What is NFPA 1850?

MSA The Safety Company

NFPA is consolidating separate NFPA 1851 and 1852 standards into a single combined standard – NFPA 1850 – to end the patchwork of separate rules for turnout gear (garments, helmets, gloves, footwear and hoods) and SCBA in terms of their selection, care and maintenance. The unification streamlines guidelines for PPE and SCBA, ensuring consistent practices across fire departments.



NFPA 1850 is a consolidated standard combining:

- NFPA 1851: Selection, Care, and Maintenance of Protective Ensembles for Structural and Proximity Firefighting
- NFPA 1852: Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)

KEY CHANGES & REQUIREMENTS

1. New department roles

Quick take: The standard creates two dedicated positions – personal protective clothing (PPC) manager and PPC technician – to administer and service PPE programs. These roles are distinct from the manufacturer-trained technician for SCBA.

PPC Manager: Oversees protective gear programs.

PPC Technician: Handles detailed maintenance and repairs. May be one individual or multiple individuals, or a collateral position depending on the department and its resources.

SCBA: The above roles contrast with a Respirator Protection Equipment Technician, which is an individual trained and qualified by the SCBA manufacturer to perform inspection, repair and testing beyond permitted "user" repairs.

2. Enhanced cleaning and sanitization/disinfection protocols

Quick take: The new standard permits machine cleaning for more clothing elements with wash temperatures that can reach 120°F but with detergents with a pH between 6.0 and 9.5 and water hardness levels below 60 ppm.

- **Cleaning methods:** Machine cleaning promoted for other clothing items including helmets, gloves and footwear as well as SCBA.
- **Washing temperature:** Advanced cleaning will now permit wash temperature up to 120°F (compared to the earlier limit of 105°F). The limit for specialized cleaning remains at 140°F for difficult-to-remove soils and certain forms of contamination. Higher wash temperatures are expected to be more effective in removing contaminants.
- **Detergent pH range:** Maximum undiluted pH lowered from 10.5 to 9.5; new acceptable range of 6.0 to 9.5.
- **Water quality:** Regular monitoring of water hardness levels (must be 60 ppm or lower).
- **Contamination types:** Separate new considerations provided to judge whether structure fires involving lithium-ion battery contents warrant specialized cleaning.
- **SCBA care:** Organizations required to develop more detailed information on preliminary exposure reduction, routine cleaning and disinfection and advanced cleaning of SCBAs as part of department standard operating procedures (SOPs).

3. Selection and service life of turnout gear and SCBA

- **Gear selection:** New criteria to consider restricted substances and consider prewashing gear before being issued.
- **Gear retirement:** Remains unchanged at 10 years past date of clothing item manufacture. Earlier retirement warranted if when not possible to properly decontaminate or economically repair damage.
- **SCBA lifespan:** Specific service life specified by edition of standard to which SCBA was certified; caveats to extend service life depending on having at least two upgrades to new editions for older SCBA.

Quick take: Structural and proximity turnout gear must still be retired 10 years after manufacture. SCBAs keep a 15-year baseline life but may remain in service up to 20 years with approved upgrades and maintenance.

4. Contaminant removal verification (gear only)

Quick take: Verified cleaners must demonstrate at least 50% removal of specific chemicals and 99.9% reduction of certain bacteria using streamlined test procedures with publicly reported results. Optional protocols now let departments confirm removal of PAHs and PFAS, and check that repeated washing does not erode protective performance.

- **Current gear requirement:** 50% removal efficiency for semi-volatile organic chemicals and heavy materials during advanced cleaning plus sanitization that achieves 99.9% reduction of two common persistent bacteria are applied to verified independent service providers (ISPs), verified cleaners, manufacturers, and organizations that choose to become verified).
- **Revamped test procedures:** Procedures for evaluating chemical and biological contamination levels updated and simplified for ease of use and greater consistency.
- **Greater disclosure:** Certification organization must now report all verification results for each verified facility.
- **Optional categories:** Tests added for verifying removal of a large list of polycyclic aromatic hydrocarbons (PAHs) and per- and polyfluoroalkyl substances (PFAS) from gear.
- **Cleaning impact on clothing:** Standardized procedures added for ISPs to demonstrate that repeated cleaning does not reduce gear performance properties.

5. Inspection and repair

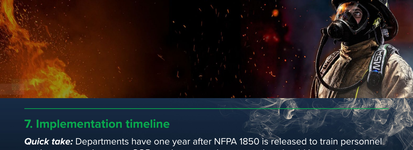
Quick take: Routine checks now include particulate-blocking hoods and other new components and PPC technicians get clearer repair limits. Departments must also expand SOPs with detailed SCBA inspection and repair steps.

- **Gear:** New light-based test for advanced inspection of particulate-blocking hoods; advanced inspection to be performed by trained individuals; unused gear to have advanced inspection at least every 3 years.
- **SCBA:** Additional instruction to inspect facepiece for clarity of lens, loss of lens integrity or other degradation; organizations required to specify more detail for SCBA as part of SOPs.

6. Handling, storage and transportation

Quick take: Clean gear must be stored away from contaminated items; bagging and handling procedures prescribed to prevent cross-contamination in transit. These controls apply equally to PPE and SCBA assemblies.

- **Universal precautions:** More detailed requirements for use of gloves, aprons, and respirators when handling soiled gear.
- **Storing & transporting gear:** Different instructions provided for on duty gear, off duty gear and for transport to cleaning facility or ISP to prevent unnecessary exposure and cross contamination. Optional protocols now let departments confirm removal of PAHs and PFAS, and check that repeated washing does not erode protective performance.



7. Implementation timeline

Quick take: Departments have one year after NFPA 1850 is released to train personnel on the new requirements. SOPs and program documentation should be updated relatively soon after the standard issues.

- **Promulgation:** The new edition is expected to have an issue date in early September 2025.
- **Verification:** ISPs, verified cleaners/manufacturers and organizations that have previously been verified to NFPA 1851 have 2 years to complete their new verification to NFPA 1850.
- **Training:** Departments must provide training to their members on all procedures for gear within one year of standard issuance.
- **Overall Compliance:** While no specific grace period is provided, fire departments should update SOPs to align with new requirements soon after the promulgation date.



Summary

The proposed NFPA 1850 standard introduces significant updates to the selection, care and maintenance of firefighter PPE and SCBA. It emphasizes enhanced cleaning protocols, defined departmental roles and modified equipment service life. These changes aim to improve firefighter safety and equipment longevity.

For more information, visit NFPA.org

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