

NFPA® 1584

Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises

2015 Edition



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NFPA® 1584

Standard on the

Rehabilitation Process for Members During Emergency Operations and Training Exercises

2015 Edition

This edition of NFPA 1584, *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*, was prepared by the Technical Committee on Fire Service Occupational Safety and Health. It was issued by the Standards Council on November 11, 2014, with an effective date of December 1, 2014, and supersedes all previous editions.

This edition of NFPA 1584 was approved as an American National Standard on December 1, 2014.

Origin and Development of NFPA 1584

The first edition of NFPA 1584, *Recommended Practice on the Rehabilitation of Members Operating at Incident Scene Operations and Training Exercises*, was issued in January 2003 to support the requirements in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, for a rehabilitation program for fire department members operating at emergency incidents. An organized approach for fire department members' rehabilitation at incident scene operations is an integral component of both an occupational safety and health program and incident scene management.

For the 2008 edition, the committee felt that rehabilitation is important enough to the health and safety of fire fighters that it should be addressed in a standard rather than in a recommended practice. Accordingly, that edition was completely revised from the previous edition and retitled *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*.

The committee reviewed and updated the text so the standard reflected current science and knowledge on rehabilitation of fire service members. Requirements for medical monitoring during rehabilitation were added, with a lengthy discussion in the annex that recognized that vital signs alone cannot be used to determine if a fire fighter entering or in rehabilitation should receive further medical treatment.

Terminology was updated to be compatible with the National Incident Management System (NIMS). Annex material was added to show a sample standard operating procedure for a rehabilitation process and provide information on the classification, signs, symptoms, and treatment of heat stress and cold stress. Emphasis was placed on fire fighters, maintaining proper nutrition, hydration, and a healthy lifestyle prior to emergency operations or training exercises.

For the 2015 edition, the committee has updated the document to emphasize the importance and need for rehabilitation not just during emergency incidents and training exercises, but for post-rehabilitation hydration as well. This includes differentiating sports drinks from energy drinks and how such drinks can affect or impede the rehabilitation process. Environmental effects on the rehabilitation process have also been addressed.

The committee has also included requirements so that members of the incident command system have a greater responsibility in the effectiveness of the rehabilitation process. A focus was placed on individual members to know their limitations and to report them during rehabilitation.

Carbon monoxide monitoring has also been included among the vital signs taken during rehabilitation.



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Document Sharing Hub

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Committee Scope: This Committee shall have primary responsibility for documents on occupational safety and health in the working environment of the fire service. The Committee shall also have responsibility for documents related to medical requirements for fire fighters, and the professional qualifications for Fire Department Safety Officer.

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Information on referenced publications can be found in Chapter 2 and Annex C.

Chapter 1 Administration

1.1 Scope. This standard establishes the minimum criteria for developing and implementing a rehabilitation process for fire department members at incident scene operations and training exercises.

1.2 Purpose. This standard describes the rehabilitation process for members operating within an incident management system.

1.3 Application.

1.3.1 This standard applies to organizations providing rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services, including public, military, private, and industrial fire departments.

1.3.2 This standard does not apply to industrial fire brigades that might also be known as emergency brigades, emergency response teams, fire teams, plant emergency organizations, or mine emergency response teams.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

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

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2013 edition.

NFPA 1561, *Standard on Emergency Services Incident Management System and Command Safety*, 2014 edition.

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

2.3 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 2013 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2013 edition.

NFPA 1521, *Standard for Fire Department Safety Officer Professional Qualifications*, 2015 edition.

NFPA 1561, *Standard on Emergency Services Incident Management System and Command Safety*, 2014 edition.

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3 Shall. Indicates a mandatory requirement.

3.2.4 Should. Indicates a recommendation or that which is advised but not required.

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3.3 General Definitions.

3.3.1 Active Cooling. See 3.3.5.1.

3.3.2 Advanced Life Support (ALS). Functional provision of advanced airway management including intubation, advanced cardiac monitoring, manual defibrillation, establishment and maintenance of intravenous access, and drug therapy.

3.3.3* Basic Life Support (BLS). A specific level of prehospital medical care provided by trained responders, focused on rapidly evaluating a patient's condition; maintaining a patient's airway, breathing, and circulation; controlling external bleeding; preventing shock; and preventing further injury or disability by immobilizing potential spinal or other bone fractures.

