



First Revision No. 18-NFPA 1400-2024 [Global Input]

[Add new Chapter 45 using attached file (now Chapter 43)]

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Chapter_45_Required_Performance_for_Standpipe_System_Support.docx	New Chapter 45- for editorial use only	
1400_Global_FR-18_Chapter_43-new_for_ballot.pdf	For ballot	

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Wed Feb 07 19:31:44 EST 2024

Committee Statement

Committee Statement: The technical committee determined that there is a need to have a training section for standpipes within NFPA 1400. The proposed chapter will be revisited at the second draft. A task group will work to refine the content for the 2nd draft and public comment is encouraged.

Response Message: FR-18-NFPA 1400-2024

[Public Input No. 103-NFPA 1400-2023 \[Chapter 44\]](#)

Chapter 43 Emergency Scene Operations: Required Performance for Standpipe System Support (NFPA 1410)

43.1 General.

43.1.1

The required performance for standpipe system support shall consist of providing two initial supply lines to a standpipe or combined fire department connection.

43.1.1.1

Standpipe system support shall consist of supplying all inlets needed to provide standpipe system demand.

43.1.2

Standpipe system support evolutions shall be performed by the first arriving unit(s) staffed with the average number of personnel that ordinarily respond.

43.1.3

For evolutions employing two or more companies, there shall be a 30-second delay between the arrival of each company.

43.2 Required Flow.

43.2.1

The total flow of the required lines to the standpipe or combined fire department connection shall provide standpipe system demand.

43.2.2

The evaluator shall determine that required pressures and flows, in accordance with 43.2.1 and 43.2.2.1, are provided to the standpipe or combined fire department connections.

43.2.2.1

A minimum of 150 psi (1034 kPa) plus 5 psi (34.5 kPa) per floor of elevation of pump discharge pressure shall be used to supply the standpipe or combined system.

43.2.2.2

Pressures shall be within a range of ± 10 percent.

43.3 Hose Evolutions.

43.3.1

The supply lines shall be laid by an engine for a distance of 300 ft (90 m) to or from the water source, and for a distance of 100 ft (30 m) from an engine to the standpipe or combined fire department connection.

43.3.2

Apparatus water tanks shall not be used as a water supply for these evolutions.

43.4 Method of Evaluation.

43.4.1

When the order to begin the evolution is given, a water supply shall be established for the engine(s), and two supply lines shall be laid to the standpipe or combined fire department connection.

43.4.2

The evaluation shall be based on the ability to deliver a minimum of 500 gpm through two supply lines to the standpipe or combined fire department connections.

43.4.3

The flows shall continue until the evaluation is complete.

43.4.4

Failure to supply the standpipe or combined system shall be considered a serious deficiency in operations.

43.4.5 Interruptions.

43.4.5.1

Failure to maintain water pressure in any line until all lines are operating as required shall be considered an unacceptable interruption.

43.4.5.2

Interruptions of less than 10 seconds shall be considered acceptable.

43.4.6

The evolution shall not be concluded until the evaluator is satisfied that the required flows have been provided.

43.5 Evaluation.

Performance shall be evaluated in accordance with Figure 43.5.

Figure 43.5 Example of an Evaluation Form for Standpipe System Support.

	Satisfactory	Unsatisfactory
Was a minimum of 300 gpm (1135 L/min) delivered?	☐	☐
Was the pump discharge pressure correct?	☐	☐
Were flows obtained within the recommended time?	☐	☐
Were the hose layouts from the water source adequate?	☐	☐
Were flows obtained without major interruption?	☐	☐



First Revision No. 199-NFPA 1400-2024 [Global Input]

[See attached Word file for consolidated Chapter 24]

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Global_FR_for_1404_consildation_into_Ch_24.docx		
1400_Global_FR-199_Chapter_24_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Tue Apr 16 08:53:19 EDT 2024

Committee Statement

Committee Statement: The technical committee determine that Chapters 24,25 & 26 of the draft should be consolidated to establish one chapter on Respiratory Protection Training: Inspection and Maintenance of Equipment Used in Respiratory Protection Training.

Response Message: FR-199-NFPA 1400-2024

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Chapter 24 In-Service Inspection of Respiratory Protection Equipment Used in Training (NFPA 1404)

24.1 SCBA Service Checks.

24.1.1

SCBA service checks shall be conducted in accordance with 7.1.2 of NFPA 1852.

24.1.2

Closed-circuit SCBA used in training shall be inspected at frequencies determined by the AHJ in accordance with the manufacturer's recommendations but at no less than weekly intervals.

24.1.3

Closed-circuit SCBA shall be checked before and after each use in accordance with the manufacturer's recommendations.

24.2 SAR Unit Service Checks.

24.2.1

Inspection, maintenance, and repair records shall be maintained for SAR units used in training as required in Chapter 21.

24.2.2

All training SAR units used in emergency situations shall be inspected at least monthly in accordance with the manufacturer's instructions and shall be checked for proper function before and after each use.

24.2.3

All SAR units used in training shall be operated in accordance with the manufacturer's instructions.

24.2.4*

The SAR unit shall consist of an emergency escape air cylinder and a pressure-demand-only facepiece when used in an IDLH atmosphere.

24.3 APR Service Checks.

24.3.1

Inspection, maintenance, and repair records for APR used in training shall be maintained as required in Chapter 23.

24.3.2

The APR used for training shall be thoroughly inspected upon receipt and prior to each use.

24.3.3

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The APR used for training shall be tested for leakage prior to each use in accordance with the manufacturer's instructions.

24.3.4

The AHJ shall establish a policy for replacing filters and cartridges used in training and in-service operations, including but not limited to hazardous materials responses, abatement exercises, overhaul and salvage operations, and responses to CBRNE emergencies.

24.4 PAPR Service Checks.

24.4.1

Inspection, maintenance, and repair records for PAPR used in training shall be maintained as required in Chapter 23.

24.4.2

The PAPR used for training shall be thoroughly inspected upon receipt and prior to each use.

24.4.3

The PAPR used for training with full face mask shall be tested for leakage prior to each use in accordance with the manufacturer's instructions.

24.4.4

The PAPR battery and charging system shall be thoroughly inspected for proper operation and for any damage. The battery life shall be evaluated regularly to ensure the battery conforms to nominal specifications from the manufacturer.

24.4.5

The PAPR shall be flow tested per the manufacturer's instructions using approved methods and equipment.

24.4.6

The AHJ shall establish a policy for replacing filters and cartridges used in training and in-service operations, including but not limited to hazardous materials responses, abatement exercises, overhaul and salvage operations, and responses to CBRNE emergencies.

24.5 Emergency Escape Respirators (EER) Service Checks.

24.5.1

Inspection, maintenance, and repair records for EER used in training shall be maintained as required in Chapter 23.

24.5.2

The EER used for training shall be thoroughly inspected upon receipt and prior to each use.

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24.5.3

The EER used for training shall be tested for leakage prior to each use in accordance with the manufacturer's instructions.

24.5.4

The AHJ shall establish a policy for replacing filters and cartridges used in training and in-service operations, including but not limited to hazardous materials responses, abatement exercises, overhaul and salvage operations, and responses to CBRNE emergencies.

25.1 User Maintenance. [Move to 24.6]

Commented [SB1]: Delete Chapter 25 after moving sections out.

25.1.1*

All maintenance and repairs on respiratory protection equipment used for training shall be conducted by qualified persons in accordance with NFPA standards or the manufacturer's recommended practices.

25.1.2

Annual inspection and servicing of SCBA systems and SAR systems used in training shall be conducted by qualified personnel and whenever an operational problem is reported.

25.1.2.1

Inspections and servicing of SCBA shall be performed in accordance with NFPA 1852.

25.1.2.2

Inspection of SAR units shall be in accordance with the manufacturer's instructions for the unit in service.

25.1.3

Cleaning and sanitizing of SCBA training units shall be conducted in accordance with Section 6.1 of NFPA 1852.

25.1.4

SAR units, PAPR, and APR training units shall be cleaned and sanitized as specified in the manufacturer's instructions.

25.1.5

Firefighters, or other designated and trained personnel, shall clean and sanitize each SCBA, SAR unit, PAPR, and APR after each training session use or upon their return to the fire station.

25.1.5.1

SCBA units shall be cleaned and disinfected in accordance with Chapter 6 of NFPA 1852.

25.1.5.2

SAR, PAPR, and APR units shall be cleaned and disinfected in accordance with the manufacturer's instructions.

25.1.5.3

The entire device shall be cleaned, filters or cartridges shall be replaced if appropriate, and the facepiece and breathing tube shall be sanitized.

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26.1 Air Quality Control. [Move to 24.7]

Air for respiratory protection training taken from the regular production of a compressor and storage system shall meet the testing and quality requirements of NFPA 1500.

26.2 Recharging Air Cylinders Used in Training. [Move to 24.8]

26.2.1

Air cylinders used in training shall be inspected and filled in accordance with the provisions of Chapter 7 of NFPA 1500.

26.2.2

Air cylinders shall be filled only by personnel who have been trained on the procedures and equipment.

26.2.3

The operating procedures and safety precautions shall be posted in a conspicuous location at the fill station.

Commented [SB2]: Delete Chapter 26 after moving sections out.



First Revision No. 200-NFPA 1400-2024 [Global Input]

[See attached Word file for consolidated Chapter 22 (now Chapter 23)]

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
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Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Tue Apr 16 09:08:50 EDT 2024

Committee Statement

Committee Statement: The technical committee determine that Chapter 22 of the draft will be consolidated with Chapter 23 to establish one chapter on Respiratory Protection Training: Training Program Requirements.

Response Message: FR-200-NFPA 1400-2024

Chapter 23 Respiratory Protection Training Component (NFPA 1404)

23.1 Coordinated Administrative Policies.

23.1.1

The AHJ shall adopt and maintain a respiratory protection program that meets the requirements of ~~Section 7.3 of~~ NFPA 1500.

23.1.2

The AHJ shall conduct ongoing respiratory protection training that meets the requirements of Chapters 21 through 27.

23.1.3

Respiratory protection training shall be conducted according to written standard operating procedures.

23.1.4

The AHJ shall establish and enforce written standard operating procedures for training in the use of respiratory protection equipment that shall include the following:

- (1) *When and how the following respiratory protection equipment is to be used:
 - (a) Emergency Breathing-breathing Safety-safety System-system (EBSS), if provided
 - (b) Rapid Intervention-intervention Crewcrew/Company-company Universal-universal Air-air Connection-connection (RIC/UAC)
 - (c) Heads-Up-up Display-display (HUD)
 - (d) End-of-Serviceservice-Time-time Indicator-indicator (EOSTI)
- (2) *Emergency evacuation procedures
- (3) Procedures for ensuring facepiece fit
- (4) *Cleaning and visual inspection of respiratory protection equipment components
- (5) *A policy for changing respiratory filters and cartridges
- (6) A policy defining end of service life for all types of filter or cartridge-type respirators
- (7) A policy defining the storage and inventory control of all respiratory protection equipment

23.1.5

The AHJ shall establish and enforce written standard operating procedures for training in the use of respiratory protection equipment that shall include an individual air management program.

23.1.5.1*

The individual air management program shall be designed to develop the ability of an individual to manage his or her air consumption as part of a team during a work period.

23.1.5.2

The individual air management program shall include the following directives:

- (1) The individual shall exit from an IDLH atmosphere before consumption of reserve air supply begins.
- (2) The individual shall recognize that the low air alarm notification or ~~End-of-Service-Time Indicator~~ (EOSTI), indicates the member is consuming the reserve air supply.
- (3) The individual and the team shall take immediate action upon activation of the reserve air alarm (EOSTI) and shall follow their department's SOP/SOG.

23.1.6

The AHJ shall provide respiratory protection equipment for each member at the training site who could be exposed to respiratory hazards.

23.1.7

The AHJ shall establish written training policies for respiratory protection.

23.1.8*

Training policies shall include but shall not be limited to the following:

- (1) *Identification of the various types of respiratory protection equipment
- (2) Responsibilities of members to obtain and maintain proper facepiece fit
- (3) Responsibilities of members for proper cleaning and maintenance
- (4) *Identification of the factors that affect the duration of the air supply
- (5) *Determination of the air consumption rate of each member
- (6) Responsibilities of members for using respiratory protection equipment in a hazardous atmosphere
- (7) Limitations of respiratory protection devices
- (8) Battery life limitations and recharging requirements of PAPRs

23.1.9

The members of the AHJ shall be trained on the procedures for inspection, maintenance, repair, and testing of respiratory protection equipment in accordance with Chapter 7 of NFPA 1852.

23.1.10*

Records of all respiratory protection training shall be maintained, including training of personnel involved in maintenance of such equipment, in accordance with Section 4.3 of NFPA 1852.

23.2 Requirements of the Respiratory Protection Training Component.

The AHJ shall ensure that each employee can demonstrate knowledge of the following:

- (1) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
- (2) What the limitations and capabilities of the respirator are
- (3) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
- (4) How to inspect, don and doff, use, and check the seals of the respirator
- (5) What the procedures are for maintenance and storage of the respirator
- (6) How to recognize medical signs and symptoms that can limit or prevent the effective use of respirators
- (7) *How to recognize medical signs and symptoms associated with exposure to WMD
- (8) How to properly dispose of contaminated filters or cartridges
- (9) What the general requirements of Section 23.2 are

23.1 Safety Officer. [Move to 23.3]

23.1.1

A safety officer shall be appointed for all respiratory protection training evolutions.

23.1.2

All respiratory protection training instructors and safety officers shall be trained on the application of the requirements contained in Chapters 21 through 27.

23.1.3

The safety officer shall have the authority, regardless of rank, to intervene and control any aspect of the operations when, in his or her judgment, a potential or actual danger, accident, or unsafe condition exists.

23.1.4

The responsibilities of the safety officer shall include, but shall not be limited to, the following:

- (1) Prevention of unsafe acts
- (2) Elimination of unsafe conditions

23.1.5

The safety officer shall provide for the safety of all persons on the scene, including students, instructors, visitors, and spectators.

23.1.6

The safety officer shall not be assigned other duties that interfere with safety responsibilities.

23.1.7

The safety officer shall be knowledgeable in the operation and location of safety features available for the respiratory protection training structure or prop.

23.1.8

Additional safety personnel, as deemed necessary by the safety officer, shall be located to react to any unsafe or threatening situation or condition.

23.2 Instructor-in-Charge and Instructors. [Move to 23.4]

23.2.1

The instructor-in-charge shall have received training to meet the minimum job performance requirements for Fire Instructor I in NFPA 1041.

23.2.2

The instructor-in-charge shall be responsible for full compliance with this chapter.

23.2.3

It shall be the responsibility of the instructor-in-charge to coordinate overall respiratory protection training activities to ensure correct levels of safety.

23.2.4

The instructor-in-charge shall assign the following personnel:

- (1) One instructor to each functional crew, which shall not exceed five students
- (2) One additional instructor for each additional functional assignment

23.2.5

The instructor-in-charge shall provide for rest and rehabilitation of participants operating at the scene, including any necessary medical evaluation and treatment, food and fluid replenishment, and relief from climatic conditions. (*See Annex G.*)

23.2.5.1

Instructors shall be rotated through duty assignments.

23.2.6

All instructors shall be qualified to deliver respiratory protection training by the AHJ.

23.2.7

Additional instructors shall be designated when factors such as extreme temperatures or large groups are present and when classes of long duration are planned.

23.2.8

Prior to the respiratory protection training, instructors shall ensure that all protective clothing and equipment specified in this chapter are being worn according to the manufacturer's instructions.

23.2.9

Instructors shall take a ~~Personal~~personal Accountability~~accountability Report~~report (PAR) when entering and exiting the structure or prop during an actual evolution conducted in accordance with Chapters 21 through 27.

23.2.10

Instructors shall monitor and supervise all assigned students during the respiratory protection training evolution.

23.2.11

Awareness of weather conditions, wind velocity, and wind direction shall be maintained, including a final check for possible changes in weather conditions immediately before actual evolution.

23.3 Personal Protective Clothing. [Move to 23.5]

23.3.1

All students, instructors, safety personnel, and other personnel shall wear all protective clothing and equipment specified in this chapter according to the manufacturer's instructions whenever they are involved in any evolution during the respiratory protection training evolution.

23.3.2

All participants shall be inspected by the safety officer prior to entry into a respiratory protection training evolution to ensure that the protective clothing and SCBA are being worn correctly and are in serviceable condition.

23.3.3

Protective coats, trousers, hoods, footwear, helmets, and gloves shall have been manufactured to meet the requirements of NFPA 1971.

23.3.4

SCBA shall have been manufactured to meet the requirements of NFPA 1981.

23.3.5

Where station or work uniforms are worn by any participant, the station or work uniform shall have been manufactured to meet the requirements of NFPA 1975.

23.3.6

Personal alarm devices shall have been manufactured to meet the requirements of NFPA 1982.

23.3.7

All students, instructors, safety personnel, and other personnel participating in any evolution or operation of respiratory protection training evolution shall breathe from an SCBA air supply whenever they operate under one or more of the following conditions:

- (1) In an atmosphere that is oxygen deficient or contaminated by products of combustion, or both
- (2) In an atmosphere that is suspected of being oxygen deficient or contaminated by products of combustion, or both
- (3) In any atmosphere that can become oxygen deficient, contaminated by products of combustion, or both
- (4) Below ground level

23.4 Recruit Training. [Move to 23.6]

23.4.1*

All training related to the use, maintenance, and care of respiratory protection equipment shall be provided by instructors meeting the objectives of Instructor I of NFPA 1041~~;~~² instructors who have been trained and certified by the respirator's manufacturer; an authorized distributor~~;~~² or as approved by the AHJ.

23.4.2*

Minimum performance standards shall be established by NFPA 1001 and the AHJ for donning respiratory protection equipment.

23.4.3

Fit-testing procedures as provided in NFPA 1500 shall be required for all recruits who are expected to use a tight-fitting facepiece respirator, including SCBA, SAR, APRs, and PAPRs, prior to training in contaminated atmospheres.

23.4.4*

Prior to initial training, members shall be examined and certified by a physician as being medically and physically fit in accordance with ~~the following:~~ [NFPA 1550](#), [NFPA 1582](#), and [NFPA 1583](#).

- ~~1. NFPA 1500~~
- ~~2. NFPA 1582~~
- ~~3. NFPA 1583~~

23.5 Annual Member Retraining and Certification. [Move to 23.7]

23.5.1

Retraining shall be administered annually and when the following situations occur:

- (1) Changes in the hazards found in the workplace or the type of respirator in use by the jurisdiction render the previous training obsolete
- (2) Inadequacies in the member's knowledge or use of the respirator indicate that the member has not retained the requisite understanding or skill
- (3) Any other situation arises in which retraining appears necessary to ensure safe respirator use

23.5.2

The respiratory protection training program shall provide members with annual training concerning the following:

- (1) Donning and doffing respiratory protection equipment
- (2) Uses and limitations of respiratory protection equipment
- (3) Consequences of an improper fit or poor maintenance impacting the protection being provided
- (4) How to perform seal checks
- (5) How to recognize medical signs and symptoms that can impact use of respirators
- (6) How to inspect the respirator before use
- (7) Procedures for maintenance and storage
- (8) Individual limitations of members who could be required to use respiratory protection equipment
- (9) Approved decontamination and disposal procedures for respiratory protection equipment

23.6 Respiratory Protection Training Safety. [Move to 23.8]

23.6.1

Smoke produced from live fire shall be prohibited in SCBA training sessions until the firefighter has demonstrated proficiency with the SCBA used by the AHJ, as required by 23.10.4.

23.6.2

When live fire training fires are used in conjunction with SCBA training, such fires shall comply with Chapters 15 through 20.

23.6.3

The AHJ shall provide members with the most current information available concerning the correct operation of their respiratory protection equipment, its limitations and capabilities, and relevant information concerning why and how proper fitting is important to the safety of the user.

23.6.4

Standard operating procedures shall be written concerning the correct operation of respiratory protection equipment during training.

23.6.5

Members shall demonstrate knowledge of correct procedures and practices through an evaluation process that is established by the AHJ.

23.6.6*

Instruction on the common reasons for the breakdown of procedures or equipment that could cause injuries shall include the following subjects:

- (1) Abuse and misuse of equipment
- (2) Physiological and psychological factors
- (3) Unapproved equipment
- (4) Buddy breathing
- (5) Information supplied to agencies that collect accident information, where available

23.6.7

Members required to wear respiratory protection equipment in conjunction with specialized protection equipment in training activities (e.g., proximity suits or totally encapsulated suits) shall be evaluated for physical and emotional stresses associated with these specialized applications.

23.6.8

The AHJ shall be responsible for establishing a written training component that provides members with training in the use and limitations of respiratory protection equipment and related equipment, in the policies and procedures related to the AHJ's respiratory protection program, and in those areas outlined by Chapters 21 through 27.

23.6.9

The program shall provide a means for evaluating member performance in the use of respiratory protection equipment and member knowledge of the respiratory equipment used.

23.6.10

Respiratory protection training shall be conducted as an ongoing training program.

23.7 Ability to Act Properly in Simulated Emergencies. [Move to 23.9]

23.7.1

The AHJ shall provide a means for evaluating a member's ability to act properly during emergency situations that require the use of respiratory protection equipment.

23.7.2*

This evaluation shall be accomplished through the use of simulated emergencies and shall include the following:

- (1) Ability to select the correct respiratory protection equipment to match the simulated hazard or emergency
- (2) Ability to don and doff respiratory protection under simulated emergency incidents
- (3) Ability to use and operate respiratory protection equipment under simulated emergency incidents where respiratory protection can be required
- (4) Ability to correctly match respiratory protection equipment with the appropriate level of personal protective equipment (clothing)

23.7.3

The evaluation shall be based on the member's ability to successfully operate under simulated emergency incident conditions.

23.8 Requirements for the Progression of Training. [Move to 23.10]

23.8.1

Recruit training shall include the identification of SCBA, SAR, APR, and PAPR, components, terminology, and equipment specifications through the following:

- (1) Operation of SCBA, SAR, APR, and PAPR, and related equipment

- (2) Inspection and maintenance of equipment
- (3) Donning methods employed by the AHJ
- (4) Performance of related emergency scene activities, such as advancing hose lines, climbing ladders, crawling through windows and confined spaces, performing rescues, and providing medical assistance while wearing respiratory protection
- (5) Comprehension of organizational policies and procedures concerning safety procedures, emergency operations, use, inspection, and maintenance
- (6) Performance of activities under simulated emergency conditions
- (7) Use and limitations of conventional respiratory protection equipment in exposure to WMD environments
- (8) Compliance with all performance standards of the AHJ
- (9) Approved decontamination and disposal procedures for contaminated respiratory protection equipment

23.8.2* Required Training.

Training shall be conducted in a sequential format with a logical progression toward achieving specific goals, including the following:

- (1) Establishing policies by the AHJ
- (2) Requiring theoretical understanding of respiratory protection
- (3) Developing practical skills

23.9 Recognizing Hazards. [Move to 23.11]

23.9.1

The training program of the AHJ shall evaluate the ability of personnel to identify the following:

- (1) Hazardous environments that require the use of respiratory protection
- (2) Primary gases produced by combustion
- (3) *Primary characteristics of gases that are present or generated by processes other than combustion
- (4) *Any toxic gases that are unique to the particular AHJ resulting from manufacturing or industrial processes
- (5) Shipping labels of hazardous materials

- (6) *Possible signs of chemical, biological, radiological, or nuclear contamination (a WMD event)

23.9.2

Fire department members shall be trained to handle problems related to the following situations that can be encountered during the use of respiratory protection equipment:

- (1) *Low temperatures
- (2) *High temperatures
- (3) *Rapid temperature changes
- (4) *Use of communications equipment
- (5) *Confined spaces
- (6) *Use of corrective lenses
- (7) *Facepiece-to-face sealing problems
- (8) *Absorption through or irritation of the skin
- (9) *Effects of ionizing radiation on the skin and the entire body
- (10) Punctured or ruptured eardrums
- (11) *Use near water
- (12) *Overhaul

23.10 Specialized Training on SCBA. [Move to 23.12]

23.10.1 Understanding the Components of SCBA.

The training program of the AHJ shall evaluate the ability of members to perform the following skills:

- (1) Identify the components of facepieces, regulators, harnesses, and cylinders used by the AHJ.
- (2) Demonstrate the operation of the SCBA used by the AHJ.
- (3) Describe the operation of the SCBA used by the AHJ.
- (4) *Describe the potential incompatibility of different makes and models of SCBA.
- (5) *Determine if a given SCBA has been tested and certified by NIOSH for use by emergency responders in CBRN environments.

