MINUTES

NFPA Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment (FAE-AAC)
NFPA 1857 Second Draft Meeting (Custom Fall 2025)
and
NFPA 1990 and NFPA 2500 Pre-Second Draft Meeting (Custom Annual 2026)

July 22-23, 2025
8:00 a.m. – 5:00 p.m. (Central)

Sheraton Minneapolis Downtown Convention Center
1313 Nicollet Mall, Minneapolis, MN 55403

1. **Call to order.** Rick Swan, chair, called the meeting to order at 8:04 a.m. (Central) on July 22, 2025.
2. **Introductions.** Attendees introduced themselves and identified their affiliation.
3. **Chair report.** Rick Swan welcomed attendees and provided an overview of the meeting.
4. **Staff liaison report.** Barry Chase provided an overview of the standards development process and the revision cycle schedule.
   a. No members declared that they had been retained to represent the interest of an entity that would be classified in an interest category different from their own with respect to a specific issue or issues that were addressed by the committee.
5. **Previous meeting minutes.** The minutes from the NFPA 1850 Second Draft Meeting (Annual 2025), held on December 17, 2024 (Web/Teleconference), were approved without revision.
6. **NFPA 1857 Second Draft.**
   a. The committee reviewed the Technical Committees' actions on public comments and second revisions.
      i. Jeremy Metz, Chair of the TC on Special Operations Protective Clothing and Equipment, reported on the TC's work in the Second Draft and answered questions.
      ii. Tom Diani, Chair of the TC on Wildland Firefighting Protective Clothing and Equipment, reported on the TC's work in the Second Draft and answered questions.
   b. The committee developed second correlating revisions.
7. **NFPA 1990 Pre-Second Draft.**

a. The committee reviewed the public input, committee input, and first revisions contained in the First Draft Report.

i. Christina Baxter, Chair of the TC on Hazardous Materials Protective Clothing and Equipment, was not present. Jeff Stull, member of the TC, provided a report of the TC's work in the First Draft and answered questions. (See attachment.)

Mr. Stull reported that NFPA 1990 is likely to slip cycle after the Second Draft meeting, as the TC needs more time to address key technical concerns in this revision cycle.

NFPA 1891 will also slip cycle to stay aligned with NFPA 1990.

b. The committee developed 1 public comment to be submitted by the chair on behalf of the committee:

i. Public Comment on 4.1.1:

STATEMENT:

This public comment is submitted on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment as determined by a vote at their meeting on July 22-23, 2025.

The technical committee should review, update, and replace as needed any references to specific edition years in the text.

8. NFPA 2500 Pre-Second Draft. *Correlating Committee scope is limited to Chapters 1, 2, 3, 24-35, and Annex K.*

a. The committee reviewed the public input, committee input, and first revisions contained in the First Draft Report.

i. Jeremy Metz, Chair of the TC on Special Operations Protective Clothing and Equipment provided a report of the TC's work in the First Draft and answered questions.

b. The committee developed 4 public comments to be submitted by the chair on behalf of the committee:

i. Global Public Comment:

RECOMMENDATION:

Add "Life Safety Rope and Equipment" or similar descriptors to the chapter titles for Chapters 24 through 35.

STATEMENT:

This public comment is submitted on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment as determined by a vote at their meeting on July 22-23, 2025.

Additional descriptors will assist unfamiliar readers with navigating the consolidated standard.

ii. Public Comment on 25.1.1.12:

STATEMENT:

This public comment is submitted on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment as determined by a vote at their meeting on July 22-23, 2025.

Review and revise all prescribed label text to replace the edition year with a bracketed placeholder.

iii. Public Comment on 30.4.7:

STATEMENT:

This public comment is submitted on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment as determined by a vote at their meeting on July 22-23, 2025.

Review the phrase "compromise the integrity" for enforceability and correlation with NFPA 1970 and NFPA 1850.

iv. Public Comment on 30.5.8:

STATEMENT:

This public comment is submitted on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment as determined by a vote at their meeting on July 22-23, 2025.

Review the phrase "compromise the integrity" for enforceability and correlation with NFPA 1970 and NFPA 1850.

