RAS 2005 72-22-ISFSI 6/19/00 STATE-8

NFPA 1500

Standard on

Fire Department Occupational Safety and Health Program

1997 Edition

NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Appendix A.

Information on referenced publications can be found in Chapter 11 and Appendix C.

Chapter 1 Administration

1-1 Scope.

1-1.1 This standard contains minimum requirements for a fire-service-related occupational safety and health program.

1-1.2 These requirements are applicable to public, governmental, military, private, and industrial fire department organizations providing rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services.

1-1.3 This standard does not apply to industrial fire brigades or industrial fire departments meeting the requirements of NFPA 600, *Standard on Industrial Fire Brigades.* Industrial fire brigades or fire departments shall also be permitted to be known as emergency brigades, emergency response teams, fire teams, plant emergency organizations, or mine emergency response teams.

1-2 Purpose.

1-2.1 The purpose of this standard is to specify the minimum requirements for an occupational safety and health program for a fire department and to specify safety guidelines for those members involved in rescue, fire suppression, emergency medical services, hazardous materials operations, special operations, and related activities.

1-2.2* Many of the performance objectives of this standard shall be permitted to be achieved in a variety of ways. The achievement of these objectives is intended to help prevent accidents, injuries, and exposures and to reduce the severity of those accidents, injuries, and exposures that do occur. They will also help to prevent exposure to hazardous materials and contagious diseases and to reduce the probability of occupational fatalities, illnesses, and disabilities affecting fire service personnel.

1-2.3 Nothing herein shall be intended to restrict any jurisdiction from exceeding these minimum requirements.

1-3 Implementation.

1-3.1* When this standard is adopted by a jurisdiction, the authority having jurisdiction shall set a date or dates for achieving compliance with the requirements of this standard and shall be permitted to establish a phase-in schedule for compliance with specific requirements of this standard.

1-3.2* The fire department shall adopt a risk management plan as specified in Section 2-2 of this standard. This risk management plan shall include a written plan for compliance with this standard.

1-4 Equivalency.

1-4.1 The authority having jurisdiction shall be permitted to approve an equivalent level of qualifications for the requirements specified in 3-1.6, 3-3.2, 3-3.3, 3-3.4, and 3-3.5 of this standard, provided that the fire department has technical documentation to demonstrate equivalency.

1-4.2 The approved equivalent levels shall provide as nearly equivalent training, education, competency, and safety as possible and shall require that training, education, and competency be commensurate with those functions that the members are expected to perform as specified in the organizational statement in accordance with 2-1.1 and also in accordance with 3-1.3 and 3-1.4 of this standard. In no case shall the equivalency afford less competency of members or safety to members than that which, in the judgment of the authority having jurisdiction, would be provided by compliance with the provisions of the specified paragraphs.

1-5 Definitions.

Advanced Life Support (ALS). Emergency medical treatment beyond basic life support level as defined by the medical authority having jurisdiction.

Aerial Device. An aerial ladder, elevating platform, aerial ladder platform, or water tower that is designed to position personnel, handle materials, provide egress, and discharge water.

Aircraft Rescue and Fire Fighting. The fire-fighting actions taken to rescue persons and to control or extinguish fire involving or adjacent to aircraft on the ground. Such rescue and fire-fighting actions are performed both inside and outside of the aircraft.

Approach Fire Fighting. Limited, specialized exterior fire-fighting operations at incidents involving fires producing very high levels of conductive, convective, and radiant heat, such as bulk flammable gas and bulk flammable liquid fires. Specialized thermal protection from exposure to high levels of radiant heat is necessary for the persons involved in such operations due to the limited scope of these operations and the greater distance from the fire at which these operations are conducted. Approach fire fighting is not entry, proximity, or structural fire fighting. See also Entry Fire Fighting, Proximity Fire Fighting, and Structural Fire Fighting.

Approved.* Acceptable to the authority having jurisdiction.

Authority Having Jurisdiction.* The organization, office, or individual responsible for approving equipment, an installation, or a procedure.

Basic Life Support (BLS). Emergency medical treatment at a level as defined by the medical authority having jurisdiction.

Belt. A system component; material configured as a device that fastens around the waist only and is designated as a ladder belt, an escape belt, or a ladder/escape belt.

Escape Belt. A belt that is certified as compliant with the applicable requirements of this standard and is intended for use only by the wearer as an emergency self-rescue device.

