

NFPA 1850

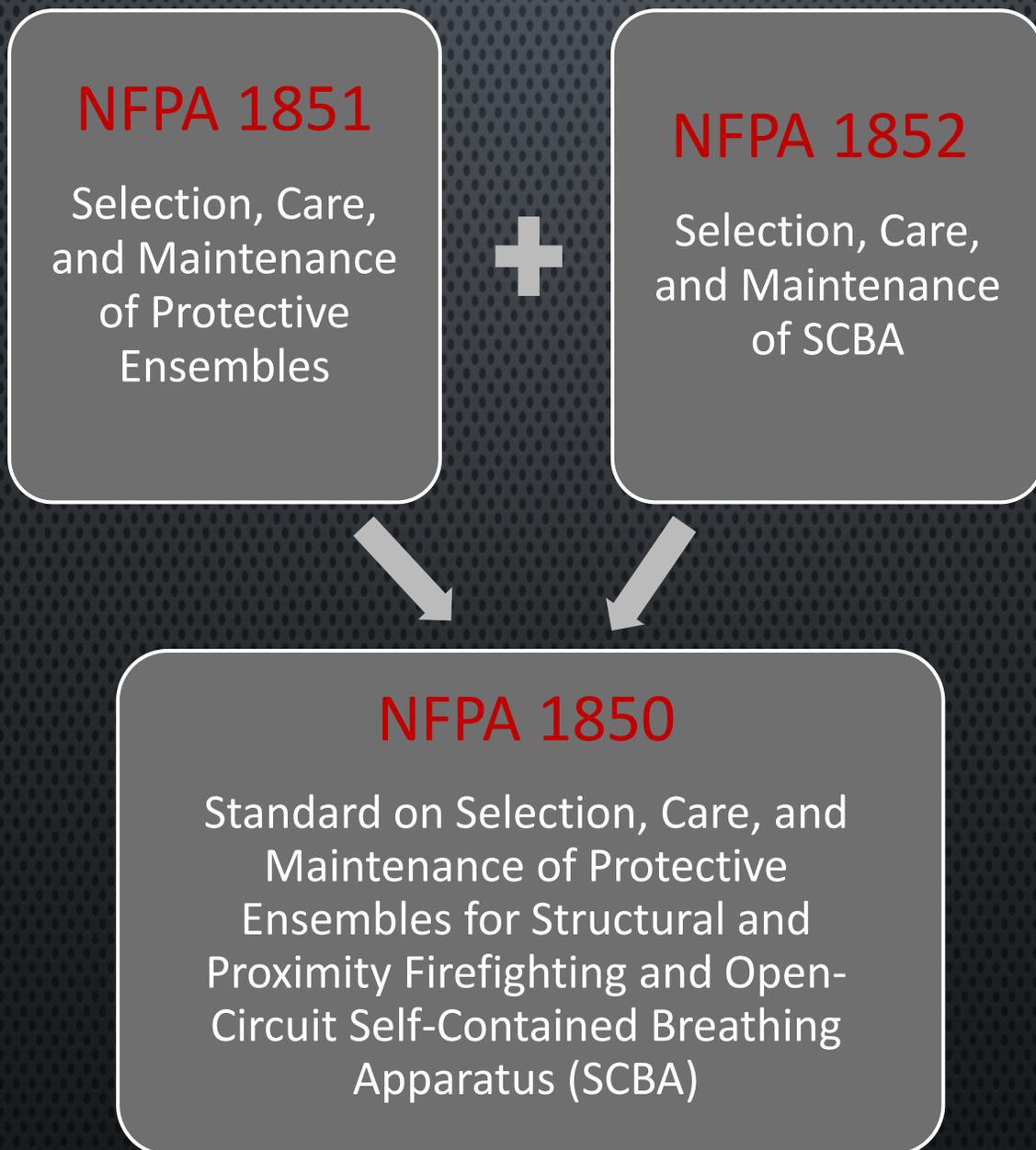
SUMMARY OF CHANGES

COMPILED BY THE OAFSC HEALTH & SAFETY
COMMITTEE

What is NFPA 1850?

NFPA 1850 is a single new standard that consolidates NFPA 1851 and NFPA 1852. This new standard aims to harmonize procedures and provide a comprehensive, standardized approach to all firefighter personal protective equipment (PPE) and Self-Contained Breathing Apparatus (SCBA) management.

