



Report of the Technical Committee for Fire Investigation Units

Certified Amending Motion 1321-2
Thursday, 20th June 2024

The Report of the Technical Committee for Fire investigation Units is presented as found in the First Draft Report and Second Draft Report for the *Fall 2023* of *NFPA 1321, Standard on Fire Investigation Units*. The revisions were submitted to letter ballot of the responsible Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1321* at www.nfpa.org/1321next.

COMMITTEE POSITION STATEMENT:

The Technical Committee on Fire Investigation Units was established by the Standards Council in December 2018. The Standards Council charged the Committee with creating standards relating to the development and composition of fire Investigation units. During the initial Committee meeting, the Committee discussed the process of writing the document and voted to proceed with writing the document in mandatory language (i.e. a “standard”) and in compliance with the manual of style.

Mr. Rinaldi submitted a Public Input at the first draft stage of the document revision cycle to have the technical committee consider redrafting the proposed standard into a guide format. The technical committee considered the public input, however, voted to keep the format as a Standard (mandatory text).

A Public Comment was submitted for the technical committee to reconsider its action on the first draft of the document. The submitter of the motion was afforded the opportunity to address the technical committee at the second draft meeting on why the document should be a guide versus a

standard. Based on the presentation and continued discussion, and due consideration on the request, the technical committee determined the new document should be issued as a Standard with mandatory text. The technical committee recognizes the perspective of the submitter of the motion but identifies that the document should be written and formatted as a standard. The technical committee identified that for this document to be utilized by stakeholders for the management and operation of FIUs, mandatory requirements need to be established. This approach aligns with the original project request by OSAC and direction given to the technical committee by the NFPA Standards Council on developing the new standard. A standard (mandatory language) better conveys the objectives for improvements in forensic science related to management and operations of fire investigations units and accomplishes the purpose for which the committee was established. This standard establishes the necessary policies a fire investigation unit must have, it does not establish the specifics of what the policies must be. The technical committee recognizes that fire investigation units will differ in size and scope, so therefore, the specific wording of the policies will be different.

It is for the reasons stated above that the committee opposes the motion before you today.

Respectfully submitted,

***Randy Watson, Chairman
on behalf of the Technical Committee for Fire Investigation Units.***



Motion Substantiation

Certified Amending Motion 1321-2
June 2024

CAM 1321-2 moves to change the proposed standard to a guide by changing the word “shall” to “should”. Publishing NFPA 1321 as a guide will allow for greater acceptance of associated recommendations rather than refusal by Authority’s Having Jurisdiction to adopt the wide sweeping mandatory requirements of the proposed standard.

This proposed standard is the result of a New Project Initiation Request by the National Institute of Standards and Technology (NIST), specifically the Organization of Scientific Area Committees (OSAC) Fire and Explosion Investigation Subcommittee to develop an ANSI Accredited Standard addressing Fire Investigation Units (FIUs) and is intended to create a stringent standard for use in requiring accreditation of fire investigation units. Members of the OSAC subcommittee attempted to include accreditation language requirements during the second draft along with new material involving a process map for conducting fire investigations that consists of more pages than the current NFPA 1321 document text. As a standard promoting accreditation NFPA 1321 would negatively impact the fire investigation industry by creating polarization between the public and private sectors as well as the large and small agencies or organizations within each sector. As explained by the Technical Committee Chair during the first draft meeting, the original survey responses NFPA received indicated that about 50% opposed development of a standard, which clearly signifies that such a divide already exists.

The TC provided in their first draft response that this document was being created to meet OSAC’s objective of striving to improve the forensic science related to fire investigation. Due to the

extraneous resources that will be necessary to become fully compliant with this standard, many organizations will not have the funding, staffing or other resources needed to fulfill every requirement from the day of publication. Thus, public, or private organizations with limited resources will be unfairly judged as noncompliant and not meeting these requirements as soon as the standard is implemented. This will allow for the weaponizing of the standard for use in the courts in targeting these organizations, which have been operating for years and are now suddenly viewed as substandard and unqualified based on the new standard. The resulting argument about whether the standard is accepted throughout the industry will lead to confusion due to questions of the standard's validity. This lack of acceptance will greatly harm the industry rather than improving and expanding the fire investigation forensic science that OSAC seeks.

Additionally, accreditation processes already exist through ISO management standards and organizations such as the Center for Public Safety Excellence (CPSE) that includes compliance with NFPA 1730: Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations. However, NFPA 1321 does not reference NFPA 1730 even though it covers the same topic, thus creating a duplication of an existing standard. Changing NFPA 1321 to a guide will allow for the industry to embrace it and gain greater acceptance through measured development and implementation providing organizations the opportunity to begin meeting the recommended practices with an understanding of the potential transition and refinement of the document into a standard during a future cycle. This future transition would better facilitate the correlation of this document with other NFPA documents to prevent conflict or contradictory language, which again would lessen the validity of NFPA 1321 and its acceptance in the courts.

The division in the acceptance of or the refusal to adopt these practices by many organizations will set the fire investigation profession back in time and trigger excessive courtroom arguments that will simply diminish the effectiveness of a good fire investigation solely based on an organization's ability to meet this new standard from the start. The opportunity to change this standard to a guide needs to occur now to provide ample time for acceptance of its practices with a possible future transition to a standard and avoid the outcome of its rejection by a large part of the industry. If not, this outcome will only achieve the delay and obstruct improvements in the application of forensic science related to fire investigations rather than OSAC's objective for its progression.

Respectfully submitted,

Stephen Rinaldi, MA, EFO, CFPS, IAAI-CFI

Fire Marshal

Durango Fire & Rescue



Report of the Technical Committee on Animal Housing Facilities

Certified Amending Motion 150-7/150- 8/150- 9/150-10/150-11/150-14
June 2024

The Report of the Technical Committee on Animal Housing Facilities is presented as found in the First Draft Report and Second Draft Report for the Annual 2024 cycle of NFPA 150, *Fire and Life Safety in Animal Housing Facilities Code*. The revisions were submitted to letter ballot of the responsible Technical Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for **NFPA 150** at www.nfpa.org/150next.

During the First Draft meeting, the committee rejected a public input suggesting sprinklering or on-site fire suppression water supplies for agricultural facilities. The discussion at the meeting and the committee statement referenced impacts that sprinklers have on these facilities and questioned the effectiveness these systems would have on saving animals. A task group was assigned to review the code requirements in the agricultural chapter to further examine the protection requirements.

The task group provided their report with recommendations to revise the agricultural chapter. Their recommendations resulted in the committee revising sections on detection, means of egress and water supply (SRs-1, 3, 4 and 5). Their recommendations did not include adding sprinkler requirements. A separate public comment (PC-1) sought to add a requirement for all Class A (commercial use) agricultural facilities to have sprinklers if they exceed a specific size. The technical committee developed SR-12 requiring sprinkler protection, based on the language from the PC-1 and added an option for an AHJ to permit equivalent protection. The SR received 16 affirmative votes, 3 affirmative with comments and 3 negatives.

The committee recognizes that our work with this topic is ongoing. At the end of the second draft meeting, we established a task group to look further into the agricultural chapter and review data related to fires in these facilities for the next edition.

