

NFPA 1500

**Standard on
Fire Department
Occupational Safety
and Health Program**

2002 Edition

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MEDICAL AND PHYSICAL REQUIREMENTS 1500-25

9.1.3 All existing and new fire stations shall be provided with smoke detectors in work, sleeping, and general storage areas.

9.1.3.1 When activated these detectors shall sound an alarm throughout the fire station.

9.1.4 All existing and new fire department facilities shall have carbon monoxide detectors installed in sleeping and living areas.

9.1.5* All fire stations and fire department facilities shall comply with NFPA 101 @,Life Safety Code@.

→9.1.6* The fire department shall prevent exposure to fire fighters and contamination of living and sleeping areas to exhaust emissions.

9.1.7 All fire department facilities shall be designed smoke-free.

9.2 Inspections.

9.2.1 All fire department facilities shall be inspected at least annually to provide for compliance with Section 9.1 (See Annex G.)

9.2.2 Inspections shall be documented and recorded.

9.2.3 All Fire department facilities shall be inspected at monthly to identify and provide correction of any safety or health hazards.

9.3* Maintenance and Repairs. The fire department shall have an established system to maintain all facilities and to provide prompt correction of any safety or health hazard or code violation.

Chapter 10 Medical and Physical Requirements

10.1 Medical Requirements

10.1.1 Candidates shall be medically evaluated and certified by the fire department physician.

10.1.2 Medical evaluations shall take into account the risks and the functions associated with the individuals duties and responsibilities.

10.1.3 Candidates and members who will engage in fire suppression shall meet the medical requirements specified in NFPA 1582, *Standards on Medical Requirements for Fire Fighters and Information for Fire Departments Physicians*, prior to being medically certified for duty by the fire department physician.

10.1.4 Fire departments that operate their own fixed wing or rotary aircraft shall require fire department pilots who perform fire-fighting operations from the air to maintain a commercial Class 1 medical examination in conformance with Federal Aviation Agency (FAA) regulations for commercial pilots.

10.1.5* Members who are under the influence of alcohol or drugs shall not participate in any fire department operations or other duties.

10.2 Physical Performance Requirements

10.2.1* The fire department shall develop physical performance requirements for candidates and members . who engage in emergency operations.

10.2.2 Medical certification for the use of respiratory protection shall be conducted annually.

10.2.3 Candidates shall be certified by the fire department as meeting the physical performance requirements specified in NFPA 1583, *Standard on Health-Related Fitness Programs for Fire Fighters*, prior to entering into a training program to become a fire fighter.

10.2.4 Members who engage in emergency operations shall be annually evaluated and certified by the fire department as meeting the physical performance requirements specified in NEPA 1583.

10.2.5 Members who do not to meet the required level of physical performance shall not be permitted to engage in emergency operations.

10.2.6 Members who are unable to meet the physical performance requirements specified in NFPA 1583 shall enter a physical performance rehabilitation program to facilitate progress in attaining a level of performance commensurate with the individual's assigned duties and responsibilities.

10.3 Health and Fitness.

10.3.1 The fire department shall establish and provide a health and fitness program that meets the requirements of NFPA 1583, *Standard on Health-Related Fitness Programs for Fire Fighters*, to enable members to develop and maintain in appropriate level of fitness to safety perform their assigned functions.

10.3.2 The maintenance of fitness levels specified in the program shall be based on fitness standards determined by the fire department physician that reflects the individual's assigned functions and activities and that are intended to reduce the probability and severity of occupational injuries and illness.

10.3.3 The fire department health and fitness coordinator shall administer all aspects of the physical fitness and health enhancement program.

10.3.4 The health and fitness coordinator shall act as a direct liaison between the fire department physician and the fire department in accordance NFPA 1582, *Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians*.

10.4 Confidential Health Data Base.

10.4.1*The fire department shall ensure that a confidential, permanent health file is established and maintained on each individual member.

10.4.2 The individual health file shall record the results of regular medical evaluations and physical performance tests, any occupational illness or injuries, and any events that expose the individual to known or suspected hazardous materials, toxic products, or contagious diseases.

10.4.3* Health information shall be maintained as a confidential record for each individual member as well as a composite data base for the analysis of factors pertaining to the overall health and fitness of the member group.

10.4.4* If a member dies as result of occupational injury or illness, autopsy results, if available, shall be record in the health data base.

(6) Providing medical evaluation for personnel showing signs or symptoms of heat exhaustion or heat stroke

Typical rehabilitation considerations for operations during cold weather extremes are as follows:

- (1) Moving fatigued or unassigned personnel away from the hazard area of the incident.
- (2) Providing shelter from wind and temperature extremes.
- (3) Providing personnel with fluid replenishment, especially water
- (4) Providing medical evaluation for personnel showing signs or symptoms of frostbite, hypothermia, or other cold-related injury.

A.8.6.3 The assignment of an ambulance or other support crew to the rehabilitation function is essential during long-duration or heavy-exertion incident operations. This crew can assist with rehabilitation functions as well as be available to provide immediate life support needs for members.