The new standard introduces several critical changes focused on firefighter health and safety



NFPA 1850 - Key Updates

CHAPTER 3 – DEFINITIONS

3.3 GENERAL DEFINITIONS

- ADDITION OF '**PRELIMINARY EXPOSURE REDUCTION**' (**PER**) – TECHNIQUES FOR REDUCING SOILING AND CONTAMINATION LEVELS ON THE EXTERIOR OF THE ENSEMBLE OR ENSEMBLE ELEMENT AND SCBA FOLLOWING INCIDENTS OPERATIONS TO MINIMIZE SPREAD OF CONTAMINATION
- ADDITION OF '**CONTAMINATION/CONTAMINATED**' – THE PRESENCE OR ACCUMULATIONS TO PRODUCTS OF COMBUSTIONS OR OTHER HAZARDOUS MATERIALS ON OR IN PROTECTIVE CLOTHING AND EQUIPMENT INCLUDING, BUT NOT LIMITED TO, CARCINOGENIC, TOXIC, CORROSIVE, OR ALLERGY-CAUSING CHEMICALS; BODY FLUIDS; INFECTIOUS MICROORGANISMS; OR CBRN TERRORISM AGENTS

CHAPTER 4 – PROTECTIVE ENSEMBLES SELECTION, CARE AND MAINTENANCE PROGRAM

4.2.4 THE ORGANIZATION, AS PART OF THE PPE PROGRAM, SHALL APPOINT A PERSONAL PROTECTIVE CLOTHING (PPC) MANAGER

- **PERSONAL PROTECTIVE CLOTHING (PPC) MANAGER:** OVERSEES PROTECTIVE GEAR PROGRAMS

4.2.4.1 RESPONSIBILITY FOR CLEANING, INSPECTION, AND MAINTENANCE OF PPC SHALL BE ASSIGNED TO THE PPC MANAGER, ONE OR MORE PPC TECHNICIANS, A VERIFIED ISP, OR A COMBINATION THEREOF

- **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.

THE NEW STANDARD CREATES TWO DEDICATED POSITIONS TO ADMINISTER AND SERVICE PPE PROGRAMS; THESE ROLES ARE DISTINCT FROM THE MANUFACTURER-TRAINED TECHNICIAN FOR SCBA (ALSO SEE ANNEX E)

THE NEW STANDARD CREATES TWO DEDICATED POSITIONS TO ADMINISTER AND SERVICE PPE PROGRAMS, THESE ROLES ARE DISTINCT FROM THE MANUFACTURER-TRAINED TECHNICIAN FOR SCBA

4.6. PROTECTING THE PUBLIC AND PERSONNEL FROM EXPOSURE TO CONTAMINATED PPE

- ORGANIZATION NEEDS TO PUT AN SOP IN PLACE THAT MINIMIZES THE PUBLICS AND THE FIRE DEPARTMENT PERSONNEL'S EXPOSURE TO SOILED OR CONTAMINATED STRUCTURAL OR PROXIMITY FIREFIGHTING PROTECTIVE ENSEMBLES AND ENSEMBLE ELEMENTS
- MORE DIRECTION ON WHEN TO USE UNIVERSAL PRECAUTIONS (ALSO SEE ANNEX A)



CHAPTER 5 –PROTECTIVE ENSEMBLES SELECTION

5.1 SELECTION AND PURCHASE

- FIRE DEPARTMENTS ARE REQUIRED TO CONDUCT A RISK ASSESSMENT EVERY TWO YEARS (OR WHEN CIRCUMSTANCES CHANGE) TO INFORM THEIR PPE SELECTION, INCLUDING CONSIDERING THE NEED FOR A SECOND SET OF GEAR (ALSO SEE ANNEX D)

CHAPTER 6 – PROTECTIVE ENSEMBLES CLEANING AND DECONTAMINATION

6.1.3.5 LITHIUM-ION BATTERY (LIB) AND MOBILE AND STATIONARY ENERGY STORAGE SYSTEM DECONTAMINATION ACTIONS

- SEPARATE NEW CONSIDERATIONS PROVIDED TO JUDGE WHETHER STRUCTURE FIRES INVOLVING LITHIUM-ION BATTERY CONTENTS WARRANT SPECIALIZED CLEANING