Template = SECY-028

State's Exhibit 8
SECY-02

NUCLEAR REGULATORY COMMISSION

Docket No. 72-22 Official Exh. No. 8

In the matter of Private Fuel Storage

Staff		IDENTIFIED	X
Applicant		RECEIVED	X
Intervenor	State	REJECTED	
Cont'g Off'r			
Contractor		DATE	19 June 00
Other		Witness	Wise
Reporter	Vicky McDaniel		

Ladder Belt. A belt that is certified as compliant with the applicable requirements of this standard and is intended for use as a positioning device for a person on a ladder.

Ladder/Escape Belt. A belt that is certified as compliant with the applicable requirements of this standard for both a ladder belt and an escape belt and that is intended for use as a positioning device for a person on a ladder as well as for use only by the wearer as an emergency self-rescue device.

Candidate.* A person who has submitted an application to become a member of the fire department.

Closed-Circuit Self-Contained Breathing Apparatus (SCBA). A recirculation-type SCBA in which the exhaled gas is rebreathed by the wearer after the carbon dioxide has been removed from the exhalation gas and the oxygen content within the system has been restored from sources such as compressed breathing air, chemical oxygen, and liquid oxygen, or compressed gaseous oxygen.

Communicable Disease. A disease that can be transmitted from one person to another. Also known as contagious disease.

Company. A group of members having the following characteristics:

(a) Under the direct supervision of an officer or leader

(b) Trained and equipped to perform assigned tasks

(c) Usually organized and identified as engine companies, ladder companies, rescue companies, or squad companies

(d) Usually operating with one piece of fire apparatus (e.g., quint, pumper, ladder truck, elevating platform, rescue, squad, or ambulance)

(e) Arriving at the incident scene on fire apparatus or assembling at the scene prior to assignment

Confined Space. An area large enough and so configured that a member can bodily enter and perform assigned work. An area with limited or restricted means for entry and exit. An area that is not designed for continuous human occupancy. Additionally, a confined space is further defined as having one or more of the following characteristics:

(a) The area contains or has a potential to contain a hazardous atmosphere, including an oxygen-deficient atmosphere.

(b) The area contains a material with a potential to engulf a member.

(c) The area has an internal configuration such that a member could be trapped by inwardly converging walls or a floor that slopes downward and tapers to a small cross section.

(d) The area contains any other recognized serious hazard.

Contaminant. A harmful, irritating, or nuisance material foreign to the normal atmosphere.

Debilitating Illness or Injury. A condition that temporarily or permanently prevents a member of the fire department from engaging in normal duties and activities as a result of illness or injury.

Defensive Operations. Actions that are intended to control a fire by limiting its spread to a defined area, avoiding the commitment of personnel and equipment to dangerous areas. Defensive operations are generally performed from the exterior of structures and are based on a determination that the risk to personnel exceeds the potential benefits of offensive actions.

Drug. Any substance, chemical, over-the-counter medication, or prescribed medication that can affect the performance of the fire fighter.

Emergency Incident. A specific emergency operation.

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.

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.

Entry Fire Fighting. Extraordinarily specialized fire-fighting operations that can include the activities of rescue, fire suppression, and property conservation at incidents involving fires producing very high levels of conductive, convective, and radiant heat, such as aircraft fires, bulk flammable gas fires, and bulk flammable liquid fires. Highly specialized thermal protection from exposure to extreme levels of conductive, convective, and radiant heat is necessary for persons involved in such extraordinarily specialized operations due to the scope of these operations and because direct entry into flames is made. Usually these operations are exterior operations. Entry fire fighting is not structural fire fighting. See also Approach Fire Fighting, Proximity Fire Fighting, and Structural Fire Fighting.

Facility. See Fire Department Facility.

Fire Apparatus. Any vehicle—including those used for rescue, fire suppression, emergency medical services, hazardous materials operations, wildland, or other functions—operated by a fire department member.

Fire Chief. The highest ranking officer in charge of a fire department.

Fire Department. An organization providing rescue, fire suppression, and related activities. It can also provide emergency medical services, hazardous materials operations, and special operations. The term "fire department" shall include any public, governmental, private, industrial, or military organization engaging in this type of activity.

Fire Department Facility. Any building or area owned, operated, occupied, or used by a fire department on a routine basis. This does not include locations where a fire department can be summoned to perform emergency operations or other duties, unless such premises are normally under the control of the fire department.

Fire Department Member. See Member.

Fire Shelter. A personal protection item carried by fire fighters that, when deployed, unfolds to form a shelter of heat-reflective materials.

Fire Suppression. The activities involved in controlling and extinguishing fires. Fire suppression shall include all activities performed at the scene of a fire incident or training exercise that expose fire department members to the dangers of heat, flame, smoke, and other products of combustion, explosion, or structural collapse.