23.10.2 Understanding the Safety Features and Limitations of SCBA.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following skills:

- (1) *Describe the operational principles of warning devices required on an SCBA.
- (2) *Identify the limitations of the SCBA used by the AHJ.
- (3) *Describe the limitations of the SCBA's ability to protect the body from absorption of toxins through the skin.
- (4) Describe the procedures to be utilized if the member is unintentionally submerged in water while wearing an SCBA.
- (5) Demonstrate the possible means of communications when wearing an SCBA.
- (6) Describe the emergency bypass operation.
- (7) Describe how to recognize medical signs and symptoms that could prevent the effective use of respirators.
- (8) *Describe the limitations of conventional SCBA exposure to WMD.

23.10.3 Donning and Doffing SCBA.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Techniques for donning and doffing all types of SCBA used by the AHJ while wearing the full protective clothing used by the AHJ
- (2) That a proper facepiece-to-face seal has been achieved by using the seal check
- (3) Techniques to ensure that a removable regulator has been installed in the SCBA facepiece per manufacturers guidelines

23.10.4 Practical Application in SCBA Training.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Knowledge of the components of respiratory protection
- (2) *Use of all types of SCBA utilized by the AHJ under conditions of obscured visibility
- (3) *Emergency operations that are required when an SCBA fails
- (4) *Emergency techniques using an SCBA to assist other members, conserve air, and show restrictions in use of bypass valves
- (5) Use of an SCBA in confined spaces
- (6) Proper cleaning and sanitizing of the facepiece

23.11 Specialized Training in the Use of SAR. [Move to 23.13]

23.11.1 Understanding the Components of SAR Units.

The training program of the AHJ shall evaluate the ability of members to perform the following skills:

- (1) Describe the air source, air hose limitations, and NIOSH-approved inlet pressure gauge range.
- (2) Identify the components of facepieces, regulators, harnesses, manifold systems, and cylinders or compressors used by the AHJ.
- (3) Describe the operation of the SAR used by the AHJ.
- (4) Describe the limitations of the escape cylinder.
- (5) *Describe the potential incompatibility of different makes and models of SAR units.
- (6) Describe proper procedures for inspection, cleaning, and storage of SAR units.
- (7) Describe the limitations on using SAR in CBRN environments.
- (8) Describe the approved decontamination and disposal procedures for contaminated SAR units or components.

23.11.2 Understanding the Safety Features and Limitations of an SAR.

The training program of the AHJ shall evaluate the ability of members to perform the following skills:

- (1) *Describe the operational principles of an emergency escape cylinder required on an SAR when used in IDLH atmospheres.
- (2) Identify the limitations of the SAR used by the AHJ.
- (3) *Describe the limitations of the SAR's ability to protect the body from absorption of toxins through the skin.
- (4) Describe the possible means of communications when wearing an SAR.
- (5) Describe the prohibition in using compressed oxygen with a SAR system.
- (6) Describe how to recognize medical signs and symptoms that could prevent the effective use of SAR.
- (7) Describe the limitations of conventional SAR exposure to WMD.

23.11.3 Donning and Doffing SAR.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Proper techniques for donning and doffing all types of SAR used by the AHJ while wearing the full protective clothing
- (2) That a proper facepiece-to-face seal has been achieved by using the seal check
- (3) *Proper methods for tending SAR air hoses

23.11.4 Practical Application in SAR Training.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Knowledge of the components of the SAR system
- (2) Understanding that the use of SAR is prohibited for firefighting
- (3) *Use of SAR utilized by the AHJ under conditions of obscured visibility
- (4) *Emergency operations that are required when a SAR fails
- (5) Use of SAR when using hazardous materials personal protective equipment if utilized by the AHJ
- (6) Use of an SAR in confined spaces
- (7) Proper cleaning and sanitizing of the facepiece
- (8) Ability to describe the approved decontamination and disposal procedures for contaminated SAR units or components

23.12 Specialized Training in the Use of APRs and PAPRs. [Move to 23.14]

23.12.1 Understanding the Components of APR and PAPR Units.

The training program of the AHJ shall evaluate the ability of members to perform the following skills:

- (1) Identify the components of facepieces and cartridges used by the AHJ.
- (2) Describe the operation of the APRs and PAPRs used by the AHJ.
- (3) *Describe the limitations of the APR and PAPR.
- (4) Demonstrate the operation of the APRs and PAPRs used by the AHJ.
- (5) Describe how a selected APR or PAPR must be appropriate for the chemical state and physical form of the contaminant.
- (6) *Determine when to replace cartridge units.
- (7) Demonstrate proper procedures for inspection, cleaning, and storage of APRs and PAPRs.

- (8) Determine an appropriate PAPR battery recharge or replacement schedule.

23.12.2 Understanding the Safety Features and Limitations of APRs and PAPRs.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Describe the operational principles of the APRs and PAPRs.
- (2) Identify the limitations of the APRs and PAPRs used by the AHJ.
- (3) *Describe the limitations of the APRs and PAPRs to protect the body from absorption of toxins through the skin.
- (4) Describe the procedures for determining canister and cartridge selection by color-coded labeling as well as NIOSH-approved labeling.
- (5) Understand that labels are not to be removed from cartridges.
- (6) Understand that the use of APRs and PAPRs is prohibited for firefighting.
- (7) *Describe the limitations of APRs and PAPRs in fireground activities.
- (8) *Describe the limitations of conventional APRs and PAPRs in exposure to WMD.

23.12.3 Donning and Doffing APRs and PAPRs.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Proper techniques for donning and doffing all types of APRs and PAPRs used by the AHJ while wearing the full protective clothing
- (2) That a proper facepiece-to-face seal has been achieved

23.12.4 Practical Application in APR and PAPR Training.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Knowledge of the components of respiratory protection
- (2) Limits of communications when wearing APRs and PAPRs
- (3) Use of APRs and PAPRs utilized by the AHJ under conditions of obscured visibility
- (4) Correct selection and installation of cartridges for a given situation
- (5) Proper method of donning and doffing APRs and PAPRs
- (6) The positive pressure and the negative pressure facepiece-to-face leak test
- (7) Use of APRs and PAPRs in confined spaces

- (8) Proper cleaning and sanitizing
- (9) Ability to describe the approved decontamination and disposal procedures for contaminated APR and PAPR units or components

23.13 Specialized Training on Emergency Escape Respirators. [Move to 23.15]

23.13.1 Air-Purifying Escape Respirators (APERs).

23.13.1.1 Understanding the Components of APERs.

The training program of the AHJ shall evaluate the ability of members to perform the following skills:

- (1) Identify the components of the unit used by the AHJ.
- (2) Describe the operation of the APER used by the AHJ.
- (3) Describe the limitations of the APER.
- (4) Demonstrate the operation of the APER used by the AHJ.
- (5) *Demonstrate proper procedures for inspection, storage, and disposal of the APER.

23.13.1.2 Understanding the Safety Features and Limitations of APERs.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Describe the operational principles of the APER.
- (2) Identify the limitations of the APER used by the AHJ.
- (3) *Describe the limitations of the APER's ability to protect the body from absorption of toxins through the skin.
- (4) Understand that the use of APERs are for escape purposes only.
- (5) *Describe the limitations of APERs in exposure to WMD.

23.13.1.3 Donning and Doffing APERs.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Proper techniques for donning and doffing all types of APERs used by the AHJ
- (2) That a proper fit is achieved on the wearer

23.13.1.4 Practical Application in APER Training.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Knowledge of the components of respiratory protection
- (2) Limits of communications when wearing the APER
- (3) Use of APER utilized by the AHJ under conditions of obscured visibility
- (4) The proper techniques for donning and doffing the APER
- (5) The use of APER in confined spaces
- (6) Proper disposal of the APER after use

23.13.2 Self-Contained Escape Respirators (SCERs).

23.13.2.1 Understanding Components of SCERs.

The training program of the AHJ shall evaluate the ability of members to perform the following skills:

- (1) Identify the components of the unit used by the AHJ.
- (2) Describe the operation of the SCER used by the AHJ.
- (3) Describe the limitations of the SCER.
- (4) Demonstrate the operation of the SCER used by the AHJ.
- (5) *Demonstrate proper procedures for inspection, storage, and cleaning of SCERs.

23.13.2.2 Understanding Safety Features and Limitations of SCERs.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Describe the operational principles of the SCER.
- (2) Identify the limitations of the SCER used by the AHJ.
- (3) *Describe the limitations of the SCER's ability to protect the body from absorption of toxins through the skin.
- (4) Understand that the use of SCERs is for escape purposes only.
- (5) *Describe the limitations of SCERs in exposure to WMD.

23.13.2.3 Donning and Doffing SCERs.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Proper techniques for donning and doffing all types of SCERs used by the AHJ
- (2) *That a proper fit is achieved on the wearer

23.13.2.4 Practical Application in SCER Training.

The training program of the AHJ shall evaluate the ability of members to demonstrate the following:

- (1) Knowledge of the components of respiratory protection
- (2) Limits of communications when wearing the SCER
- (3) Use of SCER utilized by the AHJ under conditions of obscured visibility
- (4) The proper techniques for donning and doffing the SCER
- (5) The use of SCER in confined spaces
- (6) The proper procedures for placing the SCER back in service after use

23.14 Specialized Respiratory Protection Training for WMD Response. [Move to 23.16]

23.14.1* Understanding WMD Threats.

The training program of the AHJ shall evaluate the ability of members to identify the WMD threats [chemical, biological, radiological, nuclear, explosive (CBRNE)].

23.14.2* Understanding WMD Response.

The training program of the AHJ shall evaluate the ability of members to identify the probability and potential of a CBRNE event. This shall include an assessment of the following:

- (1) Local exposure and risks to personnel
- (2) Types of casualties that could be encountered
- (3) Likely response by emergency agencies
- (4) CBRNE events that will not require emergency response
- (5) Physiological risks and methods of exposure for likely CBRNE events

23.14.3* Evaluating WMD Risks.

The training program of the AHJ shall evaluate the ability of members to identify the types and probability of WMD threats, which shall include knowing the following:

- (1) Chemical threats are more likely (and knowing the delivery methods of chemical threats).
- (2) Biological threats are unlikely to require emergency response.
- (3) Radiological threats are unlikely to be detected.
- (4) Nuclear threats are unlikely to require response in the affected area.
- (5) Explosive threats are similar to normal structural fire and collapse events.

23.14.4 WMD Respiratory Protection.

The training program of the AHJ shall evaluate the ability of members to identify and select proper respiratory protection based on the potential exposure, the anticipated working environment, and the expected length of operations, which shall include the following:

- (1) ~~Identifying~~ Identification of the uses and limitations for the following respirators: SCBA, SAR, PAPR, APR, P-100/P-99, and N-95
- (2) ~~Identifying~~ Identification of the uses and limitations of different filters on respirators with removable filters or cartridges
- (3) An assessment of preferred respirators under the most likely CBRNE events

23.15* Training Conditions. [Move to 23.17]

Training shall be conducted under simulated stressful circumstances to promote immediate response to emergency operations.

23.16 Maintenance and Testing. [Move to 23.18]

Training in the maintenance and testing of respiratory protection equipment shall be in accordance with the provisions of Chapter 7 of NFPA 1852.

23.17 Manufacturer's Instructions. [Move to 23.19]

Training for maintenance and testing of respiratory protection equipment shall be in accordance with the manufacturer's instructions for the units provided.

23.18 Inspection. [Move to 23.20]

The AHJ's training program shall evaluate the ability of members to demonstrate the following:

- (1) Procedure for conducting routine and post-incident inspections of respiratory protection equipment
- (2) Thorough inspection and test of the respiratory protection equipment
- (3) Procedure for reporting defective respiratory protection equipment
- (4) Procedures for decontamination and/or disposal of contaminated respiratory protection equipment



First Revision No. 110-NFPA 1400-2024 [Detail]

Relabel original 15.9 as "Ignition Group"

16.8 ~~Fire Control Team~~ Ignition Group.

Detail FR-110

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 11:37:31 EST 2024

Committee Statement

Committee Statement: The technical committee determined that "Fire Control Team" , should be labeled as "Ignition Group"

Response Message: FR-110-NFPA 1400-2024



First Revision No. 142-NFPA 1400-2024 [Detail]

[Change Section Label to original 38.3]

36.3 Fire BehaviorDynamics. Detail FR-142

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Sun Mar 03 21:51:15 EST 2024

Committee Statement

Committee Statement: The technical committee determined to recognize fire dynamics as the key learning objective
Response Message: FR-142-NFPA 1400-2024



First Revision No. 159-NFPA 1400-2024 [Detail]

Figure A.28.3.1 Example of Departmental Standard Operating Procedure/Guideline for a Rapid Intervention Crew.

Revise duty (6.5) to indicate "The RIC shall throw ground ladders to the building or other areas as deemed necessary by the RIC officer or IC."

Additionally update copyright to proposed publication date of 2026 and that the form is NFPA 1400.

(6) **RIC DUTIES.** The following duties shall be done after arrival by the RIC:

- (6.1) The RIC Unit Officer shall, on arrival, make the Incident Commander aware of the Unit's presence and designation as the RIC.
- (6.2) The RIC officer and one team member shall make an immediate and rapid RIC/Rescue size-up of the fire building and surrounding properties to determine possible rescue positions and needs.
- (6.3) The RIC shall stand by, intact as a unit, ready to act immediately as directed by the IC.
- (6.4) While standing by, the RIC team shall determine the availability and location of a hose line and aerial, tower, and portable ladders.
- (6.5) The RIC shall throw ground ladders to the building or other areas as deemed necessary by the RIC officer or IC.
- (6.6) They shall determine the location of EMS personnel at the scene.
- (6.7) The RIC shall maintain a constant state of readiness at all times.
- (6.8) Radio messages shall be monitored for any indication of members in distress.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 21:59:00 EST 2024

Committee Statement

Committee Statement: The technical committee identified that the throwing of ground ladders is dependent upon the situation.

Response Message: FR-159-NFPA 1400-2024



First Revision No. 198-NFPA 1400-2024 [Detail]

Add new section:

15.3.1.1

Prior to being permitted to observe fire dynamics demonstrations for the purpose of firefighter training, the students shall have received training and demonstrated proficiency in the use of PPE required for the fire dynamics demonstration.

Detail FR-198

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Sat Apr 13 22:44:45 EDT 2024

Committee Statement

Committee Statement: The technical committee determined the need for the participant to understand the intended learning objectives of witnessing the fire dynamics demonstration and to utilize the proper PPE based on the their proximity and interaction to the demonstration.

The technical rejected a PI due to the submission removing the requirement for personnel who engage in live fire training not to have necessary fire dynamics training. Additionally, not all personnel who may engage in live fire training may have firefighter 1 so this current language will ensure those personnel have necessary fire dynamics education. This new section is an effort to clarify that.

Response Message: FR-198-NFPA 1400-2024

[Public Input No. 9-NFPA 1400-2023 \[Section No. 15.4.1\]](#)



First Revision No. 114-NFPA 1400-2024 [Section No. 1.1]

1.1 Scope.

This standard addresses the ~~minimum design, construction, and maintenance requirements for fire service training centers, fire training structures and props, gas-fueled and flammable liquid-fueled live fire training systems, mobile fire training props, and associated training props; the minimum requirements for training all fire suppression personnel engaged in firefighting operations under live fire conditions; minimum requirements for the training component of the respiratory protection programs; the basic training procedures for fire service personnel to conduct firefighter rapid intervention operations; minimum requirements for training fire service personnel to utilize fire service thermal imagers (TI); the context and minimum requirements for evaluating training for fire suppression and rescue procedures used by fire department personnel engaged in emergency scene operations; and the minimum requirements for a fire and emergency service organization (FESO) vehicle operations training programs.~~ following:

- (1) Minimum design, construction, and maintenance requirements for fire service training centers, fire training structures and props, gas-fueled and flammable liquid-fueled live fire training systems, mobile fire training props, and associated training props (former 1402).
- (2) The minimum requirements for training all fire suppression personnel engaged in firefighting operations under live fire conditions (former 1403).
- (3) Minimum requirements for the training component of the respiratory protection programs (former 1404).
- (4) The basic training procedures for fire service personnel to conduct firefighter rapid intervention operations (former 1407).
- (5) Minimum requirements for training fire service personnel to utilize fire service thermal imagers (TI) (former 1408).
- (6) The context and minimum requirements for evaluating training for fire suppression and rescue procedures used by fire department personnel engaged in emergency scene operations (former 1410).
- (7) The minimum requirements for a fire and emergency service organization (FESO) vehicle operations training programs (former 1451).

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-114_1.1.docx		

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 27 08:43:48 EST 2024

Committee Statement

Committee Statement: The technical committee determined that the elements of the scope of the document needed to be clearly discernable with referencing the various standards where the content originally originated from.

Response FR-114-NFPA 1400-2024
Message:



First Revision No. 115-NFPA 1400-2024 [Section No. 1.2]

1.2 Purpose.

The purpose of this standard is ~~the following~~ : ~~to establish consistent, minimum criteria for facilities, structures, and props that are used for conducting fire and rescue training classes and exercises; provide a process for conducting live fire training evolutions to ensure that training objectives are achieved and that exposure to health and safety hazards for the firefighters receiving the training is minimized; specify the minimum requirements for respiratory protection training for the emergency response organization, including safety procedures for those expected to be involved in fire suppression, rescue, and related activities in a toxic, contaminated, or oxygen-deficient atmosphere or environment; specify a training program that is designed to create a highly disciplined operational capability to rescue firefighter(s) who become lost, injured, trapped, incapacitated, or disoriented at an emergency scene or in the course of a training operation; specify a training program that is designed to create competency regarding the operation, application, use, and limitations of TI; provide the context and minimum requirements for evaluating training for fire suppression and rescue procedures used by fire department personnel engaged in emergency scene operations; establish a training standard designed to provide fire departments with an objective method of measuring performance for fire suppression and rescue procedures using available personnel and equipment; and specify the minimum requirements for a FESO vehicle operations training program, including procedures for those members that drive or occupy FESO vehicles, respond in private vehicles or unconventional means of transportation, and provide traffic control at the scene of an emergency.~~

- (1) To establish consistent, minimum criteria for facilities, structures, and props that are used for conducting fire and rescue training classes and exercises (former 1402).
- (2) To provide a process for conducting live fire training evolutions to ensure that training objectives are achieved and that exposure to health and safety hazards for the firefighters receiving the training is minimized (former 1403).
- (3) To specify the minimum requirements for respiratory protection training for the emergency response organization, including safety procedures for those expected to be involved in fire suppression, rescue, and related activities in a toxic, contaminated, or oxygen-deficient atmosphere or environment (former 1404).
- (4) To specify a training program that is designed to create a highly disciplined operational capability to rescue firefighter(s) who become lost, injured, trapped, incapacitated, or disoriented at an emergency scene or in the course of a training operation (former 1407).
- (5) To specify a training program that is designed to create competency regarding the operation, application, use, and limitations of TI (former 1408).
- (6) To establish a training standard designed to provide fire departments with an objective method of measuring performance for fire suppression and rescue procedures using available personnel and equipment (former 1410).
- (7) To specify the minimum requirements for a FESO vehicle operations training program, including procedures for those members that drive or occupy FESO vehicles, respond in private vehicles or unconventional means of transportation, and provide traffic control at the scene of an emergency (former 1451).

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-115_1.2.docx		

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 27 08:53:47 EST 2024

Committee Statement

Committee Statement: The technical committee determined that the elements of the purpose of the document needed to be clearly discernable with referencing the various standards where the content originally originated from.

Response Message: FR-115-NFPA 1400-2024



First Revision No. 138-NFPA 1400-2024 [Section No. 1.3]

1.3* Application.

This standard shall be applied as follows:

- (1) Chapters 1 through 3⁺, 4 through 15⁺, and Annexes A, B, C, D and M constitute former NFPA 1402.
- (2) Chapters 1 through 3⁺, 16 through 21⁺, and Annexes A, E, F, G, and M constitute former NFPA 1403.
- (3) Chapters 1 through 3⁺, 22 through 25⁺, and Annexes A, H, I, and M constitute former NFPA 1404.
- (4) Chapters 1 through 3⁺, 26 through 30⁺, and Annexes A, J, and M constitute former NFPA 1407.
- (5) Chapters 1 through 3⁺, 31 through 35⁺, and Annexes A and M constitute former NFPA 1408.
- (6) Chapters 1 through 3⁺, 36 through 45⁺, and Annexes A, J, and M constitute former NFPA 1410.
- (7) Chapters 1 through 3⁺, 46 through 52⁺, and Annexes A, K, L and M constitute former NFPA 1451.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Sat Mar 02 20:45:42 EST 2024

Committee Statement

Committee Statement: The technical committee determined that "former" will provide a better indication the new NFPA 1400 has content associated with the former standards.

Response Message: FR-138-NFPA 1400-2024



First Revision No. 47-NFPA 1400-2024 [Section No. 2.2]

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2019 2024 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2022 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 2024 edition.

NFPA 54, *National Fuel Gas Code*, 2021 2024 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 2024 edition.

~~NFPA 59, *Utility LP-Gas Plant Code*, 2021 edition.~~

NFPA 70[®], *National Electrical Code*[®], 2023 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2019 2023 edition.

~~NFPA 414, *Standard for Aircraft Rescue and Fire-Fighting Vehicles*, 2020 edition.~~

~~NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, 2019 edition.~~

~~NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.~~

~~NFPA 1003, *Standard for Airport Fire Fighter Professional Qualifications*, 2019 edition.~~

NFPA 1010, *Standard on Professional Qualifications for Firefighters*, 2024 edition.

NFPA 1020, *Standard for Fire Officer and Emergency Services Instructor Professional Qualifications*, 2025 edition.

NFPA 1021, *Standard for Fire Officer Professional Qualifications*, 2020 edition.

NFPA 1041, *Standard for Fire and Emergency Services Instructor Professional Qualifications*, 2019 edition.

NFPA 1081, *Standard for Facility Fire Brigade Member Professional Qualifications*, 2018 2024 edition.

NFPA 1142, *Standard on Water Supplies for Suburban and Rural Firefighting*, 2017 2022 edition.

~~NFPA 1403, *Standard on Live Fire Training Evolutions*, 2018 edition.~~

~~NFPA 1404, *Standard for Fire Service Respiratory Protection Training*, 2018 edition.~~

~~NFPA 1407, *Standard for Training Fire Service Rapid Intervention Crews*, 2020 edition.~~

~~NFPA 1500[™], *Standard on Fire Department Occupational Safety, Health, and Wellness Program*, 2021 edition.~~

~~NFPA 1521, *Standard for Fire Department Safety Officer Professional Qualifications*, 2020 edition.~~

~~NFPA 1561, *Standard on Emergency Services Incident Management System and Command Safety*, 2020 edition.~~

NFPA 1550, *Standard for Emergency Responder Health and Safety*, 2024 edition.

NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*, 2018 2022 edition.

NFPA 1583, *Standard on Health-Related Fitness Programs for Fire Department Members*, 2015 2022 edition.

NFPA 1584, *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*, 2015 2022 edition.

NFPA 1585, *Standard for Exposure and Contamination Control*, 2025 edition.

NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, 2020 edition.

NFPA 1720, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*, 2020 edition.

NFPA 1801, *Standard on Thermal Imaging for the Fire Service*, 2021 edition.

NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, 2020 edition.

NFPA 1852, *Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)*, 2019 edition.

~~NFPA 1901, *Standard for Automotive Fire Apparatus*, 2016 edition.~~

~~NFPA 1906, *Standard for Wildland Fire Apparatus*, 2016 edition.~~

~~NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles*, 2017 edition.~~

~~NFPA 1917, *Standard for Automotive Ambulances*, 2019 edition.~~

~~NFPA 1964, *Standard for Spray Nozzles and Appliances*, 2018 edition.~~

NFPA 1900, *Standard for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances*, 2024 edition.

NFPA 1910, *Standard for the Inspection, Maintenance, Refurbishment, Testing, and Retirement of In-Service Emergency Vehicles and Marine Firefighting Vessels*, 2024 edition.

NFPA 1960, *Standard for Fire Hose Connections, Spray Nozzles, Manufacturer's Design of Fire Department Ground Ladders, Fire Hose, and Powered Rescue Tools*, 2024 edition.

NFPA 1970, *Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel and Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)*, 2025 edition.

NFPA 1971, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, 2018 edition.

NFPA 1975, *Standard on Emergency Services Work Apparel*, 2019 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2019 edition.

NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*, 2018 edition.