6.2 PRELIMINARY EXPOSURE REDUCTION

- THIS CONCEPT IS INTRODUCED IN THIS NEW EDITION INCLUDING THE NEED TO DEVELOP INITIAL ON SCENE CLEANING PROCEDURES

6.3 ADVANCED CLEANING

- ADVANCED MACHINE CLEANING OF ENSEMBLES IS REQUIRED AT LEAST EVERY 6 MONTHS, RESULTING IN A MINIMUM OF TWO ADVANCED CLEANINGS IN A 12-MONTH PERIOD, WITH ONE OF THOSE ADVANCED CLEANINGS OCCURRING AT THE TIME OF ANNUAL ADVANCE INSPECTION
- THE WASHER/EXTRACTOR SHALL BE PROGRAMMABLE WITH CONTROLLED TEMPERATURE, WATER LEVELS, AND CYCLE TIMES; TOP-LOADING MACHINES SHALL NOT BE USED
- THE WASHER/EXTRACTOR SHALL NOT HAVE A G-FORCE THAT EXCEEDS 100G
- SPECIFIC DEFAULT MACHINE CLEANING PROCEDURES MAY BE ESTABLISHED FOR GARMENTS, HOODS, AND TEXTILE-BASED HELMET COMPONENTS
- CONSIDER ADVANCED CLEANING BEFORE PUTTING NEW GEAR INTO SERVICE
- MILD DETERGENT MUST BE WITHIN PH LEVELS OF 6.0 TO 9.5, UNDILUTED
- WILL NOW PERMIT WASH TEMPERATURE UP TO 49°C (120°F) (COMPARED TO THE EARLIER LIMIT OF 105°F).
- ENSEMBLES SHOULD BE DRIED BY AIR, CABINET, OR A NO-HEAT DRYER
- REGULAR MONITORING OF WATER HARDNESS LEVELS (MUST BE 60 PPM OR LOWER)
- ALLOWANCE OF ALTERNATE CLEANING METHODS (OTHER THAN WATER WASH) HAVE BEEN ADDED
- MACHINE CLEANING PROMOTED FOR OTHER CLOTHING ITEMS INCLUDING HELMETS, GLOVES AND FOOTWEAR AS WELL AS SCBA FOLLOWING GUIDELINES

6.5 SPECIALIZED CLEANING

- NEW SECTIONS ADDRESS SPECIALIZED CLEANING FOR CONTAMINANTS LIKE ASBESTOS, FENTANYL, AND BED BUGS. PLACEHOLDERS HAVE ALSO BEEN INCLUDED TO ADDRESS CONTAMINANTS FROM LITHIUM-ION BATTERY FIRES AS RESEARCH EVOLVES.
- WHERE DEEMED APPROPRIATE FOR THE PURPOSE OF SPECIALIZED CLEANING OF GARMENT ELEMENTS, A MAXIMUM WASHER/EXTRACTOR WATER TEMPERATURE SHALL BE PERMITTED TO 60°C (140°F) FOR THOSE ENSEMBLES OR ENSEMBLE ELEMENTS THAT ARE SPECIFIED FOR ADVANCED CLEANING USING A WASHER/EXTRACTOR OR OTHER MACHINE-BASED CLEANING TECHNOLOGIES

CHAPTER 7 – PROTECTIVE ENSEMBLES INSPECTION



7.3 ADVANCED INSPECTION

- NEW INSPECTION PROVISIONS FOR PARTICULATE-BLOCKING HOODS HAVE BEEN ADDED
- ADDITIONAL INFORMATION ON ANNUAL INSPECTION TESTS FOR HOODS, GLOVES AND BOOTS

7.4 COMPLETE LINEAR INSPECTION

- COMPLETE LINER INSPECTIONS, INCLUDING HYDROSTATIC TESTING OF THE MOISTURE BARRIER, ARE NOW REQUIRED ANNUALLY

CHAPTER 9 – PROTECTIVE ENSEMBLES STORAGE

9.1 General Storage of Ensembles and Ensemble Elements

- CLEARER RULES ARE ESTABLISHED FOR THE STORAGE OF GEAR (ON-DUTY, OFF-DUTY, OR IN TRANSPORT) TO MINIMIZE ONGOING EXPOSURE TO PERSONNEL, INCLUDING THE MANDATE THAT CONTAMINATED GEAR OR SCBA SHALL BE PLACED IN A PROTECTIVE CASE OR BAG AND STORED OUTSIDE THE MAIN PASSENGER COMPARTMENT WHERE POSSIBLE DURING TRANSPORT



CHAPTER 10 – PROTECTIVE ENSEMBLES RETIREMENT, DISPOSITION, AND SPECIAL INCIDENT PROCEDURE

10.1 RETIREMENT

- THE MAXIMUM 10-YEAR SERVICE LIFE FROM DATE OF MANUFACTURE FOR STRUCTURAL FIREFIGHTING ENSEMBLE ELEMENTS REMAINS IN EFFECT, EARLIER RETIREMENT WARRANTED IF WHEN NOT POSSIBLE TO PROPERLY DECONTAMINATE OR ECONOMICALLY REPAIR DAMAGE.