Flame Resistance. The property of a material whereby the application of a flaming or nonflaming source of ignition and the subsequent removal of the ignition source results in the termination of combustion. Flame resistance can be an inherent property of the material, or it can be imparted by specific treatment.

Fully Enclosed Area. A cab or passenger compartment of fire apparatus providing total enclosure equipped with positive latching doors for entry and exit.

Gloves. An element of the protective ensemble designed to provide minimum protection to the fingers, thumb, hand, and wrist.

Guideline. A written indication or outline of department policy that allows flexibility in application.

Hazard. The potential for harm or damage to people, property, or the environment. Hazards include the characteristics of facilities, equipment systems, property, hardware, or other objects and the actions and inactions of people that create such hazards.

Hazardous Area. The area where members might be exposed to a hazardous atmosphere. A particular substance, device, event, circumstance, or condition that presents a danger to members of the fire department.

Hazardous Atmosphere. Any atmosphere that is oxygen deficient or that contains a toxic or disease-producing contaminant. A hazardous atmosphere can be immediately dangerous to life and health.

Hazardous Material. A substance that presents an unusual danger to persons due to properties of toxicity, chemical reactivity or decomposition, corrosivity, explosion or detonation, etiological hazards, or similar properties.

Hazardous Materials Operations. All activities performed at the scene of a hazardous materials incident that expose fire department members to the dangers of hazardous materials.

Health and Fitness Coordinator. The person who, under the supervision of the fire department physician, has been designated by the department to coordinate and be responsible for the health and fitness programs of the department.

Health and Safety Officer. The member of the fire department assigned and authorized by the fire chief as the manager of the safety and health program and who performs the duties and responsibilities specified in this standard. This individual can be the incident safety officer or that can also be a separate function.

Health Data Base. A compilation of records and data that relates to the health experience of a group of individuals and is maintained in a manner such that it is retrievable for study and analysis over a period of time.

Health Promotion. Preventive health activities that identify real and potential health risks in the work environment and that inform, motivate, and otherwise help people to adopt and maintain healthy practices and lifestyles.

Hot Zone. The area immediately surrounding a hazardous material incident that extends far enough to prevent adverse effects from the release of hazardous materials to personnel outside the zone. This zone is also referred to as the "exclusion zone" or "restricted zone" in other documents.

Immediately Dangerous to Life or Health (IDLH). Any atmosphere that poses an immediate hazard to life or produces immediate irreversible debilitating effects on health.

Incident Action Plan. The objectives reflecting the overall incident strategy, tactics, risk management, and member safety that are developed by the incident commander. Incident action plans are updated throughout the incident.

Incident Commander. The fire department member in overall command of an emergency incident.

Incident Management System (IMS). An organized system of roles, responsibilities, and standard operating procedures used to manage emergency operations. Such systems are often referred to as incident command systems (ICS).

Incident Safety Officer. An individual appointed to respond or assigned at an incident scene by the incident commander to perform the duties and responsibilities specified in this standard. This individual can be the incident safety officer or can be a separate individual, appointed by the incident commander, or a predesignated individual.

Industrial Fire Department.* An organization providing rescue, fire suppression, and related activities. It can also provide emergency medical services, hazardous material operations, or other activities. These activities can occur at a single facility or facilities under the same management, whether for profit, not for profit, or government owned or operated, including occupancies such as industrial, commercial, mercantile, warehouse, and institutional. The industrial fire department is generally trained and equipped for specialized operation based on site-specific hazards present at the facilities.

Groups or teams that are organized to perform specialized rescue services but that do not perform fire suppression activities are not considered as industrial fire departments.

Infection Control Program. The fire department's formal policy and implementation of procedures relating to the control of infectious and communicable disease hazards where employees, patients, or the general public could be exposed to blood, body fluids, or other potentially infectious materials in the fire department work environment.

Infectious Disease. An illness or disease resulting from invasion of a host by disease-producing organisms such as bacteria, viruses, fungi, or parasites.

Interface Area. An area of the body where the protective garments, helmet, gloves, footwear, or SCBA facepiece meet (i.e., the protective coat/helmet/SCBA facepiece area, the protective coat/protective trouser area, the protective coat/glove area, and the protective trouser/footwear area).

Interface Components. Elements of the protective ensemble that are designed to provide limited protection to interface areas.

Life Safety Harness System Components. The following are utilized for fall arrest and rappelling operations:

Class I Life Safety Harness. Harness that fastens around waist and around thighs or under buttocks and designed to be used for emergency escape with one-person loads (300 pounds).

Class II Life Safety Harness. Harness that fastens around waist and around thighs or under buttocks and designed for rescue where two-person loads can be encountered (600 pounds).

