

NFPA 1001

Standard for Fire Fighter Professional Qualifications

2002 Edition



NFPA, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101
An International Codes and Standards Organization

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NFPA 1001

Standard for

Fire Fighter Professional Qualifications

2002 Edition

This edition of 1001, *Standard for Fire Fighter Professional Qualifications*, was prepared by the Technical Committee on Fire Fighter Professional Qualifications, released by the Technical Correlating Committee on Professional Qualifications, and acted on by NFPA at its May Association Technical Meeting held May 19–23, 2002, in Minneapolis, MN. It was issued by the Standards Council on July 19, 2002, with an effective date of August 8, 2002, and supersedes all previous editions.

This edition of NFPA 1001 was approved as an American National Standard on July 19, 2002.

Origin and Development of NFPA 1001

In 1971, the Joint Council of National Fire Service Organizations (JCNFSO) created the National Professional Qualifications Board (NPQB) for the fire service to facilitate the development of nationally applicable performance standards for uniformed fire service personnel. On December 14, 1972, the Board established four technical committees to develop those standards using the National Fire Protection Association (NFPA) standards-making system. The initial committees addressed the following career areas: fire fighter, fire officer, fire service instructor, and fire inspector and investigator.

The Committee on Fire Fighter Professional Qualifications met through 1973 and 1974 producing the first edition of this document. The first edition of NFPA 1001 was adopted by the Association in November of 1974.

Subsequent to the adoption of the initial edition, the committee has met regularly to revise and update the standard. Additional editions were adopted and issued by the NFPA under the auspices of the NPQB in 1981 and 1987.

The original concept of the professional qualification standards as directed by the JCNFSO and the NPQB was to develop an interrelated set of performance standards specifically for the fire service. The various levels of achievement in the standards were to build on each other within a strictly defined career ladder. In the late 1980s, revisions of the standards recognized that the documents should stand on their own merit in terms of job performance requirements for a given field. Accordingly, the strict career-ladder concept was abandoned, except for the progression from fire fighter to fire officer. The later revisions, therefore, facilitated the use of the documents by other than the uniformed fire services.

In 1990, responsibility for the appointment of professional qualifications committees and the development of the professional qualifications standards were assumed by the NFPA.

The Correlating Committee on Professional Qualifications was appointed by the NFPA Standards Council in 1990 and assumed the responsibility for coordinating the requirements of all of the Professional Qualifications documents.

For the 1997 edition, NFPA 1001 was converted to the job performance requirement (JPR) format to be consistent with the other standards in the Professional Qualifications Project. Each JPR consists of the task to be performed; the tools, equipment, or materials that must be provided to successfully complete the task; evaluation parameters and/or performance outcomes; and lists of requisite knowledge and skills one must have to be able to perform the task. More information about JPRs can be found in Appendix B.

The intent of the technical committee was to develop clear and concise job performance requirements that can be used to determine that an individual, when measured to the standard, possesses the skills and knowledge to perform as a fire fighter. The committee further contends that these job performance requirements can be used in any fire department in any city, town, or private organization throughout North America.

In the 2002 edition of this document, the technical committee made several small additions to the standard. The committee also made changes in the document to bring it into conformance with the new NFPA *Manual of Style*.

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These lists represent the membership at the time the Committees were balloted on the final text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the back of the document.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

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

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet between the paragraphs that remain.

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, Annex D lists the complete title and edition of the source documents for both mandatory and nonmandatory extracts. 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 appropriate technical committee.

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

Chapter 1 Administration

1.1 Scope. This standard identifies the minimum job performance requirements for career and volunteer fire fighters whose duties are primarily structural in nature.

1.2 Purpose. The purpose of this standard is to specify the minimum job performance requirements for fire fighters. It is not the intent of the standard to restrict any jurisdiction from exceeding these requirements.

1.3 General.

1.3.1 The job performance requirements shall be accomplished in accordance with the requirements of the authority having jurisdiction and NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

1.3.2* It is not required for the job performance requirements to be mastered in the order they appear. The authority having jurisdiction shall establish instructional priority and the training program content to prepare individuals to meet the job performance requirements of this standard.

1.3.3* Performance of each requirement of this standard shall be evaluated by individuals approved by the authority having jurisdiction.

1.3.4 The entrance requirements in Chapter 4 of this standard shall be met prior to beginning training at the Fire Fighter I level.

1.3.5* Prior to being certified at the Fire Fighter I level, the fire fighter candidate shall meet the general knowledge and

skills requirements and the job performance requirements of Chapter 5.

1.3.6 Prior to being certified at the Fire Fighter II level, the Fire Fighter I shall meet the general knowledge and skills requirements and the job performance requirements of Chapter 6.

1.3.7 Wherever in this standard the terms *rules, regulations, procedures, supplies, apparatus, or equipment* are referred to, it is implied that they are those of the authority having jurisdiction.

1.4 Units. In this standard, values for measurement are followed by an equivalent in SI units, but only the first stated value shall be regarded as the requirement. Equivalent values in SI units shall not be considered as the requirement, as these values can be approximate. (See Table 1.4.)