~~NFPA 1983, *Standard on Life Safety Rope and Equipment for Emergency Services*, 2017 edition.~~

NFPA 2500, *Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services*, 2022 edition.

NFPA 5000[®], *Building Construction and Safety Code*[®], 2018 2024 edition.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-47_2.2.docx		

Submitter Information Verification

Committee: FIY-AAA
Submission Date: Thu Feb 08 22:29:24 EST 2024

Committee Statement

Committee Statement: The technical committee identified newer editions of NFPA standards.

Response Message: FR-47-NFPA 1400-2024

[Public Input No. 91-NFPA 1400-2023 \[Section No. 2.2\]](#)



First Revision No. 48-NFPA 1400-2024 [Section No. 2.3.4]

2.3.4 ICC Publications.

International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001.

International Building Code, 2015 2021 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 22:48:55 EST 2024

Committee Statement

Committee Statement: Updated edition for the International Building Code

Response Message: FR-48-NFPA 1400-2024

Public Input No. 93-NFPA 1400-2023 [Section No. 2.2]



First Revision No. 49-NFPA 1400-2024 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, 2016 2023 edition.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting*, 2013 2023 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2023 edition.

NFPA 101[®], *Life Safety Code*[®], 2018 2024 edition.

NFPA 318, *Standard for the Protection of Semiconductor Fabrication Facilities*, 2018 2022 edition.

NFPA 402 440 , *Guide for Aircraft Rescue and Fire-Fighting Operations and Airport/Community Emergency Planning* , 2013 2024 edition.

NFPA 472 470 , ~~*Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents (WMD) Standard for Responders*~~ , 2018 2022 edition.

NFPA 600, *Standard on Facility Fire Brigades*, 2015 2020 edition.

NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*, 2017 2020 edition.

NFPA 921, *Guide for Fire and Explosion Investigations*, 2017 2024 edition.

~~NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.~~

NFPA 1006, *Standard for Technical Rescue Personnel Professional Qualifications*, 2017 2021 edition.

~~NFPA 1001 1010 , *Standard for Fire-Fighter on Professional Qualifications for Firefighters* , 2013 2024 edition.~~

NFPA 1201, *Standard for Providing Fire and Emergency Services to the Public*, 2015 2020 edition.

~~NFPA 1500[™] , *Standard on Fire Department Occupational Safety and Health Program*, 2018 edition.~~

~~NFPA 1500[™] , *Standard on Fire Department Occupational Safety, Health, and Wellness Program*, 2021 edition.~~

~~NFPA 1561, *Standard on Emergency Services Incident Management System and Command Safety*, 2020 edition.~~

NFPA 1550, *Standard for Emergency Responder Health and Safety*, 2024 edition.

~~NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*, 2014 edition.~~

~~NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*, 2017 edition.~~

NFPA 1700, *Guide to Structural Fire Fighting*, 2021 edition.

NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, 2020 edition.

NFPA 1801, *Standard on Thermal Imagers for the Fire Service*, 2018 2021 edition.

~~NFPA 1901, *Standard for Automotive Fire Apparatus*, 2016 edition.~~

~~NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2013 edition.~~

NFPA 1900, *Standard for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances*, 2024 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2019 edition.

NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*, 2013 2018 edition.

NFPA 2500, Standard for Operations and Training for Technical Search and Rescue Incidents and Life Safety Rope and Equipment for Emergency Services, 2022 edition.

Supplemental Information

File Name	Description	Approved
1400_FR-49_2.4.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Thu Feb 08 22:50:00 EST 2024

Committee Statement

Committee Statement: The technical committee identified newer editions of referenced NFPA standards
Response Message: FR-49-NFPA 1400-2024
[Public Input No. 92-NFPA 1400-2023 \[Sections 2.3, 2.4\]](#)

**First Revision No. 179-NFPA 1400-2024 [Section No. 3.3.18]****3.3.18** Contaminants.

A harmful, irritating, or nuisance material foreign to the normal atmosphere. [~~1500~~, ~~2018~~]
[1550, 2024]

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 07:18:51 EST 2024

Committee Statement

Committee Statement: revised to match extracted definition form NFPA 1550

Response Message: FR-179-NFPA 1400-2024



First Revision No. 83-NFPA 1400-2024 [New Section after 3.3.20]

3.3.21 Dangerous Heat Index.

Type A heat index above 103°F (40°C). Heat indices meeting or exceeding 103°F can lead to dangerous heat disorders with prolonged exposure and/or physical activity in the heat.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 13:19:19 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes "Heat index" is the accepted term when discussing environmental heat conditions that effect work capacity outside of a burning building or live fire training.

Response Message: FR-83-NFPA 1400-2024

Public Input No. 12-NFPA 1400-2023 [Section No. 3.3.68]

**First Revision No. 51-NFPA 1400-2024 [Section No. 3.3.24]****3.3.25 Demonstration.**

~~The act of showing a skill~~ A practical exhibition and explanation of how something works or is performed .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 23:22:26 EST 2024

Committee Statement

Committee Statement: The technical committee determined that the current definition is not broad enough. Many demonstrations during live fire training do not involve skills development but instead are used to show or have the students experience different fire behavior or effects. For example, a flashover container is not used to show a skill but rather to show the stages leading up to flashover so that students can develop a visual "slide" so that they can recognize when these conditions are developing in a real fire.

The proposed definition is from the Oxford English dictionary.

Response Message: FR-51-NFPA 1400-2024

Public Input No. 1-NFPA 1400-2023 [Section No. 3.3.24]



First Revision No. 52-NFPA 1400-2024 [Section No. 3.3.26]

3.3.27* Door Control.

~~The process of ensuring the entrance door providing access to the fire area is controlled and closed as much as possible after the search team enters without the protection of a hose line. Using a door to limit the amount of air available to the fire, or to isolate a part of the building from the flow path. [1700, 2021]~~

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 23:24:35 EST 2024

Committee Statement

Committee Statement: The technical committee determined the definition of door control currently in NFPA 1700 is best suited for the document.

Response Message: FR-52-NFPA 1400-2024

[Public Input No. 2-NFPA 1400-2023 \[Section No. 3.3.26\]](#)



First Revision No. 85-NFPA 1400-2024 [Section No. 3.3.57]

3.3.58* Fuel Load.

The total quantity of combustible contents of a building, space, or fire area, including interior finish and trim, ~~expressed in heat units or the equivalent weight in wood~~.

A.3.3.58 Fuel Load.

Fires that involve hydrocarbon and synthetic-based contents such as foam plastics, polyesters, polypropylenes, and nylons have a relatively high heat release rate when compared to natural fiber products. Structure fires fueled with common household furnishings composed of synthetic materials have been shown to increase in size and heat release rate due to increased ventilation and the in-flow of additional oxygen.

3.3.58.1 Fuel Load:

~~The total quantity of combustible contents of a building, space, or fire area, including interior finish and trim, expressed in terms of heat release rate.~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-85_Fuel_Load_def.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Thu Feb 22 13:41:25 EST 2024

Committee Statement

Committee Statement: The technical committee determined that it is impractical to express the fuel load in terms of heat release rate. Individuals in the field do not have ready access to HRR values for a variety of products and even then they would not be accurate due to the wide variety of shapes, densities and types of fuels used in live fire training.

Response Message: FR-85-NFPA 1400-2024

Public Input No. 18-NFPA 1400-2023 [Section No. 3.3.57.1]

**First Revision No. 79-NFPA 1400-2024 [Section No. 3.3.64]****3.3.65* Hazard.**

~~Any arrangement of materials that presents the potential for harm. [921, -2017] A source of~~
danger.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 12:34:17 EST 2024

Committee Statement

Committee Statement: The previous definition is not the commonly understood definition of the word hazard. The proposed definition is from Merrian-Webster

Response Message: FR-79-NFPA 1400-2024

[Public Input No. 5-NFPA 1400-2023 \[Section No. 3.3.64\]](#)



First Revision No. 86-NFPA 1400-2024 [New Section after 3.3.67]

3.3.69 Ignition Group.

Consists of at least two members, one being the ignition group supervisor who works under the instructor in charge and facilitates igniting the fire.

3.3.70 Ignition Group Supervisor.

Lead person approved by the AHJ to conduct ignition operations who is in charge of lighting the fire under the instructor in charge and is part of the ignition group.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 13:50:55 EST 2024

Committee Statement

Committee Statement: The technical committee identified that common terminology for the person for group responsible for the ignition of live fire is required and the title of "officer" may not work for all organizations.

Response Message: FR-86-NFPA 1400-2024

**First Revision No. 84-NFPA 1400-2024 [Section No. 3.3.68]**

3.3.69 High-Temperature Environment:

An environment with a temperature above 104°F (40°C).

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 13:33:59 EST 2024

Committee Statement

Committee Statement: The technical committee determined that Dangerous Heat Index should be used versus high temperature environment.

Response Message: FR-84-NFPA 1400-2024



First Revision No. 180-NFPA 1400-2024 [Section No. 3.3.77.1]

3.3.79.1 Instructor:

~~An individual deemed qualified by the authority having jurisdiction to deliver training in the operation of fire service vehicles.~~

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 07:29:24 EST 2024

Committee Statement

Committee Statement: The technical committee determined this definition as duplicate and unnecessary.

Response Message: FR-180-NFPA 1400-2024



First Revision No. 78-NFPA 1400-2024 [Section No. 3.3.86]

3.3.87 Live Fire.

Any open flame capable of emitting thermal load or toxic by-products of combustion that would necessitate the use of personal protective equipment (PPE).

~~**3.3.88.1** Live Fire:~~

~~Any unconfined open flame or device that can propagate fire to the building, structure, or other combustible materials.~~

3.3.88 Live Fire Instructor.

An individual who has the training and experience to supervise students during a live fire training evolution.

3.3.89 Live Fire Instructor-in-Charge.

An individual who has the training and experience to be in charge of a live fire training evolution.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-78_Live_Fire_def.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Thu Feb 22 12:19:56 EST 2024

Committee Statement

Committee Statement: The technical committee reviewed and determined the best Live Fire definition. Additional definitions were determined for Live Fire Instructor and Instructor-in-charge
Response Message: FR-78-NFPA 1400-2024

Public Input No. 28-NFPA 1400-2023 [Section No. 3.3.86]

**First Revision No. 181-NFPA 1400-2024 [Section No. 3.3.95]****3.3.99 Member Assistance Program (MAP).**

A generic term used to describe the various methods used in the ~~FESO~~ fire department for the control of alcohol and other substance abuse, stress, and personal problems that adversely affect member performance. [~~1500~~, -2018] [1550, 2024]

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 07:36:07 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that the definition for MAP has change with the consolidated NFPA 1550 standard.

Response Message: FR-181-NFPA 1400-2024



First Revision No. 178-NFPA 1400-2024 [Section No. 3.3.106]

3.3.110 Personal Protective Clothing:

~~The full complement of garments firefighters are normally required to wear while on emergency scene, including turnout coat, protective trousers, firefighting boots, firefighting gloves, a protective hood, and a helmet with eye protection. [1001, -2013]~~

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 07:14:18 EST 2024

Committee Statement

Committee Statement: Definition is updated in the consolidated standard NFPA 1010

Response Message: FR-178-NFPA 1400-2024



First Revision No. 144-NFPA 1400-2024 [Section No. 3.3.107]

3.3.110* Personal Protective Equipment (PPE — Fire Operations).

~~Consists of The full personal complement of garments firefighter are required to wear while on an emergency scene, including turnout coat, protective clothing, plus a trousers, firefighting boots, firefighting gloves, a protective hood, self-contained breathing apparatus (SCBA), and a personal alert safety system (PASS) device, and a helmet with eye protection . [1001, 2013] [1010 , 2024]~~

A.3.3.110 Personal Protective Equipment (PPE — Fire Operations).

For firefighters, approved personal protective equipment should meet the most recent edition of NFPA 1971 , with self-contained breathing apparatus (SCBA) meeting NFPA 1981 , and personal alert safety systems (PASS) meeting NFPA 1982 . [1010 , 2024]

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-144_PPE_def.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Tue Mar 05 14:40:29 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes an updated definition in the consolidated standard NFPA 1010
Response Message: FR-144-NFPA 1400-2024



First Revision No. 113-NFPA 1400-2024 [Section No. 3.3.125]

3.3.128 Safety Officer.

An individual ~~appointed~~ approved by the authority having jurisdiction as qualified to ~~maintain a safe working environment at all live fire training evolutions~~ prevent, stop, or mitigate hazards.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 27 07:57:41 EST 2024

Committee Statement

Committee Statement: The technical committee revised the definition for safety officer to broaden its scope.

Response Message: FR-113-NFPA 1400-2024

**First Revision No. 77-NFPA 1400-2024 [Section No. 3.3.129.2]****3.3.132.2 Open-Circuit SCBA.**

An SCBA in which exhalation is vented to the atmosphere and not rebreathed. There are two types of open-circuit SCBA: negative pressure or demand type and positive pressure or pressure- demand type.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 12:12:45 EST 2024

Committee Statement

Committee Statement: The technical committee identified the correct way to describe the SCBA is open circuit pressure-demand.

Response Message: FR-77-NFPA 1400-2024

[Public Input No. 84-NFPA 1400-2023 \[Section No. 3.3.129.2\]](#)



First Revision No. 76-NFPA 1400-2024 [Section No. 3.3.138]

3.3.141 Training Structure.

A structure utilized for conducting fire, rescue, hazmat, or related training evolutions on a repetitive basis, whether including live fire or not. This includes but is not limited to live fire training structures, training towers, and containerized training structures.

3.3.142.1 ~~Acquired Structure.~~

~~A building or structure acquired by the authority having jurisdiction from a property owner for the purpose of conducting live fire training evolutions.~~

3.3.142.2* ~~Live Fire Training Structure.~~

~~A structure specifically designed for conducting live fire training evolutions on a repetitive basis.~~

A.3.3.138.2 ~~Live Fire Training Structure.~~

~~Live fire training structures include structures built of conventional building materials, such as concrete, masonry, and steel, as well as structures built of containers, in which live fire training evolutions are conducted. This includes fixed structures that are marketed as mobile props, such as the following:~~

- ~~Pre-engineered metal structures that can be disassembled and transported to a new site~~
- ~~Containerized structures in which one or more containers are assembled, whether single story or multistory, for purposes of interior live fire training evolutions~~

~~Live fire training structures also include fire behavior labs (also known as flashover containers) and mobile live fire training props.~~

~~Live fire training structures do not include structures that are used for training in the use of SCBA where only smoke conditions are created, without a live fire, and the participants are not subjected to risk of the effects of fire other than the smoke produced.~~

Supplemental Information

File Name	Description	Approved
1400_FR-76_Training_Structure_def.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Thu Feb 22 12:01:52 EST 2024

Committee Statement

Committee Statement: The technical committee identified there were some redundancy and overlap with multiple definitions of training structures, or versions of them.
Response Message: FR-76-NFPA 1400-2024

[Public Input No. 67-NFPA 1400-2023 \[Section No. A.3.3.138.2\]](#)

[Public Input No. 24-NFPA 1400-2023 \[Section No. 3.3.138\]](#)

**First Revision No. 75-NFPA 1400-2024 [Section No. 3.3.143]****3.3.146*** Vent, Entry Enter , Isolate, Search (VEIS).

The ~~approved~~ tactic for of entering a structure through ~~an opening (door or a window) to locate possible victims~~ to search a room. Also referred to as VES or window initiated search .

A.3.3.146 Vent, Entry Enter , Isolate, Search (VEIS).

The priority upon entering the area via a window is to close the door to that room or area to isolate that area being searched from the fire area. When entering a fire area via a doorway entrance, the door needs to be controlled until the fire area is further isolated. Isolating the area controls the flow path of the fire, heat, and smoke toward the ventilation point and controls the air flow from the ventilation point toward the fire area.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 11:32:53 EST 2024

Committee Statement

Committee Statement: The technical committee recognized that the current definition states that entry through a door could be considered VEIS. This is not accurate. All industry publications and training materials refer to VEIS as an entry made through a window. This is what differentiates this method of entry from standard searches started by making entry through a door. The terms VES and window initiated search should be added. VES is the historical term used instead of VEIS and is still in common usage. ULFSRI has begun using window initiated search in their technical publications.

Response Message: FR-75-NFPA 1400-2024

Public Input No. 3-NFPA 1400-2023 [Section No. 3.3.143]



First Revision No. 68-NFPA 1400-2024 [Chapter 15 [Title Only]]

Live Fire Evolutions: General (NFPA 1403)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 21 22:57:02 EST 2024

Committee Statement

Committee Statement: The technical committee determined that a title change is needed for clarity as this chapter is solely for live fire training evolutions, not for designing/building facilities and not for training on respiratory protection, thermal imagers, RIC, etc.

Response Message: FR-68-NFPA 1400-2024

Public Input No. 39-NFPA 1400-2023 [Chapter 15 [Title Only]]



First Revision No. 101-NFPA 1400-2024 [Section No. 15.1.2.1]

16.1.2.1

The purpose of Chapters 16 through 21 shall be to provide a process framework for conducting live fire training evolutions ~~to ensure that training objectives are achieved and that that manages and mitigates the risks associated with live fire training and~~ exposure to health and safety hazards ~~for the firefighters receiving the training is minimized while ensuring that the training objectives are achieved~~.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 22:38:49 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that the standard is not designed to reduce hazard but manage risk. Hazards can be large while the risk of those hazards is effectively mitigated. Changes also include the importance of health and safety hazards to firefighters.

Response Message: FR-101-NFPA 1400-2024

Public Input No. 16-NFPA 1400-2023 [Section No. 15.1.2.1]

**First Revision No. 102-NFPA 1400-2024 [Sections 15.1.3, 15.2]****16.1.3 Application.****16.1.3.1***

All live fire training shall be conducted in compliance with ~~the~~ Chapters 16 and the appropriate chapter(s) from Chapters 17 through 21 for the type of training being performed.

A.16.1.3.1

For example, if live fire training is being conducted in an acquired structure, the requirements of Chapters 16, 17, and 21 apply.

16.1.3.2

Procedures for live fire training evolutions that involve ground cover or wildland fires shall not be covered in Chapters 16 through 21.

16.1.3.3*

Procedures for suppression of fires set for the sole purpose of training individuals for fire cause and origin investigation shall not be covered in Chapters 16 through 21.

16.1.3.4

Procedures for fire behavior demonstrations for the public shall not be covered in Chapters 16 through 21.

16.1.3.5

Live fire training shall only be conducted using standard operating procedures (SOPs) developed by the authority having jurisdiction (AHJ) in compliance with Chapters 16 through 21.

16.1.3.6

Strict safety practices shall be applied to all structures selected and props for live fire training evolutions.

~~15.2~~ Application.

~~All live fire training evolutions shall comply with this chapter and the appropriate chapter for the type of training being performed.~~

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 22:53:24 EST 2024

Committee Statement

Committee Statement: The technical committee identified two concurrent application sections. The technical committee also corrected some sentence structure.

Response Message: FR-102-NFPA 1400-2024

**First Revision No. 104-NFPA 1400-2024 [Section No. 15.4.1]****16.3.1* Required Minimum Training.**

Prior to being permitted to participate in live fire training evolutions, the student shall have received training to meet the minimum job performance requirements for Firefighter I in NFPA ~~4004~~ 1010 related to the following subjects:

- (1) Safety
- (2) Fire ~~behavior~~ dynamics
- (3) Portable extinguishers
- (4) Personal protective equipment (PPE)
- (5) Ladders
- (6) Fire hose, appliances, and streams
- (7) Overhaul
- (8) Water supply
- (9) Ventilation
- (10) Forcible entry
- (11) Building construction

A.16.3.1

The following job performance requirements from NFPA ~~4004~~ 1010 should be used as guidance related to the list of subjects in 16.3.1:

- (1) ~~5.2.3~~ Radio use
- (2) ~~5.3.1~~ SCBA
- (3) ~~5.3.2~~ Vehicle safety
- (4) ~~5.3.4~~ Forcible entry
- (5) ~~5.3.6~~ Ground ladders
- (6) ~~5.3.7, 5.3.8~~ Fire extinguishment
- (7) ~~5.3.9~~ Search and rescue
- (8) ~~5.3.10~~ Structural firefighting
- (9) ~~5.3.11~~ Horizontal ventilation
- (10) ~~5.3.12~~ Vertical ventilation
- (11) ~~5.3.13~~ Overhaul
- (12) ~~5.3.15~~ Water supply
- (13) ~~5.3.16~~ Fire extinguishers
- (14) ~~5.3.17~~ Scene illumination
- (15) ~~5.5.1~~ Tool maintenance
- (16) ~~5.5.2~~ Fire hose care and maintenance

Industrial fire brigade members should meet the requirements of the ~~2012~~ edition of NFPA 1081.

[Detail FR-198](#)

16.3.1.1

Prior to being permitted to observe fire dynamics demonstrations for the purpose of firefighter training, the students shall have received training and demonstrated proficiency in the use of PPE required for the fire dynamics demonstration.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 08:51:24 EST 2024

Committee Statement

Committee Statement: The technical committee identified that in addition to the new consolidated standard, NFPA 1010, fire dynamics is the more appropriate learning objective for the student.

Response Message: FR-104-NFPA 1400-2024

**First Revision No. 105-NFPA 1400-2024 [Section No. 15.4.2.2]****16.3.2.2 Health and Safety.**

All participants shall have received training for the following:

- (1) The components of their protective clothing and equipment required for use during operational evolutions
- (2) The thermal and air supply capabilities and limitations of their protective clothing and equipment

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 09:10:51 EST 2024

Committee Statement

Committee Statement: The technical committee determined that understanding the thermal capabilities and the construction of PPE is important for live fire training participants. Task group members will work an annex to explain specific characteristics of PPE and exposure considerations to contaminants. The technical committee plans to draft additional explanatory text to explain specific characteristics of PPE and exposure considerations to contaminants.

Response Message: FR-105-NFPA 1400-2024

[Public Input No. 51-NFPA 1400-2023 \[Section No. 15.4.2.2\]](#)

**First Revision No. 141-NFPA 1400-2024 [Section No. 15.4.2.3]****16.3.2.3 Fundamentals of Fire Behavior Dynamics .**

All participants shall be given classroom training for the following skills:

- (1) Describing the basic chemical and physical processes involved in combustion
- (2) Explaining fire phenomena using the fire triangle and tetrahedron as simple models of combustion
- (3) Explaining basic concepts of thermal dynamics, including thermal energy, temperature, and methods of heat transfer
- (4) Describing the combustion process for gaseous, liquid, and solid fuels
- (5) Explaining the concepts of heat of combustion and heat release rate
- (6) Describing the influence of the fuel/oxygen mixture on combustion
- (7) Explaining the concept of chemical chain reaction as it relates to flaming combustion
- (8) Recognizing characteristics of common types of combustion products
- (9) Using terminology related to combustion and fire dynamics

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Sun Mar 03 20:43:30 EST 2024

Committee Statement

Committee Statement: The technical committee determined that participants should know fundamentals of fire dynamics, rather than just fire behavior.

Response Message: FR-141-NFPA 1400-2024



First Revision No. 106-NFPA 1400-2024 [Section No. 15.4.2.4]

16.3.2.4 Fire Development in a Compartment.

All participants shall have received training for the following:

- (1) The general development of a fire and extension beyond a single room or compartment, including heat transfer methods, pressurization within the space, stages of fire development, and transition from fuel-controlled to ventilation-controlled combustion
- (2) Building factors influencing fire development
- (3) The stages of fire growth for fuel-limited fire
- (4) The stages of fire growth for a ventilation-limited fire
- (5) The significance of the transition from a contents fire to a structural fire
- (6) Terminology related to fire development, including plume, ceiling jet, hot gas layer, neutral plane, flow path, and gravity current
- (7) The impact of the following factors on fire development in a compartment:
 - (a) Type of fuel
 - (b) Availability and locations of additional fuel
 - (c) Volume of the compartment
 - (d) Ceiling height and size, number, and arrangement of ventilation openings
 - (e) Thermal properties of the enclosure (i.e., insulation)
- (8) The hazards presented by fire ~~behavior~~ dynamics that impact a singular or multiple compartment(s)
- (9) How the following fire ~~behavior~~ dynamics phenomena occur:
 - (a) Flashover
 - (b) Backdraft
 - (c) Smoke explosion
- (10) The influence of changes in ventilation in each of the following burning regimes:
 - (a) Fuel-controlled
 - (b) Ventilation-controlled
- (11) Differences among ventilation, unplanned ventilation, and tactical ventilation
- (12) The significance of fire ~~behavior~~ dynamics indicators in each of the following categories:
 - (a) Building
 - (b) Smoke
 - (c) Flow path
 - (d) Heat
 - (e) Flame
 - (f) Impact of wind

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-106_15.4.2.4.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Mon Feb 26 09:35:28 EST 2024

Committee Statement

Committee Statement: The technical committee identified a minor editorial correction to change stage to stages. The technical committee determined that fire dynamic should replace fire behavior,
Response Message: FR-106-NFPA 1400-2024
[Public Input No. 52-NFPA 1400-2023 \[Section No. 15.4.2.4\]](#)

**First Revision No. 107-NFPA 1400-2024 [Section No. 15.4.2.5]****16.3.2.5 Nozzle Techniques and Door Control.**

All participants shall have received training for the following:

- (1) Factors influencing the effectiveness of extinguishment by cooling
- (2) The application of ~~indirect attack and direct attack~~ hose stream mechanics
- (3) Key door entry size-up and risk assessment factors
- (4) Integrated door control and fire gas cooling to reduce the risk of flashover during door entry
- (5) Effective door entry and control procedures

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 10:11:16 EST 2024

Committee Statement

Committee Statement: The technical committee recognized that this section should go beyond the traditional fire attack approaches. Adding types of hose stream uses to address water distribution, air entrainment, and pressure development.