9. Other Business.

a. **Updates from Technical Committee Chairs.**

i. TC on Electronic Safety Equipment. Christopher Sampl reported no activity.

ii. TC on Emergency Medical Services Protective Clothing and Equipment. The Chair position for this committee is currently vacant. No report was provided.

iii. TC on Hazardous Materials Protective Clothing and Equipment. Christina Baxter was not present. The TC's recent activities are captured in the report on the NFPA 1990 First Draft. (See above.)

iv. TC on Respiratory Protection Equipment. Albert Yanagisawa reported on the TC's recent activities.

1. The US federal government's pause on participation by employees of the National Institute of Occupational Safety and Health (NIOSH) has had a negative impact on the committee's work, but the pause has now ended.
2. NFPA 1984 and NFPA 1989 will close public input in September 2025. The TC will likely hold the First Draft meeting in January 2026.

v. TC on Special Operations Protective Clothing and Equipment. Jeremy Metz's report on the TC's recent activities is captured in the report on the NFPA 2500 First Draft. (See above.).

vi. TC on Structural and Proximity Firefighting Protective Clothing and Equipment. Tim Tomlinson reported on the TC's recent activities.

1. NFPA 1850 received 3 certified amending motions for the 2025 Technical Meeting, held at the NFPA conference in June. None of the motions were presented at the meeting, so NFPA 1850 was forwarded to the Standards Council for issuance at their August meeting.
2. Three tentative interim amendments (TIA) have been submitted on NFPA 1850 and will be considered for issuance, concurrently with the standard, at the Standards Council's August meeting.
3. Multiple TIAs have been submitted on NFPA 1970 and will be considered for issuance at the Standards Council's August meeting.
4. The committee created a Task Group on Research to proactively collect data from on-going research that is related to the committee's scope. One area of focus was the effectiveness of cleaning processes, but the task group was frustrated by the difficulty of obtaining such data.

vii. TC on Tactical and Technical Operations Respiratory Protection Equipment. Brian Montgomery reported no activity. NFPA 1986 and NFPA 1987 will close public input in September 2026.

viii. TC on Wildland Firefighting Protective Clothing and Equipment. Tom Diani's report on the TC's recent activities is captured in the report on the NFPA 1857 Second Draft. (See above.).

b. **Project Planning and Management.** Rick Swan and Barry Chase led a discussion on improving the planning and management of the PPE project. NFPA staff will work with the Chair to develop an implementation plan and submit requests, as needed, to the Standards Council.

i. Revision Cycle Planning. The committee discussed the order in which documents are revised. (See attached image.) The following objectives were considered:

- Decrease overlap of product and SCAM standards
- Decrease overlap of documents with dependencies (e.g., NFPA 1950 typically incorporates content from NFPA 1970)
- Improve workload leveling across the groups
- Arrange the schedule so that NFPA 1970 reports to the 2029 Technical Meeting

The committee proposes the following schedule of documents:

Group 1	**Group 2**	**Group 3**	**Group 4**	**Group 5**
1990	1930 (from 4)	1970*	1986 (from 3)	1850 (from 4)

2500	1955 (from 4) 1857 (from 5) 1891		1987 (from 3) 1984 (from 2) 1989 (from 2)	1950 (from 4)

**NFPA 2112 is not under the purview of this CC, but it is also requested that NFPA 2112 is not processed in the same revision cycle as NFPA 1970.*

ii. Revision Cycle Schedules. The committee discussed the schedule and timing of steps in the NFPA revision process. (See attached image.) The following objectives were considered:

- Increase the amount of time available for TC meetings to allow for pre-work, multiple meetings, data gathering/research, and refinement of text
- Adjust committee meeting windows to account for holidays
- Incorporate minimum staff times for administrative, editorial, production, and balloting functions, as follows:
  - After Public Input/Comment Close – 2 weeks until the TC can meet
  - After First Draft TC Meeting – 18 weeks until the CC can meet
  - After First Draft CC Meeting – 6 weeks until the draft is posted for public review
  - After Second Draft TC Meeting – 12 weeks until the CC can meet
  - After Second Draft CC Meeting – 6 weeks until the draft is posted for public review
- Following the Second Draft CC Meeting, align the remainder of the cycle with the standard Fall or Annual revision cycle schedule, as follows:
  - NITMAM Submittal – October (Fall cycle) or March (Annual cycle)
  - Technical Meeting – June