A.8.6.5 The importance of hydration during wildland fire-fighting operations cannot be overemphasized. This concept should be clearly understood and utilized by all members. A method of replenishment of this water supply should be in place to provide 8 to 12 L (8 to 12qt) of water per day, per member.

A.8.7.4 Incidents that appear routine in nature can, after the arrival of responding crews, turn into a violent or hostile environment. A standard communication phrase, known only by communication personnel and other responders, can warn others to the dangers of the situation without triggering violence or hostilities.

A.9.1.1 Where health, safety, building, and fire codes are not legally applicable to fire department facilities, steps should be taken to ensure that equivalent standards are applied and enforced. In the absence of local requirements, the provisions of NFPA 1, *Fire Prevention Code*; NFPA 101®, *Life Safety Code*®; NFPA 70, *National Electrical Code*®; and a model plumbing, mechanical, and building code should be applied. In addition, the workplace safety standards specified in 29 CFR 1910 or an equivalent standard should be applied. Applicable requirements of the Americans with Disabilities Act, 1992 should be met.

A.9.1.5 As new stations are constructed or existing stations are renovated, a separation between the apparatus floor and living quarters should be provided.

A.9.1.6 The operation of a fire department requires the storage and indoor operation of fire apparatus that are generally housed in an enclosed building. The need to keep the apparatus and other vehicle ready for immediate service and in good operating condition, which requires the indoor running of vehicles for response and routine service/pump checks, makes storage in an enclosed area, such as an apparatus bay necessary. The exhaust from all internal combustion engines, including diesel and gasoline-powered engines, contains 100 individual hazardous chemical components that, when combined, can result in as many as 10,000 chemical compounds. A large majority of these compounds are today listed by state and federal regulatory agencies as being or suspected carcinogen. The target components listed by NIOSH/OSHA consist of both hydrocarbon carbon components and compounds, which are produced as both gas-phase and particulate-phase and particulate-phase compounds. The gases and particulates, which are viewed by NIOSH and OSHA as life threatening, consist of cancer causing substance known as hydrocarbons (PAHs). Gases in diesel exhaust, such as nitrous oxide, nitrogen dioxide, formaldehyde, benzene, sulfur dioxide, hydrogen sulfide, carbon dioxide, and carbon monoxide, can also create health problems. According to NIOSH, human and animal studies show that diesel exhaust should be treated as a human carcinogen (cancer causing substance). In accordance with the NIOSH *Pocket Guide to Chemical Hazards*, as it pertains to diesel exhaust, NIOSH recommends that occupational exposure to carcinogens be limited to the lowest feasible concentration NIOSH uses OSHA's classification, outlined in 29 CFR 1910.103, which states in part "Potential occupational carcinogen means any substance, or combination or mixture of substance, which causes an increased incidence of benign and/or malignant neoplasm, or a substantial decrease in the latency period between exposure and onset of neoplasm in humans or in one or more experimental mammalian species as the results of any oral, respiratory

or dermal exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration.” This definition also includes any substance that is metabolized into one or more potential occupational carcinogen by mammals.

Over the past decade, it has been documented that fire department personnel exposed to vehicle exhaust emissions have had adverse health effects, including death, even in areas where only short-term exposure had taken place. Secondary effects of vehicle exhaust have been sighted in the storage of sterilized medical equipment. The equipment is contaminated by exhaust emissions, handled by emergency services personnel while treating the public, thus creating a path for cross-contamination to the general public. In addition, there has been an effect on contamination to computers and emergency service electronics due to carbon deposits that lead to malfunction.

For the previously stated reasons and numerous support documentation, this technical committee recognizes and advocates the need for the elimination and the containment of all vehicle exhaust emissions to a level of no less than 100 percent effective capture. This complies with NIOSH’s requirement to reduce the health impact on human life. This, in turn, reduces the department’s liability and risk.

The containment of the vehicle exhaust emissions should be achieved with a goal of **eliminating all** exhaust emissions from the breathing zone of the human inhabitants present in the station. **Any system installed to suit this purpose should be made using “best available control technology.”**

A.9.3 In some jurisdictions fire department facilities are maintained by other agencies. In these situations fire departments should develop a process to expedite requests for repairs or modifications to the facility to address safety or health concerns.

A.10.1.5 If any member, either career or volunteer reports for duty under the influence of alcohol or drugs, or any other substance that impairs the member’s mental or physical capacity, this situation cannot be tolerated.

Evidence of substance abuse could include a combination of various factors such as slurred speech, red eyes, dilated pupils, incoherence, unsteadiness on feet, smell of alcohol or marijuana emanating from the member’s body, inability to carry on a rational conversation, increased carelessness, erratic behavior, inability to perform a job, or other unexplained behavioral changes.

The possibility of liability exists if a member who is under the influence of alcohol or drugs is allowed to remain on duty, to operate or drive vehicles or equipment on duty, or to drive a private vehicle from the duty site. A member who is believed to be under the influence of alcohol or drugs cannot be able to operate equipment or drive a vehicle, including a private vehicle, until the condition of the member has been determined and verified.