Response Message: FR-107-NFPA 1400-2024

[Public Input No. 53-NFPA 1400-2023 \[Section No. 15.4.2.5\]](#)

**First Revision No. 108-NFPA 1400-2024 [Section No. 15.4.3]****16.3.3* Documentation of Prescribed Minimum Training.**

All participants in a live fire training evolution who have received the required minimum training from other than the AHJ shall not be permitted to participate in any live fire training evolution without first presenting ~~written evidence~~ documentation of having successfully completed the prescribed minimum training to the levels specified in 16.3.1.

A.16.3.3

The type of ~~written~~ documentation required can vary, depending upon the instructor's familiarity with the student participants' level of training from outside agencies. All student participants from outside agencies should be allowed to participate only as official representatives of an established organization. Prior documentation should be required in order to facilitate planning of the training session.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 10:21:26 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes most training records are stored, and can be accessed, digitally. Written documentation is cumbersome and no longer necessary.

Response Message: FR-108-NFPA 1400-2024

[Public Input No. 11-NFPA 1400-2023 \[Section No. 15.4.3\]](#)



First Revision No. 82-NFPA 1400-2024 [Section No. 15.5.1]

16.4.1

Instructors and participants shall be rehabbed in accordance with the provisions of Chapter 6 of NFPA 1584, Chapter 6 and any necessary medical evaluation and treatment, food, and fluid replenishment and relief from climatic conditions. (See Annex G.) :-

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 13:01:25 EST 2024

Committee Statement

Committee Statement: The previous section 15.8.6 was consolidated into this section for brevity

Response Message: FR-82-NFPA 1400-2024

Public Input No. 20-NFPA 1400-2023 [Section No. 15.5.1]



First Revision No. 80-NFPA 1400-2024 [New Section after 15.5.2]

16.4.3

Training exercises shall be conducted in a manner that minimizes contamination of personnel, apparatus, and equipment in accordance with Chapter 7 of NFPA 1585 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 12:37:17 EST 2024

Committee Statement

Committee Statement: The technical committee recognized that the proposed NFPA 1585 has a chapter pertaining to training exercise safety.

Response Message: FR-80-NFPA 1400-2024

**First Revision No. 81-NFPA 1400-2024 [Section No. 15.5.2]****16.4.2***

When assessing the length and number of live fire training sessions (evolutions) conducted in a training day, the following shall be taken into account:

- (1) Nature of the work to be performed by the participant
- (2) Physical stress of the work on the participant
- (3) Temperature of the work and evolution environment
- (4) Exposure time in a high temperature environment
- (5) Other circumstances (e.g., weather, dangerous heat index)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 12:42:35 EST 2024

Committee Statement

Committee Statement: The technical committee identified that "Dangerous Heat Index" as an important factor to consider when planning training.

Response Message: FR-81-NFPA 1400-2024

**First Revision No. 112-NFPA 1400-2024 [Section No. 15.8]****16.7 Live Fire Instructor-in-Charge and Live Fire Instructors.****16.7.1**

The live fire instructor shall meet the minimum job performance requirements ~~for Fire Instructor I identified for the position~~ in NFPA 1041.

16.7.2

The live fire instructor-in-charge shall meet the minimum job performance requirements ~~for Fire Instructor II identified for the position~~ in NFPA 1041.

16.7.3

The live fire instructor-in-charge shall be responsible for full compliance with Chapters 16 through 21.

16.7.4

It shall be the responsibility of the live fire instructor-in-charge to coordinate overall fireground activities to ensure correct levels of safety.

16.7.5

The live fire instructor-in-charge shall assign the following personnel:

- (1) One live fire instructor to each functional crew, each of which shall not exceed five students
- (2) One live fire instructor to each backup line
- (3) One additional live fire instructor for each additional functional assignment

16.7.6

The live fire instructor-in-charge shall provide for rest and rehabilitation of participants operating at the scene, including any necessary medical evaluation and treatment, food and fluid replenishment, and relief from climatic conditions. (*See Annex G.*)

16.7.6.1*

~~Instructors Live fire instructors~~ shall be rotated through duty assignments. ~~An instructor shall not serve as the ignition officer for more than one evolution in a row.~~

A.16.7.6.1

~~Instructors Live fire instructors~~ should be provided rest and rehabilitation as required in 16.7.6.1. ~~Instructors Live fire instructors~~ should remove their personal protective clothing to reduce thermal saturation of the PPE.

16.7.6.2

An instructor shall not serve as the ignition officer for more than one evolution in a row.

16.7.6.3

Assignment rotation, rest, and rehabilitation shall be provided for live fire instructors.

16.7.7

All live fire instructors shall be qualified by the AHJ to deliver live fire training.

16.7.8

Additional live fire instructors shall be designated when factors such as extreme temperatures or large groups are present; and classes of long duration are planned.

16.7.9

Prior to the ignition of any fire, live fire instructors shall ensure that all protective clothing and equipment specified in this chapter are being worn according to manufacturer's instructions.

16.7.10

Instructors shall take a personal accountability report (PAR) when entering and exiting the structure or prop during an actual attack evolution conducted in accordance with Chapters 16 through 21.

16.7.11

~~Instructors~~ Live fire instructors shall monitor and supervise all assigned students during the live fire training evolution.

16.7.12*

Awareness of weather conditions, wind velocity, and wind direction shall be maintained, including a final check for possible changes in weather conditions immediately before actual ignition.

A.16.7.12

Monitoring the wind and weather conditions is important for determining the impact of the wind on your live fire evolution. Placing students and live fire instructors downwind of the fire, either inside or outside of the structure, could result in exposure to thermal or chemical hazards that exceed those normally associated with the planned evolution, which could result in injury or death.

16.7.13 Training Live Fire Instructors on How to Use Specialty Props.**16.7.13.1**

The live fire instructors and the safety officer responsible for conducting live fire training evolutions with a gas-fueled training system or with other specialty props (such as flashover simulator) shall be trained in the complete operation of the system and the props.

16.7.13.2

The training of live fire instructors and the safety officer shall be performed by an individual authorized by the gas-fueled training system and specialty prop manufacturer or by others qualified to perform this type of training.

16.7.14 Training Live Fire Instructors on How to Develop a Ventilation-Controlled Evolution.

The live fire instructors and safety officers responsible for conducting live fire training evolutions with flow path and ventilation-controlled conditions shall be trained in means to develop the evolutions as specified in 16.13.3.2.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 21:46:35 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1041 has professional qualifications for live fire instructor-in-charge and live fire instructor.

Response FR-112-NFPA 1400-2024

Message:

[Public Input No. 14-NFPA 1400-2023 \[Section No. 15.8.2\]](#)

[Public Input No. 13-NFPA 1400-2023 \[Section No. 15.8.1\]](#)

[Public Input No. 60-NFPA 1400-2023 \[Section No. 15.8.2\]](#)



First Revision No. 109-NFPA 1400-2024 [Section No. 15.9.1 [Excluding any Sub-Sections]]

~~A fire control team~~ The ignition group shall consist of a minimum of two personnel.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 11:20:40 EST 2024

Committee Statement

Committee Statement: The technical committee renamed ignition officer to ignition group supervisor and ignition group.

Response Message: FR-109-NFPA 1400-2024

Public Input No. 17-NFPA 1400-2023 [Section No. 15.9]



First Revision No. 72-NFPA 1400-2024 [Sections 15.9.1.1, 15.9.1.2]

16.8.1.1

~~One person who is not a student or safety officer~~ The ignition group supervisor shall be designated as the "ignition officer" to ignite, maintain, and control the materials being burned.

16.8.1.1.1

The ignition ~~officer~~ group supervisor shall not be a ~~member of the fire control team~~ student or the safety officer.

16.8.1.1.2

The ignition group supervisor shall meet the minimum job performance requirements for Live Fire Instructor in NFPA 1041.

16.8.1.2*

One member of the ~~fire control team~~ ignition group shall be in the area to observe the ignition ~~officer~~ group supervisor ignite and maintain the fire, and to recognize, report, and respond to any adverse conditions.

A.16.8.1.2

The purpose and principal function is to observe the ignition ~~officer~~ group supervisor while igniting or maintaining the fire. Members of the ~~fire control team~~ ignition group should rotate duties to prevent overheating and thermal saturation.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-72_15.9.1.1.docx		

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 09:49:33 EST 2024

Committee Statement

Committee Statement: The technical committee identified that common terminology for the person or group responsible for the ignition of live fire is required and the title of "officer" may not work for all organizations.

Response Message: FR-72-NFPA 1400-2024

**First Revision No. 111-NFPA 1400-2024 [Sections 15.9.3, 15.9.4, 15.9.5]****16.8.3**

The fire shall be ignited by the ignition ~~officer~~ group .

16.8.4

The ~~fire control team~~ ignition group shall wear full personal protective clothing, including SCBA, when performing this control function.

16.8.5

A charged hose line shall be available when the ~~fire control team~~ ignition group is igniting or tending to any fire.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Mon Feb 26 12:06:38 EST 2024

Committee Statement

Committee Statement: The terms of ""ignition officer" and "fire control team" have been replaced with ignition group supervisor and ignition group.

Response Message: FR-111-NFPA 1400-2024

**First Revision No. 100-NFPA 1400-2024 [Section No. 15.14]****16.13 Fuel Materials.****16.13.1 General.**

~~The fuels that are utilized in~~ Fuels used for live fire training evolutions shall only be wood products based on the live fire training structure or prop .

A.15.14.1

~~Acceptable fuels include pine excelsior, wooden pallets, straw, hay, and other wood-based products.~~

16.13.1.1

~~Fuel-fired buildings and props are permitted to use the appropriate fuels for the design of the building or prop~~ The fuel used for live fire training in acquired structures shall be limited to Class A fuels .

16.13.1.2

The fuel used for live fire training in live fire training structures and props shall be limited to the fuel type for which the training structure or prop was designed.

16.13.1.2.1

The fuel used in gas-fueled live fire training systems and liquid-fueled live fire training systems shall be limited to the fuel type for which the training system was designed.

~~15.13.2~~

~~Pressure-treated wood, rubber, plastic, polyurethane foam, tar paper, upholstered furniture, carpeting, and chemically treated or pesticide-treated straw or hay shall not be used as part of the fuel load.~~

16.13.2 Safety.**16.13.2.1**

Fuel materials shall be used only in the amounts necessary to create the desired fire size to achieve the training objective .

16.13.2.2*

The training exercise shall be stopped immediately when the instructor-in-charge or the safety officer determines through ongoing assessment that the combustible nature of the environment represents a potential hazard.

16.13.2.2.1

An exercise stopped as a result of an assessed hazard according to 16.13.2.2 shall continue only when actions have been taken to reduce the hazard.

16.13.2.3

Unidentified materials, such as debris found in or around the structure or prop that could burn in unanticipated ways, react violently, or create environmental or health hazards, shall not be used.

16.13.2.4

All possible sources of ignition, other than those that are under the direct supervision of the ignition officer, shall be removed from the operations area.

16.13.2.5

~~Propane~~ Except in gas-fired live fire training structures and props, ~~propane~~ lighters, butane lighters, ~~fuses~~ ~~fuzees~~ (safety flares), kitchen-type matches, and similar devices are permitted to be used to ignite training fires if the device is removed immediately after ignition of the training fire.

~~15.13.3~~

~~Flammable or combustible liquids, as defined in NFPA 30, shall not be used in live fire training evolutions.~~

~~15.13.3.1~~

~~Combustible liquid with a flash point above 100°F (38°C) shall be permitted to be used in a live fire training structure or prop that has been specifically engineered to accommodate a defined quantity of the fuel.~~

16.13.3 Interior Structural Live Fire Training.**16.13.3.1***

The fuel load shall be limited to avoid conditions that could cause an uncontrolled flashover or backdraft.

A.16.13.3.1

An excessive fuel load can contribute to conditions that create unusually dangerous fire behavior. This can jeopardize structural stability, egress, and the safety of participants.

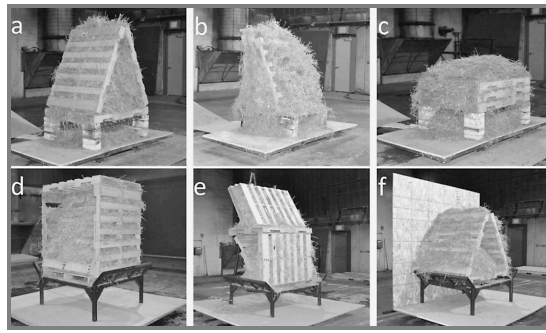
Excess fuel load can result in a ventilation-controlled fire, which can result in flameover (rollover) or flashover. These fire conditions increase the amount of thermal energy (the heat release rate of the fire) that is being transferred by conduction, convection, and radiation to any firefighters in the compartment, which can lead to the degradation of protective equipment and injury or death. Venting a ventilation-controlled fire can result in an increase in heat release rate in the fire structure.

UL Fire Safety Research Institute (FSRI) examined the burning properties of training fuel packages ranging from a bale of hay opened up on a fire grate to combinations of pallets and hay with oriented strand board (OSB). The range of training fuel packages tested had peak heat release rates (HRRs) of 1 MW to 3.6 MW with total heat release values ranging from 210 MJ to 1815 MJ. The effective heat of combustion for all of the training fuel packages was found to be 14.2 MJ/kg. Table A.16.13.3.1 provides a description of training fuel package arrangement and components, the peak HRR, the total heat released, and the peak burning duration in minutes. The peak burning duration was defined as the time period where the HRR was greater than or equal to 80 percent of the peak HRR. These fuel configurations (see Figure A.16.13.3.1) and burning characteristics can be used by instructors to assess the fuel package they are using in terms of safely meeting the needs of the training objective.

Table A.16.13.3.1 Fuel Package Heat Release Rates

Photo Label	Fuel Package Configuration	Number of Pallets	Bale of Straw	Peak HRR (MW)	Total Energy Release (MJ)	Peak Burning Duration (min)
<u>a</u>	<u>Triangle</u>	<u>3</u>	<u>1</u>	<u>1.9</u>	<u>850</u>	<u>3</u>
<u>b</u>	<u>Vertical stack</u>	<u>3 to 7</u>	<u>1</u>	<u>2.0–3.4</u>	<u>815–1815</u>	<u>5.3–3.5</u>
<u>c</u>	<u>Horizontal stack</u>	<u>3</u>	<u>1</u>	<u>1.2</u>	<u>925</u>	<u>7</u>
<u>d</u>	<u>Boxed triangle</u>	<u>6</u>	<u>1</u>	<u>3.6</u>	<u>1580</u>	<u>3.8</u>
<u>e</u>	<u>Inverted triangle</u>	<u>6</u>	<u>1</u>	<u>3.8</u>	<u>1605</u>	<u>2.8</u>
<u>f</u>	<u>Triangle with two OSB sheets</u>	<u>3</u>	<u>1</u>	<u>2.4</u>	<u>1550</u>	<u>3.5</u>
	<u>Bale of straw — opened</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>210</u>	<u>1</u>
	<u>Bales of straw — opened</u>	<u>0</u>	<u>2</u>	<u>2.1</u>	<u>390</u>	<u>1</u>
	<u>Bale of aspen excelsior — opened</u>	<u>0</u>	<u>1</u>	<u>1.7</u>	<u>325</u>	<u>1.5</u>
	<u>Bales of aspen excelsior — opened</u>	<u>0</u>	<u>2</u>	<u>1.6</u>	<u>785</u>	<u>4</u>

Figure A.16.13.3.1 Fuel Package Configurations. Images of orientations used for training fuel packages. Shown left to right, top to bottom are the triangle (a), vertical stack (b), horizontal stack (c), boxed triangle (d), inverted triangle (e), and non-traditional wood fuel (f) configurations. (Regan, 2021)

**16.13.3.2***

~~The fuel load shall be limited to avoid conditions that could cause an uncontrolled flashover or backdraft.~~ If a controlled flashover is designed to occur for training purposes, additional safety measures for providing a safe observation space for instructors and students shall be documented and followed.

16.13.3.3*

The instructor-in-charge and the safety officer shall assess the selected fire room environment for factors that can affect the growth, development, and spread of fire.

16.13.3.4*

The instructor-in-charge and the safety officer shall document fuel loading, including ~~all of~~ the following:

- (1) Fuel material
- (2) Wall and floor coverings and ceiling materials
- (3) Type of construction of the structure, including type of roof and combustible void spaces
- (4) Dimensions of the room

16.13.4 Class A Fuels.**16.13.4.1**

The Class A fuels that are utilized in live fire training evolutions shall be limited to excelsior (wood fibers or shavings), wooden pallets, straw, hay, or other wood-based materials.

16.13.4.2

Pressure-treated wood, rubber, plastic, polyurethane foam, tar paper, upholstered furniture, and carpeting shall not be used as part of the fuel load.

16.13.5 Class B Fuels — General.**16.13.5.1**

All props that use pressure to move fuel to the fire shall be equipped with remote fuel shutoffs outside of the safety perimeter but within sight of the prop and the entire field of attack ~~for the prop~~.

A.15.14.11.2

~~The safety person at the remote shutoff should have the authority to shut off the fuel supply to the prop when, in the safety person's judgment, the prop has malfunctioned, the fire has gone dangerously out of control, or the extinguishment team is in jeopardy.~~

16.13.5.2

During the entire time the prop is in use, the remote fuel shutoff shall be continuously attended by safety personnel who are trained in its operation and who have direct communications with the safety officer and instructors.

16.13.5.3

Where the evolution involves the failure of a safety feature as a teaching point, the failed part shall be located downstream from the correctly functioning safety feature.

16.13.6 Flammable Gas, Such as Propane and Natural Gas.

Liquefied versions of flammable gases shall not be permitted inside live fire training structures or any other enclosed live fire training props.

16.13.7 Flammable and Combustible Liquids.**16.13.7.1**

Flammable or combustible liquids, as defined in NFPA 30, shall not be used in live fire training structures or props.

16.13.7.1.1

Flammable or combustible liquids, as defined in NFPA 30, shall be permitted to be used in a live fire training structure or prop that has been specifically engineered to accommodate a defined quantity of that fuel.

16.13.8 Class D Fuels.

For flammable metal fires, there shall be a sufficient quantity of the proper extinguishing agent available so that all attack crews have the required supply as well as a 150 percent reserve for use by the backup crews.

15.13.8*

~~The use of flammable gas, such as propane and natural gas, shall be permitted only in live fire training structures specifically designed for their use.~~

A.15.13.8

Propane and liquefied natural gas remain in the liquid state only when they are stored and distributed under pressure. When either of these gases is released, the difference in the storage and atmospheric pressures can cause the liquid to convert quickly to a gas. During this conversion, liquid propane, for example, can expand to 270 times its volume. With such a high expansion rate, a leaking liquid propane pipe has the potential to cause the space to reach an explosive level.

15.13.8.4

~~Liquefied versions of the gases specified in 15.13.11 shall not be permitted inside the live fire training structure.~~

15.13.6.4

~~Liquefied petroleum gas props shall be equipped with all safety features as described in NFPA 58 and NFPA 59.~~

15.13.6.6

~~Where flammable or combustible liquids are used, measures shall be taken to prevent runoff from contaminating the surrounding area.~~

15.13.6.6.1

~~There shall be oil separators for cleaning the runoff water.~~

15.13.6.7*

~~Vehicles used as props for live fire training shall have all fluid reservoirs, tanks, shock absorbers, drive shafts, and other gas-filled closed containers removed, vented, or drained prior to any ignition.~~

A.15.13.6.7

The list of the items to be removed prior to a vehicle burn evolution should consist of, but should not be limited to, bumper compression cylinders, shock absorbers, fuel tanks, drive shafts, batteries, air bags and igniters, and brake shoes (asbestos). The oil pan, transmission, and differential drain plugs should be removed, and the fluids should be drained and disposed of properly.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Revised_Section_15_14_FR-100.docx		
1400_FR-100_15.14_reorg_current.docx	For prod use only	
1400_FR-100_15.14_reorg_map.docx	for prod use	

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Thu Feb 22 22:00:32 EST 2024

Committee Statement

Committee Statement: The technical committee reformatted the section on fuel materials.
Response Message: FR-100-NFPA 1400-2024
[Public Input No. 56-NFPA 1400-2023 \[Section No. A.15.14.1\]](#)
[Public Input No. 68-NFPA 1400-2023 \[Section No. 15.14\]](#)
[Public Input No. 57-NFPA 1400-2023 \[Section No. A.15.14.6\]](#)
[Public Input No. 71-NFPA 1400-2023 \[Section No. 15.14.6\]](#)
[Public Input No. 69-NFPA 1400-2023 \[Section No. 15.14.1.1\]](#)
[Public Input No. 70-NFPA 1400-2023 \[Section No. 15.14.11 \[Excluding any Sub-Sections\]\]](#)
[Public Input No. 54-NFPA 1400-2023 \[Section No. 15.14.1 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 70-NFPA 1400-2024 [New Section after 15.18.2]****16.18*** Adjoining Rooms.

Within live fire training structures, if there are adjoining burn rooms that share a door that serves as a mandatory exit for either room, live fires shall not be burned in both rooms simultaneously.

A.16.18

Live fires should not be burned simultaneously in adjoining rooms if they share an exit door that is one of the mandatory burn room exits defined by Chapter 8 . The way out of an active burn room should not be into an adjoining room that also has a live fire burning. The intent is for the adjoining room to be less hazardous than the active burn room, to provide a higher level of safety should an emergency exist in the active burn room.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 09:14:38 EST 2024

Committee Statement

Committee Statement: The technical committee identified that appropriate language for live fire training in mobile and fixed training facilities but not in acquired structures on adjoining rooms.

Response Message: FR-70-NFPA 1400-2024

Public Input No. 46-NFPA 1400-2023 [New Section after 15.18]



First Revision No. 69-NFPA 1400-2024 [Chapter 16 [Title Only]]

Live Fire Training_ Acquired Structures (NFPA 1403)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 09:04:10 EST 2024

Committee Statement

Committee Statement: The technical committee changed the title to add clarity that this chapter that is solely for live fire training evolutions

Response Message: FR-69-NFPA 1400-2024

Public Input No. 40-NFPA 1400-2023 [Chapter 16 [Title Only]]



First Revision No. 91-NFPA 1400-2024 [Chapter 17 [Title Only]]

Live Fire Training in Gas-Fired Live Fire Training Structures and Mobile Enclosed Live Fire Training Props (NFPA 1403)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 19:29:08 EST 2024

Committee Statement

Committee Statement: The technical committee identified a change to add clarity that this chapter is solely for live fire training evolutions, not for designing/building facilities and not for training on respiratory protection, thermal imagers, RIC, etc.

Response Message: FR-91-NFPA 1400-2024

Public Input No. 41-NFPA 1400-2023 [Chapter 17 [Title Only]]



First Revision No. 92-NFPA 1400-2024 [Section No. 17.1]

18.1 Structures, Props, and Facilities.

18.1.1

This section pertains to all interior spaces where gas-fired live fire training exercises occur.

18.1.2

Live fire training structures and mobile enclosed live fire training props shall be left in a safe condition upon completion of live fire training evolutions.

18.1.3

Debris hindering the access or egress of firefighters shall be removed prior to the beginning of the training exercises.

18.1.4

Flammable gas fires shall not be ignited manually.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 19:37:39 EST 2024

Committee Statement

Committee Statement: The technical committee identified some minor edits to include mobile enclosed live fire training props.