The committee proposes the following schedule:

Public Input Closed	July (Year 1)	-
First Draft TC Meeting	July (Year 1) – March (Year 2)	>32 weeks
First Draft CC Meeting	July (Year 2) – August (Year 2)	6 weeks
Public Comment	October (Year 2) – January (Year 3)	10 weeks
Second Draft TC Meeting	January (Year 3) – March (Year 3)	10 weeks
Second Draft CC Meeting	June (Year 3) – August (Year 3)	6 weeks
NITMAM (Fall cycle)	October (Year 3)	-
Issuance of Standard with no CAM(s)	December (Year 3)	-
Technical Meeting	June (Year 4)	-

Issuance of Standard with CAM(s)	August (Year 4)	-

iii. Other Opportunities to Improve the Quality of Standards. The committee discussed additional changes that could improve the quality of PPE standards and reduce the reliance on TIAs between revision cycles.

- Regularly hold Pre-First Draft Meetings to establish the committee's priorities for the upcoming revision cycle. This will help to focus the committee's work on fewer issues.
- As individuals, take steps to improve the perception and understanding of the standards development process, especially among the fire service, and to promote participation.

c. **TIA on NFPA 1950 for Wildland Firefighting Protective Face Coverings.** Rick Swan reported that he submitted a TIA on NFPA 1950 to establish new requirements for wildland firefighting protective face coverings, which will provide a degree of protection against particulate but are not considered to be respiratory protection. The TIA is in process and will be considered by the Standards Council at their August meeting.

d. **Discussion on Issues Related to the Design, Use, and Maintenance of SCBA in NFPA 1970, NFPA 1550, and NFPA 1850.** David Bernzweig presented information related to a recent safety issue involving SCBA and asked if there is a better way to address equipment with a known safety issue, which might require revisions to multiple standards in order to address the design, certification, selection, care/maintenance, and use of the gear. (See attachment.) The committee created a task group to discuss the matter and report at the next meeting.

i. Task Group on Critical Safety Updates. Members: David Bernzweig (Chair), Amanda Newsom, John Morris, Mike McKenna, Harry Winer, Karen Lehtonen, Jeff Stull, Christina Baxter, Tom Diani, Jeremy Metz, Brian Montgomery, Christopher Sampl, Tim Tomlinson, Albert Yanagisawa. In addition, the Chair will seek to appoint members to represent SEI and NPPTL.

e. **Discussion on Sizing and Ergonomics of Protective Clothing and Equipment.** David Bernzweig presented on problems associated with the size of helmet shells relative to firefighters of different size and head shape. (See attachment.) The committee expanded the discussion to include safety issues related to the sizing and ergonomics of all types of gear, particularly for women firefighters. The committee approved the following guidance to be submitted as public input by the chair, on behalf of the committee, to all documents under the purview of the PPE project:

This PI is submitted on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment. The Correlating Committee directs the Technical Committee to review the requirements related to sizing and ergonomics for gaps and needs related to fit, form, function, and safety.

10. **Future meetings.** The next meeting will be held via web/teleconference on December 5, 2025, 11:00 a.m. to 3:00 p.m. (Eastern) for the NFPA 1990/2500 Second Draft CC Meeting [Custom A2026].

    The following meetings are anticipated through the end of 2026:

    - July 2026 – NFPA 1891, 1984, 1989 First Draft CC Meeting. [Custom A2027]
    - December 2026 – NFPA 1891, 1984, 1989 Second Draft CC Meeting. [Custom A2027]

    Meeting notifications will be posted on the NFPA website at www.nfpa.org/*[doc#]*next (e.g., www.nfpa.org/1990next).

11. **Adjournment.** The meeting was adjourned at 4:25 p.m. (Central) on July 23, 2025.