3.3.4 Company. A group of members (1) under the direct supervision of an officer; (2) trained and equipped to perform assigned tasks; (3) usually organized and identified as engine companies, ladder companies, rescue companies, squad companies, or multi-functional companies; (4) operating with one piece of fire apparatus (pumper, aerial fire apparatus, elevating platform, quint, rescue, squad, ambulance) except where multiple apparatus are assigned that are dispatched and arrive together, continuously operate together, and are managed by a single company officer; (5) arriving at the incident scene on fire apparatus. [1500, 2013]

3.3.5 Cooling.

3.3.5.1 Active Cooling. The process of using external methods or devices (e.g., hand and forearm immersion, misting fans, ice vests) to reduce elevated core body temperature.

3.3.5.2 Passive Cooling. The process of using natural evaporative cooling (e.g., sweating, doffing personal protective equipment, moving to a cool environment) to reduce elevated core body temperature.

3.3.6* Core Body Temperature. The temperature deep within a living body.

3.3.7 Crew. A team of two or more fire fighters. [1500, 2013]

3.3.8 Emergency Incident. Any situation to which an emergency services organization responds to deliver emergency services, including rescue, fire suppression, emergency medical care, special operations, law enforcement, and other forms of hazard control and mitigation. [1561, 2014]

3.3.9 Emergency Medical Care. The treatment of patients, using first aid, cardiopulmonary resuscitation, basic life support, advanced life support, and other medical protocols prior to arrival at a hospital or other health care facility.

3.3.10 Emergency Medical Services. The provision of treatment, such as first aid, cardiopulmonary resuscitation, basic life support, advanced life support, and other pre-hospital procedures including ambulance transportation, to patients. [1500, 2013]

3.3.11 Emergency Operations. Activities of the fire department relating to rescue, fire suppression, emergency medical care, and special operations, including response to the scene of the incident and all functions performed at the scene. [1500, 2013]

3.3.12 Energy Drink A type of beverage containing stimulant drugs (caffeine and other ingredients such as taurine, ginseng, and guarana) that is marketed as providing mental or physical stimulation.

3.3.13* Hydration. The introduction of water in the form of food or fluids into the body.

3.3.14 Incident Commander (IC). The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. [472, 2013]

3.3.15* Incident Management System (IMS). A system that defines the roles and responsibilities to be assumed by responders and the standard operating procedures to be used in the management and direction of emergency incidents and other functions. [1561, 2014]

3.3.16* Medical Monitoring. The ongoing evaluation of members who are at risk of suffering adverse effects from stress or from exposure to heat, cold, or hazardous environments.

3.3.17* Member. A person involved in performing the duties and responsibilities of a fire department, under the auspices of the organization. [1500, 2013]

3.3.18 Passive Cooling. See 3.3.5.2.

3.3.19 Patient. An emergency responder who is provided emergency medical care during the rehabilitation process.

3.3.20 Personnel Accountability System. A system that readily identifies both the location and function of all members operating at an incident scene. [1500, 2013]

3.3.21 Procedure. An organizational directive issued by the authority having jurisdiction or by the department that establishes a specific policy that must be followed. [1561, 2014]

3.3.22 Recovery. The process of returning a member's physiological and psychological states to levels that indicate the person is able to perform additional emergency tasks, be reassigned, or released without any adverse effects.

3.3.23* Rehabilitation. An intervention designed to mitigate against the physical, physiological, and emotional stress of fire fighting in order to sustain a member's energy, improve performance, and decrease the likelihood of on-scene injury or death.

3.3.24 Rehabilitation Manager. The person or officer assigned to manage rehabilitation.

3.3.25 Sports Drink. A fluid replacement beverage that is between 4 percent and 8 percent carbohydrate and contains between 0.5 g and 0.7 g of sodium per liter of solution.

3.3.26 Standard Operating Guideline. A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely, which can be varied due to operational need in the performance of designated operations or actions.

3.3.27* Standard Operating Procedure. A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions. [1521, 2015]

3.3.28 Supervisor. An emergency services responder who has responsibility for overseeing the performance of other responders assigned to a specific division or group.

Chapter 4 Preparedness

4.1 General.

4.1.1 Standard Operating Procedures/Guidelines.

4.1.1.1* The fire department shall develop standard operating procedures/guidelines (SOP/Gs) that outline a systematic approach for the rehabilitation of members operating at incidents and training exercises.