Class III Life Safety Harness. Harness that fastens around waist, around thighs or under buttocks, and over shoulders and designed for rescue where two-person loads can be encountered (600 pounds) and where inverting might occur. Class III life safety harnesses shall be permitted to consist of one or more parts.

Medical Evaluation. The analysis of information for the purpose of making a determination of medical certification. Medical evaluation can include a medical examination.

Member. A person involved in performing the duties and responsibilities of a fire department, under the auspices of the organization. A fire department member can be a full-time or

part-time employee or a paid or unpaid volunteer, can occupy any position or rank within the fire department, and can engage in emergency operations.

Member Assistance Program (MAP). A generic term used to describe the various methods used in the fire department for the control of alcohol and other substance abuse, stress, and personal problems that adversely affect member performance.

Member Organization. An organization formed to represent the collective and individual rights and interests of the members of the fire department, such as a labor union or fire fighters' association. This definition includes any organization authorized to represent the interests of its members in dealing with the fire department management.

Occasionally Assigned. The infrequent fire-fighting responsibility in a given jurisdiction, district, or area. Fire-fighting situations that are less likely to occur or that occur on an infrequent basis within the response area.

Occupational Illness. An illness or disease contracted through or aggravated by the performance of the duties, responsibilities, and functions of a fire department member.

Occupational Injury. An injury sustained during the performance of the duties, responsibilities, and functions of a fire department member.

Offensive Operations. Actions that involve a direct attack on a fire to directly control and extinguish the fire, generally performed in the interior of involved structures.

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.

Oxygen-Deficient Atmosphere. Air atmospheres containing less than 19.5 percent oxygen by volume at one standard atmosphere pressure.

Personnel Accountability System. A system that readily identifies both the location and function of all members operating at an incident scene.

Positive-Pressure SCBA. An SCBA in which the pressure inside the facepiece, in relation to the pressure surrounding the outside of the facepiece, is positive during both inhalation and exhalation when tested by NIOSH in accordance with 42 CFR 84, Subpart H.

Pressure-Demand SCBA. See Positive-Pressure SCBA.

Primarily Assigned. The principal fire-fighting responsibility in a given jurisdiction, district, or area. Fire-fighting situations that are most likely to occur within the response area.

Procedure. An organizational directive issued by the authority having jurisdiction or by the department that establishes a specific policy that must be followed.

Property Conservation. Those activities directed at stopping or minimizing the dollar loss to buildings and property from the effects of fire and fire suppression activities or other emergency situations and the mitigation of those emergencies.

Protective Clothing Ensemble. Multiple elements of clothing and equipment designed to provide a degree of protection for fire fighters from adverse exposures to the inherent risks of structural fire-fighting operations and certain other emergency operations. The elements of the protective ensemble are coats, trousers, coveralls, helmets, gloves, footwear, and interface components.

Protective Uniform. A unit of textile apparel configured as a shirt, pant, or coverall and designed to be both the thermal barrier or a portion of the thermal barrier of a garment element of the protective ensemble and an apparel unit(s) of a station/work uniform.

Proximity Fire Fighting. Specialized fire-fighting operations that can include the activities of rescue, fire suppression, and property conservation at incidents involving fires producing very high levels of conductive, convective, and radiant heat such as aircraft fires, bulk flammable gas fires, and bulk flammable liquid fires. Specialized thermal protection from exposure to high levels of radiant heat, as well as thermal protection from conductive and convective heat, is necessary for persons involved in such operations due to the scope of these operations and the close distance to the fire at which these operations are conducted, although direct entry into flame is *not* made. These operations usually are exterior operations but might be combined with interior operations. Proximity fire fighting is not structural fire fighting but might be combined with structural fire-fighting operations. Proximity fire fighting also is not entry fire fighting. See also Approach Fire Fighting, Entry Fire Fighting, and Structural Fire Fighting.

Qualified Person. A person who, by possession of a recognized degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems related to the subject matter, the work, or the project.

Related Activities. Any and all functions that fire department members can be called upon to perform in the execution of their duties.

Rescue. Those activities directed at locating endangered persons at an emergency incident, removing those persons from danger, treating the injured, and providing for transport to an appropriate health care facility.

Rescue Incident. An emergency incident that primarily involves the rescue of persons subject to physical danger and that can include the provision of emergency medical services.

Risk. A measure of the probability and severity of adverse effects. These adverse effects result from an exposure to a hazard.

Risk Management. Identification and analysis of exposure to hazards, selection of appropriate risk management techniques to handle exposures, implementation of chosen techniques, and monitoring of results, with respect to the health and safety of members.