Respectfully submitted,

Rebecca Husted on behalf of the Technical Committee on Animal Housing Facilities



Report of the Technical Committee on Fire Pumps

Certified Amending Motion 20-6
June 2024

The *Report of the Technical Committee on Fire Pumps* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for NFPA 20 at www.nfpa.org/20next.

This CAM proposes to accept Public Comment 29 on 4.7.6. The submitter seeks to accept the revisions limiting the power of the fire pump driver to operate the pump up to 200 percent of the rated flow. At the First Draft Meeting, the technical committee revised 4.7.6 to limit the power of the fire pump driver to operate up to 175 percent of the rated flow, however this failed balloting of the technical committee. At the Second Draft Meeting, the technical committee rejected but held the proposed revision of 4.7.6 to limit the power of the fire pump driver to operate up to 200 percent of the rated flow. The technical committee was not presented with data to justify the reduction in the driver sizing. Currently, fire pump drivers are sized to operate at any flow condition. If the power of the fire pump driver is reduced, and an overflow condition occurs, the fire pump may run into an overload condition and damage the controller disabling the fire pump.

Respectfully submitted,

Milosh Puchovsky
on behalf of the Technical Committee on Fire Pumps



Motion Substantiation

**Certified Amending Motion 20-6
June 2024**

CAM 20-6 moves to accept PC-29. If the CAM passes, the horsepower rating on fire pump motors would only need to be sized based off 200 percent of the rated flow capacity of the pump.

The required power to operate a fire pump is not a novel concept to the Technical Committee on Fire Pumps and has been debated for two cycles in a row. In the 2022 revision cycle PIs-91, 92, 93, 94, and 95 were submitted to limit the motor capacity to be rated up to 175 percent of pump's capacity. These were resolved with the statement that standard requires non-overloading across the entire pump curve. Based on that action, the committee wants a pump to be able to perform past the available water supply and cavitate the suction supply lines and destroy the fire pump. This is not reasonable.

When the topic was brought up again this cycle, the initial proposal looked to revise the requirement to assign the horsepower rating based on 175 percent capacity of the pump. This achieved a majority during the first draft meeting, but ultimately failed letter ballot (21 affirmative/ 12 negative) and resulted in CI-66 in the first draft report. A public comment was submitted addressing all of the negative votes.

The response to the technical committee's negative votes made four technical points while taking into consideration their concern about safety factor by proposing the horsepower rating to be based on 200 percent capacity of the pump instead of 175 percent:

- (1) It is not reasonable to expect a fire pump to maintain performance if an underground main ruptures. In fact, it could be argued that it would not be beneficial for the fire pump to continue to run during this catastrophic event due to the risk of additional water damage and damage to the foundation and structure of a building depending on the proximity of the break. In any event, the pump running during this event is not providing fire protection.
- (2) Issues were raised with correlating with other sections. Corresponding PCs have been submitted to address the correlation issue.
- (3) This revision would have no effect on the pump performance during a "normal fire event." Sprinkler systems are calculated with at least a 50% safety margin for storage applications and demands that surpass what has been hydraulically calculated would exceed the design criteria from multiple full-scale fire tests that are used to determine the discharge criteria
- (4) One negative comment indicated that the "maximum pump load" was the 150% capacity duty point. This would clarify that interpretation and provide a prescriptive data point to derive the horsepower rating.

Despite the technical rebuttal, the public comment was rejected but held citing there was not sufficient data to act, and no technical reason was provided for the rejection. Based on this action, the committee was able to punt action on this issue without refuting any technical argument made in the public comment. The action of "reject but hold," given the history of this issue, should not have been in order. Why can the mechanical components of a fire pump

cavitate, be destroyed, and are considered disposable, but the electric components must be indestructible. This is not reasonable.

On the manufacturing side, the current requirement rewards an inefficient design. To obtain a lower horsepower rating, the pump impellers will be manufactured to sharply cut off performance after 150% capacity is reached. For existing fire pumps installed under prior edition of NFPA 20 that need replacement, many require an upsizing of the electrical service and wiring to meet the horsepower rating based on the maximum capacity of the pump — even when the fire pump is being replaced in kind! These are not good practices or reasonable requirements.

The current requirement grossly over-sizes the power requirements for fire pumps. Pumps are only permitted to utilize up to 150 percent capacity for fire protection design and past that point the liquid supply could be insufficient. Flows beyond 200 percent capacity of the pump are indicative of an abnormal or catastrophic event that are not within the purview of NFPA 20 to mitigate. The purpose of NFPA 20 is to provide a reasonable degree of protection and mandating that a fire pump motor and controller must be indestructible is not reasonable.

Respectfully submitted,

Kevin Hall, M.Eng., P.E., ET, CWBSP, PMSFPE

Sr. Manager, Engineering & Technical Services

American Fire Sprinkler Association



Report of the Technical Committee on Semiconductor and Related Facilities

Certified Amending Motion 318-2

June 2024

The *Report of the Technical Committee on Semiconductor and Related Facilities* is presented as found in the First Draft Report and Second Draft Report for the Annual 2024 revision cycle of NFPA 318 *Standard for the Protection of Semiconductor Fabrication Facilities*. The revisions were submitted to letter ballot of the responsible Technical Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for NFPA 318 at www.nfpa.org/318next.

The technical committee reviewed public input No. 8 at the first draft meeting which proposed new requirements for noncombustible materials in Chapter 4. The committee created committee input No. 8 to form the task group on noncombustible terminology to review the uses of the term *noncombustible* throughout the document and review the enforceable requirements that would apply to noncombustible materials. The task group also reviewed applicable international test standards that should be considered as references with any new requirements.

During the second draft meeting, the task group on noncombustible terminology provided a report and made recommendations to create second revisions to delete the definition of *noncombustible* in Chapter 3 and create a second revision to add a new requirement for noncombustible material in Chapter 4. Second revision No. 7 was created to remove the definition for *noncombustible* in Chapter 3. Second revision No. 6 was created to add a new Chapter 4 requirement for noncombustible material that also includes annex information listing recognized

test standards for materials regularly found in semiconductor fabrication. I thank Dr. Hirschler for bringing this to our attention.

Respectfully submitted,

Vincent DeGiorgio
on behalf of the Technical Committee on Semiconductor and Related Facilities



Report of the Technical Committee on Semiconductor and Related Facilities

Certified Amending Motion 318-1

June 2024

The *Report of the Technical Committee on Semiconductor and Related Facilities* is presented as found in the First Draft Report and Second Draft Report for the Annual 2024 revision cycle of NFPA 318 *Standard for the Protection of Semiconductor Fabrication Facilities*. The revisions were submitted to letter ballot of the responsible Technical Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for NFPA 318 at www.nfpa.org/318next.

The technical committee reviewed public input No. 8 at the first draft meeting which proposed new requirements for noncombustible materials in Chapter 4. The committee created committee input No. 8 to form the task group on noncombustible terminology to review the uses of the term *noncombustible* throughout the document and review the enforceable requirements that would apply to noncombustible materials. The task group also reviewed applicable international test standards that should be considered as references with any new requirements.

During the second draft meeting, the task group on noncombustible terminology provided a report and made recommendations to create second revisions to delete the definition of *noncombustible* in Chapter 3 and create a second revision to add a new requirement for noncombustible material in Chapter 4. Second revision No. 7 was created to remove the definition for *noncombustible* in Chapter 3. Second revision No. 6 was created to add a new Chapter 4 requirement for noncombustible material that also includes annex information listing recognized

test standards for materials regularly found in semiconductor fabrication. I thank Dr. Hirschler for bringing this to our attention.