Attendees

Committee Members:

X	**Swan, Rick**	Chair	International Association of Fire Fighters
	Allen, Jason	Principal	Intertek Testing Services
X*	**Arrington, Joseph**	Principal	San Antonio Fire Department
	Barker, Roger	Principal	North Carolina State University
	Childs, Robin	Principal	US Department of Defense
	Fargo, Cristine	Principal	International Safety Equipment Association
X*	**Farley, Edmund**	Principal	Pittsburgh Bureau Of Fire
X	**Hess, Diane**	Principal	PBI Performance Products, Inc.
	Hosea, Thomas	Principal	US Department of the Navy
	Johnston, Ronald	Principal	Compressed Gas Association
	Legendre, Jeff	Principal	Northborough Fire Department
X	**Lehtonen, Karen**	Principal	LION Group, Inc.
X*	**Matthews, David**	Principal	International Standards Organization
	Mauti, Benjamin	Principal	Globe Manufacturing/Mine Safety
X	**McKenna, Michael**	Principal	Michael McKenna & Associates, LLC
X*	**Menard, Douglas**	Principal	Boston Fire Department
X	**Morris, John**	Principal	3M Company
X	**Newsom, Amanda**	Principal	UL Solutions
	Sanders, Stephen	Principal	ASTM/Safety Equipment Institute (SEI)
X	**Stull, Jeffrey**	Principal	International Personnel Protection, Inc.
	Szalajda, Jonathan	Principal	National Institute for Occupational Safety &
X	**Tutterow, Robert**	Principal	NFPA Fire and Emergency Services (FES)
X	**Van Lent, William**	Principal	Fire & Emergency Manufacturers &
	Varner, Bruce	Principal	International Fire Service Training
X	**Winer, Harry**	Principal	HIP Consulting LLC
X	**Bernzweig, David**	Alternate	International Association of Fire Fighters
	Carpentier, Louis	Alternate	Fire & Emergency Manufacturers &
X*	**Glucksman, Daniel**	Alternate	International Safety Equipment Association
X*	**Martin, Thomas**	Alternate	Responder Solutions, LLC
	Morgan, Judge	Alternate	3M Scott Safety
	Neilson, Gary	Alternate	NFPA Fire and Emergency Services (FES)
X*	**Peterson, Jeffrey**	Alternate	National Institute for Occupational Safety &
	Roche, Kevin	Alternate	International Fire Service Training
	Shephard, Russell	Alternate	International Standards Organization

	Stull, Grace	Alternate	International Personnel Protection, Inc.
	Tekelenburg, Marco	Alternate	MSA Safety, Inc.
	Tutor, Robin	Alternate	UL Solutions
	Xiang, Jian	Alternate	The DuPont Company, Inc.
	Baxter, Christina	Nonvoting Member	TC on Hazardous Materials PC&E
X*	**Diani, Tom**	Nonvoting Member	TC on Wildland Fire Fighting PC&E
X	**Metz, Jeremy**	Nonvoting Member	TC on Special Operations PC&E
X	**Montgomery, Brian**	Nonvoting Member	TC on Tactical and Technical Operations
	Sampl, Christopher	Nonvoting Member	TC on Electronic Safety Equipment
X	**Tomlinson, Tim**	Nonvoting Member	TC on Structural and Proximity Fire
X*	**Yanagisawa, Albert**	Nonvoting Member	TC on Respiratory Protection Equipment
X	**Chase, Barry**	Staff Liaison	National Fire Protection Association

Guests:

X	**Stephane Rouse**	3M Scotchlite
X	**Chris Archibald**	Stedfast
X*	**Robert Simmonds**	SEI
X*	**Marni Schmidt**	Fortunes Collide Marketing / F.I.E.R.O.
X*	**Karine Martin**	Innotex
X*	**Chelsea Rubadou**	NFPA
X*	**Ken Holland**	NFPA

*[*Attended Remotely]*

Total in Attendance: 31

NFPA 1990 Revision
First Draft and Status

Technical Correlating Committee Meeting

July 22, 2025

1

Public Input

- Closed September 6, 2025
- ~20 total public inputs
  - 8 different submitters
  - 6 TIAs addressed
  - Multiple global public inputs
- Significant issue for decoupling consolidation with NFPA 1986 and NFPA 1987
  - NFPA agreement to allow NFPA 1990 to progress individually

2

TOPICS FROM PUBLIC INPUT

EDITORIAL

PI	TOPIC
1	Incorrect References
3	Missing Application Data
4	Certification Timelines
8, 11	Consolidation