Rope. A compact but flexible, torsionally balanced, continuous structure of fibers produced from strands that are twisted, plaited, or braided together and that serve primarily to support a load or transmit a force from the point of origin to the point of application.

Life Safety Rope. Rope dedicated solely for the purpose of supporting people during rescue, fire fighting, other emergency operations, or during training evaluations. See also Personal Escape Rope.

One-Person Rope. Life safety rope designed to support a one-person load when in use; also can be used to support a two-person load when used in systems where two ropes are used as separate and equal members.

Two-Person Rope. Life safety rope designed to support a two-person load when in use.

Personal Escape Rope. A system component; a single-purpose, one-person, one-time use, emergency self-escape (self-rescue) rope; not classified as a life safety rope. See also Life Safety Rope.

SCBA. See Self-Contained Breathing Apparatus.

Seat Belt. A two-point lap belt, a three-point lap/shoulder belt, or a four-point lap/shoulder harness for vehicle occupants designed to limit their movement in the event of an accident, rapid acceleration, or rapid deceleration by securing individuals safely to a vehicle in a seated position. See also Vehicle Safety Harness.

Self-Contained Breathing Apparatus (SCBA). A respirator worn by the user that supplies a respirable atmosphere that is either carried in or generated by the apparatus and is independent of the ambient environment.

Service Testing. The regular, periodic inspection and testing of apparatus and equipment, according to an established schedule and guideline, to ensure that they are in safe and functional operating condition.

Shall. Indicates a mandatory requirement.

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

Special Operations. Those emergency incidents to which the fire department responds that require specific and advanced training and specialized tools and equipment. Special operations include water rescue, extrication, hazardous materials, confined space entry, high-angle rescue, aircraft rescue and fire fighting, and other operations requiring specialized training.

Standard Operating Guideline.* An organizational directive that establishes a course of action.

Structural Fire Fighting. The activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, aircraft interiors, vehicles, vessels, or like properties that are involved in a fire or emergency situation.

Tactical Level Management Unit. A management unit identified in the incident management system commonly known as "division," "group," or "sector."

Vehicle Safety Harness. A restraint device for vehicle occupants designed to limit their movement in the event of an accident, rapid acceleration, or rapid deceleration by securing individuals safely to a vehicle either in a seated position or tethered to the vehicle. See also Seat Belt.

Wildland Fire Fighting. The activities of fire suppression and property conservation in vegetation that is not within structures but is involved in a fire situation.

Working Structural Fire. Any fire that requires the use of a 1½-in. (3.8-cm) or larger fire attack hose line and that also requires the use of self-contained breathing apparatus for members entering the hazardous area.

Chapter 2 Organization

2-1 Fire Department Organizational Statement.

2-1.1* The fire department shall prepare and maintain a written statement or policy that establishes the existence of the fire department, the services the fire department is authorized and expected to perform, and the basic organizational structure.

2-1.2* The fire department shall prepare and maintain written policies and standard operating procedures that document the organization structure, membership, roles and responsibilities, expected functions, and training requirements, including the following:

(a) The types of standard evolutions that are expected to be performed and the evolutions that must be performed simultaneously or in sequence for different types of situations

(b) The minimum number of members who are required to perform each function or evolution and the manner in which the function is to be performed

(c) The number and types of apparatus and the number of personnel that will be dispatched to different types of incidents

(d) The procedures that will be employed to initiate and manage operations at the scene of an emergency incident

2-1.3 The organizational statement and procedures shall be available for inspection by members or their designated representative.

2-2 Risk Management Plan.

2-2.1* The fire department shall develop and adopt a comprehensive written risk management plan. The risk management plan shall consider all fire department policies and procedures, and it shall include goals and objectives to ensure that the risks associated with the operations of the fire department are identified and effectively managed.

2-2.2 The risk management plan shall at least cover the risks associated with the following:

(a) Administration
(b) Facilities
(c) Training
(d) Vehicle operations, both emergency and nonemergency
(e) Protective clothing and equipment
(f) Operations at emergency incidents
(g) Operations at nonemergency incidents
(h) Other related activities

2-2.3* The risk management plan shall include at least the following components:

(a) *Risk Identification.* Actual and potential hazards

(b) *Risk Evaluation.* Likelihood of occurrence of a given hazard and severity of its consequences

(c) *Risk Control Techniques.* Solutions for elimination or mitigation of potential hazards; implementation of best solution

(d) *Risk Management Monitoring.* Evaluation of effectiveness of risk control techniques

2-3 Policy.