Respectfully submitted,

Vincent DeGiorgio
on behalf of the Technical Committee on Semiconductor and Related Facilities



Report of the Technical Committee on Fire Doors and Windows

Certified Amending Motion 80-3

June 2024

The Report of the Technical Committee on Fire Doors and Windows is presented as found in the First Draft Report and Second Draft Report for the Annual 2024 cycle of NFPA 80, Standard for Fire Doors and Other Opening Protectives. The revisions were submitted to letter ballot of the responsible Technical Committee in accordance with the Regulations Governing the Development of NFPA Standards. The reports and ballot results can be found on the next edition tab of the Document Information page for NFPA 80 at www.nfpa.org/80next.

First, I would like to thank Mr. Koffel for his interest and participation in the development of NFPA 80. At the first draft meeting the technical committee created a first revision modifying the existing requirements in 19.3.4.1.3 which exempt inaccessible dampers from periodic inspections. The first revision added language to require approval by the AHJ, as well as a requirement for documentation. The first revision also modified the associated annex material to provide guidance on what conditions could be considered inaccessible and the need for a risk assessment. The technical committee understands that dampers can become inaccessible due to construction or physical impediments and periodic inspection is difficult or infeasible without modification to the building or a building systems. The technical committee discussed circumstances where the damper does not pose a significant risk to any building systems or a life safety risk to the building occupants and therefore, periodic inspections are not required. However, if a damper is designated as inaccessible and is not going to be inspected periodically, the technical committee considered

it essential that the AHJ approve this condition. The first revision passed ballot by a vote of 43 affirmative and 1 negative.

At the second draft meeting the technical committee reviewed multiple public comments and created a second revision which modified the first draft report language changing the term “not accessible” to “inaccessible” and requires the AHJ to designate a damper as inaccessible. The technical committee indicated in their committee statement “that it is imperative for the AHJ to be involved in the determination of an inaccessible condition.” The technical committee was concerned that without this language building owners could potentially designate dampers as inaccessible due to inconvenience rather than inaccessibility or designate dampers critical to life safety of building occupants as inaccessible. The second revision passed ballot by a vote of 39 affirmative and 4 negative.

Respectfully submitted,

Keith Pardoe
on behalf of the Technical Committee on Fire Doors and Windows



Report of the Technical Committee on Fire Doors and Windows

Certified Amending Motion 80-2/80-6
June 2024

The Report of the Technical Committee on Fire Doors and Windows is presented as found in the First Draft Report and Second Draft Report for the Annual 2024 cycle of NFPA 80, Standard for Fire Doors and Other Opening Protectives. The revisions were submitted to letter ballot of the responsible Technical Committee in accordance with the Regulations Governing the Development of NFPA Standards. The reports and ballot results can be found on the next edition tab of the Document Information page for NFPA 80 at www.nfpa.org/80next.

First, I would like to thank Mr. Beebe and Mr. Koffel for their interest and participation in the development of NFPA 80. At the first draft meeting the technical committee drafted a first revision to require visual inspection of dampers at least once for every third cycle of required periodic inspection. This provision requires dampers utilizing the remote inspection method to have a visual inspection every 12 years or 18 years in buildings containing a hospital. This requirement does not impact periodic inspections for dampers which do not utilize the remote inspection method. This requirement was added due to concerns by the technical committee that dampers can be rendered non-functional due to changes in the building. The first revision passed the ballot by a vote of 38 affirmative and 5 negative.

There were 7 public comments received seeking to delete the requirement as shown in the First Draft Report which were rejected by the technical committee because no data was provided to support that remote inspection is equivalent to visual inspection over the life span of a damper.

At the second draft meeting, the technical committee drafted a second revision relocating this requirement under the heading for the Remote Inspection Method, as this requirement is only applicable to installations which utilize the remote inspection method. The second revision passed the ballot by a vote of 37 affirmative and 5 negative.

Please note that that this topic is also being addressed for NFPA 105 with CAM 105-2/105-5. Since many dampers are required to comply with both NFPA 80 and NFPA 105 it is recommended that this requirement be consistent in both documents.

Respectfully submitted,

Keith Pardoe
on behalf of the Technical Committee on Fire Doors and Windows



Report of the Technical Committee on Fire Doors and Windows

Certified Amending Motion 105-2/105-5
June 2024

The Report of the Technical Committee on Fire Doors and Windows is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of **NFPA 105, Standard for Smoke Door Assemblies and Other Opening Protectives**. The revisions were submitted to letter ballot of the responsible Technical Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for **NFPA 105** at www.nfpa.org/105next.

First, I would like to thank Mr. Beebe and Mr. Koffel for their interest and participation in the development of NFPA 105. At the first draft meeting the technical committee drafted a first revision to require visual inspection of dampers at least once for every third cycle of required periodic inspection. This requirement requires dampers utilizing the remote inspection method to have a visual inspection every 12 years or 18 years in buildings containing a hospital. This requirement does not impact periodic inspections for dampers which do not utilize the remote inspection method. This requirement was added due to concerns by the technical committee that dampers can be rendered non-functional due to changes in the building. The first revision passed the ballot by a vote of 36 affirmative and 4 negative.

There were 5 public comments received seeking to delete the requirement as shown in the First Draft Report which were rejected by the technical committee because no data was provided to support that remote inspection is equivalent to visual inspection over the life span of a damper.

At the second draft meeting, the technical committee drafted a second revision relocating this requirement under the heading for the Remote Inspection Method, as this requirement is only applicable to installations which utilize the remote inspection method. The second revision passed the ballot by a vote of 37 affirmative and 4 negative.

Please note that that this topic is also being addressed for NFPA 80 with CAM 80-2/80-6. Since many dampers are required to comply with both NFPA 80 and NFPA 105 it is recommended that this requirement be consistent in both documents.

Respectfully submitted,

Keith Pardoe
on behalf of the Technical Committee on Fire Doors and Windows



Report of the Technical Committee on Respiratory Protection Equipment

Certified Amending Motion 1970-26
June 2024

The *Report of the Technical Committee on Respiratory Protection Equipment* is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle of NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

As Chair of the Technical Committee on Respiratory Protection Equipment, I am presenting the Committee's response to Certifying Amending Motion (CAM) No. 1970-26 submitted by Mr. John Morris of the 3M Company concerning the second draft of NFPA 1970. The motion addresses the cleaning and disinfecting procedures for respiratory protection equipment, emphasizing adherence to OSHA standard 29 CFR 1910.134 or equivalent standards.

Mr. Morris' motion highlights the following key points:

1. Cleaning and disinfecting procedures should align with a Respiratory Protection Program as per OSHA standard 29 CFR 1910.134 or an equivalent.
2. The variables in exposures, cleaning procedures, and disinfectants make it impractical to detail these in the User Instructions.

3. Qualified experts should assess exposure to determine the appropriate cleaning, disinfecting, and decontamination procedures.

4. The end user is responsible for having a policy that specifies how to clean, disinfect, and inspect their equipment, with guidance from the manufacturer.

5. The standard should offer enough flexibility for end users to determine their cleaning and disinfecting protocols while manufacturers provide guidance on appropriate materials, such as those listed on EPA List N for disinfectants against SARS-CoV-2.