Response Message: FR-92-NFPA 1400-2024

[Public Input No. 48-NFPA 1400-2023 \[Chapter 17\]](#)



First Revision No. 93-NFPA 1400-2024 [Sections 17.2.1, 17.2.2]

[Detail FR-204](#)

18.2.1*

Live fire training structures and mobile enclosed live fire training props shall be inspected visually for damage prior to and documented prior to the first and after the last live fire training evolutions of the day.

18.2.1.1*

Damage shall be documented and the building or prop and the owner or AHJ shall be notified.

18.2.2

Where the ~~live fire training structure~~ damage is severe enough to affect the safety of the participants, training shall not be permitted.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 19:55:11 EST 2024

Committee Statement

Committee Statement: The technical committee identified some additional text to address mobile enclosed live fire training props.

Response Message: FR-93-NFPA 1400-2024

[Public Input No. 33-NFPA 1400-2023 \[Section No. 17.2\]](#)

**First Revision No. 94-NFPA 1400-2024 [Sections 17.2.4, 17.2.5]****18.2.4**

All safety devices, ~~such as~~ including but not limited to thermal sensors, combustible gas monitors, evacuation alarms, and emergency shutdown switches, shall be checked prior to any live fire training evolutions to ensure they operate correctly.

18.2.5

The instructors shall run the training system prior to exposing students to live flames in order to ensure the correct operation of devices ~~such as~~ including but not limited to the gas valves, flame safeguard units, agent sensors, combustion fans, and ventilation fans.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 20:00:46 EST 2024

Committee Statement

Committee Statement: The technical committee recognized that there can be additional safety devices.

Response Message: FR-94-NFPA 1400-2024

**First Revision No. 95-NFPA 1400-2024 [Sections 17.2.6, 17.2.7, 17.2.8, 17.2.9]****17.2.6***

The structural integrity of the live fire training structure shall be evaluated and documented annually by the building owner or AHJ.

A.17.2.6

Personnel making the annual structural integrity evaluation should understand the structural system that is being evaluated and where damage is most likely to occur, given the unique design of that live fire training structure. For example, live fire training structures constructed of hollow core plank roofs and floors supported on masonry bearing walls tend to exhibit several problems, such as the following, listed below, which would be helpful to know when conducting the evaluation:

Cracks occur in the topping slabs directly over the joints between the planks, causing leaks into the structure and onto thermal linings below.

Cracks occur in the ends of the planks and at the two courses of masonry block below the plank bearing points.

Vertical cracks occur in masonry bearing walls at building corners.

Cracks in the bottoms of the planks occur below the hollow cells and at the bottom corners of the planks.

Topping slabs separate from the tops of the planks, reducing the structural capacity of the structural system.

Cracks in the topping slabs near guardrail anchor points could cause guardrails to loosen.

Ideally, the architect/engineer that designed the live fire training structure would have provided a description of what to look for during the periodic evaluations. If no such description was obtained when the live fire training structure was first built, then the AHJ should retain a licensed professional engineer with live fire training structure experience and expertise or other competent professional as determined by the building owner or AHJ to help create such a description.

17.2.6.1

If visible structural defects are found, such as cracks, rust, spalls, or warps in structural floors, columns, beams, walls, or metal panels, the building owner shall have a follow-up evaluation conducted by a licensed professional engineer with live fire training structure experience and expertise, or by another competent professional as determined by the building owner or AHJ.

17.2.7*

The structural integrity of the live fire training structure shall be evaluated and documented by a licensed professional engineer with live fire training structure experience and expertise, or by another competent professional as determined by the AHJ, at least once every 10 years, or more frequently if determined to be required by the evaluator.

A.17.2.7

Routine maintenance is important to providing a safe, durable live fire training structure for live fire training. Periodic engineering evaluations are one step in that process. Live fire training structures present unique engineering problems that are not taught to engineers in college or in their daily practice of engineering office buildings, schools, and fire stations. Before a registered (licensed) Professional Engineer (P.E.) understands live fire training structure engineering, it takes significant efforts on the part of the P.E. to learn how live fire training structures are used, how repetitive live fire training affects structural and nonstructural elements within the live fire training structure, and what materials have been proven to work (or not work) within such a harsh environment. This effort typically requires research and educational efforts and experience with live fire training structure projects.

Because the required evaluation is for structural integrity, the P.E. performing the evaluation should be a structural engineer or teamed with a structural engineer to perform the evaluation. Many states do not license P.E.s by discipline; "P.E." could refer to a structural engineer or to some other engineering discipline, such as electrical, mechanical, fire protection, or aeronautical. State laws require P.E.s to offer engineering services for only those branches of engineering for which they are qualified. Therefore, a P.E. who is an electrical engineer or fire protection engineer with no structural qualifications would not be allowed, under law, to evaluate the structural integrity of a live fire training structure.

Note that a P.E. with refractive materials experience and expertise, but not live fire training structure experience and expertise, might not have sufficient understanding of how refractory concrete performs in a live fire training structure environment. Many P.E.s with refractive materials experience have gained that experience working with industrial applications in which furnaces are heated and cooled slowly. Certain applications of refractory concrete work well under those furnace conditions. However, the same applications of refractory concrete at times work poorly in the live fire training structure environment, where rapid heating, rapid cooling, and thermal shock deteriorate refractory concrete differently than a furnace application would. Many P.E.s with only refractive materials experience, but no live fire training structure experience, do not know this. As a result, the requirement for live fire training structure experience and expertise has been added to the standard. In many cases, the P.E. retained to evaluate the integrity can also, under the same contract, be required to make recommendations for how to repair, maintain, or improve the live fire training structure.

The phrase "with live fire training structure experience and expertise" must be interpreted by each entity following its own local and state laws and guidelines. The intent is for the P.E. to have performed at least one live fire training structure project previously, so that the entity hiring the P.E. will benefit from the educational and research efforts performed, and experience gained, by the P.E. for the previous live fire training structure project(s). This experience could include a previous live fire training structure evaluation, the repair or renovation to an existing live fire training structure, or the design of a new live fire training structure. In many cases, it would be acceptable for a P.E. without live fire training structure experience or expertise to perform the evaluation as long as he or she has teamed with a P.E. with live fire training structure experience or expertise.

17.2.8*

All structures constructed with calcium aluminate refractory structural concrete shall be inspected by a structural engineer with expertise in live fire training structures every 3 years.

A.17.2.8

Refractory concrete should not be used as a structural element. Structural calcium aluminate refractory concrete has been found to delaminate (crack and lose bond) along the lines of reinforcing within walls and suspended slabs, presenting serious structural deficiencies that threaten the life and safety of training personnel.

17.2.8.4

~~The structural inspection shall include removal of concrete core samples from the structure to check for delaminations within the concrete.~~

17.2.9*

~~Part of the live fire training structure evaluation shall include, at least once every 10 years, the removal and reinstallation of a representative area of thermal linings (if any) to inspect the hidden conditions behind the linings.~~

A.17.2.9

~~Heat can soak through thermal linings and reach the protected structure, especially if the linings are cracked or otherwise require maintenance when live fire training occurs. This heat could damage the structure, a hidden condition that would otherwise go undetected if the panels are not occasionally removed to expose the hidden conditions.~~

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 20:10:55 EST 2024

Committee Statement

Committee Statement: The technical committee identified that these provisions are found in other chapters of NFPA 1400 as a result the consolidation of NFPA 1402 & 1403.

Response Message: FR-95-NFPA 1400-2024

Public Input No. 36-NFPA 1400-2023 [Sections A.17.2.6, A.17.2.7, A.17.2.8, A.17.2.9]



First Revision No. 7-NFPA 1400-2024 [Chapter 18 [Title Only]]

Live Fire Training in Non-Gas-Fired Live Fire Training Structures and Mobile Enclosed Live Fire Training Props, (NFPA 1403)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 21:48:31 EST 2024

Committee Statement

Committee Statement: The technical committee identified this chapter is solely for live fire training evolutions, not for designing/building facilities and not for training on respiratory protection, thermal imagers, RIC.

Response Message: FR-7-NFPA 1400-2024

Public Input No. 42-NFPA 1400-2023 [Chapter 18 [Title Only]]



First Revision No. 8-NFPA 1400-2024 [Section No. 18.1]

19.1 Structures, Props , and Facilities.

19.1.1

This section pertains to all interior spaces where non-gas-fired live fire training exercises occur.

19.1.2

Live fire training structures and mobile enclosed live fire training props shall be left in a safe condition upon completion of live fire training evolutions.

19.1.3

Debris hindering the access or egress of firefighters shall be removed prior to the beginning of the training exercises.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 22:18:10 EST 2024

Committee Statement

Committee Statement: The technical committee identified that mobile enclosed live fire training props should also be addressed in this section

Response Message: FR-8-NFPA 1400-2024



First Revision No. 9-NFPA 1400-2024 [Section No. 18.2.1 [Excluding any Sub-Sections]]

Live fire training structures and mobile enclosed live fire training props shall be inspected visually for damage ~~prior to~~ and documented prior to the first and after the last live fire training evolutions of the day . (See A.18.2.1).

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 22:24:37 EST 2024

Committee Statement

Committee Statement: The technical committee identified that mobile enclosed live fire training props should be addressed in this section. Additionally the TC determined that an inspection shall be conducted prior to and after live fire evolutions and documented.

Response Message: FR-9-NFPA 1400-2024



First Revision No. 10-NFPA 1400-2024 [Section No. 18.2.2]

19.2.2

Where ~~the live fire training structure~~ damage is severe enough to affect the safety of the participants, training shall not be permitted.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 22:31:52 EST 2024

Committee Statement

Committee Statement: The technical committee determine that the sections should cover all live fire training items.

Response Message: FR-10-NFPA 1400-2024

**First Revision No. 11-NFPA 1400-2024 [Sections 18.2.5, 18.2.6, 18.2.7, 18.2.8]****18.2.5***

The structural integrity of the live fire training structure shall be evaluated and documented annually by the building owner or AHJ.

A.18.2.5

See A.17.2.6 :

18.2.5.1

If visible structural defects are found, such as cracks, rust, spalls, or warps in structural floors, columns, beams, walls, or metal panels, the building owner shall have a follow-up evaluation conducted by a licensed professional engineer with live fire training structure experience and expertise or by another competent professional as determined by the AHJ.

18.2.6*

The structural integrity of the live fire training structure shall be evaluated and documented by a licensed professional engineer with live fire training structure experience and expertise or by another competent professional as determined by the AHJ at least once every 5 years or more frequently if determined to be required by the evaluator.

A.18.2.6

See A.17.2.7 :

18.2.7*

All structures constructed with calcium aluminate refractory structural concrete shall be inspected by a structural engineer with expertise in live fire training structures every 3 years.

A.18.2.7

See A.17.2.8 :

18.2.7.1

The structural inspection shall include removal of concrete core samples from the structure to check for delaminations within the concrete.

18.2.8*

Part of the live fire training structure evaluation shall include, once every five years, the removal and reinstallation of a representative area of thermal linings (if any) to allow inspections of the conditions hidden behind the linings.

A.18.2.8

See A.17.2.9 :

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 22:41:28 EST 2024

Committee Statement

Committee Statement: The technical committee recognize structural inspections are addressed in chapter 7.

Response Message: FR-11-NFPA 1400-2024

[Public Input No. 34-NFPA 1400-2023 \[Section No. 18.2\]](#)

[Public Input No. 58-NFPA 1400-2023 \[Sections 18.2.4, 18.2.5, 18.2.6, 18.2.7, 18.2.8\]](#)

[Public Input No. 37-NFPA 1400-2023 \[Sections A.18.2.5, A.18.2.6, A.18.2.7, A.18.2.8\]](#)



First Revision No. 12-NFPA 1400-2024 [Section No. 18.3.2 [Excluding any Sub-Sections]]

A burn sequence matrix chart shall be developed for the burn rooms in ~~a~~ live fire training ~~structure~~ structures and mobile enclosed live fire training props .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 22:55:21 EST 2024

Committee Statement

Committee Statement: The technical committee identified that mobile enclosed live fire training props should be addressed in this section.

Response Message: FR-12-NFPA 1400-2024

Public Input No. 49-NFPA 1400-2023 [Chapter 18]



First Revision No. 13-NFPA 1400-2024 [Sections 18.3.3, 18.3.4]

19.3.3*

The burn sequence for each burn room shall define the maximum fuel load that can be used for the first burn and each successive burn.

19.3.4*

The burn sequence matrix for each burn room shall also specify the maximum number of evolutions that can be safely conducted during a given training period before the room is allowed to cool.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 06 23:00:17 EST 2024

Committee Statement

Committee Statement: The technical committee identified that the rooms should be identified as "burn rooms"

Response Message: FR-13-NFPA 1400-2024



First Revision No. 41-NFPA 1400-2024 [Chapter 19 [Title Only]]

Live Fire Training: Exterior Live Fire Training Props (NFPA 1403)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 19:37:03 EST 2024

Committee Statement

Committee Statement: The technical committee determined that this chapter is solely for live fire training evolutions, not for designing/building facilities and not for training on respiratory protection, thermal imagers, RIC, etc

Response Message: FR-41-NFPA 1400-2024

Public Input No. 43-NFPA 1400-2023 [Chapter 19 [Title Only]]



First Revision No. 40-NFPA 1400-2024 [Chapter 20 [Title Only]]

Live Fire Training: Reports and Records (NFPA 1403)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 19:32:11 EST 2024

Committee Statement

Committee Statement: The technical committee determined that this chapter is solely for live fire training evolutions, not for designing/building facilities and not for training on respiratory protection, thermal imagers, RIC, etc

Response Message: FR-40-NFPA 1400-2024

Public Input No. 44-NFPA 1400-2023 [Chapter 20 [Title Only]]



First Revision No. 37-NFPA 1400-2024 [Chapter 21 [Title Only]]

Provisions of Respiratory Protection Equipment Used in Training Training: General Equipment Requirements (NFPA 1404)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 19:22:22 EST 2024

Committee Statement

Committee Statement: The technical committee identified an opportunity to consolidated chapters related to respiratory protection in the new NFPA 1400.

Response Message: FR-37-NFPA 1400-2024



First Revision No. 54-NFPA 1400-2024 [Sections 21.1.1, 21.1.2]

22.1.1* Scope.

Chapters ~~24~~ 22 through ~~27~~ 25 shall contain minimum requirements for the training component of the Respiratory Protection Program found in NFPA ~~1500~~ 1550.

22.1.2* Purpose.

The purpose of Chapters ~~24~~ 22 through ~~27~~ 25 shall be to specify the minimum requirements for respiratory protection training for the emergency response organization, including safety procedures for those expected to be involved in fire suppression, rescue, and related activities in a toxic, contaminated, or oxygen-deficient atmosphere or environment.

A.22.1.2

Organizations that train with or use respiratory protection equipment need to recognize their responsibility for the safety and welfare of personnel. A part of this responsibility is the development and implementation of a comprehensive respiratory protection program. This standard can also assist an organization with the development of a respiratory protection program that meets the requirements of 29 CFR 1910.134, 29 CFR 1910.156, NFPA ~~1500~~ 1550, NFPA 1582, and NFPA 1852.

22.1.2.1

The respiratory protection training program shall establish written operational policies and reinforce those policies through comprehensive training.

22.1.2.2

Chapters 22 through ~~24~~ 25 ~~27~~ shall be used to support the requirement of ~~5~~ 6 .3.1 of NFPA ~~1001~~ 1010. The goal of achievement of these objectives shall be to help prevent accidents, injuries, and exposure to harmful environments and to help develop an awareness of the critical importance of a respiratory protection program to the health and welfare of personnel who work in hazardous atmospheres.

22.1.2.3

It shall be possible to achieve many of the performance objectives of Chapters ~~24~~ 22 through ~~27~~ 25 in a variety of ways.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 22:26:30 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 and NFPA 1001 were consolidated into NFPA 1550 and NFPA 1010 respectively. The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters as follows:

- Chapter on Respiratory Protection Training: General Equipment Requirements

- Chapter on Respiratory Protection Training: Training Program Requirements
- Chapter on Respiratory Protection Training: Inspection and Maintenance of Equipment Used in Respiratory Protection Training
- Chapter on Respiratory Protection Training: Evaluation

**Response
Message:**

FR-54-NFPA 1400-2024

**First Revision No. 55-NFPA 1400-2024 [Chapter 22 [Title Only]]**

Respiratory Protection Training-Component : Training Program Requirements (NFPA 1404)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 22:42:40 EST 2024

Committee Statement

Committee Statement: The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters as follows:

- Chapter 21 on Respiratory Protection Training: General Equipment Requirements
- Chapter 22 on Respiratory Protection Training: Training Program Requirements
- Chapter 23 on Respiratory Protection Training: Inspection and Maintenance of Equipment Used in Respiratory Protection Training
- Chapter 24 on Respiratory Protection Training: Evaluation

Chapters 22 & 23 of the draft will be consolidated into the chapter on Respiratory Protection Training: Training Program Requirements

Response Message: FR-55-NFPA 1400-2024

**First Revision No. 56-NFPA 1400-2024 [Sections 22.1.1, 22.1.2]****23.1.1**

The AHJ shall adopt and maintain a respiratory protection program that meets the requirements of ~~Section 7.3 of NFPA 1500~~ 1550 .

23.1.2

The AHJ shall conduct ongoing respiratory protection training that meets the requirements of Chapters ~~24~~ 22 through ~~27~~ 27 25 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 22:53:39 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 was consolidated into NFPA 1550.

The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters as follows:

- Chapter on Respiratory Protection Training: General Equipment Requirements
- Chapter on Respiratory Protection Training: Training Program Requirements
- Chapter on Respiratory Protection Training: Inspection and Maintenance of Equipment Used in Respiratory Protection Training
- Chapter on Respiratory Protection Training: Evaluation

Response Message: FR-56-NFPA 1400-2024

**First Revision No. 36-NFPA 1400-2024 [Section No. 22.1.5.2]****23.1.5.2**

The individual air management program shall include the following directives:

- (1) The individual shall exit from an IDLH atmosphere before consumption of reserve air supply begins.
- (2) The individual shall recognize that the low air alarm notification or ~~End-of-Service-Time Indicator~~ (EOSTI), indicates the member is consuming the reserve air supply.
- (3) The individual and the team shall take immediate action upon activation of the reserve air alarm (EOSTI) and shall follow their department's SOP/SOG.
- (4) SCBA users shall be trained in emergency breathing and air management techniques.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 19:09:38 EST 2024

Committee Statement

Committee Statement: The technical committee added this section to clarify that emergency breathing and air management techniques are required as part of that of the individual air management program.

Response Message: FR-36-NFPA 1400-2024



First Revision No. 61-NFPA 1400-2024 [Section No. 23.1.2]

23.3.2

All respiratory protection training instructors and safety officers shall be trained on the application of the requirements contained in Chapters ~~24~~ 22 through ~~27~~ 25 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 23:24:24 EST 2024

Committee Statement

Committee Statement: The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into 4 functional chapters 21-24. chapter numbering will be impacted by a proposed new chapter 5.

Response Message: FR-61-NFPA 1400-2024



First Revision No. 34-NFPA 1400-2024 [Section No. 23.2.1]

23.4.1

The instructor-in-charge shall have received training to meet the minimum job performance requirements for Fire and Emergency Services Instructor I in NFPA ~~1041~~ 1020 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 18:52:59 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1041 will be updated into NFPA 1020 with updated position titles.

Response Message: FR-34-NFPA 1400-2024



First Revision No. 60-NFPA 1400-2024 [Section No. 23.2.9]

23.4.9

Instructors shall take a ~~Personal Accountability Report~~ personal accountability report (PAR) when entering and exiting the structure or prop during an actual evolution conducted in accordance with Chapters ~~24~~ 22 through ~~27~~ 25.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 23:22:21 EST 2024

Committee Statement

Committee Statement: The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters.

Response Message: FR-60-NFPA 1400-2024

**First Revision No. 32-NFPA 1400-2024 [Sections 23.3.3, 23.3.4, 23.3.5, 23.3.6]****23.5.3**

Protective coats, trousers, hoods, footwear, helmets, and gloves shall have been manufactured to meet the requirements of NFPA ~~1971~~ 1970 .

23.5.4

SCBA shall have been manufactured to meet the requirements of NFPA ~~1981~~ 1970 .

23.5.5

Where station or work uniforms are worn by any participant, the station or work uniform shall have been manufactured to meet the requirements of NFPA ~~1975~~ 1970 .

23.5.6

Personal alarm devices shall have been manufactured to meet the requirements of NFPA ~~1982~~ 1970 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 18:42:08 EST 2024

Committee Statement

Committee Statement: The technical committee identified the new consolidated standard of NFPA 1970 consists of NFPA 1971, 1975, 1981 & 1982.

Response Message: FR-32-NFPA 1400-2024

[Public Input No. 85-NFPA 1400-2023 \[Section No. 23.3.4\]](#)

**First Revision No. 33-NFPA 1400-2024 [Section No. 23.4]****23.6 Recruit Training.****23.6.1***

All training related to the use, maintenance, and care of respiratory protection equipment shall be provided by instructors meeting the objectives of Fire and Emergency Services. Instructor I of NFPA ~~1044~~ 1020; , instructors who have been trained and certified by the respirator's manufacturer; , an authorized distributor; , or as approved by the AHJ.

23.6.2*

Minimum performance standards shall be established by NFPA ~~1004~~ 1010 and the AHJ for donning respiratory protection equipment.

23.6.3

Fit-testing procedures as provided in NFPA ~~1500~~ 1550 shall be required for all recruits who are expected to use a tight-fitting facepiece respirator, including SCBA, SAR, APRs, and PAPRs; prior to training in contaminated atmospheres.

23.6.4*

Prior to initial training, members shall be examined and certified by a physician as being medically and physically fit in accordance with the following: NFPA 1550 , NFPA 1582 , and NFPA 1583 .

NFPA-1500

NFPA-1582

NFPA-1583

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 08 18:48:11 EST 2024

Committee Statement

Committee Statement: The technical committee identified that many NFPA standards have been updated.

Response Message: FR-33-NFPA 1400-2024

**First Revision No. 59-NFPA 1400-2024 [Sections 23.6.1, 23.6.2]****23.8.1**

Smoke produced from live fire shall be prohibited in SCBA training sessions until the firefighter has demonstrated proficiency with the SCBA used by the AHJ, as required by ~~23.10.4~~ 23.12.4 .

23.8.2

When live fire training fires are used in conjunction with SCBA training, such fires shall comply with Chapters ~~15~~ 16 through ~~20~~ 21.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 23:17:22 EST 2024

Committee Statement

Committee Statement: The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters. the content of chapters 23 & 24 will now be a continuation of chapter 22. There is another proposed new chapter 5 that will eventually impact 23.6.2

Response Message: FR-59-NFPA 1400-2024

**First Revision No. 58-NFPA 1400-2024 [Section No. 23.6.8]****23.8.8**

The AHJ shall be responsible for establishing a written training component that provides members with training in the use and limitations of respiratory protection equipment and related equipment, in the policies and procedures related to the AHJ's respiratory protection program, and in those areas outlined by Chapters ~~24~~ 22 through ~~27~~ 25 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 23:12:26 EST 2024

Committee Statement

Committee Statement: The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters. New consolidated chapters 21 through 24 will be impacted by other preceding chapter number changes.

Response Message: FR-58-NFPA 1400-2024



First Revision No. 62-NFPA 1400-2024 [Chapter 24 [Title Only]]

~~In-Service Inspection of Respiratory Protection~~ Respiratory Protection Training:
Inspection and Maintenance of Equipment Used in Respiratory Protection Training
(NFPA 1404)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 21 09:02:03 EST 2024

Committee Statement

Committee Statement: The technical committee determined that individual chapters once contained NFPA 1404 can be consolidated into functional chapters. A chapter on Respiratory Protection Training: Inspection and Maintenance of Equipment Used in Respiratory Protection Training will contain the content of the previous chapters 24,25 & 26.

Response Message: FR-62-NFPA 1400-2024



First Revision No. 65-NFPA 1400-2024 [Section No. 26.1]

24.7 Air Quality Control.

Air for respiratory protection training taken from the regular production of a compressor and storage system shall meet the testing and quality requirements of NFPA ~~1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 21 11:23:46 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 was consolidated into NFPA 1550.

Response Message: FR-65-NFPA 1400-2024



First Revision No. 66-NFPA 1400-2024 [Section No. 26.2.1]

24.8.1

Air cylinders used in training shall be inspected and filled in accordance with the provisions of ~~Chapter 7 of NFPA 1500~~ 1550.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 21 11:25:03 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 was consolidated into NFPA 1550.