SIGNIFICANT CHANGE

PI	TOPIC
2, 24(3)	Replace Acrolein
5	LVAP
6	Footwear & Foot covers
24(1)	Chem penetration (ASTM F903) vs Liquid penetration (ISO 6530)
18, 19	Product Sizing (garments and footwear)
22	Chem Penetration Resistance
15	Glove Puncture Resistance
17	NFPA Classes vs EPA/OSHA Levels
7, 16, 21, 23, 24(2), 24(5), 24(6), 24(7)	Class 5

NEW PROPOSAL

PI	TOPIC
24(8)	Fentanyl Permeation
10, 24(4)	New Class – Breathable, Long-Term Use
12, 24(4)	New Class – Non-Breathable, Short-Term Use
20	Detailed Review of Design Requirements
24(4)	Review of User Requirements

3

First Draft Meeting and Review

- Presentations from NC State and Numat
- First draft revisions mainly to address perfunctory changes
- Several proposals and committee discussion on conceptual topics
- Multiple committee first revisions were made
  - Replacement chemicals and updated chemical batteries
  - Changes to address Class 3 material availability issues
  - Unworkable Class 4 inward particulate leakage test
  - Update of Class 5 requirements and equivalence to NFPA 1951 garments
  - Proposal of new Class 6 (“carbon” or “reactive” materials)
  - Addition of non-PFAS claims and restricted substances

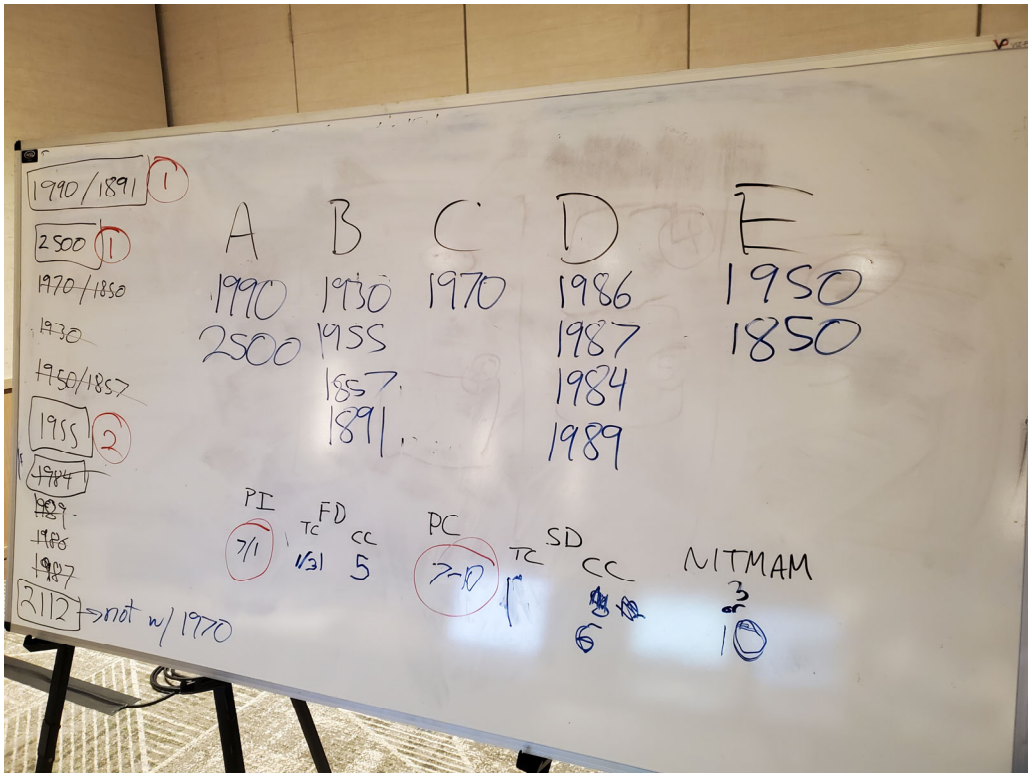
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NFPA 1990 Future Direction