The Technical Committee has thoroughly reviewed Public Comment No. 122 and the recommendations put forth by Mr. Morris. After careful consideration, the Committee remains satisfied with the existing wording in the NFPA 1970 standard, which includes provisions for preliminary exposure reduction and advanced cleaning. These provisions were incorporated during the first draft phase and have been deemed necessary for maintaining the standard's integrity and applicability.

The inclusion of preliminary exposure reduction and advanced cleaning in the standard ensures comprehensive coverage of essential safety procedures. This approach aligns with the broader goal of the NFPA to provide detailed and effective safety standards.

While the Committee acknowledges the importance of end-user responsibility in implementing a Respiratory Protection Program, the current standard already encourages collaboration between end-users and manufacturers. The standard allows end-users to establish their cleaning and disinfecting protocols while relying on manufacturer guidance, which can include referencing materials like EPA List N.

The standard's wording provides sufficient flexibility for end-users to tailor their cleaning and disinfecting practices to their specific needs and circumstances. It also emphasizes the

importance of expert assessment in determining appropriate procedures, thereby addressing the variables in exposures and cleaning methods highlighted by Mr. Morris.

The Technical Committee's appreciates the input from Mr. John Morris and the 3M Company. However, the Committee has determined position is that the current wording of the NFPA 1970 standard, which includes provisions for preliminary exposure reduction and advanced cleaning, should remain unchanged. The existing language adequately balances the need for comprehensive safety measures, user flexibility, and reliance on manufacturer guidance.

The Committee believes this approach best serves the interests of end users and manufacturers alike, ensuring both safety and practicality in the implementation of cleaning and disinfecting procedures for respiratory protection equipment.

Respectfully submitted,

Albert Yanagisawa
on behalf of the Technical Committee on Respiratory Protection Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-20
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. This motion deals with Public Comment 29 which suggested making ear covers and face shields or goggles (or both) optional parts of firefighter helmets. The Technical Committee (TC) rejected PC 29, emphasizing that both hoods and helmet ear covers are necessary for basic firefighter protection. The TC previously debated this and decided to include face shields or goggles as primary eye protection in the standard to enhance firefighter safety. Removing these from the standard would reduce safety, as face shields or goggles provide essential eye protection

during non-structural firefighting activities. Further, the TC recommended better education on using eye protection rather than removing it, noting no evidence was provided to show that eliminating face shields or goggles would reduce firefighter injuries.

In the First Draft stage, the TC considered Public Input 33, which proposed removing eye protection (but not ear covers) from helmet requirements, originating from Public Comment 34 in the previous NFPA 1971 revision cycle. The committee rejected this proposal, stating that it would decrease firefighter safety. During the previous revision, the TC concluded there was insufficient information to remove eye protection and encouraged the submitter to provide data showing adverse effects versus benefits. The TC also rejected Public Input 133 in the prior cycle for similar reasons, highlighting the importance of maintaining face shields or goggles as primary eye protection and recommending better education on their use instead of removing them.

The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson
on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-34
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3* revision cycle of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. This motion deals with Second Revision 49 and includes several changes, but this motion aims to reverse one specific alteration regarding the criteria for determining if the certification organization should take corrective action. The committee decided that facts need to be "scientifically supported" instead of "conclusive." The committee stated:

The term "conclusive" is not defined in Chapter 3 – Definitions, making Merriam-Webster's Collegiate Dictionary, 11th edition's definition too restrictive for the purpose of this

Chapter. A conclusive threshold is too high, especially when considering the Precautionary Principle and the risk to end-users. Evidence-based facts that are scientifically sound provide a reasonable standard for corrective action.

This change was driven by three Public Comments advocating for a scientific basis for the requirement.

The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson
on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-43
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. This motion aims to reverse a specific amendment from SR-50 that deals with the criteria for notifying government and regulatory agencies and informing the user community about a hazard in a compliant product. The TC decided that the facts should be "scientifically supported" rather than "conclusive." The committee stated:

The term "conclusive" is not defined in Chapter 3 – Definitions, making the Merriam-Webster's Collegiate Dictionary, 11th edition definition too restrictive for this Chapter's purpose.

"Conclusive facts" set a threshold too high, considering the Precautionary Principle and end-user risk. Evidence-based, scientifically sound facts are a reasonable benchmark for corrective action.

This change was driven by three Public Comments seeking to incorporate a scientific basis into the requirement.

The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson
on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-44
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. This motion aims to reverse SR-158, which altered the criteria for the certification body to take corrective action on hazards associated with compliant products. The committee decided that evidence should be "scientifically supported" rather than "conclusive". The committee explained that:

The term "conclusive" is not defined in Chapter 3 – Definitions, making the Merriam-Webster's Collegiate Dictionary, 11th edition's definition too restrictive for this Chapter's purpose.

Conclusive facts set a too-high standard considering the Precautionary Principle and the risk to end-users. Scientifically sound evidence is a more reasonable benchmark for initiating corrective action.

This change was triggered by two Public Comments seeking to include a scientific basis in the requirements.

The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson
on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-38
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. This motion deals with SR-44 which introduced several modifications to the Tear Resistance Test (9.3.1) of NFPA 1970. The TC issued the following statement:

The tear resistance test method is being revised for the following reasons:

1. Conditioning requirements are being updated to include UV light exposure to better demonstrate the degradation of outer shell materials during use. This decision was informed by photos and feedback from the fire service showing material

degradation. While the exact cause of this degradation is unknown, it is suspected to be related to UV light. This requirement is being added as a report-only test because the committee lacks sufficient information to set performance standards at this time, but it aims to gather data for future standard revisions.

2. Clarification is being made regarding the samples to be tested, with no technical changes introduced.
3. Specific requirements for Garments are being removed since this clarification has been added to the samples section.

In the First Draft stage, FR-123 altered the sample conditioning requirement so that samples would undergo a new multi-environmental conditioning procedure instead of the previous washing and drying procedure. This new procedure included 40 hours of continuous UV light exposure.

In the Second Draft stage, the TC removed the UV light exposure from the multi-environmental conditioning procedure because the exposure could not be physically performed on specimens large enough for testing. To maintain UV light resistance evaluation, the TC expanded the tear resistance test to require testing two sets of outer shell samples: one set undergoing the multi-environmental conditioning procedure (without UV light exposure) and one set exposed to UV light.

If this motion is approved, section 9.3.1 of NFPA 1970 would no longer require UV light exposure as part of the conditioning for tear resistance testing. The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft (to include UV light exposure) which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson

on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-35
June 2024

The *Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment* is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. This motion aims to reject SR-42 and the associated FR-214, which would remove section 6.1.7.5 from the Second Draft, thereby preventing the use of a "PFAS-FREE" label on protective elements. Initially, the Technical Committee (TC) approved FR-214 and FR-215, allowing manufacturers to label protective elements as "PFAS-FREE" if they could prove the absence of PFAS. The language was designed to help manufacturers indicate that no PFAS was intentionally used, aligning with state disclosure requirements.

In the Second Draft, the TC updated these requirements. SR-42 changed "intentionally added PFAS" to "measurable PFAS" and specified that a "PFAS-FREE" claim must be based on total fluorine measurements of less than 1 ppm. SR-43 made similar adjustments to user information requirements, emphasizing that the "PFAS-FREE" label must be based on testing specific materials and components.

