

NFPA 25-2026 Edition

Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems

TIA Log No.: 1944

Reference: 5.2.1.6(new), 5.4.1.1(5)(new), Annex J(new)

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www.nfpa.org/25

1. Add a new paragraph 5.2.1.6 and associated Annex text to read as follows:

5.2.1.6 Sprinkler Recall Status Inspection.

5.2.1.6.1* The sprinkler list required by 5.4.1.6.6 shall be inspected annually for sprinklers that are under a recall issued by the Consumer Product Safety Commission (CPSC), or the sprinkler manufacturer.

5.2.1.6.2 Sprinklers identified as subject to a recall shall be replaced.

5.2.1.6.3 Sprinkler systems, or portions thereof, found to contain recalled sprinklers shall be considered impaired.

A.5.2.1.6.1 See Annex J for examples of sprinklers applicable to this section.

2. Add a new item (5) to paragraph 5.4.1.1 and associated Annex text to read as follows:

5.4.1.1 – Replacement Sprinklers.

...

(5)* Sprinklers identified as recalled during the inspection outlined in 5.2.1.6 (*see also, A.5.2.1.6.1*).

3. Add a new Annex J to read as follows:

Annex J Recalled Fire Sprinklers

J.1 General. Table J.1.1 contains examples of sprinklers that are subjected to mandatory and voluntarily recalls.

Table J.1.1 Recalled Fire Sprinklers

<u>Program/ Recall</u>	<u>Brand</u>	<u>Models Affected</u>	<u>Years Affected</u>	<u>Reason/Notes</u>
<u>Voluntary Replacement Program</u>	<u>Central (Dry)</u>	<u>A-1, GB, GB4-EC, ELO- 16 GB, H-1, GB-QR, GB4-QREC, ELO-16 GB FR, J, GB4, ELO-231 GB, K, GB4-FR, ELO-GB QR</u>	<u>1970s–2001</u>	<u>Dynamic O-ring seal design is prone to corrosion or degradation, potentially preventing operation.</u>
<u>Omega Recall</u>	<u>Central (Omega Series)</u>	<u>C1, C1A, C-1A PRO, R-1, R-1A, R-1M, Flow Control (FC), Protector-M / M Protector, HEC-12, EC-12 RES, EC-20, EC-20A, Prohibitor QR, AC</u>	<u>All years</u>	<u>Defective sealing design. Recommended replacement with Belleville washer- type seal.</u>

				<u>Sprinklers delisted by UL (Recall No. 01-201).</u> <u>Replacement sprinklers were not affected.</u>
<u>Voluntary Replacement Program</u>	<u>Central (Wet)</u>	<u>GB, GB4-FR, GB-R1, BB2, ELOC, ELO-GB QR, GB-J, GB4-EC, GB-RS, BB3, ESLO, LD, GB-1, GB4-QREC, GB-R, SD1, ELO SW-20, K17-231, GB-ALPHA, GB-20, ROC, SD2, ELO SW-24, Ultra K17, GB4, GB-20 QR, BB1 17/32, SD3, ESLO-20 GB, ELO-16 GB, GB-QR, GB-LO, BB2 17/32, HIP, ELO-231 GB, GB MULTILEVEL, GBR-2, LF, BB3 17/32, WS, ELO-GB, GB-QR MULTI-LEVEL, GBEC, GBR, BB1, ELO-LH, ELO-231 GBQR, ELO-16 GB FR</u>	<u>1989–2000</u>	<u>Dynamic O-ring seal design is prone to corrosion or degradation, potentially preventing operation.</u>
<u>Voluntary Replacement Program</u>	<u>Gem (Wet)</u>	<u>F927</u>	<u>1995–2001</u>	<u>Dynamic O-ring seal design is prone to corrosion or degradation, potentially preventing operation.</u>
<u>Global Recall</u>	<u>Globe (dry)</u>	<u>Model J</u>	<u>All years</u>	<u>O-ring deterioration can cause sprinkler to weld shut and fail to discharge water.</u>
<u>Voluntary Replacement Program</u>	<u>Star (Dry)</u>	<u>ME-1, SG, SG-QR, Q, Q-QR</u>	<u>1996–1998</u>	<u>Dynamic O-ring seal design is prone to corrosion or degradation,</u>

				<u>potentially preventing operation.</u>
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Substantiation: This Tentative Interim Amendment (TIA) addresses a continuing and imminent life-safety hazard associated with the widespread presence of recalled fire sprinklers that remain installed in existing buildings decades after multiple manufacturer and Consumer Product Safety Commission (CPSC) recall actions.

Certain wet and dry sprinklers utilizing dynamic O-ring water seal constructions were subject to major recalls affecting Central Sprinkler Company, Omega, Star, and Gemini brands. Based on industry testing and subsequent standards action, Underwriters Laboratories (UL) identified that degradation, sticking, and material transfer of O-ring seals could inhibit sprinkler operation under fire conditions. As a result of these findings, UL sprinkler standards were revised to prohibit the use of O-ring water seal constructions, with an effective manufacturing cutoff date of January 9, 2003.

Despite the age of these recalled sprinklers, large quantities remain installed in existing buildings. CPSC data indicate that major O-ring recalls affected tens of millions of sprinklers nationally (e.g., approximately 35 million under Central's 2001 program alone, plus earlier Omega and limited Gem/Star models), with only partial replacements documented. Consequently, recalled sprinklers are expected to remain in service across thousands of buildings, including occupancies serving vulnerable populations.