4.1.1.2* These SOP/Gs shall include, but not be limited to, the following:

- (1) Relief from climatic conditions
- (2) Rest and recovery
- (3) Active and/or passive cooling or warming as needed for incident type and climate conditions
- (4) Rehydration (fluid replacement)
- (5) Calorie and electrolyte replacement
- (6) Medical monitoring
- (7) Emergency medical services (EMS) treatment in accordance with local protocol
- (8) Member accountability
- (9) Release
- (10) Ensure post-incident rehabilitation

4.1.1.3* Crews shall be rotated as necessary to allow for rehabilitation.

4.1.2 Protocols and procedures guiding fire department and other emergency services personnel who care for ill or injured members during emergency operations shall be developed by the emergency medical service (EMS) medical director in collaboration with the fire department physician and fire chief.

4.1.3 Procedures shall be in place to ensure that rehabilitation operations commence whenever emergency operations or training activities pose the risk of members exceeding a safe level of physical or mental endurance.

4.2 Recognition of Heat/Cold Stress.

4.2.1 All members shall be provided with information on how the body regulates core temperature and how to recognize the signs and symptoms, and utilize controls for heat and cold stress. (*See Annex B.*)

4.2.2* Departments and members shall follow NFPA 1583.

4.2.3 Education shall be provided on wind chill and heat index considerations.

4.2.4 Education shall be provided on the importance of proper hydration, nutrition, and diet.

4.3 Pre-Incident and Training Operations.

4.3.1* Members shall maintain proper hydration, nutrition, and diet to maintain normal body function.

Chapter 5 Rehabilitation Area Responsibilities and Characteristics

5.1 Responsibilities of the Incident Commander. The incident commander (IC) shall ensure that a rehabilitation group is established when indicated.

5.1.1 The IC shall assume the responsibility if it is not delegated.

5.1.2 The IC shall consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation of all members operating at the scene.

5.1.3* The IC or rehabilitation manager shall identify those resources to be used at an incident rehabilitation facility.

5.1.4 If one or more of the crew members is seriously injured or killed during the incident, all members of the crew shall be removed from emergency responsibilities at the incident as soon as possible.

5.1.5 Mental health facilities shall be made available to all members of the department.

5.2 Responsibilities of the Company Officer.

5.2.1 Company officers shall maintain an awareness of the physical and mental conditions of each member operating within their span of control and ensure adequate steps are taken to provide for each member's safety and health.

5.2.2* Company officers shall ensure that members remain hydrated and that potable fluids are available.

5.2.3* Company officers shall continuously assess their crew at least every 45 minutes and more frequently when working in extreme conditions to determine their need for rehabilitation.

5.2.4* On wildland fire-fighting crews for which rehabilitation, as defined in this document, has not been established, crew supervisors shall evaluate heat stress conditions and the potential for heat-related illness.

5.3 Responsibilities of the Rehabilitation Manager.

5.3.1 When established, the rehabilitation manager shall be responsible for all rehabilitation.

5.3.2 The rehabilitation manager shall designate a responder rehabilitation location(s) and have the location(s) communicated to incident personnel.

5.3.3 The rehabilitation manager shall request necessary medical personnel to evaluate medical condition of personnel being rehabilitated.

5.3.4 The rehabilitation manager shall request necessary resources for rehabilitation of personnel (e.g., water, juice, personnel).

5.3.5 The rehabilitation manager shall request feeding as necessary for personnel being rehabilitated.

5.3.6 The rehabilitation manager shall release rehabilitated personnel for reassignment.

5.3.7 The rehabilitation manager shall release those individuals needing additional medical care to EMS.

5.3.8 The rehabilitation manager shall maintain the accountability of all personnel in the rehabilitation location.

5.3.9 The rehabilitation manager shall maintain appropriate records and documentation.

5.4 Responsibilities of the Member.

5.4.1 Members shall participate in rehabilitation activities when assigned.

5.4.2 Members shall maintain their hydration.

5.4.3 Members shall advise their company officers when they believe their level of fatigue or exposure to heat or cold is approaching a level that could negatively affect them, their crew, or the operation in which they are involved.

5.4.4 Members shall remain aware of the health and safety of other members of their crew.

5.5 Site Characteristics.

5.5.1* The site shall be a sufficient distance from the effects of the operation that members can safely remove their personal protective equipment and can be afforded physical and mental rest.

5.5.2* The site shall include an area where members can remove and leave their protective clothing and protective equipment prior to entering the designated rehabilitation area.

5.5.3 The site shall provide protection from the prevailing environmental conditions.

5.5.3.1 For hot environments, this area shall include shade and/or air-conditioning and a place to sit.

5.5.3.2 For cold or wet environments, this area shall provide dry protected areas out of the wind, heated areas, and a place to sit.