Additional testing for total fluorine was incorporated into Sections 8.21 and 9.10.1 as part of the restricted substances requirements and as proof for the "PFAS-FREE" claim. A Task Group on Restricted Substances continued refining these requirements and submitted a Tentative Interim Amendment (TIA) for further improvements, which is still being processed.

If the TIA is approved, it will:

- Add more PFAS-related information to the annex.
- Define Total Fluorine.
- Set requirements for the laboratories certifying total fluorine content.
- Replace the "PFAS-FREE" label with a maximum PFAS (total fluorine) claim.
- Explain the use of total fluorine as a proxy for PFAS content in the annex.
- Update user information requirements.
- Introduce a new test method for determining total fluorine.

The process of eliminating and measuring PFAS in firefighting PPE is complex, as outlined in the task group's TIA. The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote and was sent to the Correlating Committee. The Technical Committee has recognized that this text is imperfect and is confident that any problems can and will be resolved through the TIA process.

Respectfully submitted,

Tim Tomlinson

on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-8 / 1970-46
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically NFPA 1970. The motion seeks to remove the 18-month phase-in period, thereby requiring immediate compliance with all requirements in the new standards upon issuance by NFPA. This change will affect the deadlines for manufacturers to stop labeling newly manufactured products as certified to previous editions of the following respective standards.

- NFPA 1971-2018
- NFPA 1975-2019

- NFPA 1981-2019
- NFPA 1982-2018

Initially, the four Technical Committees (TCs) responsible for various NFPA standards consolidated common requirements into Chapter 4, under the oversight of the TC on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF). This consolidation included adopting an 18-month phase-in period to address delays between the effective date of the new standard and its publication, which hindered certification organizations from issuing certifications for either the old or new standards promptly.

During the Second Draft stage, four public comments proposed eliminating the 18-month period. These comments were rejected by the committee for several reasons:

1. **Early Certification:** Manufacturers can certify products as soon as the standard is issued, allowing for earlier compliance if feasible. (no one has to wait 18-months)
2. **Extensive Safety Testing:** The new standard includes significant changes to enhance firefighter safety, including extensive chemical testing to ensure PPE is free of hazardous substances. This testing requires development time for certification labs and the committee did not want to penalize manufacturers or the fire service because of the implementation of these new requirements.
3. **Supply Chain Issues:** The COVID-19 pandemic has exacerbated material and component sourcing challenges, impacting the ability to complete full testing within a shorter timeframe. The long-term implications of the pandemic are still being felt in the materials and sourcing industry.
4. **Publication Delays:** Historically, there has been a gap of 3 to 6 months between the issuance and publication of new standards, leaving certification organizations with insufficient time to complete necessary work within a 12-month period.
5. **NIOSH Approval Process:** The respiratory protection committee emphasized the need to retain the 18-month timeframe due to the National Institute for Occupational Safety and Health (NIOSH) approval process required by the standard.

The submitters of CAMs 1970-8 and 1970-46 believe that 18 months is an unreasonable length of time to wait for gear that complies with the myriad improvements in NFPA 1970. However, the committee's position is that immediate compliance is not possible. As a potential

compromise, a series of Tentative Interim Amendments (TIA) has been proposed. If approved, the TIAs would:

- Remove the phase-in requirement from Chapter 4.
- Establish individual phase-in periods for each product type, such as protective ensembles, work apparel, Self-Contained Breathing Apparatus (SCBA), and Personal Alert Safety System (PASS) devices.
- Set a 12-month phase-in period for protective ensembles and work apparel.
- Set an 18-month phase-in period for SCBA and PASS devices.

These adjustments aim to balance the need for timely compliance with the practical challenges faced by manufacturers and certification organizations, ensuring that the enhanced safety standards can be met without compromising the availability of compliant PPE.

The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson
on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment

Certified Amending Motion 1970-45 / 1970-47
June 2024

The Report of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle* of *NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Committee(s) in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to thank NFPA for the opportunity to chair this committee, as well as submit this statement on behalf of the Technical Committee (TC) on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF).

This motion deals with the NFPA standards for Personal Protective Equipment (PPE), specifically, NFPA 1970. The motion seeks to remove the 18-month phase-in period, thereby requiring immediate compliance with all requirements in the new standard upon issuance by NFPA. This change will affect the deadlines for manufacturers to stop labeling newly manufactured products as certified to previous editions of the following respective standards.

- NFPA 1971-2018
- NFPA 1975-2019

- NFPA 1981-2019
- NFPA 1982-2018

Initially, the four Technical Committees (TCs) responsible for the above NFPA standards consolidated common requirements into Chapter 4, under the oversight of the TC on Structural and Proximity Firefighting Clothing and Equipment (FAE-SPF). This consolidation included adopting an 18-month phase-in period to address delays between the effective date of the new standard and its publication, which hindered certification organizations from issuing certifications for either the old or new standards promptly.

During the Second Draft stage, four public comments proposed eliminating the 18-month period. These comments were rejected by the committee for several reasons:

1. **Early Certification:** Manufacturers can certify products as soon as the standard is issued, allowing for earlier compliance if feasible (no one has to wait 18 months).
2. **Extensive Safety Testing:** The new standard includes significant changes to enhance firefighter safety, including extensive chemical testing to ensure PPE is free of hazardous substances. This testing requires development time for certification labs and the committee did not want to penalize manufacturers or the fire service because of the implementation of these new requirements).
3. **Supply Chain Issues:** The COVID-19 pandemic has exacerbated material and component sourcing challenges, impacting the ability to complete full testing within a shorter timeframe. The long-term implications of the pandemic are still being felt in the materials and sourcing industry.
4. **Publication Delays:** Historically, there has been a gap of 3 to 6 months between the issuance and publication of new standards, leaving certification organizations with insufficient time to complete necessary work within a 12-month period.
5. **NIOSH Approval Process:** The respiratory protection committee emphasized the need to retain the 18-month timeframe due to the National Institute for Occupational Safety and Health (NIOSH) approval process required by the standard.

The submitters of CAMs 1970-8 and 1970-46 believe that 18 months is an unreasonable length of time to wait for gear that complies with the myriad improvements in NFPA 1970. However, the committee's position is that immediate compliance is not possible. As a potential

compromise, a series of Tentative Interim Amendments (TIA) has been proposed. If approved, the TIAs would:

- Remove the phase-in requirement from Chapter 4.
- Establish individual phase-in periods for each product type, such as protective ensembles, work apparel, Self-Contained Breathing Apparatus (SCBA), and Personal Alert Safety System (PASS) devices.
- Set a 12-month phase-in period for protective ensembles and work apparel.
- Set an 18-month phase-in period for SCBA and PASS devices.

These adjustments aim to balance the need for timely compliance with the practical challenges faced by manufacturers and certification organizations, ensuring that the enhanced safety standards can be met without compromising the availability of compliant PPE.

The Technical Committee's position is to publish NFPA 1970 with the language finalized in the second draft which reached a consensus and ultimately reached a successful ballot vote which was sent to the Correlating Committee.