Response Message: FR-66-NFPA 1400-2024



First Revision No. 53-NFPA 1400-2024 [Chapter 27 [Title Only]]

Respiratory Protection Training: Evaluation (NFPA 1404)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Feb 20 13:02:40 EST 2024

Committee Statement

Committee Statement: The technical committee determine that chapters once found In NFPA 1404 can be condensed into four functional chapters.

- Respiratory Protection Training: General Equipment Requirements
- Respiratory Protection Training: Training Program Requirements
- Respiratory Protection Training: Inspection and Maintenance of Equipment Used in Respiratory Protection Training
- Respiratory Protection Training: Evaluation

Response Message: FR-53-NFPA 1400-2024



First Revision No. 152-NFPA 1400-2024 [Section No. 29.2.4]

27.2.4

The instructor-in-charge shall provide for rest and rehabilitation of members operating at the scene, including any necessary medical evaluation and treatment, food and fluid replenishment, and relief from climatic conditions. (See *Annex J* G.)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 20:47:38 EST 2024

Committee Statement

Committee Statement: The technical committee identified Annex J as duplicate with Annex G. Annex J is recommended to be deleted.

Response Message: FR-152-NFPA 1400-2024



First Revision No. 154-NFPA 1400-2024 [Section No. 30.1.1]

28.1.1

Prior to being permitted to participate in RIC training, the student shall have received training to meet the job performance requirements for Firefighter I as defined in NFPA ~~1001~~ 1010 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 21:03:50 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1001 is now in NFPA 1010.

Response Message: FR-154-NFPA 1400-2024



First Revision No. 153-NFPA 1400-2024 [Section No. 30.3]

28.3 Fitness.

The AHJ shall ensure that members can perform assigned duties and functions of rapid intervention and that members perform training exercises in accordance with ~~Chapter 10 of NFPA 1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 21:02:24 EST 2024

Committee Statement

Committee Statement: NFPA 1500 is now consolidated into NFPA 1550.

Response Message: FR-153-NFPA 1400-2024

**First Revision No. 155-NFPA 1400-2024 [Section No. 31.1]****29.1 General.**

The rapid intervention training program shall include the following areas:

- (1)* Risk assessment and risk management
- (2) Activation and management of rapid intervention operations
- (3)* Communications procedures specific to rapid intervention functions
- (4) Accountability and resource management
- (5) Criteria for deploying rapid intervention crews and resources to the scene
- (6)* Integration of firefighter rescue operations into the incident command system as specified by the AHJ
- (7) Implementation of an incident accountability system that meets the requirements of NFPA ~~1561~~ 1550
- (8)* Potential impact of RIC operations on the safety and welfare of rescuers and others as well as on other activities at the incident site
- (9)* Distinction between rescue and recovery modes

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 21:10:56 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1561 is now consolidated into NFPA 1550

Response Message: FR-155-NFPA 1400-2024



First Revision No. 183-NFPA 1400-2024 [Section No. 31.2]

29.2 Incident Management System Integration.

The AHJ shall provide for and utilize training on the implementation of an incident management system that meets the requirements of NFPA ~~1561~~ 1550 with written standard operating procedures applying to all members involved in emergency RIC operations.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 14:13:36 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1561 was consolidated into NFPA 1550.

Response Message: FR-183-NFPA 1400-2024



First Revision No. 184-NFPA 1400-2024 [Section No. 35.1.1 [Excluding any Sub-Sections]]

Prior to being permitted to participate in the TI training program, students shall have received training to meet the JPRs for Firefighter I in NFPA ~~4004~~ 1010 or Interior Structural Facility Fire Brigade Member in NFPA 1081.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 14:18:26 EST 2024

Committee Statement

Committee Statement: The position titles found in NFPA 1081 are different than those found in NFPA 1010.

Response Message: FR-184-NFPA 1400-2024



First Revision No. 185-NFPA 1400-2024 [Section No. 41.2.1.2]

39.2.1.2

All personnel participating in extending or operating handlines or extending support lines or who are involved in other operational functions of the evolutions shall wear full protective clothing, equipment, and self-contained breathing apparatus (SCBA) as specified in ~~Sections 7.2 and 7.10 of NFPA 1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 14:27:53 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1500 was consolidated into NFPA 1550.

Response Message: FR-185-NFPA 1400-2024

**First Revision No. 186-NFPA 1400-2024 [Sections 41.2.3, 41.2.4]****39.2.3***

All drivers/operators of fire department vehicles participating in evolutions shall comply with the requirements of ~~Section 6.2 of NFPA 1500~~ 1550 .

39.2.4

All personnel riding on fire department vehicles and participating in evolutions shall comply with the requirements of ~~Section 6.3 of NFPA 1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 14:29:15 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1500 is now consolidated into NFPA 1550.

Response Message: FR-186-NFPA 1400-2024



First Revision No. 21-NFPA 1400-2024 [Section No. 42.2.2]

40.2.2

~~The initial attack line~~ Establishment of an effective water flow shall provide an application rate of 300 gpm (1140 L/min) from two handlines, each of which has a minimum flow rate of 100 gpm (379 380 L/min) from the nozzle), with each handline operated by a minimum of two members .

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-21_42.2.2.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Wed Feb 07 19:56:31 EST 2024

Committee Statement

Committee Statement: The technical committee changed the section for alignment with NFPA 1710.
Response Message: FR-21-NFPA 1400-2024
Public Input No. 104-NFPA 1400-2023 [Section No. 42.2.2]

**First Revision No. 22-NFPA 1400-2024 [Section No. 42.2.4.2]****40.2.4.2**

Where spray nozzles as defined in NFPA ~~1964~~ 1960 are used, the nozzle pressure shall be at least 100 psi (700 kPa), unless it is designed for operation at a pressure other than 100 psi (700 kPa).

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 07 19:58:30 EST 2024

Committee Statement

Committee Statement: Technical committee identified a number newer edition of NFPA1964 in NFPA 1960.

Response Message: FR-22-NFPA 1400-2024



First Revision No. 187-NFPA 1400-2024 [Section No. 43.2.2.2]

41.2.2.2

Where spray nozzles as defined in NFPA ~~1964~~ 1960 are used, the nozzle pressure shall be at least 100 psi (700 kPa).

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 14:31:41 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1964 is now consolidated into NFPA 1960.

Response Message: FR-187-NFPA 1400-2024

**First Revision No. 19-NFPA 1400-2024 [Section No. 44.2.2.1]****42.2.2.1**

A minimum of 150 psi (1035 kPa) pump discharge pressure shall be ~~used~~ maintained to ~~supply~~ supplement the sprinkler system.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 07 19:39:29 EST 2024

Committee Statement

Committee Statement: The technical committee determined that NFPA 13 requires fire department connection on sprinkler systems to be able to provide supplemental water supply for automatic fire sprinklers. The pressure should be maintained to provide a supplemented water supply as more sprinklers activate beyond the design area, exceeding the automatic water supply.

Response Message: FR-19-NFPA 1400-2024

[Public Input No. 102-NFPA 1400-2023 \[Section No. 44.2.2.1\]](#)



First Revision No. 20-NFPA 1400-2024 [Section No. 45.4]

44.4* Search and Rescue.

A.44.4

Additional information on search and rescue tactics can be found at Weinschenk, C. and Stakes, K., "Analysis of Search and Rescue Tactics in Single-Story Single-Family Homes Part III: Tactical Considerations," UL's Fire Safety Research Institute, Columbia, MD, May 17, 2022.

44.4.1

The required performance for search and rescue evolutions shall consist of members prioritizing conducting a proper size-up of the structure and fire conditions to prioritize the area of search, selecting a proper means of entry (door or window initiated — VEIS), selecting and performing the proper search technique, and performing a proper rescue of trapped victims proper victim removal after assessing all viable options based on where and when the victim was found .

44.4.2

The ability of company members to correctly conduct a proper size-up of the structure and fire conditions to prioritize the area of search, selecting select a proper means of entry (door or window initiated — VEIS), and select and performing perform the proper search technique; and performing proper rescue of trapped victims shall include the following :

- (1) Identifying the areas type of the immediate structure, location and extent of fire area, the area directly above the fire area, and the area , and probable locations of where a trapped person is identified as the highest priority for initial search and rescue operations victims could be found
- (2) Identifying means of entry, either door or window (VEIS) initiated, based on probable locations of victims
- (3) Performing a proper search and rescue techniques in a two-team-operation technique to include left/right-handed, split, or oriented methods
- (4) Performing a search and rescue techniques technique utilizing a rope or tagline for directed search, rapid intervention, or large area operations

Performing the Vent, Enter, Isolate, Search (VEIS) technique

Performing the removal of a trapped occupant via the drag technique, up and down stairwells, and out of a window

44.4.3

The ability of company members to perform a proper victim removal after assessing all viable options based on where and when the victim was found shall include the following:

- (1) Once the victim has been located, identifying the status of fire suppression efforts and overall conditions in any potential pathways in which they could be removed.
- (2) Identifying whether the victim should be removed via the interior of the structure, isolated and removed via an alternate means of egress, or isolated and left in place until conditions warrant safer removal. If left in place, increasing ventilation local to the victim if isolated from the flow path.
- (3) Executing a victim removal that prioritizes speed and lowest functional head elevation of the individual for reduced exposure.

44.4.4

The evolution shall begin when the evaluator initiates the evaluation and conclude when the evaluator determines that all of the assigned tasks have been performed correctly.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
1400_FR-20_45.4.docx		

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Wed Feb 07 19:45:32 EST 2024

Committee Statement

Committee Statement: To align search and rescue section with tactical recommendations from most recent UL FSRI Search and Rescue Study.
Response Message: FR-20-NFPA 1400-2024



First Revision No. 15-NFPA 1400-2024 [Section No. 47.2]

46.2 General.

46.2.1

All FESO vehicles shall meet the minimum safety standards outlined in ~~the 2017 edition of NFPA 414 and the 2016 edition of NFPA 1901~~ NFPA 1900 for fire apparatus; US General Service Administration KKK-A-1822-F, "Star of Life Ambulance Specifications," and ~~the 2016 edition of NFPA 1917~~ NFPA 1900 for ambulance specifications; and US Department of Transportation (DOT) regulations as applicable on the date of construction.

46.2.2

The intent of this standard shall be to meet all requirements of NFPA ~~1500~~ 1550 regarding the training and education of fire department drivers and the operation of fire department vehicles.

46.2.3

The intent of this standard shall be to meet all of the applicable requirements of ~~NFPA 1002 and NFPA 1003~~ 1010 regarding the training and education of fire apparatus drivers/operators.

46.2.4*

The fire apparatus driver/operator shall be subject to periodic medical evaluations, as required by NFPA ~~1500~~ 1550 and DOT medical requirements if applicable, to determine whether the driver/operator is medically fit to perform the duties of an operator of fire department vehicles.

46.2.5*

The FESO shall institute a program of post-crash drug and alcohol testing for the drivers of vehicles involved in crashes.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 07 18:58:16 EST 2024

Committee Statement

Committee Statement: Technical committee identified a number of newer editions of NFPA standards to be cited in accordance with the extract policy set forth by the NFPA Standards Council.

Response Message: FR-15-NFPA 1400-2024

**First Revision No. 16-NFPA 1400-2024 [Sections 48.3.2, 48.3.3]****47.3.2***

All members who drive fire service vehicles shall meet the objectives specified in Chapter ~~4~~ 11 of NFPA ~~1002~~ 1010.

47.3.3*

Fire apparatus drivers/operators shall meet the requirements of Chapters ~~4~~ 11 through ~~10~~ 17 of NFPA ~~1002~~ 1010 and Section ~~4-2~~ 8.2 of NFPA ~~1500~~ 1550 prior to being assigned as an FESO apparatus driver/operator.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 07 19:04:49 EST 2024

Committee Statement

Committee Statement: Technical committee identified a number of newer editions of NFPA standards to be cited in accordance with the extract policy set forth by the NFPA Standards Council.

Response Message: FR-16-NFPA 1400-2024



First Revision No. 17-NFPA 1400-2024 [Section No. 48.4.2]

47.4.2*

Fire department training instructors shall, at a minimum, meet the qualifications for Fire and Emergency Services Instructor I as specified in ~~the 2012 edition of NFPA 1041.~~

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Feb 07 19:09:22 EST 2024

Committee Statement

Committee Statement: Technical committee identified a newer edition of NFPA 1041 and will update to NFPA 1020 when available for review.

Response Message: FR-17-NFPA 1400-2024



First Revision No. 188-NFPA 1400-2024 [Section No. 49.3]

48.3 Member Assistance Program.

A member assistance program shall be available to render assistance and treatment to all FESO vehicle drivers/operators as required in NFPA ~~1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 22:48:18 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 has been consolidated into NFPA 1550.

Response Message: FR-188-NFPA 1400-2024

**First Revision No. 189-NFPA 1400-2024 [Section No. 51.1.7]****50.1.7***

Hearing protection shall be utilized wherever noise levels exceed those specified in NFPA ~~1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 22:50:13 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 has been consolidated into NFPA 1550.

Response Message: FR-189-NFPA 1400-2024



First Revision No. 190-NFPA 1400-2024 [Section No. 51.2.14.1]

50.2.14.1

Personnel shall be trained in how to use and adjust hose restraint devices in compliance with the vehicle manufacturer's operator manual, ~~the 2016 edition of NFPA 1901 and the 2016 edition of NFPA 1906~~ and NFPA 1900.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 22:51:38 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1901 & NFPA 1906 has been consolidated into NFPA 1900..

Response Message: FR-190-NFPA 1400-2024

**First Revision No. 191-NFPA 1400-2024 [Sections 52.2.1, 52.2.2]****51.2.1**

The authority having jurisdiction shall establish a data collection system and shall maintain permanent records of all on-duty crashes and injuries involving fire service vehicles in accordance with NFPA ~~1500~~ 1550 .

51.2.2

The safety officer shall manage the collection and analysis of this information as specified in NFPA ~~1521~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 23:01:21 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 & 1521 are now consolidated into NFPA 1550.

Response Message: FR-191-NFPA 1400-2024



First Revision No. 192-NFPA 1400-2024 [Section No. 52.2.5]

51.2.5

Records shall be maintained on all crash and injury prevention recommendations made and actions taken to correct unsafe conditions or practices involving the usage or operation of fire department vehicles or apparatus as specified in NFPA ~~1521~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 23:04:03 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1521 is now consolidated into NFPA 1550.

Response Message: FR-192-NFPA 1400-2024

**First Revision No. 193-NFPA 1400-2024 [Section No. 53.1.3]****52.1.3**

Where tools, equipment, or self-contained breathing apparatus (SCBA) are stored within enclosed seating areas of FESO vehicles, such items shall be secured in accordance with the applicable requirements ~~of the 2016 edition of NFPA 1901 , 2016 edition of NFPA 1906 , 2017 edition of NFPA 414 , or 2016 edition of NFPA 1917~~ of NFPA 1900 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 23:06:56 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 414/1910/1906/1917 are now consolidated into NFPA 1900.

Response Message: FR-193-NFPA 1400-2024



First Revision No. 194-NFPA 1400-2024 [Section No. 53.2.5]

52.2.5

All aerial devices shall be inspected and service tested in accordance with the applicable requirements of ~~the 2017 edition of NFPA 1911~~ NFPA 1910 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Wed Mar 06 23:17:45 EST 2024

Committee Statement

Committee Statement: NFPA 1911 has been consolidated into NFPA 1910

Response Message: FR-194-NFPA 1400-2024



First Revision No. 90-NFPA 1400-2024 [Section No. A.3.3.88]

A.3.3.91 Live Fire Training Structure.

Commonly referred to as *burn buildings* or *burn towers*, live fire training structures include structures built of noncombustible conventional building materials, such as concrete, masonry, and steel, as well as containerized training structures in which live fire training evolutions are conducted. This includes fixed structures that are marketed as *mobile props*, such as the following:

- (1) Pre-engineered metal structures that can be disassembled ~~and transported to~~, transported to, and reassembled at a new site
- (2) Containerized structures in which one or more containers are assembled, whether single story or multistory

Live fire training structures do not include the following:

- (1) Fire behavior labs (also known as *flashover containers*) that are made from two offset shipping containers for the sole purpose of demonstrating fire behavior
- (2) Mobile live fire training props
- (3) Fire investigation training structures and props
- (4) Acquired structures used for live fire training unless the acquired structure is intended to be used for live fire training evolutions for more than 3 days total, in which case it would need to follow the requirements of Chapter 8 ~~of this standard~~
- (5) Structures that are used for training in the use of SCBA where only smoke conditions are created, without a live fire, and the participants are not subjected to risk of the effects of fire other than the smoke produced
- (6) Structures that simulate industrial applications under live fire conditions in which no personnel enter or stand upon the structure, such as a refinery fire simulation

Live fire training structures could be designed to support the following training objectives:

- (1) Fire behavior
- (2) Fire spread or extension
- (3) Interior fire attack
- (4) Rescue
- (5) Ventilation
- (6) Forced entry
- (7) Laddering
- (8) Various simulated occupancies similar to those found in the surrounding region

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Thu Feb 22 15:55:50 EST 2024

Committee Statement

Committee Statement: The technical committee determined that if it is not reassembled at the new site, then it is no longer a structure. The technical committee also wanted to isolate compliance to chapter 7 of NFPA 1400.

Response Message: FR-90-NFPA 1400-2024

[Public Input No. 25-NFPA 1400-2023 \[Section No. A.3.3.88\]](#)



First Revision No. 175-NFPA 1400-2024 [Section No. A.15.10.2]

A.16.9.2

Guidance is provided in ~~the 2014 edition of NFPA 1851 and the 2013 edition of NFPA 1852~~ to assist the instructor and department in determining if personal protective clothing and breathing apparatus are in serviceable condition.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 23:06:55 EST 2024

Committee Statement

Committee Statement: The editions of NFPA 1851 and 1852 are updated for the first draft. These standards will eventually be consolidated into NFPA 1850.

Response Message: FR-175-NFPA 1400-2024



First Revision No. 174-NFPA 1400-2024 [Section No. A.20.1.1]

A.21.1.1

See ~~the 2017 edition of~~ NFPA 1401 for additional guidance on training records.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 23:04:12 EST 2024

Committee Statement

Committee Statement: NFPA 1400 will eventually reference an update edition of NFPA 1401

Response Message: FR-174-NFPA 1400-2024



First Revision No. 173-NFPA 1400-2024 [Section No. A.22.1.4(1)]

A.23.1.4(1) [🔗](#)

~~Section 7.10 of the 2018 edition of NFPA 1500~~ 1550 provides specific information on when an SCBA is to be used.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 23:02:07 EST 2024

Committee Statement

Committee Statement: NFPA 1500 is now consolidated into NFPA 1550

Response Message: FR-173-NFPA 1400-2024



First Revision No. 172-NFPA 1400-2024 [Section No. A.23.10.2(1)]

A.23.12.2(1)

A personal alert safety system (PASS) device is required by ~~Section 7.16 of NFPA 1500~~ 1550 . The PASS device should be considered as an integral safety companion device and, therefore, included in any training session involving SCBA.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:54:47 EST 2024

Committee Statement

Committee Statement: Reference updated to NFPA 1550

Response Message: FR-172-NFPA 1400-2024



First Revision No. 171-NFPA 1400-2024 [Section No. A.23.10.4(4)]

A.23.12.4(4)

The intent of this objective, required by NFPA ~~1001~~ 1010 is to ensure that members are familiar with procedures for assisting other members as well as those for their own personal protection in emergency situations. The committee is opposed to any procedure that breaks the facepiece-to-face seal of any operable SCBA while in use.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:52:39 EST 2024

Committee Statement

Committee Statement: Th technical committee updated the refence to NFPA 1010

Response Message: FR-171-NFPA 1400-2024



First Revision No. 170-NFPA 1400-2024 [Section No. A.23.11.2(1)]

A.23.13.2(1)

The emergency escape cylinder should not be turned on during normal operation of the SAR unit because the air will be expended first. Emergency escape cylinders should be manually activated and are limited to 5-minute or 10-minute (depending on the size of the cylinder) durations requiring immediate exit from the IDLH atmosphere once activated.

A PASS device is required by ~~Section 7.16 of NFPA 1500~~ 1550. Although the PASS device is not a component of the SAR, it should be considered as an integral safety companion device and, therefore, included in any training session involving SAR.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:48:31 EST 2024

Committee Statement

Committee Statement: NFPA 1550 is now consolidated into NFPA 1550.

Response Message: FR-170-NFPA 1400-2024



First Revision No. 169-NFPA 1400-2024 [Section No. A.23.14.1]

A.23.16.1

For a further understanding of WMD threat analysis, refer to ~~4.2.1(13) through 4.2.1(16) and A.4.2.1(13) through A.4.2.1(16) of the 2018 edition of NFPA 472~~ 470 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:41:35 EST 2024

Committee Statement

Committee Statement: NFPA 472 is now consolidated into NFPA 470.

Response Message: FR-169-NFPA 1400-2024



First Revision No. 160-NFPA 1400-2024 [Section No. A.28.1.2]

A.26.1.2

This standard contains the basic training requirements to meet the following requirement in ~~Section 8.8 of NFPA 1500~~ NFPA 1550 : The fire department shall provide personnel for the rescue of members operating at emergency incidents.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:08:05 EST 2024

Committee Statement

Committee Statement: The technical committee updated the section to recognize NFPA 1550.

Response Message: FR-160-NFPA 1400-2024



First Revision No. 168-NFPA 1400-2024 [Section No. A.31.1(9)]

A.29.1(9)

The AHJ should refer to ~~the 2017 edition of NFPA 1670 (Chapter 6, Rope Rescue)~~ NFPA 1670 2500 for additional guidance in developing training evolutions and operational considerations.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:36:39 EST 2024

Committee Statement

Committee Statement: Th technical committee identified that the referenced chapter in NFPA 1670 is incorrect.

Response Message: FR-168-NFPA 1400-2024



First Revision No. 167-NFPA 1400-2024 [Section No. A.31.10]

A.29.10

The AHJ should refer to NFPA ~~1670 2500~~ ~~(Chapter 6, Rope Rescue)~~ for additional guidance in developing training evolutions and operational considerations.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:32:31 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that content has shifted within NFPA 1670.

Response Message: FR-167-NFPA 1400-2024



First Revision No. 143-NFPA 1400-2024 [Section No. A.38.2]

A.36.2

Prior to conducting the hands-on evolutions, classroom instruction on fire ~~behavior dynamics~~ , heat transfer, personal protective equipment, fire control, and hazards specific to the incident should ensure that the students understand the interactions of fuel, ventilation, suppression, weather on the fire, and the capabilities of their equipment. This base knowledge is required to conduct effective initial emergency scene operations in accordance with the requisite knowledge required in NFPA ~~1001~~ 1010 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Sun Mar 03 22:18:22 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes fire dynamics as the teaching objective. NFPA 1001 is now consolidated into NFPA 1010.

Response Message: FR-143-NFPA 1400-2024



First Revision No. 166-NFPA 1400-2024 [Section No. A.40.2]

A.38.2

Refer to ~~Chapter 5 of NFPA 1561~~ [NFPA 1550](#) for the evaluation criteria for incident commanders.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:29:21 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1561 is now consolidated into NFPA 1550.

Response Message: FR-166-NFPA 1400-2024



First Revision No. 165-NFPA 1400-2024 [Section No. A.41.2.3]

A.39.2.3

Conducting formal training for members assigned to drive apparatus is recommended for fire departments. A comprehensive training program is outlined in ~~the 2018 edition of NFPA 1451~~ Chapter 46.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:26:05 EST 2024

Committee Statement

Committee Statement: NFPA 1451 is now part of NFPA 1400

Response Message: FR-165-NFPA 1400-2024



First Revision No. 164-NFPA 1400-2024 [Section No. A.47.3.1]

A.46.3.1

~~Section 4.2 of NFPA 1500~~ 1550 requires that the fire department adopt an official written risk management plan that addresses all fire department policies and procedures, including those pertaining to vehicle operations.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:21:29 EST 2024

Committee Statement

Committee Statement: The technical committee identified that NFPA 1500 is now consolidated into NFPA 1550.

Response Message: FR-164-NFPA 1400-2024

**First Revision No. 163-NFPA 1400-2024 [Section No. A.48.3.2]****A.47.3.2**

The committee's intent is that this standard be applied to all fire service vehicles. Drivers of vehicles not specifically addressed in ~~Chapters 5 through 10 of NFPA 1002~~ NFPA 1010 (e.g., staff or command vehicles, rescue or utility vehicles, buses), are expected to meet the requirements of ~~Chapter 4 of NFPA 1002~~ 1010. Agencies operating unique or special vehicles (e.g., tractors, bulldozers, cranes, graders) should develop job performance requirements and training programs for those vehicles.

