

NFPA® 1584

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

2008 Edition



NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
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NFPA® 1584

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

2008 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 December 11, 2007, with an effective date of December 31, 2007, and supersedes all previous editions.

This edition of NFPA 1584 was approved as an American National Standard on December 31, 2007.

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, this edition is completely revised from the previous edition and has been retitled *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*.

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

Terminology has been updated to be compatible with the National Incident Management System (NIMS). Annex material has been 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 has been placed on fire fighters maintaining proper nutrition, hydration, and a healthy lifestyle prior to emergency operations or training exercises.



Technical Committee on Fire Service Occupational Safety and Health

Glenn P. Benarick, Chair

Aiken, SC [U]

Rep. NFPA Fire Service Section

Murrey E. Loflin, Secretary

West Virginia University, WV [U]

(Alt. to Glenn P. Benarick)

Rep. NFPA Fire Service Section

Donald Aldridge, Lion Apparel, Inc., OH [M]

David J. Barillo, University of Florida College of Medicine, FL [SE]

Paul Blake, City of Baytown Fire & Rescue Services, TX [E]
Rep. Industrial Emergency Response Working Group

Sandy Bogucki, Yale University Emergency Medicine, CT [SE]

Dennis R. Childress, Orange County Fire Authority, CA [U]
Rep. California State Firefighter Association

Dominic J. Colletti, Hale Products, Inc., PA [M]

Rep. Fire Apparatus Manufacturers Association

Thomas J. Cuff, Jr., Firemens Association of the State of New York, NY [U]

I. David Daniels, City of Renton Fire Department, WA [E]
Rep. International Association of Fire Chiefs

Phil Eckhardt, Mine Safety Appliances Company, PA [M]
Rep. International Safety Equipment Association

Jodi A. Gabelmann, Cobb County Fire and Emergency Services, GA [L]

Rep. Women in the Fire Service, Inc.

Tom Hillenbrand, Underwriters Laboratories Inc., IL [RT]

Jonathan D. Kipp, Primex3, NH [I]

Steve L. Kreis, City of Phoenix Fire Department, AZ [E]

Tamara D. Lopes, Reno Fire Department, NV [U]

David A. Love, Jr., Volunteer Firemen's Insurance Services, Inc., PA [I]

George L. Maier, III, Fire Department City of New York, NY [U]

Denis M. Murphy, Nassau County Fire Service Academy, NY [U]
Rep. Association of Fire Districts/State of New York

Stephen E. Norris, United Firefighters of Los Angeles City, CA [L]

David J. Prezant, Fire Department City of New York, NY [E]

Joseph W. Rivera, U.S. Air Force, FL [U]

David Ross, Toronto Fire Services, Canada [E]

Rep. Fire Department Safety Officers Association

Mario D. Rueda, Los Angeles City Fire Department, CA [U]

Daniel G. Samo, ENH-OMEGA, IL [SE]

Donald F. Stewart, Medocracy Inc./Fairfax County Fire & Rescue, VA [E]

Philip C. Stittleburg, LaFarge Fire Department, WI [U]
Rep. National Volunteer Fire Council

Teresa Wann, Santa Ana College, CA [SE]

Don Whittaker, U.S. Department of Energy, ID [E]

Hugh E. Wood, U.S. Department of Homeland Security, MD [SE]

Kim D. Zagaris, State of California, CA [E]

Alternates

Janice C. Bradley, International Safety Equipment Association, VA [M]

(Alt. to P. Eckhardt)

Michael L. Finkelman, East Meadow, NY [U]

(Alt. to D. M. Murphy)

Craig A. Fry, Los Angeles City Fire Department, CA [U]

(Alt. to M. D. Rueda)

Al H. Gillespie, North Las Vegas Fire Department, NV [E]

(Alt. to I. D. Daniels)

John Granby, Lion Apparel, Inc., OH [M]

(Alt. to D. Aldridge)

Allen S. Hay, Fire Department City of New York, NY [U]

(Alt. to G. L. Maier, III)

Thomas Healy, Daisy Mountain Fire District, AZ [E]

(Alt. to S. L. Kreis)

James Johannessen, Underwriters Laboratories Inc., PA [RT]

(Alt. to T. Hillenbrand)

Sandra S. Kirkwood, Las Vegas Fire/Rescue Department, NV [SE]

(Alt. to T. Wann)

Robert L. McLeod, III, City of Chandler Fire Department, AZ [E]

(Alt. to D. Ross)

Gary L. Neilson, Reno Fire Department, NV [U]

(Alt. to T. D. Lopes)

Michael W. Smith, Nevada Division of Forestry, NV [U]

(Alt. to P. C. Stittleburg)

Fred C. Terryn, U.S. Air Force, FL [U]

(Alt. to J. W. Rivera)

Michael L. Young, Volunteer Firemen's Insurance Services, Inc., PA [I]

(Alt. to D. A. Love, Jr.)

Nonvoting

Matthew I. Chibbaro, U.S. Department of Labor, DC [E]

Thomas R. Hales, U.S. Department of Health & Human Services, OH [RT]

Andrew Levinson, U.S. Department of Labor, DC [E]

(Alt. to M. I. Chibbaro)

Jay L. Tarley, U.S. Department of Health & Human Services, WV [RT]

(Alt. to T. R. Hales)

Carl E. Peterson, NFPA Staff Liaison

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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.



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A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex B. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

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*, 2007 edition.

NFPA 1561, *Standard on Emergency Services Incident Management System*, 2008 edition.