2-3.1* The fire department shall adopt an official written departmental occupational safety and health policy that identifies specific goals and objectives for the prevention and elimination of accidents and occupational injuries, exposures to communicable disease, illnesses, and fatalities. It shall be the policy of the fire department to seek and to provide an occupational safety and health program that complies with this standard for its members.

2-3.2* The fire department shall evaluate the effectiveness of the occupational safety and health program at least once every

NFPA 10, *Standard for Portable Fire Extinguishers*, 1994 edition.

NFPA *101®*, *Life Safety Code®*, 1997 edition.

NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*, 1997 edition.

NFPA 473, *Standard for Competencies for EMS Personnel Responding to Hazardous Materials Incidents*, 1997 edition.

NFPA 600, *Standard on Industrial Fire Brigades*, 1996 edition.

NFPA 1001, *Standard on Fire Fighter Professional Qualifications*, 1997 edition.

NFPA 1002, *Standard for Fire Department Vehicle Driver/Operator Professional Qualifications*, 1993 edition.

NFPA 1003, *Standard for Airport Fire Fighter Professional Qualifications*, 1994 edition.

NFPA 1021, *Standard for Fire Officer Professional Qualifications*, 1997 edition.

NFPA 1041, *Standard for Fire Service Instructor Professional Qualifications*, 1996 edition.

NFPA 1051, *Standard for Wildland Fire Fighter Professional Qualifications*, 1995 edition.

NFPA 1403, *Standard on Live Fire Training Evolutions*, 1997 edition.

NFPA 1404, *Standard for a Fire Department Self-Contained Breathing Apparatus Program*, 1996 edition.

NFPA 1405, *Guide for Land-Based Fire Fighters Who Respond to Marine Vessel Fires*, 1996 edition.

NFPA 1521, *Standard for Fire Department Safety Officer*, 1997 edition.

NFPA 1561, *Standard on Fire Department Incident Management System*, 1995 edition.

NFPA 1581, *Standard on Fire Department Infection Control Program*, 1995 edition.

NFPA 1582, *Standard on Medical Requirements for Fire Fighters*, 1997 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 1996 edition.

NFPA 1906, *Standard for Wildland Fire Apparatus*, 1995 edition.

NFPA 1911, *Standard for Service Tests of Pumps on Fire Department Apparatus*, 1997 edition.

NFPA 1914, *Standard for Testing Fire Department Aerial Devices*, 1997 edition.

NFPA 1931, *Standard on Design of and Design Verification Tests for Fire Department Ground Ladders*, 1994 edition.

NFPA 1932, *Standard on Use, Maintenance, and Service Testing of Fire Department Ground Ladders*, 1994 edition.

NFPA 1961, *Standard on Fire Hose*, 1997 edition.

NFPA 1962, *Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles*, 1993 edition.

NFPA 1964, *Standard for Spray Nozzles (Shutoff and Tip)*, 1993 edition.

NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting*, 1997 edition.

NFPA 1975, *Standard on Station/Work Uniforms for Fire Fighters*, 1994 edition.

NFPA 1976, *Standard on Protective Clothing for Proximity Fire Fighting*, 1992 edition.

NFPA 1977, *Standard on Protective Clothing and Equipment for Wildland Fire Fighting*, 1993 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*, 1997 edition.

NFPA 1982, *Standard on Personal Alert Safety Systems (PASS) for Fire Fighters*, 1993 edition.

NFPA 1983, *Standard on Fire Service Life Safety Rope and System Components*, 1995 edition.

NFPA 1991, *Standard on Vapor-Protective Suits for Hazardous Chemical Emergencies*, 1994 edition.

NFPA 1992, *Standard on Liquid Splash-Protective Suits for Hazardous Chemical Emergencies*, 1994 edition.

NFPA 1993, *Standard on Support Function Protective Clothing for Hazardous Chemical Operations*, 1994 edition.

NFPA 1999, *Standard on Protective Clothing for Emergency Medical Operations*, 1997 edition.

11-1.2 American Conference of Governmental Industrial Hygienists Publication. 6500 Glenway Avenue, Bldg. D7, Cincinnati, OH 45211.

Threshold Limit Valves and Biological Exposure Indices for 1996–1977, 1996.

11-1.3 ANSI Publications. American National Standards Institute, 11 West 42nd Street, New York, NY 10036.

ANSI/CGA G7.1, *Commodity Specification for Air*, 1989.

ANSI Z87.1, *Practice for Occupational and Educational Eye and Face Protection*, 1989.

11-1.4 U.S. Coast Guard Publication. U.S. Coast Guard Commandant Instruction M 16465, Department of Transportation, Washington, DC.