Submitter Information Verification**Committee:** FIY-AAA**Submittal Date:** Tue Mar 05 22:18:31 EST 2024**Committee Statement**

Committee Statement: The technical committee identified that NFPA 1002 as now been consolidated into NFPA 1010.

Response Message: FR-163-NFPA 1400-2024



First Revision No. 162-NFPA 1400-2024 [Section No. A.51.3.1]

A.50.3.1

For more specific information concerning this subsection, the reader should refer to ~~Section 6.3 of NFPA 1500~~ 1550 .

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:16:05 EST 2024

Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 is now in NFPA 1550.

Response Message: FR-162-NFPA 1400-2024



First Revision No. 161-NFPA 1400-2024 [Section No. A.52.2.3]

A.51.2.3

As part of a crash prevention program, the FESO should maintain on a permanent basis a copy of a state driver's license transcript for all FESO vehicle drivers/operators. These records should detail, at a minimum, a 3-year driving history that is updated at least annually. These records should be reviewed by the safety officer for potential safety and risk exposure as specified in ~~4.2.3 of NFPA 1500~~ 1550.

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 22:11:33 EST 2024

Committee Statement

Committee Statement: Section updated to reference NFPA 1550.

Response Message: FR-161-NFPA 1400-2024



First Revision No. 145-NFPA 1400-2024 [Section No. E.1]

E.1 Sample Checklist.

LIVE FIRE EVOLUTION SAMPLE CHECKLIST (continued)	
_____ 16. Hazards from toxic weeds, hives, and vermin eliminated _____ 17. Hazardous trees, brush, and surrounding vegetation removed _____ 18. Exposures such as buildings, trees, and utilities removed or protected _____ 19. All extraordinary exterior and interior hazards remedied _____ 20. Fire "sets" prepared: ☐ Class A materials only ☐ No flammable or combustible liquids ☐ No contaminated materials	_____ 4. Participants checked: ☐ Approved full protective clothing ☐ Self-contained breathing apparatus (SCBA) ☐ Adequate SCBA air volume ☐ All equipment properly donned
POSTBURN PROCEDURES	
_____ 1. All participants briefed: ☐ Training structure layout ☐ Crew and instructor assignments ☐ Safety rules ☐ Training structure evacuation procedure ☐ Evacuation signal (demonstrate) _____ 2. All hose lines checked: ☐ Sufficient size for the area of fire involvement ☐ Charged and test flowed ☐ Supervised by qualified instructors ☐ Adequate number of personnel _____ 3. Necessary tools and equipment positioned	_____ 5. All personnel accounted for _____ 6. Remaining fires overhauled, as needed _____ 7. Training structure inspected for stability and hazards where more training is to follow (see <i>Training Structure Preparation</i>) _____ 8. Training critique conducted _____ 9. Records and reports prepared, as required: ☐ Account of activities conducted ☐ List of instructors and assignments ☐ List of other participants ☐ Documentation of unusual conditions or events ☐ Documentation of injuries incurred and treatment rendered ☐ Documentation of changes or deterioration of live fire training structure ☐ Acquired structure release ☐ Student training records ☐ Certificates of completion _____ 6. Building and property released to owner, release document signed
RELEASE FORM	
Having agreed with the Building Official, City of _____, that a structure owned by me and located at _____ is unfit for human habitation and is beyond rehabilitation, I further agree that the structure should be demolished. In order that demolition may be accomplished, I give my consent to the City of _____ to demolish, by burning or other means, the said structure. I further release the City of _____ from any claim for loss resulting from such demolition. Fire Department _____ Address _____ City, State _____ Date _____ Owner/Agent _____ Owner/Agent _____ Witness _____	

Committee: FIY-AAA
Submittal Date: Tue Mar 05 14:57:37 EST 2024

Committee Statement: The technical committee recognizes that the footer and copyright year will need to be updated.

Response Message: FR-145-NFPA 1400-2024



First Revision No. 74-NFPA 1400-2024 [Section No. F.1]

F.1 Responsibilities.

The lists in Figure F.1 outline the responsibilities of participants in a live fire training evolution.

Figure F.1 Checklist for Responsibilities of Personnel.

DELETED

RESPONSIBILITIES OF PERSONNEL

INSTRUCTOR-IN-CHARGE

1. Plan and coordinate all training activities

2. Monitor activities to ensure safe practices

3. Inspect training structure integrity prior to each fire

4. Assign instructors:

Attack hose lines

Backup hose lines

Functional assignments

Teaching assignments

5. Brief instructors on responsibilities:

Accounting for assigned students

Assessing student performance

Clothing and equipment inspection

Monitoring safety

Achieving tactical and training objectives

6. Assign coordinating personnel, as needed:

Emergency Medical Services

Communications

Water supply

Apparatus staging

Equipment staging

Breathing apparatus

Personnel welfare

Public relations

7. Ensure adherence to this standard by all persons within the training area

INSTRUCTOR

1. Monitor and supervise assigned students (no more than five per instructor)

2. Inspect students' protective clothing and equipment

3. Account for assigned students, both before and after evolutions

SAFETY OFFICER

1. Prevent unsafe acts

2. Eliminate unsafe conditions

3. Intervene and terminate unsafe acts

4. Supervise additional safety personnel, as needed

5. Coordinate lighting of fires with instructor-in-charge

6. Ensure compliance of participants' personal equipment with applicable standards:

Protective clothing

Self-contained breathing apparatus (SCBA)

Personal alarm devices, where used

7. Ensure that all participants are accounted for, both before and after each evolution

STUDENT

1. Acquire prerequisite training

2. Become familiar with building layout

3. Wear approved full protective clothing

4. Wear approved SCBA

5. Obey all instructions and safety rules

6. Provide documentation of prerequisite training, where from an outside agency

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NFPA 1403

RESPONSIBILITIES OF PERSONNEL

INSTRUCTOR-IN-CHARGE

1. Plan and coordinate all training activities

2. Monitor activities to ensure safe practices

3. Inspect training structure integrity prior to each fire

4. Assign instructors:

Attack hose lines

Backup hose lines

Functional assignments

Teaching assignments

Ignition group

5. Brief instructors on responsibilities:

Accounting for assigned students

Assessing student performance

Clothing and equipment inspection

Monitoring safety

Achieving tactical and training objectives

6. Assign coordinating personnel, as needed:

Emergency Medical Services

Communications

Water supply

Apparatus staging

Equipment staging

Breathing apparatus

Personnel welfare

Public relations

7. Ensure adherence to this standard by all persons within the training area

INSTRUCTOR

1. Monitor and supervise assigned students (no more than five per instructor)

2. Inspect students' protective clothing and equipment

3. Account for assigned students, both before and after evolutions

SAFETY OFFICER

1. Prevent unsafe acts

2. Eliminate unsafe conditions

3. Intervene and terminate unsafe acts

4. Supervise additional safety personnel, as needed

5. Coordinate lighting of fires with instructor-in-charge and ignition group

6. Ensure compliance of participants' personal equipment with applicable standards:

Protective clothing

Self-contained breathing apparatus (SCBA)

Personal alarm devices, where used

7. Ensure that all participants are accounted for, both before and after each evolution

STUDENT

1. Acquire prerequisite training

2. Become familiar with building layout

3. Wear approved full protective clothing

4. Wear approved SCBA

5. Obey all instructions and safety rules

6. Provide documentation of prerequisite training, where from an outside agency

NFPA 1400

Submitter Information Verification

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151/179

Committee: FIY-AAA

Submittal Date: Thu Feb 22 09:56:48 EST 2024

Committee Statement

Committee Statement: The technical committee identified that the "ignition group" should be incorporated in the responsibilities of personnel checklist.

Response Message: FR-74-NFPA 1400-2024



First Revision No. 146-NFPA 1400-2024 [Chapter J]

~~J-deleted Heat Exhaustion and Heat Stroke in Training (NFPA 1407)-DELETED~~

~~*This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.*~~

J.1

The two most serious heat-related illnesses are heat exhaustion and heat stroke. The following material is excerpted from NIOSH Publication No. 86-113, *Occupational Exposure to Hot Environments, Revised Criteria* :

Symptoms of heat exhaustion include fatigue, nausea, headache, dizziness, pallor, weakness, and thirst. Factors that predispose a person to heat exhaustion include sustained exertion in the heat, failure to replace the water lost in sweat, and lack of acclimatization. Heat exhaustion responds readily to prompt treatments such as moving to a cooler environment, resting in a recumbent position, and taking fluids by mouth.

Heat stroke is the more serious of the heat-related illnesses and is considered a medical emergency. Symptoms of heat stroke include hot, red, dry skin, a rectal temperature of 104°F (40°C) or above, confusion, possible convulsions or loss of consciousness, or any combination of these symptoms. Factors that predispose a person to heat stroke include sustained exertion in the heat by unacclimatized workers, lack of physical fitness, obesity, recent alcohol intake, dehydration, individual susceptibility, and chronic cardiovascular disease. Heat stroke should be treated immediately. Treatments to reduce body temperature rapidly include immersing in chilled water, rinsing with alcohol, wrapping in a wet sheet, or fanning with cool, dry air, or any combination of these treatments. A physician's care is necessary to treat possible secondary disorders such as shock or kidney failure. While heat exhaustion cases greatly outnumber heat stroke cases, every case of heat exhaustion should be treated as having the potential to develop into heat stroke.

Acclimatization is a physiological adaptation to heat stress that occurs over a short period of time. After acclimatization has occurred, the body sweats more while losing less salt and can maintain a lower core temperature and lower cardiovascular demands. A person becomes acclimatized to a certain work intensity and temperature with repeated exposures to that work load and temperature. Formal acclimatization procedures might not be necessary for all firefighters; however, training drills should be held outdoors regularly so that seasonal acclimatization can occur. For additional protection against heat stress, firefighters might want to perform their regular aerobic training activities outdoors, especially during the spring and summer.

The metabolic demands of firefighting range from 60 percent to 100 percent of maximum aerobic capacity. Tasks, such as stair climbing, roof venting, and rescue operations, when performed in full gear, have an energy cost of 85 percent to 100 percent of maximum capacity and lead to near maximum heart rates.

It is clear from these estimates that a high level of cardiovascular fitness is an advantage in performing fire-fighting tasks. The higher level of fitness allows a longer work period and provides a greater reserve in case of an unexpected increase in work demands or in extreme environmental conditions.

There are fire incidents during which even the fittest, most acclimatized firefighter is exposed to significant heat stress. For this reason, many fire departments have adopted formal procedures for on-scene rehabilitation and have incorporated them into their manuals for standard operating procedures.

The general goals of rehabilitation are as follows:

- To provide physical and mental rest, allowing the firefighter to recuperate from the demands of emergency operations and adverse environmental conditions

- To revitalize firefighters by providing fluid replacement and food as needed

- To provide medical monitoring, including treatment of injuries, to determine if and when firefighters are able to return to action

Submitter Information Verification

Committee: FIY-AAA

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Committee Statement

Committee Statement:	The technical committee recognized this annex as being repetitive with Annex G due to the consolidation of standards.
Response Message:	FR-146-NFPA 1400-2024



First Revision No. 195-NFPA 1400-2024 [Section No. L.1]

K.1

Table K.1 is not all-inclusive of the requirements within Chapters 46 through 52 and is included as a basis for establishing the organization's training program.

Table K.1 Emergency Vehicle Hazard Avoidance Checklist

<u>Topic</u>	<u>Description</u>	<u>Details</u>
General Emergency Vehicle Training		
Seat Belts	☐ Always wear a seat belt when the vehicle is in motion.	Wearing your seat belt greatly reduces the risk of injury or death in a crash. See the Ambulance Training section of this table for instructions on patient care during transport.
	☐ Ride with the seat back upright and the lap belt snug and low about the hips.	This configuration will reduce the risk of serious injury to the abdomen or neck that could be caused by sliding under the seat belts in a crash.
	☐ Keep shoulder belt snug against the chest.	A loose shoulder belt increases the excursion of the occupant in a crash.
	☐ Never use a single belt for more than one person or across more than one seating position.	Seat belts are designed to restrain the weight of only one person at a time. Doubling-up can cause the seat belts to break in a crash.
	☐ Never wear the shoulder belt under the arm or swing it around the neck over the inside shoulder.	The shoulder belt must be worn properly over the outside shoulder, or it will not restrain the occupant in a crash.
	☐ Place the seat belt inside the cab before closing the door.	A seat belt that is left outside the door can be damaged by being caught between the door latch and the striker. A damaged belt can fail in a crash.
Air Bags	☐ Do not place objects in the path of an air bag deployment.	Know where each air bag on the vehicle will deploy. Any item placed in this area will be launched by the air bag during a crash and can injure or kill the occupant.
Seat Belt Tensioners	☐ Keep items and body parts away from the path of belt tensioning devices.	Know where each seat belt tensioning device is on the vehicle. These devices will engage instantly and with great force during deployment in a crash.
Suspension Seat Pull-Down Devices	☐ Keep items and body parts away from the path of the suspension seat mechanism and pull-down device.	Know where each suspension seat pull-down device is on the vehicle. These devices will engage instantly and with great force during deployment in a crash.
Crash Sensors	☐ Never disturb a crash sensor from its factory-installed position.	A roll sensor that is moved during servicing can deploy the air bags and belt tensioning devices without warning. Frontal crash sensors might not work during a crash if disturbed.
SCBA Storage	☐ Never ride in a seat equipped with an SCBA storage bracket unless the SCBA pack is in	Riding in a seat that is equipped with an SCBA storage bracket but does not have an SCBA pack installed will not provide sufficient back support during rough riding or a crash. Back damage may result.

<u>Topic</u>	<u>Description</u>	<u>Details</u>
	place or a suitable substitute seat back insert is installed.	
	☐ Always ensure that the SCBA storage bracket is suitable for the make and model of the SCBA pack and the size of the cylinder.	Most modern SCBA storage devices must be adjusted to the specific SCBA cylinder size or SCBA pack make or model. Improperly adjusted brackets may allow the pack to come loose during a crash.
	☐ Place movable headrests in the closed position before the vehicle is placed in motion.	A headrest will reduce the risk of head injury during a collision.
	☐ Always leave the SCBA harness loose when riding in the seat.	Tight SCBA straps will add the weight of the occupant to the cylinder and will pull the cylinder out of the holder in the event of a crash. The cylinder restraining devices are designed for the weight of the cylinder only.
Mirror Adjustment	☐ Adjust mirrors before driving.	Adjust mirrors in a way that will optimize visibility to the sides and the rear.
	☐ Know the blind spots.	Using a partner, have him or her walk around the sides and the rear of the vehicle to determine where the blind spots are.
	☐ Check mirrors at start of every shift.	Adjustments for the assigned vehicle driver should be made between each shift and not postponed until the driver is driving away.
Vehicle Access	☐ Use three points of contact when entering or exiting or climbing on or off the vehicle.	"Three points of contact" means you have one hand and two feet, or two hands and one foot, in contact with the vehicle at all times. If you cannot find features to provide three points of contact, have the vehicle modified or repaired.
	☐ Face inward toward steps and handholds when ascending, descending, entering, or exiting the vehicle.	It is very difficult to maintain three points of contact without facing the vehicle. Backing out is much safer.
	☐ Keep steps and handholds in continuous good repair.	Weak, broken, or malfunctioning steps or handholds are hazardous to you and others. Have them repaired. Ensure that attaching bolts and hardware are tight, thus eliminating any movement of steps and handholds.
	☐ Keep steps clean.	Keep steps, hand rails, and shoes free of grease, mud, dirt, fuel, ice, and snow that could cause you to slip and fall.
	☐ Use extra care during inclement weather.	Slow down during weather that can create slippery conditions on steps, walking surfaces, and handrails.
	☐ Never step, walk, or climb on any surface unless it is slip resistant.	If you must walk or work on a surface that is not slip resistant, use rubber mats or other devices keep you from slipping.

<u>Topic</u>	<u>Description</u>	<u>Details</u>
	☐ Make sure folding steps are deployed in the down position before entering, exiting, ascending, or descending.	Certain steps might be of a pivoting or folding design. Be certain that such steps are firmly engaged in the weight-bearing position before placing full weight on the step.
Means of Escape	☐ Know the secondary means of escape in the event that the primary means of exit is blocked.	A crash could block doors on one side of a vehicle. Practice escaping through a secondary route, which might be over an engine tunnel, through a bulkhead passageway, or through a roof hatch.
Loose Items	☐ Ensure there are no loose items in a vehicle occupant area.	All items within occupied areas of an emergency vehicle should be secured in mounting devices or in compartments in accordance with the requirements of NFPA 1901 <u>1900</u> , NFPA 1906 , NFPA 414 , or NFPA 1917 .
Head Protection	☐ Know and follow head protection policy.	Helmets should be worn when working at emergency scenes around working vehicles. They should not be worn while riding inside a vehicle, as they reduce head clearance and can increase the risk of neck injury to a belted occupant during a crash.
Exterior Compartment Doors	☐ Never step on open horizontal compartment doors.	When climbing or walking on the vehicle, never step on a horizontally hinged compartment door that has been left open. Hold-open devices are not designed to support more than the weight of the door itself. Doors will close if stepped on, and personnel can fall.
	☐ Never step on open vertical compartment doors.	When climbing or walking on the vehicle, never step on the edge of a vertically hinged compartment door that has been left open. Vertically hinged doors can swing unexpectedly, and personnel can fall.
	☐ Wear helmets when working around vehicles or apparatus.	Open compartment doors can extend out from the vehicle in a manner that creates a strike hazard. Walk well around open doors, not next to them or under them.
	☐ Keep compartment doors closed except when stowing or retrieving equipment.	Closed doors produce no hazard to personnel working around the vehicle.
Ember-Rich Environments	☐ Know the vehicle's protection from burning embers.	Burning embers in the engine air filter can catch the engine and vehicle on fire. Some vehicles might have ember protection devices and others might not. Personnel should be trained to recognize where the air intake opening is located, under what conditions burning embers could be ingested into the engine air intake, and how to position and operate the vehicle in a manner that reduces the risk of engine fire caused by burning embers.
Night Operation	☐ Use scene lights during night operation.	Personnel should be trained in how to provide adequate lighting for people working on or around a vehicle at night to prevent slips, trips, and falls.
Operating Around Power Lines	☐ Look up and live.	Always check the area and identify power lines before positioning the vehicle and raising any device such as aerial ladders, antennae, scene lights, etc.

<u>Topic</u>	<u>Description</u>	<u>Details</u>
	☐ Keep vehicle and equipment away from power lines.	Do not work within 10 ft (3.1 m) of high-voltage lines energized from 600 to 50,000 volts. Overhead power lines are not insulated. Some lines have a weather covering and appear to be insulated, but they are not. The vehicle, or parts of the vehicle, does not need to touch the power line for the vehicle to be energized. Electricity arcs across ionized paths of air when a conductor is close enough. Consider all overhead wires or cables to be hazardous and dangerous.
Charged Vehicles	☐ Stay away from vehicles charged by power lines.	Never touch the outside of the vehicle while standing on the ground. Electricity will flow from the vehicle through the person and into the ground. Move away from the vehicle and stay away. Warn others to stay away.
	☐ Stay in or on a charged vehicle.	If a vehicle contacts a live wire or becomes charged, stay calm. Personnel on or inside of a charged vehicle should stay where they are. Unless the vehicle is on fire, it is safer to stay in the vehicle than to attempt to exit. Never allow part of your body to touch the vehicle and the ground at the same time. If it is necessary to exit the vehicle, jump as far away as possible while landing with both feet together. Maintain balance. Fall forward rather than backward towards the vehicle. Once clear from the vehicle, do not return until a power company representative confirms that it is safe and that the line has been de-energized and grounded. Do not attempt to rescue a person in or on a charged vehicle.
Pinch and Crush	☐ Identify all potential pinch or crush hazards on each vehicle.	Each emergency vehicle should be inspected to identify pinch or crush points. Personnel should be trained to recognize each pinch or crush point. Work procedures and operational methods should be followed that enable personnel to perform their functions while staying clear of all pinch and crush points on the vehicle.
Rotating Shafts	☐ Identify and stay away from all rotating shafts.	Each emergency vehicle should be inspected to identify all rotating shafts. Personnel should be trained to recognize each shaft and the hazard that it presents. Keep all personnel clear of rotating shafts. Do not wear loose clothing or other items that could get tangled in the shaft. During extremely cold weather, hot-shift PTO clutches could momentarily transmit power even when they are disengaged. Follow work procedures and operational methods that enable personnel to perform their functions while staying clear of all rotating shafts on the vehicle.
Vehicle Inspection	☐ Inspect vehicles at shift changes.	The daily inspection criteria from the vehicle manufacturer, department SOPs, and the federal commercial driver's license pretrip inspection requirements should be consolidated into a single pretrip or start-of-shift inspection. Drivers of all emergency vehicles other than passenger cars or light trucks should perform the pretrip or start-of-shift inspection in teams of two, with one person to operate interior controls while the second person is checking for exterior functions such as turn signal lamps, flashers, brake lights, etc.
	☐ Report deficiencies.	All deficiencies should be noted and recorded in compliance with NFPA 4944 1910 .
	☐ Verify repairs.	The prior vehicle inspection report should be reviewed at the start of each shift to ensure that any deficiency noted

<u>Topic</u>	<u>Description</u>	<u>Details</u>
		has been resolved.
Vehicle Size and Weight	☐ Know the vehicle's size.	Drivers should be trained to recognize the height, width, and axle weights of all vehicles that they are assigned to operate.
	☐ Select appropriate routes.	All roads and bridges that the emergency vehicle might drive upon should be identified, and a list of all height, width, and weight restrictions created. Identify alternate routes to avoid traveling over roads or bridges that would not support the vehicle load.
	☐ Know the vehicle's turning radius.	Each vehicle has a turning capability that is measured in terms of a wall-to-wall or curb-to-curb radius. The turning capability might not be the same for each direction. Personnel should know the capability of each vehicle and be trained in maneuvering in tight conditions.
	☐ Know the vehicle's rear swing-out.	Certain vehicles might have a large distance between the rear axle and the rear bumper. This causes the rear of the vehicle to swing outside the path of the vehicle travel during a turn. Personnel should understand the swing-out of each vehicle and be trained to drive in a manner that will avoid damage to the vehicle or its surroundings.
Vehicle Loading	☐ Know axle limits and load the vehicle accordingly.	Before placing the apparatus in service, load all compartments with the intended equipment and manpower, and obtain front and rear axle weights from a certified scale. Compare the results to the axle capacities listed on the Federal Motor Vehicle Safety Standard (FMVSS) information decal located inside the cab. In-service weights must not exceed the axle capacities listed on the tag.
	☐ Know side-to-side limits.	Personnel should be trained in how to load equipment to ensure that side-to-side tire loading remains in compliance with NFPA 1901, NFPA 1906, NFPA 414, or NFPA 1917.
	☐ Know, check, and set correct tire pressure.	Proper tire inflation is essential to safe vehicle performance and handling. Tire inflation pressure must match the weight on each axle. Before placing the vehicle in service, obtain the axle weights with all equipment loaded and tanks full. Adjust the tire pressure to match the tire loads.
	☐ Follow limitations on fire service-rated tires.	Fire apparatus axle loads are often higher than typical vocational trucks. Tire manufacturers recognize the need for fire apparatus to carry higher loads, but also understand that in most cases a fire apparatus does not travel at high speeds for long periods of time. Tire manufacturers rate some of their tires with a special "fire service" intermittent duty rating. This allows the tire to carry greater loads or attain higher speeds. The understanding is that these high loads and speeds will not be sustained for long periods of time. To avoid tire degradation, fire service-rated tires have limits on the amount of time they can be driven at high speed and high load before they must cool down.
Brakes	☐ Know ABS operation.	Drivers should be trained in the proper operation of brakes when apparatus are equipped with antilock braking systems (ABS), emphasizing the fact that ABS