Field sprinkler testing data from UL Solutions, along with recent field-service testing results from Dyne Fire Protection Labs, demonstrate a pronounced disparity in operating performance between sprinklers incorporating O-ring water seals and those without such seals. UL's long-running field-testing program shows normal operation in approximately 63–71 percent of tested wet sprinklers with O-ring seals and approximately 44–49 percent of tested dry sprinklers with O-ring seals, compared to normal operation rates consistently exceeding 95 percent for sprinklers without O-ring water seals across multiple sprinkler types and service ages. Complementing this, Dyne's 2024–2025 field-service testing aggregates indicate that sprinklers utilizing O-ring water seal designs (still present in approximately 4–5% of submissions) continue to exhibit failure rates exceeding 50 percent when evaluated against applicable operational performance criteria. These findings demonstrate that the defect mechanism associated with O-ring water seals presents a materially elevated risk of failure that is not present in non-O-ring sprinkler designs.

NFPA 25 currently relies on visual inspection and age-based representative sample testing to assess sprinkler condition and performance. However, the defects associated with recalled O-ring sprinklers are internal and are not detectable through visual inspection from floor level. While NFPA 25 includes testing requirements for certain quick-response sprinklers at 20 or 25 years in service, these provisions do not require verification of recall status and are dependent upon complete records, correct sprinkler classification, and consistent implementation. As demonstrated by recent fatal and near-fatal fire incidents, these conditions are frequently absent in older systems, allowing recalled sprinklers to remain in service and appear compliant under existing inspection and testing frameworks.

In July 2025, a fatal fire occurred at the Gabriel House assisted living facility in Fall River, Massachusetts, resulting in the deaths of ten residents. The incident represents the deadliest fire in the Commonwealth of Massachusetts in more than four decades and underscores the severity

of the hazard posed by undetected recalled sprinkler components in existing occupancies. Post-incident inspections identified recalled Central GB-series O-ring sprinklers installed within the building. Subsequent targeted inspections conducted by the Fall River Fire Department and a neighboring jurisdiction identified additional recalled sprinklers remaining in service at multiple properties, further demonstrating that current NFPA 25 requirements do not reliably identify recalled components.

These findings are cited to illustrate the persistence of recalled sprinklers in service and the limitations of current inspection practices, not to assign causation in any specific incident.

NFPA 25 presently contains no explicit requirement to verify sprinkler recall status during inspection, testing, or maintenance activities. Without such a requirement, owners, inspection agencies, and Authorities Having Jurisdiction (AHJs) lack a systematic mechanism to identify and mitigate the continued presence of recalled sprinklers known to exhibit elevated failure rates under fire conditions.

This TIA closes a critical gap in NFPA 25 by establishing a requirement for periodic verification of sprinkler recall status using available inventory records and identification methods. The proposed change does not mandate new testing protocols or blanket replacement but instead ensures that existing recall determinations issued by manufacturers and safety authorities are identified and addressed within the inspection and maintenance process.

Emergency Nature: The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.

Recalled sprinklers incorporating O-ring water seal constructions constitute a continuing and imminent life-safety hazard to building occupants, particularly in sleeping occupancies and facilities housing elderly persons, individuals with disabilities, or residents with limited mobility. UL field-testing data indicate that sprinklers with O-ring seals exhibit normal operation in only approximately 63–71 percent (wet) and 44–49 percent (dry) of tested samples—substantially below the greater than 95 percent normal operation rates observed for non-O-ring sprinkler designs—supporting the presence of a latent defect mechanism capable of preventing activation during a fire event. The Gabriel House fire on July 13, 2025, which resulted in ten fatalities at an assisted living facility in Fall River, Massachusetts, demonstrates that recalled sprinklers may remain installed for decades without visible indicators of impairment and may fail to operate during an actual fire despite apparent compliance with NFPA 25 inspection and testing requirements. Post-incident inspections confirmed the presence of recalled Central GB-series O-ring sprinklers within the building, with similar recalled units later identified in additional local properties. Because current NFPA 25 provisions do not require verification of sprinkler recall status, similar conditions may exist undetected in other buildings nationwide. The facts demonstrate that this risk is ongoing, but preventable. Absent corrective action, there is another Gabriel House tragedy waiting to happen, and this proposed TIA is intended to prevent it before it does. This TIA meets the emergency nature criteria as follows: (a) The document contains an omission that results in a serious life-safety hazard by permitting the continued acceptance of recalled sprinkler components known to exhibit elevated failure risks. (b) The document, without revision, allows inspection and testing practices that are not capable of identifying known defective sprinkler components with elevated failure rates. (c) Recent field-testing data from UL Solutions and Dyne Fire Protection Labs, combined with findings from the July 2025 Gabriel House fatal fire incident, indicate that recalled sprinklers can remain in service and fail to operate under fire conditions without detection through existing inspection and testing methods. (d) The proposed change directly impacts the prevention of injury and loss of life by requiring the

identification and mitigation of recalled sprinklers using existing recall determinations issued by manufacturers and safety authorities. This TIA is narrowly tailored, immediately implementable using available records and identification methods, does not mandate new testing or wholesale replacement, and is necessary to prevent the continued exposure of building occupants to a known and documented sprinkler performance hazard.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number, state whether you SUPPORT or OPPOSE the TIA along with your comment, and forward to the Secretary, Standards Council. [SUBMIT A COMMENT](#)