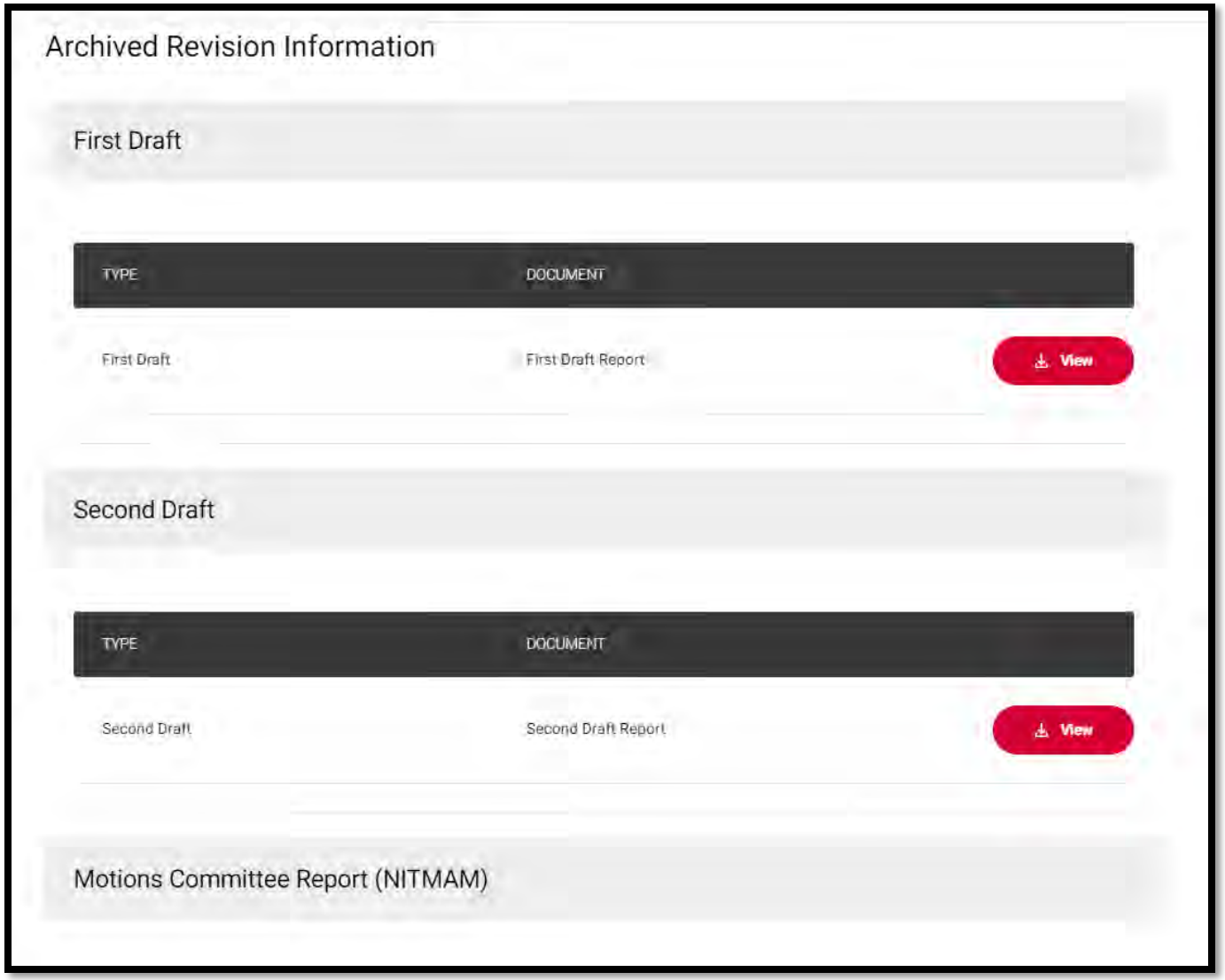

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FREE ACCESS TO VIEW CHANGES

- Check local requirements
- Verify statutory changes
- Browse free publications

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Q&A

Any questions?

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