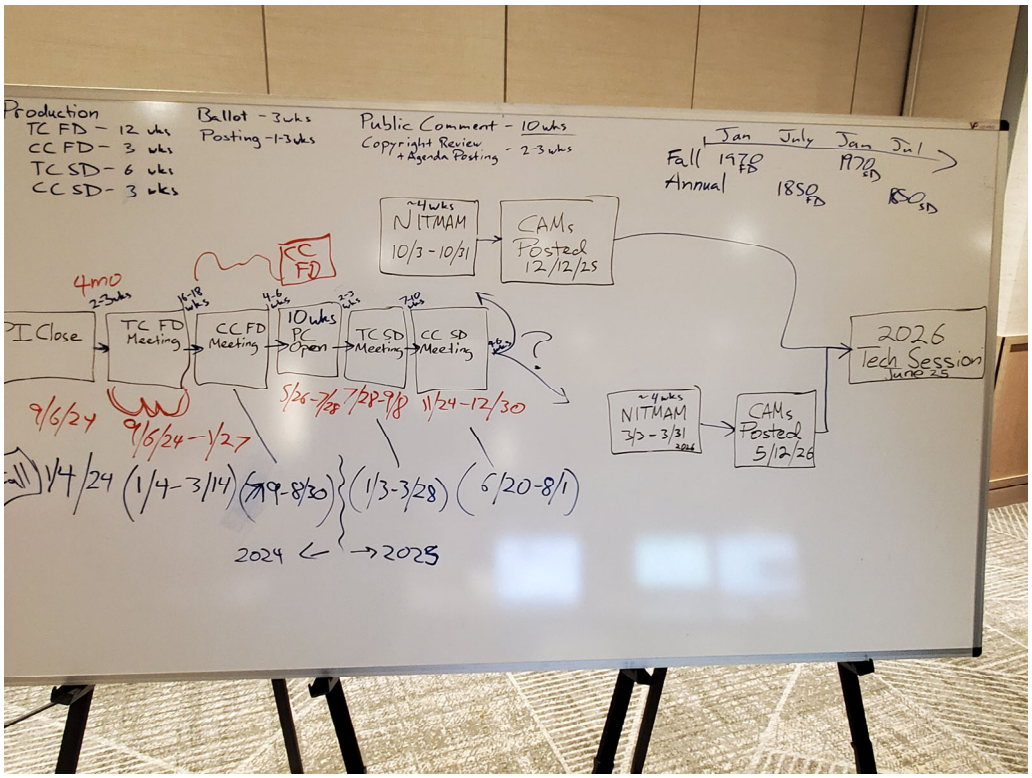
- Four different intermediary committee meetings held April, May, and July
  - Generally addressed specific topics
  - Solutions identified but will require validation efforts and further development
- Conclusion being reached that planned revisions cannot be made properly within current cycle
  - Straw poll of the committee revealed acceptance of 12-month slip in schedule

5

Project Planning and Management Discussion Boards



Document Order



Revision Cycle Schedule

Critical Life Safety Requirements

Proposed changes to NFPA 1970, 1850, 1550

1

The Problem

- When a TC addresses a critical life safety issue in a product standard, the implementation timeframe is tied to the retirement (or optional upgrade) requirements.
- While next edition of NFPA 1850/1852 provides more stringent upgrade and retirement requirements than previous editions of NFPA 1582, it will still be possible for a non-upgraded SCBA to be in-service 20 years+ after the publication of the standard that it was originally certified to.
  - *+3-5 years for issue identification to adoption in the standard*
- *SCBA that have been upgraded at least 2x could potentially remain in-service for 25 years+ after the publication of the standard that it was originally certified to.*

2

NFPA ALERT NOTICE
July 2, 2012

SCBA facepiece lenses may undergo thermal degradation when exposed to intense heat

Safety Alert
Exposure to high temperature environments, which firefighters can encounter during fires they are attempting to extinguish, can result in the thermal degradation or melting of a Self- Contained Breathing Apparatus (SCBA) facepiece lens, resulting in elimination of the protection meant for the user's respiratory system and exposing the user to products of combustion and super heated air.

at the time they were overrun by extreme thermal conditions; all had their SCBA facepiece still in place; all had SCBA facepieces that displayed extensive damage consistent with thermal conditions that likely exceeded the capabilities of the SCBA facepiece lens, resulting in the loss of respiratory protection from an *Immediately Dangerous to Life and Health* (IDLH) environment. The firefighters in these incidents suffered thermal injuries to their respiratory system and sustained inhalation injuries from products of combustion.