<u>Topic</u>	<u>Description</u>	<u>Details</u>
		cannot provide more braking performance than the road conditions will permit.
	☐ Chock the wheels when parked.	Operators of emergency vehicles other than passenger cars and light trucks shall be trained to always chock the wheels of the vehicle immediately after applying the parking brake.
	☐ Know that brake capabilities change after brake service.	Drivers should be trained to be alert for service work on their apparatus involving brake lining replacement and adjust their driving accordingly. The vehicle's stopping distance and the capability of the vehicle to hold on a specific grade might decrease temporarily whenever new friction material is installed.
	☐ Know how quick build-up brake systems function and drive carefully until the air pressure builds up.	Fire apparatus drivers should be trained to understand the function and limitations of the quick buildup air brake feature as required by NFPA 490+ 1900 . The quick build-up feature allows the vehicle to be driven even though the front brake section may not have sufficient air pressure to enable sustained or full force braking. Use extreme caution when operating the vehicle with either air brake section charged to less than 60 psi (414 kPa). Store in-service fire apparatus with an external air supply connection to ensure that sufficient air brake system pressure is immediately available prior to each call.
Auxiliary Brakes	☐ Understand the operation of auxiliary brakes during slippery conditions.	The use of any auxiliary brake system during slippery road conditions or inclement weather could cause rear wheel lock-up and loss of vehicle control. Drivers of vehicles equipped with auxiliary braking systems should be trained to operate them properly in inclement weather. Training should use the instructions provided in the vehicle manufacturer's operator manual.
Front Wheel Locks	☐ Use front wheel locks only with engine running and vehicle attended.	Drivers of air brake-equipped vehicles should be trained in the proper use of the auxiliary front wheel lock feature if the vehicle they are assigned to is so equipped. The auxiliary front wheel lock feature uses air brake system pressure to keep the front brakes applied and should therefore be used only with the engine running and a qualified attendant present at all times. The auxiliary front wheel lock feature is a supplemental brake only, which does not meet the FMVSS parking brake criteria and must be used in combination with the yellow parking brake valve when parking the vehicle. The auxiliary front wheel lock feature is meant to enhance the parking performance of the vehicle but does not take the place of the spring brakes or the act of chocking the wheels.
Electronic Stability Control	☐ Drive within vehicle limitations.	Drivers of vehicles equipped with electronic stability control systems should be trained on its benefits and limitations. Electronic stability control systems cannot prevent accidents or loss of control of the vehicle. A driver can still exceed the physical limitations of the system with either excess speed or extreme cornering, causing a loss of directional control or rollover.
Vapor-Rich Environments	☐ Avoid diesel powered vehicle operation in fuel-rich environments.	Drivers of diesel engine-equipped vehicles should be trained in the hazard of operating the vehicle around fuel vapors. Diesel engines do not require a spark for ignition and will continue to run as long as there is fuel available. If the engine is operated in an atmosphere that is laden with fuel vapors such as is found at a fuel spill, the

<u>Topic</u>	<u>Description</u>	<u>Details</u>
		engine could increase speed uncontrollably. Turning the ignition switch or battery switch off in this situation will not affect the speed of the engine. Before operating a diesel engine in this type of environment, ensure that the vehicle is equipped with a means of shutting off the air intake supply to the engine and that the driver is present to operate the shutdown whenever the engine is running.
Cab Tilt Operation	☐ Remove loose items before tilting cab.	Remove all loose items from the cab compartment before tilting, as contents can shift or drop. Check the front bumper and bumper extension to ensure that covers are shut and plumbing swivels are rotated forward before tilting cab.
	☐ Use mechanical prop.	Never work around or under a tilted cab unless the stay arm or mechanical support is secured in the support position. Hydraulic cylinders can leak or drift and cannot be relied upon to support the cab on their own.
	☐ Position vehicle on level surface.	Always ensure that the vehicle is on a flat and level surface before tilting the cab. Tilting the cab on an inclined or non-flat surface could produce interference between components as the cab is lowered.
	☐ Keep personnel clear of area while tilting.	Always check to make sure that people working on or around the cab are clear before raising or lowering the cab.
Engine Coolant	☐ Never open cap on hot radiator.	Always allow the engine to cool before opening the pressure cap of the radiator. Wrap a thick, heavy cloth around the cap. Push down, and turn the cap to the first notch position. Pause before opening completely to allow any remaining pressure to escape. Follow this procedure to avoid burns from hot steam or coolant.
Engine Fan	☐ Avoid spinning fan.	Keep hands, hair, and clothes away from the fan. Never operate the engine with personnel in the vicinity of the fan, as the fan could engage without warning. Do not operate the engine if the cooling fan is worn, notched, bent, or damaged in any manner, or comes in contact with any other component while spinning, or personal injury or death can result.
Exhaust Hazards	☐ Keep clear of hot exhaust parts.	Each emergency vehicle should be inspected to identify components that will get hot during operation. Personnel should be trained to recognize each hot surface hazard and to avoid these hazards.
	☐ Do not breathe exhaust fumes.	Internal combustion engines give off hazardous fumes and gases while running. Do not operate the engine in an area where exhaust gases can accumulate, or serious injury or death could occur. Diesel engine exhaust and some of its constituents are known to cause cancer, birth defects, and other reproductive harm.
	☐ Know when exhaust regeneration can occur.	Diesel engines equipped with diesel particulate filters require regeneration that involves high heat. The exhaust system can get extremely hot without warning. Keep away from exhaust gas during regeneration, and do not park the vehicle near flammable material. Parked regeneration causes high exhaust gas temperatures at zero vehicle speed. Keep personnel away from the exhaust outlet to avoid serious burns and injury.
Batteries	☐ Avoid explosive hazards.	Personnel assigned to perform routine service need to be trained in the safe handling of batteries. Batteries give

<u>Topic</u>	<u>Description</u>	<u>Details</u>
		off hydrogen gas that is highly explosive. Keep all sources of ignition away when working around batteries. Sparks caused by connection of battery terminals, jumper cables, or charging systems can be a source of ignition. Whenever disconnecting battery terminals, always disconnect the ground terminal first. When reconnecting, always connect the ground terminal last. Do not attempt to jump-start a vehicle having a frozen battery, because the battery could rupture or explode. If a frozen battery is suspected, examine all fill vents on the battery. If ice can be seen, do not attempt to start with jumper cables. Thaw out battery before jump-starting or recharging. Do not check battery condition by shorting across terminals.
	☐ Avoid inhalation hazards.	Inhaling hydrogen gas produced by the normal operation of the battery could result in partial or permanent damage to the respiratory system.
	☐ Avoid caustic hazards.	Always wear safety goggles and protective clothing when working on or around batteries.
	☐ Avoid poison hazards.	Battery posts, terminals, and related accessories contain lead and lead compounds — chemicals known to cause cancer and reproductive harm. Wash hands after handling.
Electric Circuit Protection	☐ Replace fuses or circuit breakers with same size only.	Personnel assigned to operate emergency vehicles should be trained to recognize and respond to basic electrical circuit protection faults. Improper fuse or circuit breaker sizing can cause wires to overheat and burn, which could cause personal injury or death. Do not increase the circuit breaker or fuse size.
Line Voltage	☐ Avoid electrical shock.	Each emergency vehicle should be inspected to identify any line voltage sources, lines, outlets, and equipment. Personnel assigned to vehicles equipped with line voltage systems need to be trained to recognize line voltage circuits and to avoid electrocution hazards. All electrical circuits associated with auxiliary power units (APUs), shore power, and inverters should be considered high voltage. Only trained technicians should perform service on line voltage circuits or inside high voltage components.
Pumper Apparatus Training		
Hose Storage Covers and Restraints	☐ Restrain all hose before placing vehicle in motion.	Personnel should be trained in how to use and adjust hose restraint devices. If the apparatus does not include hose restraints, personnel should be trained in how to pack and secure hose in a manner that eliminates the possibility that the hose can come out of the storage area during transport.
	☐ Use care in windy conditions.	Personnel should be trained in the hazards of solid hose storage covers in windy conditions. Covers can close unexpectedly from gusts of wind. Keep personnel clear of open hose covers. Keep covers closed except when stowing or retrieving hose or equipment.
Discharging Water Around Power Lines	☐ Never spray water on live power lines.	Personnel need to be trained to recognize hazards created by spraying water around high voltage electrical wires. Electricity can travel down a water stream. Never spray water or foam through or onto live electric wires.

<u>Topic</u>	<u>Description</u>	<u>Details</u>
Hose Packing	☐ Pack hose to avoid snags during payout.	Personnel should be trained in methods of packing hose that will reduce the possibility of snags during hose deployment. Pack hose carefully in any hose storage area to minimize the risk of hose or connections snagging or snarling during deployment. Hose that snags or snarls during deployment from a moving vehicle can whip violently, causing death or injury.
	☐ Work at height safely.	Personnel should be trained to pack hose using methods that will protect them from slips and falls. This could include the use of auxiliary ladders, scaffolding, safety harnesses, or other methods.
	☐ Drive slowly.	Never drive a vehicle over 5 mph (8 kph) while deploying or retrieving hose.
Hoses Under Pressure	☐ Use safe hose handling practices.	Personnel should be trained in the hazards of pressurized hose. Fire hose under pressure can burst without warning. Never straddle or stand over a charged hose. Hose fittings can fail without warning. Inspect hose fittings for cracks, chips, or other damage and replace when worn or damaged. An uncontrolled hose discharging foam or water will whip violently. Never pressurize a hose unless the discharge nozzle is closed and the nozzle is held or secured firmly.
Pump Heat	☐ Keep pump water cool.	Pump operators should be trained in procedures necessary to keep pump water cool. Always circulate cool water through the pump. A pump without a constant supply of cool water can raise the temperature of the water to boiling in seconds. Hot water can scald if valves are opened or hoses burst.
Pump Pressure	☐ Know hose and valve pressure limitations.	Pump operators should be trained to recognize the maximum operating pressures of all hoses, fittings, valves, and nozzles used on the apparatus.
	☐ Never exceed pressure limits.	Hoses and fittings can explode if pressure capacity is exceeded. Never exceed the working pressure of downstream devices.
Pump Shift Procedures	☐ Engage and disengage pump correctly.	Pump operators should be trained in the proper methods of engaging and disengaging the pump. Training should include procedures for manually engaging the pump and manually maintaining engine rpm in the event that the primary methods malfunction.
Pump and Roll	☐ Never ride outside the cab of a moving vehicle.	Personnel assigned to apparatus with pump and roll capability should be trained in safe methods of operation. Develop procedures or use methods that keep personnel in a seated and belted position during vehicle motion. Consider the use of remote controlled turrets or other means.
	☐ Stay well clear of any vehicle that is in motion.	Personnel operating a hand line next to a moving vehicle should keep sufficient clearance to avoid being run over if they were to trip or fall. Keep in sight of the driver at all times. Never walk in front of a moving vehicle.
Pressure Fluctuation	☐ Control sources of pressure fluctuation.	Pump operators should be trained in the methods of minimizing sudden changes in water pressure. Rapidly fluctuating pressure in a fire hose can cause the hose to whip. There are many causes of pressure fluctuation, including opening or closing valves too quickly, air trapped in the lines, engine malfunctions, etc. Always bleed the air from an intake line before opening the

<u>Topic</u>	<u>Description</u>	<u>Details</u>
		intake valve at the apparatus. Stay alert for fluctuations in hose pressure and to react safely when they do occur.
Inlet and Discharge Caps	☐ Drain pressure before removing caps.	Personnel assigned to operate pumping apparatus should be trained to remove inlet and discharge caps safely. Inlet and discharge caps can trap pressure if the valve is opened and then closed again when there is pressure in the system. This pressure can remain trapped between the cap and the valve. Always open the drain or bleeder valves to relieve any pressure before attempting to remove an inlet or discharge cap.
	☐ Do not stand in front of caps during removal.	Never stand in front of a cap during its removal to avoid injury if the cap is pressurized.
	☐ Remove caps slowly.	Open caps slowly to allow pressure to bleed out slowly through the threads. Opening a cap rapidly that has pressure behind it can cause it to be expelled with great force.
Aerial Apparatus Training		
Aerial Device Operation	☐ Know the emergency stop location.	Know the location and function of the emergency stop function. Train personnel to use the emergency stop when necessary.
	☐ Know emergency power unit operation.	Personnel should be trained to operate the auxiliary power unit to keep the aerial device operating if the main hydraulic power supply fails.
	☐ Know the manual override controls.	Personnel should be trained to operate the manual override controls if so equipped. These controls can be used to operate the aerial if the main controls fail. Procedures might be needed to ensure the safe operation of the aerial using these controls depending on the location or operation.
	☐ Understand emergency override functions.	Personnel assigned to an aerial apparatus equipped with an emergency override function should be trained to understand the seriousness of employing this function and the consequences that could occur. When the emergency override function is used, safety interlocks that would normally keep the device from operating in dangerous modes are no longer functioning. Use emergency override controls with extreme caution and only when all other personnel are well clear of any hazard.
	☐ Recognize stabilizer hazards.	Personnel assigned to an aerial apparatus should be trained to recognize the hazards presented by the stabilizers while being deployed or stowed. Personnel should be trained to keep themselves and others well clear of stabilizer beams, jacks, and pads during movement to avoid pinch or crush hazards.
	☐ Understand ice conditions.	Personnel assigned to operate an aerial device should be trained to use extreme caution when retracting or extending an aerial device that is coated with ice. Keep personnel well clear of the path of falling ice. Move the device slowly to allow ice to fall away. Inspect the device thoroughly after operation in an icing condition, as operation with an ice coating can damage many components of the device and render it unsafe for future use.

<u>Topic</u>	<u>Description</u>	<u>Details</u>
	☐ Recognize rung pinch or crush hazards.	Personnel authorized to climb or operate a ladder-style device should be trained to recognize and avoid the danger of climbing or standing on the ladder while it is being operated. The relative motion between ladder sections can pinch or crush hands, feet, or other body parts. Keep all personnel clear of ladder rungs during extension or retraction of a ladder-style device.
	☐ Understand safety harness use.	Each safety harness anchor on each aerial device should be identified. Personnel authorized to climb an aerial ladder or ride in an aerial platform should be trained in the proper use of their safety harness and where it is safe to anchor. All personnel should be attached to the device by a safety harness when not climbing.
	☐ Know aerial device capacity.	Personnel assigned to operate an aerial device should be trained to understand the capacity of the device using the load charts and the instructions provided in the device manufacturer's operator manual. Training should specifically include: 1. Knowledge of and demonstration in the use of the load chart to determine how many personnel and associated equipment the device can accommodate, in which locations, and in all the various conditions of deployment 2. Knowledge of and demonstration in how to apply reductions in capacity due to high wind, buildup of ice on the device, and water monitor reaction forces 3. Knowledge of dynamic loading and the proper operation of the device to minimize dynamic loads 4. Knowledge of how to approach victims from above to avoid people jumping down onto the device, causing an overload situation
	☐ Conduct aerial device inspection.	Critical points on the device that should be regularly inspected should be identified based on the recommendations of the device manufacturer. Personnel assigned to operate an aerial device should be trained to inspect these points and look for signs of wear, corrosion, or impending failure. Critical points of inspection should include, but not be limited to, the following: 1. Pins 2. Sheaves 3. Cables 4. Cylinders 5. Weld joints 6. Electrical cabling 7. Mounted equipment 8. Wear pads 9. Insulation 10. Slip-resistant surfaces 11. Lighting
	☐ Understand operator station attendance.	Personnel assigned to operate, climb, or ride on an aerial device should be trained to keep a trained operator at the main controls at all times when personnel are in or on the device. The operator station attendant should be trained to react to the following changes in:

<u>Topic</u>	<u>Description</u>	<u>Details</u>
		1. Wind speed 2. Icing conditions 3. Wind and smoke direction 4. Flames 5. Heat
Aerial Apparatus Pump Operator	☐ Stay on pump operator's platform.	Pump operators should be trained to remain standing on the pump operator's platform of aerial apparatus. Aerial devices could contact live electrical wires during operation. Electric current will travel down the device and seek a path to ground. Standing on the pump operator's platform rather than the ground will reduce the risk of this hazard.
Ambulance Training		
Ambulance Operation	☐ Understand vehicle axle weight limitations.	Ambulance operators should be trained to understand the axle capacity of the ambulance and limit the personnel and equipment carried to stay within the capabilities of the vehicle. Personnel should demonstrate their understanding of the consequences of overloading a vehicle, including the following: 1. Reduced acceleration 2. Increased stopping distance 3. Tire blowout risk 4. Handling degradation
	☐ Know the primary patient care position.	The primary patient care position should be identified. Personnel should be trained to use this position in a manner that will accommodate caregiving while allowing the operator the best opportunity to remain in a seated and belted condition.
	☐ Use seat belts whenever possible.	Personnel should be trained in methods to maximize the amount of time they are seated and belted while the vehicle is in motion. Personnel should be trained in the importance of restraining themselves and others in the ambulance to minimize the risk of death or injury during a crash.
	☐ Understand child seating restraints.	Seating positions in the ambulance that are most appropriate for transporting infants and children should be identified. Personnel should be trained in the correct methods of securing infant and child seats using the instructions provided in the vehicle and seat manufacturer's operator manual. Avoid transporting infants in a side facing orientation. Avoid seating positions that would be subject to flying objects in the event of a crash. Do not place infant or child seats in locations with air bags.
	☐ Understand cot retention.	Personnel should be trained in the correct methods of securing patients into the cot prior to transport using the instructions provided in the vehicle and cot manufacturer's operator manual.

Submitter Information Verification

Committee: FIY-AAA

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Committee Statement

Committee Statement:	NFPA 1911 consolidated into NFPA 1910, and NFPA 1901/1906/414/1917 consolidated into NFPA 1900
Response Message:	FR-195-NFPA 1400-2024



First Revision No. 147-NFPA 1400-2024 [Section No. N.1.1]

M.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2022 2025 edition.

NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, 2022 2025 edition.

~~NFPA 54, *National Fuel Gas Code* 2024 edition.~~

NFPA 70[®], *National Electrical Code*[®], 2023 edition.

~~NFPA 414, *Standard for Aircraft Rescue and Fire-Fighting Vehicles*, 2020 edition.~~

~~NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 2018 edition.~~

NFPA 470, *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*, 2022 edition.

NFPA 921, *Guide for Fire and Explosion Investigations*, 2024 2024 edition.

~~NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, 2019 edition.~~

~~NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.~~

NFPA 1006, *Standard for Technical Rescue Personnel Professional Qualifications*, 2021 edition.

NFPA 1010, *Standard on Professional Qualifications for Firefighters*, 2024 edition.

NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*, 2022 edition.

NFPA 1041, *Standard for Fire and Emergency Services Instructor Professional Qualifications*, 2019 edition.

NFPA 1081, *Standard for Industrial Fire Brigade Member Professional Qualifications*, 2018 2024 edition.

NFPA 1401, *Recommended Practice for Fire Service Training Reports and Records*, 2017 edition.

~~NFPA 1403, *Standard on Live Fire Training Evolutions*, 2018 edition.~~

~~NFPA 1407, *Standard for Training Fire Service Rapid Intervention Crews*, 2020 edition.~~

~~NFPA 1451, *Standard for a Fire and Emergency Service Vehicle Operations Training Program*, 2018 edition.~~

~~NFPA 1500[™], *Standard on Fire Department Occupational Safety, Health, and Wellness Program*, 2021 edition.~~

~~NFPA 1561, *Standard on Emergency Services Incident Management System and Command Safety*, 2020 edition.~~

NFPA 1550, *Standard for Emergency Responder Health and Safety*, 2024 edition.

NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*, 2022 edition.

NFPA 1584, *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*, 2022 edition.

~~NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*, 2017 edition.~~

NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, 2020 edition.

NFPA 1851, *Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, 2020 edition.

NFPA 1852, *Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)*, 2019 edition.

Fire Protection Guide to Hazardous Materials, 14th edition, 2010.

**First Revision No. 182-NFPA 1400-2024 [New Section after N.1.2.5]****M.1.2.6 Other Publications.**

Health and Safety Guidelines for Firefighter Training , University of Maryland, Center for Firefighter Safety Research and Development, Maryland Fire and Rescue Institute, College Park, MD, August 19, 2010.

Regan, J.W., Heat Release Rate Characterization of NFPA 1403 Compliant Training Fuels. *Fire Technol* 57, 1847–1867 (2021). <https://doi.org/10.1007/s10694-021-01092-3>

Weinschenk, C. and Stakes, K., “Analysis of Search and Rescue Tactics in Single-Story Single-Family Homes Part III: Tactical Considerations,” UL’s Fire Safety Research Institute, Columbia, MD, May 17, 2022.

Submitter Information Verification

Committee: FIY-AAA

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Committee Statement

Committee Statement: The technical committee recognized the finding of Regan in the paper "Heat Release Rate Characterization of NFPA 1403 Compliant Training Fuels" published in Fire Technology.

Response Message: FR-182-NFPA 1400-2024



First Revision No. 151-NFPA 1400-2024 [Section No. N.2.1]

M.2.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 600, *Standard on Facility Fire Brigades*, 2020 2025 edition.

NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, 2019 edition.

NFPA 1006, *Standard for Technical Rescuer Professional Qualifications*, 2021 edition.

NFPA 1081, *Standard for Facility Fire Brigade Member Professional Qualifications*, 2018 edition.

NFPA 1402, *Standard on Facilities for Fire Training and Associated Props*, 2019 edition.

NFPA 1403, *Standard on Live Fire Training Evolutions*, 2018 edition.

NFPA 1410, *Standard on Training for Emergency Scene Operations*, 2020 edition.

NFPA 1975, *Standard on Emergency Services Work Apparel*, 2019 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2019 edition.

NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*, 2018 edition.

Submitter Information Verification

Committee: FIY-AAA

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Committee Statement

Committee Statement: The technical committee identified updated references and standards that were incorporated with NFPA 1400.

Response Message: FR-151-NFPA 1400-2024

**First Revision No. 150-NFPA 1400-2024 [Section No. N.2.2]****M.2.2 CDC Publications.**

Centers for Disease Control and Prevention, 1600 Clifton Road, Atlanta, GA ~~30333~~ 30329-4027 .

CDC Fact Sheet – Acute Radiation Syndrome (last reviewed ~~5/20/05~~ 4/4/18)

CDC Fact Sheet – Acute Radiation Syndrome: A Fact Sheet for Physicians (last reviewed ~~3/18/05~~ 4/4/18)

CDC Fact Sheet – Anthrax: What ~~You Need To Know~~ is Anthrax? (last reviewed ~~2/22/06~~ 2/15/22)

CDC Fact Sheet – Dirty Bombs (last reviewed ~~6/03~~ 4/4/18)

CDC Fact Sheet – Facts about Cyanide (last reviewed ~~1/27/04~~ 2/7/23)

CDC Fact Sheet – Facts about Ricin (last reviewed ~~3/5/08~~ 4/4/18)

CDC Fact Sheet – Facts about Sarin (last reviewed ~~2/22/06~~ 2/7/23)

CDC Fact Sheet – Facts about Sulfur Mustard (last reviewed ~~2/22/08~~ 2/7/23)

CDC Fact Sheet – Radioactive Contamination and Radiation Exposure (last reviewed ~~12/24/03~~ 3/25/22)

CDC Fact Sheet – Smallpox Overview (last reviewed ~~2/6/07~~ 6/7/16)

Submitter Information Verification

Committee: FIY-AAA

Submittal Date: Tue Mar 05 19:26:38 EST 2024

Committee Statement

Committee Statement: The technical committee identified updated CDC fact sheets

Response Message: FR-150-NFPA 1400-2024



First Revision No. 149-NFPA 1400-2024 [Section No. N.2.3]

M.2.3 Other Publications.

~~Fire Protection Publications. *Forcible Entry*, 7th ed. Stillwater, OK: Fire Protection Publications, 1987.~~

Jakubowski, G. and M. Morton. *Rapid Intervention Teams*. Stillwater, OK: Fire Protection Publications, 2004 2nd edition, 2019.

Submitter Information Verification

Committee: FIY-AAA
Submittal Date: Tue Mar 05 18:42:17 EST 2024

Committee Statement

Committee Statement: the technical committee identified that FPP Forcible Entry, 7th edition, is not available. Updated the edition for RIC publication
Response Message: FR-149-NFPA 1400-2024



First Revision No. 148-NFPA 1400-2024 [Section No. N.3]

M.3 References for Extracts in Informational Sections.

NFPA 54, *National Fuel Gas Code*, 2024 edition.

NFPA 1010, *Standard on Professional Qualifications for Firefighters*, 2024 edition.

NFPA 1500 1550, *Standard on Fire Department Occupational Safety, Health, and Wellness Program for Emergency Responder Health and Safety*, 2018 2024 edition..

Submitter Information Verification

Committee: FIY-AAA

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Committee Statement

Committee Statement: The technical committee recognizes that NFPA 1500 is now consolidated into NFPA 1550.

Response Message: FR-148-NFPA 1400-2024