U.S. Coast Guard *Chemical Response Information System (CHRIS)*, Volumes 1–3, "Hazardous Chemical Data," October 1978.

11-1.5 U.S. Government Publications. U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402.

NIOSH *Pocket Guide to Chemical Hazards*, U.S. Department of Health and Human Services, Public Health Services, Publication DHHS No. 85-114, September 1985.

Title 42, *Code of Federal Regulations*, Part 84 (42 CFR 84), July 1995.

11-1.6 Other Publication.

Sax, N. Irving, *Dangerous Properties of Industrial Chemicals*, 6th ed., Van Nostrand Reinhold, NY, 1988.

Appendix A Explanatory Material

This appendix is not a part of the requirements of this NFPA document but is included for informational purposes only.

A-1-2.2 It is possible that an existing program or policy can satisfy the requirements of this standard; if so, it can be adopted in whole or in part in order to comply with this standard. Examples of such existing programs and policies can be a mandatory SCBA rule, seat belt rule, corporate safety program, or municipal employee assistance program.

A-1-3.1 The specific determination of the authority having jurisdiction depends on the mechanism under which this standard is adopted and enforced. Where the standard is adopted voluntarily by a particular fire department for its own use, the authority having jurisdiction should be the fire chief or the political entity that is responsible for the operation of the fire department. Where the standard is legally adopted and enforced by a body having regulatory authority over a fire department, such as federal, state, or local government or political subdivision, this body is responsible for making those determinations as the authority having jurisdiction. The plan should take into account the services the fire department is required to provide, the financial resources available to the fire department, the availability of personnel, the availability of trainers, and such other factors as will affect the fire department's ability to achieve compliance.

A-1-3.2 For a fire department to evaluate its compliance with the standard, it must develop some type of logical process. The worksheet in Appendix B of this document illustrates one way that an action plan can be developed to determine code compliance.

This standard is intended to be implemented in a logical sequence, based upon a balanced evaluation of economic as well as public safety and personnel safety factors. The compliance schedule request assures that risk is objectively assessed and reasonable priorities set toward reaching compliance. Interim compensatory measures are intended to assure that safety action that can be taken until full compliance is reached is comprehensively examined and formally adopted into the fire department organization's policies and procedures. This can include, but is not limited to, increased inspections, testing, temporary suspension or restriction of use of specific equipment, specialized training, and administrative controls.

A-1-5 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 such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A-1-5 Authority Having Jurisdiction. The phrase "authority having jurisdiction" is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A-1-5 Candidate. In an employment context, the Americans With Disabilities Act (discussed in further detail in Appendix D of NFPA 1582, *Standard on Medical Requirements for Fire Fighters*) requires that any medical examination to be conducted take place after an offer of employment is made and prior to the commencement of duties. Therefore, in the employment context, the definition of "candidate" should be applied so as to be consistent with that requirement. Volunteer fire fighters have been deemed to be "employees" in some states or jurisdictions. Volunteer fire departments should seek legal counsel as to their legal responsibilities in these matters.

A-1-5 Industrial Fire Department. The vast majority of industrial fire brigades are not industrial fire departments. Industrial fire departments are those few brigades that resemble and function as municipal fire departments. These are generally found only at large industrial facilities and at industrial facilities that also perform municipal fire fighting, usually where the plant is located far from municipalities with organized fire departments. Industrial fire departments are organized and equipped for interior structural fire fighting similar to municipal fire departments. Their apparatus is similar to that used by municipal fire departments.

Industrial fire brigades that provide rescue services are industrial fire departments. Industrial facilities can have separate organizations, covered by separate organizational statements, operating as industrial fire brigades and operating as rescue teams providing rescue not related to fire incidents. Membership in these two organizations can overlap.

A-1-5 Standard Operating Guideline. An organizational directive sometimes referred to as a standard operating guideline (SOG) that outlines a course of action that allows flexibility in application.

A-2-1.1 The organizational statement is a very important basis for many of the provisions of this standard. The statement sets forth the legal basis for operating a fire department, the organizational structure of the fire department, number of members, training requirements, expected functions, and authorities and responsibilities of various members or defined positions.

A key point is to clearly set out the specific services the fire department is authorized and expected to perform. Most fire departments are responsible to a governing body. The governing body has the right and should assert its authority to set the specific services and the limits of the services the fire department will provide and has the responsibility to furnish the necessary resources for delivery of the designated services. The fire department should provide its governing body with a specific description of each service with options or alternatives and with an accurate analysis of the costs and resources needed for each service.