Respectfully submitted,

Tim Tomlinson
on behalf of the Technical Committee on Structural and Proximity Firefighting Protective Clothing and Equipment



Report of the *Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment*

**Certified Amending Motion 1970-27 / 1970-30
June 2024**

The *Report of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment* is presented as found in the First Draft Report and Second Draft Report for the *Custom ERRS Group 3 revision cycle of NFPA 1970, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 1970* at www.nfpa.org/1970next.

I want to say thank you for the opportunity as the Correlating Committee chair to explain the actions of the Correlating Committee as it addressed NFPA 1970. First a bit of history, this cycle presented unique challenges with virtual meetings due to the pandemic, the first consolidated standard for Fire Fighter PPE and the complex issue of PFAS in Fire Fighter PPE. The Technical Committees all voted to forward this standard to the Correlating Committee, but the calendar left some needed work.

Work has continued and the Technical Committees have produced Tentative Interim Amendments that, if issued, would be concurrent with the printing of NFPA 1970. Despite these hurdles, the technical committees and testing organizations worked tirelessly to ensure the new

standard met the technical committees' positions to provide fire fighters with the most up-to-date PPE that can be provided.

There is consensus from all four technical committees to move NFPA 1970 forward and to work on concurrent Tentative Interim Amendments to finish the work.

The Correlating Committees' position is for moving NFPA 1970 forward and considering any concurrent or future Tentative Interim Amendments that might be necessary, believing this approach best serves Fire Fighters and manufacturers alike.

Respectfully submitted,

Rick Swan
on behalf of the Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment



Report of the Technical Committee on Initiating Devices for Fire Alarm and Signaling Systems

Certified Amending Motion 72-6

June 2024

The Report of the Technical Committee on Initiating Devices for Fire Alarm and Signaling Systems is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024* cycle of *NFPA 72, National Fire Alarm and Signaling Code*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 72* at www.nfpa.org/72next.

This CAM proposes to reject Second Revision 5025 on 17.7.4.2.3.1. The submitter seeks to return 17.7.4.2.3.1 to first draft text by way of removing, "detectors on ceilings up to 40 ft (12.2 m) in height", which was included during the second draft by the technical committee. At the First Draft Meeting, the technical committee resolved a public input that proposed to put a limit on the spacing of smoke detectors on ceilings up to 30-feet pending the release of the FPRF report, Smoke Detector Spacing on High Ceilings. The technical committee reviewed the FPRF report prior to the Second Draft Meeting. The FPRF report detailed that an "...increase in ceiling height would allow smoke filing and reduced exposure of ceiling structural systems due to high plume temperature. Which is advantageous because this would increase the available time to respond and evacuate occupants." The report also indicated that "smoke detection design codes and standards should incorporate a quantifiable threshold to establish when a performance-based analysis is

needed for smoke detector spacing determination. The study recommends...a ceiling height of 40 feet." At the Second Draft Meeting, the technical committee revised the section to limit the use of normal spacing on ceilings up to 40 feet (12.2 m). Smoke detector spacing on 10 foot ceilings is based on an obscuration threshold giving individuals time to evacuate an occupancy. When the ceiling height is increased, the time for the smoke layer to descend is increased, giving occupants at least equivalent time to escape to a 10 foot ceiling. This limitation on normal spacing on high ceilings mirrors European standards, which limit normal spacing of smoke detectors on ceilings up to 12 meters (39.4 ft), and is a quantifiable threshold to establish the maximum height for prescriptive smoke detector spacing.

Respectfully submitted,

Laurence Dallaire
on behalf of the Technical Committee on Initiating Devices for Fire Alarm and Signaling Systems



Motion Substantiation

Certified Amending Motion: 72-6
June 2024

CAM 72-6 moves to Reject Second Revision No. 5025. If this CAM passes the language in Section 17.7.4.2.3.1 recommended by the voting membership will be:

17.7.4.2.3.1*

In the absence of specific performance-based design criteria, detectors ~~on ceilings up to 40 ft (12.2 m) in height~~ shall be spaced in accordance with either of the following:

- (1) The detectors shall comply with the following:
 - (a) The distance between detectors shall not exceed a nominal spacing of 30 ft (9.1 m).
 - (b) There shall be detectors within a distance of one-half the nominal spacing, measured at right angles from all walls or partitions extending upward to within the top 15 percent of the ceiling height.

*All points on the ceiling shall have a detector within a distance equal to or less than 0.7 times the nominal 30 ft (9.1 m) spacing (0.7S).

This motion reverses the inclusion of the allowance to use prescriptive spacing for smoke detectors on ceilings up to 40 ft. (12.2 m) in height.

For decades, the ceiling height limitation for smoke detectors had been established by the product Listing investigation, not NFPA 72. The Listing investigation provides the experimentally validated performance criteria for Listed smoke detectors. Since the Listing investigations in the U.S are derived from fire tests in a compartment with a 10 ft. (3.05 m) ceiling, the requirement that detectors be used in accordance with their Listing effectively limited the ceiling height for prescriptive designs to 10 ft. (3.05 m).

In 1987 Annex C was added. This Annex provided a means to make use of the research conducted at F.M. by Delachatsios and Heskestadt. The Annex was revised until, in 1990, design and analysis worksheets were included. The worksheets made it possible for the practicing fire protection engineer to design both heat and smoke detection for spaces that exceeded the limit established by the Listing that was predicated on actual fire tests. In 2007 an Excel spreadsheet that runs the calculations was placed in the public domain and continues to be available. Consequently, anyone licensed to practice fire protection engineering has been able to design smoke detection for high spaces since 1990.

The proposed 40 ft. ceiling criterion added at the Second Revision (comment) stage is “new material” that was not placed into the public domain during the First Revision Stage. While there was discussion during the meetings about the anticipated FPRF research report, the conclusions to be drawn from that report were not made public for the First Revision.

The proposed revision language of “on ceilings up to 40 ft. (12.2 m) in height” is inconsistent with and contradicts the recommendations provided in the FPRF report that was alleged to

support the proposed revision. The FPRF report provides formulas for reducing the spacing for smoke detectors in order to achieve a response time equivalent to the current prescriptive spacing criteria for ceiling heights used by the NRTLs in their Listing evaluations of smoke detectors. The Public Comment that the Technical Committee accepted does not include those formulae and explicitly repudiates the research conclusion that they were needed when it established a single prescriptive spacing criterion for ceilings up to 40 ft. (12.2 m) in Section 17.7.4.2.3.1.

The commentor has alluded to the fact that European codes do allow smoke detector use on ceilings up to 12 m (39.4 ft.). While the FPRP report presents smoke detector spacings in some European standards permitting the use of a prescriptive spacing criterion for ceiling heights up to 39.4 ft. (12 m), the report does not include any references to the Listing criteria for smoke detectors by the NRTLs that have Listed those products in those jurisdictions.

The incorporation of a single prescriptive spacing as provided in the amended Section 17.7.4.2.3.1 effectively removes the involvement of the fire protection engineer in assessing the hazard and developing a design that meets the objectives of the occupant community in those spaces where the circumstances are outside the bounds established by the Listing investigation. The fire-safety code enforcement community in the US has relied upon the involvement of the fire protection engineer when a proposed design falls outside the parameters the Listing laboratories used in their Listing investigations of safety-related products. By placing these new spacing criteria in the prescriptive requirements of NFPA 72 the technical committee is eliminating the involvement of the professional engineer in the design process yet the design is using Listed products outside of the limits established by the Listing. This can only lead to a reduction in the fire safety of the building equipped by a system designed in accordance with this proposed change.