5.5.4 The site shall be free of exhaust fumes from apparatus, vehicles, or equipment.

5.5.5 The site shall be large enough to accommodate multiple crews and rehabilitation personnel, based on the size of the incident.

5.5.6 The site shall include a medical monitoring and treatment area.

5.5.7 The site shall allow access to transport members to a medical treatment facility where required.

5.5.8 When the size of the operation or geographic barriers limit members' access to the rehabilitation area, the incident commander shall establish more than one rehabilitation area.

5.5.9* Each rehabilitation area shall be given a geographic name consistent with its location at the incident site.

Chapter 6 Incident Scene and Training Rehabilitation

6.1 Criteria for Implementation. Rehabilitation shall be provided in accordance with fire department standard SOP/Gs; NFPA 1500; and NFPA 1561.

6.1.1* Rehabilitation shall commence whenever emergency operations or training exercises pose a potential safety or health risk to members.

6.1.2 Members shall be assigned to rehabilitation as prescribed by departmental SOP/Gs.

6.1.3* Emergency medical services (EMS) staff in rehabilitation shall have the authority, as delegated from the incident commander, to use their professional judgement to keep members in rehabilitation or to transport them for further medical evaluation or treatment.

6.1.4* Members shall undergo rehabilitation following the use of a second 30-minute or 45-minute self-contained breathing apparatus (SCBA) cylinder, a single 60-minute SCBA cylinder, or 40 minutes of intense work without SCBA.

6.1.4.1 A supervisor shall be permitted to adjust the time frames depending upon work or environmental conditions.

6.2 Rehabilitation Efforts. Rehabilitation efforts shall include providing the following:

- (1) Relief from climatic conditions
- (2) Rest and recovery
- (3) Active and/or passive cooling or warming as needed for incident type and climate conditions
- (4) Rehydration (fluid replacement)
- (5) Calorie and electrolyte replacement, as appropriate, for longer duration incidents (*see 6.2.5*)

- (6) Medical monitoring
- (7) Member accountability
- (8) Release

6.2.1 Members shall be afforded relief from climatic and/or extreme conditions (*see 5.5.1*).

6.2.2 Rest and Recovery.

6.2.2.1 Members entering rehabilitation for the first time shall rest for a minimum of 10 minutes and longer where practical.

6.2.2.2 Members shall rest for a minimum of 20 minutes following the use of a second 30-minute or 45-minute self-contained breathing apparatus (SCBA) cylinder, a single 60-minute SCBA cylinder, or 40 minutes of intense work without SCBA.

6.2.2.2.1 A supervisor shall be permitted to adjust the time frames depending upon work or environmental conditions.

6.2.2.2.2 The member shall not return to operations if he or she does not feel adequately rested; if EMS or supervisory staff present see evidence of medical, psychological, or emotional distress; or if the member appears otherwise unable to safely perform his or her duties.

6.2.3 Cooling and Warming.

6.2.3.1* Members who feel warm or hot shall remove protective clothing, drink fluids, and apply active and/or passive cooling as needed for incident type and climate conditions.

6.2.3.2 Members with cold-related stress shall remove any wet or damp clothing and then add clothing, wrap themselves in blankets, or use other methods to regain normal body temperature.

6.2.4* Members entering rehabilitation shall consume fluids, regardless of thirst, during rehabilitation and be encouraged to continue hydrating after the incident.

6.2.4.1* Members shall avoid overhydration, which can lead to hyponatremia.

6.2.5* Fire departments shall ensure that appropriate calorie and electrolyte replacements are available.

6.2.5.1* Fire departments shall ensure that a means to wash members' hands and faces is available whenever calorie replacement will be used.

6.2.6* Medical Monitoring and Emergency Medical Care.

6.2.6.1* EMS shall be available as part of the incident scene rehabilitation for the evaluation and treatment of members.

6.2.6.2* Basic life support (BLS) shall be the minimum level of available care.

6.2.6.3 EMS personnel shall evaluate members arriving at rehabilitation for symptoms suggestive of a health and/or safety concern.

6.2.6.3.1 The following vital signs shall be obtained for all members entering rehabilitation:

- (1) Temperature
- (2) Heart rate
- (3) Respiratory rate
- (4) Blood pressure
- (5) Pulse oximetry

6.2.6.3.2* Members exposed to fire smoke shall be assessed for carbon monoxide poisoning.