NFPA 1583, *Standard on Health-Related Fitness Programs for Fire Department Members*, 2008 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*, 2008 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2007 edition.

NFPA 1521, *Standard for Fire Department Safety Officer*, 2008 edition.

NFPA 1561, *Standard on Emergency Services Incident Management System*, 2008 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.

3.2.5 Standard. A document, the main text of which contains only mandatory provisions using the word “shall” to indicate requirements and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions shall be located in an appendix or annex, footnote, or fine-print note and are not to be considered a part of the requirements of a standard.

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, 2007]

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, 2007]

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, 2008]

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, 2007]

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, 2007]

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

3.3.13 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, 2008]

3.3.14* 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, 2008]

3.3.15* 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.

3.3.16* Member. A person involved in performing the duties and responsibilities of a fire department, under the auspices of the organization. [1500, 2007]

3.3.17 Passive Cooling. See 3.3.5.2.

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

3.3.19 Personnel Accountability System. A system that readily identifies both the location and function of all members operating at an incident scene. [1500, 2007]

3.3.20 Procedure. An organizational directive issued by the authority having jurisdiction or by the department that establishes a specific policy that must be followed. [1561, 2008]

3.3.21* Recovery. The process of returning a member's physiological and psychological states to normal or neutral where this person is able to perform additional emergency tasks, be re-assigned, or released without any adverse effects.

3.3.22* 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.

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

3.3.24 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.

3.3.25 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.

3.3.26* 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, 2008]

3.3.27 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 Guidelines.

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

4.1.1.2* These guidelines 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

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.

4.2 Training and 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, symptoms, and controls for heat and cold stress. (*See Annex B.*)

4.2.2* Departments and members shall follow NFPA 1583, *Standard on Health-Related Fitness Programs for Fire Department Members*.

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

4.3 Pre-Incident and Training Operations.

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

4.3.2* For scheduled events, prehydration shall include an additional 16 oz (500 mL) of fluids within 2 hours prior to the event.

Chapter 5 Rehabilitation Area Characteristics

5.1 Area for Rehabilitation. The incident commander (IC) shall ensure that an adequate area and/or shelter is available to conduct rehabilitation of members.

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

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

5.1.3 Multiple Rehabilitation Areas.

5.1.3.1 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.

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

5.2 Site Characteristics.

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

5.2.2* The site shall include an area where members can remove and leave their PPE prior to entering the designated rehabilitation area.

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

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

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

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

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

5.3* Establishing Rehabilitation Resources. The incident commander or the rehabilitation manager shall identify those resources to be used at an incident rehabilitation facility.

Chapter 6 Incident Scene and Training Rehabilitation

6.1 Criteria for Implementation. Rehabilitation operations shall be provided in accordance with fire department standard SOPs; NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*; and NFPA 1561, *Standard on Emergency Services Incident Management System*.

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

6.1.2 Members shall be assigned to rehabilitation as prescribed by departmental SOPs.

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 self-contained breathing apparatus (SCBA) cylinder, a single 45-minute or 60-minute SCBA cylinder, or 40 minutes of intense work without SCBA. 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 5.2.1*).

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 self-contained breathing apparatus (SCBA) cylinder, a single 45-minute or 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 add clothing, wrap themselves in blankets, or use other methods to regain normal body temperature.

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

6.2.5* Members shall replace calories and electrolytes as required, particularly during incidents of more than 3 hours and incidents where members are likely to be working for more than 1 hour.

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

6.2.5.2* 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.

6.2.6.4 EMS personnel shall be alert for the following :

- (1)*Personnel complaining of chest pain, dizziness, shortness of breath, weakness, nausea, or headache
- (2) General complaints such as cramps, aches and pains
- (3) Symptoms of heat- or cold-related stress (*see Annex B*)
- (4) Changes in gait, speech, or behavior
- (5)*Alertness and orientation to person, place, and time of members
- (6) Vital signs considered to be abnormal as established by protocol

6.2.6.5 Symptomatic members, or members with abnormal findings shall receive additional monitoring during rehabilitation.

6.2.6.6 EMS personnel shall access and provide member treatment in accordance with protocols developed by the fire department physician or medical authority.

6.2.6.7 Members treated for any heat-related injuries shall be removed from active duties.

6.2.7* Member Accountability. All members entering and leaving rehabilitation shall be assigned by the incident commander and shall be tracked through the personnel accountability system.

6.2.8 Release.

6.2.8.1 EMS personnel shall also evaluate members prior to their release from rehabilitation to ensure there are no obvious indications that would prevent them from safely performing full-duty activity.

6.2.8.2 Members being released from rehabilitation shall confirm their accountability with the rehabilitation manager.

6.3 Company/Crew Level Rehabilitation.

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

6.3.2 Work-to-Rest Ratio.

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

6.3.2.2 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. Mental health services shall be made available to all members of the department.

6.4 Documentation.

6.4.1* Time-in/time-out for members/crews entering or leaving the rehabilitation area shall be documented.

6.4.2 If medical monitoring is provided, a rehabilitation evaluation report shall document the evaluation in the fire department's data collection system.

6.4.3 Where emergency medical care is provided, a medical report shall be generated and a copy placed in the member's employee health record.

Chapter 7 Post-Incident Rehabilitation

7.1 Policy. The authority having jurisdiction shall ensure there is a policy on post-incident rehabilitation.

7.2* Rehydration. Supervisors shall encourage members to continue fluid intake after the incident.

Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.3.2.1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of