Also, generally, in Europe the fire code enforcement personnel are led by fire protection engineers with the education needed to assess designs and accept those that she/he determines are acceptable. In the US, fire code enforcement personnel often come from the fire service and do not necessarily have the educational background to evaluate a design. The proposed revision would place a substantially new liability exposure on the local code enforcement official. Currently, the local code enforcement office relies upon the involvement of the professional engineer to ensure that the conditions have been properly assessed and that the fire-safety objectives for the facility have been achieved by the design of the fire detection portion of the fire alarm system. By allowing the use of prescriptive design criteria over the range of occupancies allowed by the proposed language, the occupants of the building lose the benefits of the insight of the fire protection engineer.

I urge the membership to correct this error and reject Second Revision # 5025-NFPA 72-2023.

Respectfully submitted,

John. M. Cholin, P.E., FSFPE, M.E.E.



Report of the Technical Committee on Supervising Station Fire Alarm and Signaling Systems

Certified Amending Motion 72-2
June 2024

The Report of the Technical Committee on Supervising Station Fire Alarm and Signaling Systems is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle of NFPA 72, National Fire Alarm and Signaling Code*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 72* at www.nfpa.org/72next.

This CAM proposes to reject Second Revision 5127 on 26.6.5.1. The submitter seeks to reject deletion of the Two-Way Radio Frequency (RF) Multiplex Systems section, which occurred during the second draft by the technical committee. At the First Draft Meeting, the technical committee created a committee input to solicit public comments on the deletion of subsections 26.6.4 (Digital Communicator Systems) and 26.6.5 (Radio Systems) and the reorganization of Section 26.6, Communication Methods for Supervising Station Alarm Systems. The technical committee reviewed and accepted the one public comment received proposing the deletion of the section on Two-Way Radio Frequency (RF) Multiplex Systems on the basis that two-way radio technology was no longer used or listed for fire alarm service. The requirements in subsection 26.6.5.1 are specific to listed two-way radio communications systems. The task group contacted a Nationally Recognized Testing Laboratory (NRTL) to inquire if two-way radio frequency (RF) multiplex

systems were listed for fire alarm service. The task group was not aware of any listed two-way radio frequency (RF) multiplex systems during the period of the First Draft and Second Draft Technical Committee deliberations.

Respectfully submitted,

Dan O'Connor
on behalf of the Technical Committee on Supervising Station Fire Alarm and Signaling Systems



Motion Substantiation

Certified Amending Motion 72-2
June 2024

CAM 72-2 moves to reject Second Revision No. 5127. If the CAM passes, there will be no removal of the prescriptive two-way radio capability and standards for fire reporting systems in Chapter 26, and it will continue to be a valid prescribed method of communication.

For this requirement, during the Second Revision the Signals Committee chose to remove a two-way radio section (26.6.5.1), including the prescriptive requirements contained therein. In the Second Revision, it was stated that no manufacturers currently meet this standard. However, that is not the case as there is at least one manufacturer (Monaco Enterprises, Inc.) that continues to meet this requirement.

The requirements for two-way radio frequency (RF) communication are preferred by locations that have a need or strong desire to ensure highly responsive systems with prescribed maximum operating time parameters. The Second Revision's proposed alternative would place these systems in performance-based design. However, there are differences between the performance-based design requirements and two-way RF systems requirements. Two major requirements under the two-way RF communication criteria (26.6.5.1.1) are that the maximum allowable time lapse in the reporting of any single alarm signal shall not exceed 90 seconds, and transmission of any adverse condition shall not exceed 200 seconds. The performance-based design criteria (26.6.3) are far less prescriptive and demanding, and place an undue burden on both designers and manufactures when a prescriptive methodology already exists and is being met. Monaco currently meets these two-

way RF communication requirements which are also required by much of its user base for protecting their critical assets and people.

Monaco has over 300 major installations utilizing two-way communication, many with hundreds of two-way radios amounting to well over 10,000 systems deployed. These systems currently protect assets worth hundreds of billions of dollars. Based on this as well as two-way RF communications' prescriptive and higher standards, Monaco continues to enhance current and develop new technologies which utilize two-way RF communication based on the requirements of NFPA 72 (26.6.5.1).

Equipment developed and deployed under the requirements of 26.6.5.1 are relied upon to protect lives and critical assets, and there is a proven track record of the need for such equipment. As noted earlier, performance-based solutions within Chapter 26 have much less stringent requirements for fire reporting systems, in particular the communication paths connecting the protected assets. Untimely notification of communication path failures potentially risks lives and endangers costly and critical assets.

This section should not be unnecessarily deleted when it is still in use, products exist and are actively being developed to meet its requirements, and its standards are required by major agencies and municipalities throughout the world. Support of this motion will leave this requirement unchanged, and imposes no negative impact on the code or other requirements.

Monaco certainly welcomes any questions or concerns about its capabilities or this NFPA Certified Amending Motion. Please do not hesitate to contact Monaco or visit Monaco representatives on the NFPA exhibitor floor at Booth 647.

Respectfully submitted,

[Sterling McConnell](#) **CET, MSFPE**
Programs Manager & Business Development Engineer
Monaco Enterprises, Inc.



Report of the Correlating Committee on Automatic Sprinkler Systems

Certified Amending Motion 13-4

June 2024

The *Report of the Correlating Committee on Automatic Sprinkler Systems* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to reject second correlating revision 3 on 1.2.2 which revised the term "qualified" to read "knowledgeable and trained." During the second draft meeting, the technical committee chose to return to previous edition text replacing "qualified" with "knowledgeable and experienced," in reference to personnel. This terminology has been a topic of discussion for a couple of revision cycles. The technical committee's position has been that local jurisdictions are charged with the responsibility of determining qualifications for those performing the work. The use of the term "knowledgeable and experienced" provides local jurisdictions the ability to set appropriate qualification requirements and describes the qualities for personnel that are performing the design and installation of sprinkler systems and private fire service mains. The correlating committee further revised 1.2.2 changing the term "experienced" to "trained" during the

development of the second revision making 1.2.2 consistent with NFPA 13R and NFPA 13D. The ballot vote was 20 affirmatives and 2 negatives.

Respectfully submitted,

William Koffel
on behalf of the Correlating Committee on Automatic Sprinkler Systems



Report of the Technical Committee on Sprinkler System Installation Criteria

Certified Amending Motion 13-3

June 2024

The *Report of the Technical Committee on Sprinkler System Installation Criteria* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to reject second revision 1015 on 3.3.181 which deleted the definition for "Qualified Personnel" added during the first draft. This action is directly related to the second draft revision for 1.2.2, which revised the term "qualified" added during the first draft to "knowledgeable and trained" (in reference to personnel). The committee voted to remove the definition of "qualified personnel" as the term was removed from section 1.2.2 during the second draft process. The committee's position is that revising "qualified" to read "knowledgeable and trained" in section 1.2.2 allows companies to train their employees for the work to be performed and allows the Authority Having Jurisdiction to establish criteria for those allowed to perform the work.