3



1000 FREDERICK LANE, MORGANTOWN, WV 26508 • 304.285.5916

Lieutenant and Probationary Firefighter Die after experiencing Thermal Degradation of Self-Contained Breathing Apparatus Facepiece Lenses – Maryland

4

National Institute for Occupational Safety and Health (NIOSH)

Safety & Health Advisory



Reporting Adverse Conditions Involving Self-contained Breathing Apparatus – Thermal Degradation and Failure of Facepiece Lens

NIOSH continues to identify instances where certain facepiece lens materials on self-contained breathing apparatus (SCBA) fail before other components of the firefighter's SCBA and personal protective equipment ensemble.

5

Objective

To create a mechanism or the committee to identify specific changes to a product standard that it determines, during the development process, are of a critical life safety nature and necessitate an earlier upgrade or retirement than would otherwise be required in the document.

6

Retirement & Upgrades (SCBA)

NFPA 1850/1852 (2026)

- SCBA that has not been upgraded by at least two editions of of NFPA 1981 or NFPA 1970/1981 shall be retired 15 years after the year of manufacture
- SCBA that has been upgraded by at least two editions of NFPA 1981 or NFPA 1970/1981 shall be retired 20 years after the year of manufacture

Exception

- 1981 (2007) – mandatory retirement 18 months after the effective date of NFPA 1850 (2026)…
  - 9/2025 +18mos= 3/2027

7

Mandatory Retirement

- **NFPA 1981 (2007)**
  - No Upgrades > NLT March 2027
    - Max age = 14 - 19 years depending on the year of manufacture
- **NFPA 1981 (2013)**
  - No upgrades = 2028-2034
  - 2 upgrades = 2033-2039
- **NFPA 1981 (2019)**
  - No upgrades = 2034-2040
  - 2 upgrades = 2039-2045
- **NFPA 1970/1981 (2025)… next edition 2029?**
  - No upgrades = 2041-2046
  - 2 upgrades = 2046-2051

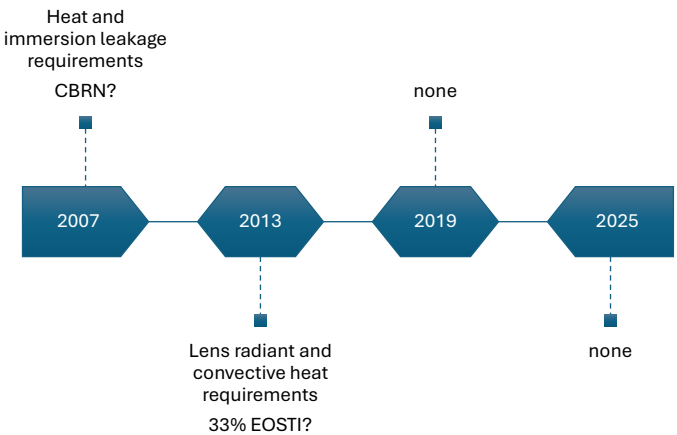
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Critical Life Safety Requirement

A product requirement that radically improves the level of protection provided by a product as compared to previous editions of the Standard. Critical Life Safety Requirements may require a short-cycled upgrade or retirement requirement for the product.

9

NFPA 1981 Potential Critical Life Safety Requirements…



No TIA Necessary

10

How might we address this…

11

1. Definition of a *Critical Life Safety Requirement*
2. Product Standard (NFPA 1970/1981)
   - Identify a new requirement as a *Critical Life Safety Requirement (CLSR)*
   - *Include annex material that existing SCBA should be upgraded IAW NFPA 1850*
3. SCAM Document (NFPA 1850/1852)
   - Create a requirement in the 'Upgrade/Retirement' section
     - Identify short cycled upgrade or retirement requirement for CLSR
     - TIA if SCAM comes before product document
4. Use Document (NFPA 1550/1500)
   - Create a requirement in the appropriate section (PC&E) that CLSR must be addressed IAW NFPA 1850

12

13

Discussion

- In which document could we require a mandatory user advisory from the manufacturer?
- Can this principle be applied to a non-product standard (i.e. cylinder capacity)?

14

One more thing…

15

ONE SIZE FITS ~~ALL~~ SOME





16

16

Helmets

"Helmets are adjustable and fit a wide range of sizes"

- NFPA 1851: A5.1.8 (4)

17



INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS

Discussion…

IAFF.ORG

18