CHAPTER 11 – VERIFICATION OF ORGANIZATIONS AND ISPS FOR INSPECTION, CLEANING, AND REPAIR OF PROTECTIVE ENSEMBLES

11.1 GENERAL

- MORE RIGOROUS REQUIREMENTS HAVE BEEN PUT IN PLACE FOR MANUFACTURERS, INDEPENDENT SERVICE PROVIDERS (ISPs), AND VERIFIED CLEANING ORGANIZATIONS TO PROVE THE EFFECTIVENESS OF THEIR CLEANING PROCESSES IN REMOVING CONTAMINANTS (E.G., PAHs, HEAVY METALS), THOUGH THIS DOES NOT APPLY TO FIRE DEPARTMENTS CLEANING THEIR OWN GEAR IN-HOUSE

11.2 VERIFICATION PROGRAM

- PROCEDURES FOR EVALUATING CHEMICAL AND BIOLOGICAL CONTAMINATION LEVELS UPDATED AND SIMPLIFIED FOR EASE OF USE AND GREATER CONSISTENCY
- CERTIFICATION ORGANIZATION MUST NOW REPORT ALL VERIFICATION RESULTS FOR EACH VERIFIED FACILITY
- MINIMUM REQUIRED CONTAMINATION REMOVAL IS 50%
- TESTS ADDED FOR VERIFYING REMOVAL OF A LARGE LIST OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) AND PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) FROM GEAR.
- STANDARDIZED PROCEDURES ADDED FOR ISPs TO DEMONSTRATE THAT REPEATED CLEANING DOES NOT REDUCE PERFORMANCE PROPERTIES OF GEAR

CHAPTER 13 – PROTECTIVE ENSEMBLES TEST PROCEDURES



13.1 LIGHT EVALUATION OF HOOD PARTICULATE-BLOCKING LAYERS

- ROUTINE CHECKS NOW INCLUDE PARTICULATE-BLOCKING HOODS AND OTHER NEW COMPONENTS, PPC TECHNICIANS GET CLEARER REPAIR LIMITS
- 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.

CHAPTER 14 – RESPIRATORY PROTECTION PROGRAM

14.4 SCBA SELECTION, CARE, AND MAINTENANCE PROGRAM COMPONENT

- DEPARTMENTS MUST EXPAND SOPs WITH DETAILED SCBA INSPECTION AND REPAIR STEPS AS WELL AS DEVELOP MORE DETAILED INFORMATION ON PRELIMINARY EXPOSURE REDUCTION, ROUTINE CLEANING AND DISINFECTION AND ADVANCED CLEANING OF SCBAs
- NEWLY PURCHASED PPE AND SCBA MUST BE COMPLIANT WITH CURRENT EDITION OF NFPA 1970
- THE STANDARD MAY INCLUDE REQUIREMENTS FOR SCBA SOFT GOODS (HARNESSES, ETC.) TO BE MORE EASILY REMOVABLE FOR THOROUGH CLEANING



14.5 UPGRADES AND RETIREMENT

- SPECIFIC SERVICE LIFE OF SCBA IS 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
- SCBAs KEEP A 15-YEAR BASELINE LIFE BUT MAY REMAIN IN SERVICE UP TO 20 YEARS WITH APPROVED UPGRADES AND MAINTENANCE

CHAPTER 16 – RESPIRATORY PROTECTION EQUIPMENT CARE

16.2 PRELIMINARY EXPOSURE REDUCTION

- PRELIMINARY EXPOSURE REDUCTION SHOULD BE CARRIED OUT IMMEDIATELY AFTER LEAVING THE HOT ZONE FOR SCBA EXPOSED TO PRODUCTS OF COMBUSTION



16.3 ADVANCED CLEANING

- MECHANICAL SCBA WASHING SHALL BE PERMITTED WHERE THE SCBA MANUFACTURER HAS VERIFIED COMPATIBILITY WITH THE SCBA MODEL, MECHANICAL SCBA WASHER AND THE DETERGENT

CHAPTER 17 – RESPIRATORY PROTECTION EQUIPMENT MAINTENANCE

17.1.2 INSPECTION

- 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

COMPLIANCE TIMELINE:

- SOPs AND PROGRAM DOCUMENTATION SHOULD BE UPDATED RELATIVELY SOON AFTER THE STANDARD ISSUES.
- DEPARTMENTS HAVE ONE YEAR AFTER NFPA 1850 IS RELEASED TO TRAIN PERSONNEL ON THE NEW REQUIREMENTS.
- 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.



**THE NEW 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.**