Respectfully submitted,

Raymond A. Grill

on behalf of the Technical Committee on Sprinkler System Installation Criteria



Report of the Technical Committee on Sprinkler System Installation Criteria

Certified Amending Motion 13-19

June 2024

The *Report of the Technical Committee on Sprinkler System Installation Criteria* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to reject second revision 1122 which deleted the definition of "automated Inspection and testing." During discussion it was noted that the term "automated Inspection and testing" is not used in the body of NFPA 13. As per section 5.3 of the NFPA Manual of Style, "Chapter 3, definitions shall contain only definitions of terms used in the document", therefore the definition was removed. The ballot vote was 30 affirmative and 6 negatives.

Respectfully submitted,

Raymond A. Grill

on behalf of the Technical Committee on Sprinkler System Installation Criteria



Report of the Technical Committee on Sprinkler System Installation Criteria

Certified Amending Motion 13-21

June 2024

The *Report of the Technical Committee on Sprinkler System Installation Criteria* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to accept public comment 213 which would have relocated information from the flexible coupling definition to the seismic chapter. At the second draft meeting, the committee voted to reject but hold the public comment noting that the implication of moving the information found in the definition was new material. As this was a reject but hold, the committee will be addressing the submitters concerns during the next revision cycle. This will help to ensure that flexible couplings are properly addressed throughout NFPA 13 and not just as they relate to seismic activity.

Respectfully submitted,

Raymond A. Grill

on behalf of the Technical Committee on Sprinkler System Installation Criteria



Report of the Technical Committee on Sprinkler System Installation Criteria

Certified Amending Motion 13-20

June 2024

The *Report of the Technical Committee on Hanging and Bracing of Water-Based Fire Protection Systems* is presented as found in the First Draft Report and Second Draft Report for the **annual 2024 cycle** of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

CAM 13-20 proposes to accept public comment 214, which would have added the flexible coupling angular movement requirements from the definition of a flexible coupling in Chapter 3 to a new section in Chapter 18, Installation Requirements for Seismic Protection. Subsequently, CAM 13-21 would then propose to delete these requirements from the definition. At the second draft meeting, the committee voted to reject but hold the public comment noting that the implication of moving the information found in the definition was new material and consideration needed to be given to ensuring flexible couplings are addressed properly throughout the standard beyond only Chapter 18. As this was a “reject but hold,” this Issue will be addressed during the next revision cycle. I would also like to note that the Technical Committee working on developing a new standard, NFPA 200, *Standard for Hanging and Bracing of Fire Suppression Systems*, is also currently reviewing this topic.

Respectfully submitted,

Jeff Hebenstreit
on behalf of the Technical Committee on Hanging and Bracing of Water-Based Fire
Protection Systems



Report of the Technical Committee on Sprinkler System Discharge Criteria

Certified Amending Motion 13-8

June 2024

The *Report of the Technical Committee on Sprinkler System Discharge Criteria* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to reject second revision 1079 including any related portions of first revisions and first correlating revisions which would have deleted the approved storage plan requirements from Chapter 28 added during the first draft and further modified during the second draft. The technical committee on sprinkler system discharge criteria added the new section to chapter 28 during the first draft to highlight the storage floor plan required by the fire codes. Adding it to NFPA 13 will require a storage floor plan for all new storage occupancies regardless of the applicable fire code. The position of the committee is that the plan will provide fire inspectors easy access to the approved storage configuration and give owners a way to monitor storage modifications throughout the life of the building.

At the second draft meeting, the committee chose to further modify the new section by extracting the requirements for an approved storage plan from NFPA 1 to maintain alignment

between NFPA 13 and NFPA 1. This passed ballot with vote of 27 affirmatives, 5 negatives, and 1 abstention.

Respectfully submitted,

William Smith
on behalf of the Technical Committee on Sprinkler System Discharge Criteria



Motion Substantiation

Certified Amending Motion 13-8
June 2024

CAM 13-8 moves to reject SR-1079 including an related portions of First Revisions and First Correlating Revisions. If the CAM passes, the requirement to provide an approved storage floor plan with the working plans and hydraulic calculations will be removed from Chapter 28.

The approved storage floor plan includes information about the building that the party developing the shop drawings and working plans would not easily have at their disposal. While the language is extracted from NFPA 1 Fire Code, the inclusion of this provision in Chapter 28 for sprinkler system plans and calculations only confuses the issue of who's responsibility it is to provide this document. The requirements of the Fire Code are enforceable through the building owner. The specific items needed for the approved storage floor plan are already identified in Chapter 4 under the Owner's Certificate requirements and needs to be handled by the owner or their designated representative upon completion of the sprinkler system, not during the review of working plans and hydraulic calculations. This requirement should remain in the fire code and not be included in the requirements for plans and calculations.

Respectfully submitted,

Kevin Hall, M.Eng., P.E., ET, CWBSP, PMSFPE

Sr. Manager, Engineering & Technical Services

American Fire Sprinkler Association



Report of the Correlating Committee on Automatic Sprinkler Systems

Certified Amending Motion 13-14
June 2024

The *Report of the Correlating Committee on Automatic Sprinkler Systems* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle of NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to Accept an Identifiable Part of Committee Comment No. 1055 on 29.1.2. The submitter seeks to reject the change of term "performed" to "witnessed" which occurred during the second draft by the correlating committee. The correlating committee reviewed comments received during the AUT-SSI second draft ballot noting confusion on the scope of *NFPA 915, Standard for Remote Inspections and Tests*. To clarify the scope of NFPA 915 the correlating committee revised 29.1.2 to indicate that NFPA 915 only applies to the witnessing of acceptance tests by the Authority Having Jurisdiction and not the performance of those tests by the contractor.

Respectfully submitted,

William Koffel
on behalf of the Correlating Committee on Automatic Sprinkler Systems



Report of the Correlating Committee on Automatic Sprinkler Systems

Certified Amending Motion 13-15
June 2024

The *Report of the Correlating Committee on Automatic Sprinkler Systems* is presented as found in the First Draft Report and Second Draft Report for the *Annual 2024 cycle* of *NFPA 13, Standard for the Installation of Sprinkler Systems*. The revisions were submitted to letter ballot of the responsible Technical Committees and Correlating Committee in accordance with the *Regulations Governing the Development of NFPA Standards*. The reports and ballot results can be found on the next edition tab of the Document Information page for *NFPA 13* at www.nfpa.org/13next.

This CAM proposes to reject second correlating revision 17 which struck annex material in section 10.3.2(9) which eliminated reference to car stacker hazard classification. This information was stricken from the annex to correlate with the actions taken in Chapter 10 which permits the installation of sidewall sprinklers in car stackers but does not provide a hazard classification. As such, it is inappropriate for an annex to provide a hazard classification which could be used to establish discharge criteria without supporting technical data. During the second draft, the committee discussed the fact that there was no substantiation provided to confirm that cars installed in car stackers or car lift systems would classify as an ordinary hazard group 2 occupancy where sprinklers are provided at each level of cars. The committee also noted that no provisions are provided in the body of the standard which state the limits of levels of car stackers and car lift systems and how to properly protect car stackers and car lift systems. It also notes that fire testing

is needed to determine the hazard classification of car stackers and car lift systems and how they should be protected. Fire test Information should be presented to the sprinkler discharge committee for review to determine appropriate protection criteria.

Respectfully submitted,

William Koffel
on behalf of the Correlating Committee on Automatic Sprinkler Systems