Such services might include structural fire fighting, wildland fire fighting, airport/aircraft fire fighting, emergency medical services, hazardous materials response, high-angle rescue, heavy rescue, and others.

Spelling out the specific parameters of services to be provided allows the fire department to plan, staff, equip, train, and deploy members to perform these duties. It also gives the governing body an accounting of the costs of services and allows it to select those services they can afford to provide. Likewise, the governing body should identify services it cannot afford to provide and cannot authorize the fire department to deliver, or it should assign those services to another agency.

The fire department should be no different from any other government agency that has the parameters of its authority and services clearly defined by the governing body.

Legal counsel should be used to assure that any statutory services and responsibilities are being met.

The majority of public fire departments are established under the charter provisions of their governing body or through the adoption of statutes. These acts define the legal basis for operating a fire department, the mission of the organization, the duties that are authorized and expected to be performed, and the authority and responsibilities that are assigned to certain individuals to direct the operations of the fire department.

The documents that officially establish the fire department as an identifiable organization are necessary to determine specific responsibilities and to determine the parties responsible for compliance with the provisions of this standard.

In many cases, these documents could be a part of state laws, a municipal charter, or an annual budget. In such cases, it would be appropriate to make these existing documents part of the organizational statement, if applicable.

In cases other than governmentally operated public fire departments, there is a need to formally establish the existence of the organization through the adoption of a charter, the approval of a constitution or articles of incorporation, or through some equivalent official action of an authorized body. A fire department that operates entirely within the private sector, such as an industrial fire department, could legally establish and operate a fire protection organization by the adoption of a corporate policy as described in the organizational statement.

In addition to specifically defining the organization that is expected to comply with this standard, 2-1.1 requires that the organizational structure, membership, expected functions, and training requirements be contained in documents that are accessible for examination. These requirements are intended to reinforce the fact that the fire department is an identifiable organization that operates with known and specific expectations.

Where a fire department functions as a unit of a larger entity, such as one of several municipal departments or a particular unit of a private corporation, the larger organization is often able to provide some of the same elements that are required to be provided by the fire department. This would satisfy the requirements for the fire department to provide those elements.

A-2-1.2 Additional information on fire department organization and operations can be found in Section 10 of the NFPA *Fire Protection Handbook*, 18th edition; and Chapter 5 of *Managing Fire Services*, 2nd edition, published by the International City Management Association.

A-2-2.1 Sample Risk Management Plan.

ANYTOWN FIRE DEPARTMENT

RISK MANAGEMENT PLAN

PURPOSE:

The Anytown Fire Department has developed and implemented a risk management plan. The goals and objectives of the plan are the following:

(a) To limit the exposure of the fire department to situations and occurrences that could have harmful or undesirable consequences on the department or its members

(b) To provide the safest possible work environment for the members of the fire department, while recognizing the risks inherent to the fire department's mission

SCOPE:

The risk management plan is intended to comply with the requirements of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, specifically Section 2-2.

METHODOLOGY:

The risk management plan uses a variety of strategies and approaches to address different objectives. The specific objectives are identified from the following sources of information:

(a) Records and reports on the frequency and severity of accidents and injuries in the Anytown Fire Department

(b) Reports received from the Anytown's insurance carriers

(c) Specific occurrences that identify the need for risk management

(d) National trends and reports that are applicable to Anytown

(e) Knowledge of the inherent risks that are encountered by fire departments and specific situations that are identified in Anytown

(f) Any additional areas identified by fire department staff and personnel

RESPONSIBILITIES:

The fire chief has responsibility for the implementation and operation of the department's risk management plan. The department's health and safety officer has the responsibility to develop, manage, and annually revise the risk management plan. The health and safety officer also has the responsibility to modify the risk management plan when it is warranted by changing exposures, occurrences, and activities.

All members of the Anytown Fire Department have responsibility for ensuring their own health and safety based upon the requirements of the risk management plan and the department's safety and health program.

PLAN ORGANIZATION:

The risk management plan includes the following:

(a) Identification of the risks that members of the fire department could actually or potentially encounter, both emergency and nonemergency

1. Emergency risks include those presented at emergency incidents, both fire and nonfire (e.g., hazardous materials), Emergency Medical Services incidents, and emergency response.

2. Nonemergency risks include those encountered while performing the following functions: training, physical fitness, nonemergency vehicle operation, and station activities (e.g., vehicle maintenance, station maintenance, daily office functions).

(b) Evaluation of the identified risks based upon the frequency and severity factors

(c) Development and implementation of an action plan for controlling each of the risks, in order of priority

(d) Provisions for monitoring the effectiveness of the controls implemented

(e) A periodic review of the plan with modifications made as needed