Table 1.4 SI Conversions

Quantity	U.S. Unit/Symbol	SI Unit/Symbol	Conversion Factor
Length	inch (in.)	millimeter (mm)	1 in. = 25.4 mm
	foot (ft)	meter (m)	1 ft = 0.305 m
Area	square foot (ft ²)	square meter (m ²)	1 ft ² = 0.0929 m ²

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, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*, 2002 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2002 edition.

NFPA 1582, *Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians*, 2000 edition.

2.3 Other Publications. (Reserved)

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 included, common usage of the terms shall apply.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.2.3* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or

service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.3 General Definitions.

3.3.1 Fire Department. An organization providing rescue, fire suppression, and related activities. The term “fire department” shall include any public, governmental, private, industrial, or military organization engaging in this type of activity.

3.3.2 Fire Fighter Candidate. The person who has fulfilled the entrance requirements of Chapter 4 of this standard but has not met the job performance requirements for Fire Fighter I.

3.3.3 Fire Fighter I. The person, at the first level of progression as defined in Chapter 5, who has demonstrated the knowledge and skills to function as an integral member of a fire-fighting team under direct supervision in hazardous conditions.

3.3.4* Fire Fighter II. The person, at the second level of progression as defined in Chapter 6, who has demonstrated the skills and depth of knowledge to function under general supervision.

3.3.5 Job Performance Requirement (JPR). A statement that describes a specific job task, lists the items necessary to complete the task, and defines measurable or observable outcomes and evaluation areas for the specific task.

3.3.6 Personal Protective Clothing. The full complement of garments fire fighters are normally required to wear while on emergency scene including turnout coat, protective trousers, fire-fighting boots, fire-fighting gloves, a protective hood, and a helmet with eye protection.

3.3.7 Personal Protective Equipment. Consists of full personal protective clothing, plus a self-contained breathing apparatus (SCBA) and a personal alert safety system (PASS) device.

3.3.8 Procedure. The series of actions, conducted in an approved manner and sequence, designed to achieve an intended outcome.

3.3.9 Requisite Knowledge. Fundamental knowledge one must have in order to perform a specific task.

3.3.10 Requisite Skills. The essential skills one must have in order to perform a specific task.

3.3.11 Structural Fire Fighting. The activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, aircraft interiors, vehicles, vessels, aircraft, or like properties that are involved in a fire or emergency situation. [1500:3.3]

3.3.12 Task. A specific job behavior or activity.

3.3.13 Team. Two or more individuals who have been assigned a common task and are in proximity to and in direct communications with each other, coordinate their activities as a work group, and support the safety of one another.

Chapter 4 Entrance Requirements

4.1 General. Prior to entering training to meet the requirements of Chapters 5 and 6 of this standard, the candidate shall meet the following requirements:

- (1) Minimum educational requirements established by the authority having jurisdiction
- (2) Age requirements established by the authority having jurisdiction

(3)*Medical requirements of NFPA 1582, *Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians*

4.2 Fitness Requirements. Physical fitness requirements for entry-level personnel shall be developed and validated by the authority having jurisdiction.

4.3* Emergency Medical Care. Minimum emergency medical care performance capabilities for entry level personnel shall be developed and validated by the authority having jurisdiction to include infection control, CPR, bleeding control, and shock management.

Chapter 5 Fire Fighter I

5.1 General.

5.1.1 For certification at Level I, the fire fighter candidate shall meet the general knowledge requirements in 5.1.1.1, the general skill requirements in 5.1.1.2, and the job performance requirements defined in Sections 5.2 through 5.5 of this standard and the requirements defined in Chapter 4, Competencies for the First Responder at the Awareness Level, of NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*.

5.1.1.1 General Knowledge Requirements. The organization of the fire department; the role of the Fire Fighter I in the organization; the mission of fire service; the fire department’s standard operating procedures and rules and regulations as they apply to the Fire Fighter I; the role of other agencies as they relate to the fire department; aspects of the fire department’s member assistance program; the critical aspects of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, as they apply to the Fire Fighter I; knot types and usage; the difference between life safety and utility rope; reasons for placing rope out of service; the types of knots to use for given tools, ropes, or situations; hoisting methods for tools and equipment; and using rope to support response activities.

5.1.1.2 General Skill Requirements. The ability to don personal protective clothing within one minute; doff personal protective clothing and prepare for reuse; hoist tools and equipment using ropes and the correct knot; tie a bowline, clove hitch, figure eight on a bight, half hitch, becket or sheet bend, and safety knots; and locate information in departmental documents and standard or code materials.

5.2 Fire Department Communications. This duty involves initiating responses, receiving telephone calls, and using fire department communications equipment to correctly relay verbal or written information, according to the following job performance requirements.

5.2.1* Initiate the response to a reported emergency, given the report of an emergency, fire department standard operating procedures, and communications equipment, so that all necessary information is obtained, communications equipment is operated correctly, and the information is promptly and accurately relayed to the dispatch center.

(A) *Requisite Knowledge:* Procedures for reporting an emergency, departmental standard operating procedures for taking and receiving alarms, radio codes or procedures, and information needs of dispatch center.

(B) *Requisite Skills:* The ability to operate fire department communications equipment, relay information, and record information.

5.2.2 Receive a business or personal telephone call, given a fire department business phone, so that procedures for answering the phone are used and the caller's information is relayed.

(A) *Requisite Knowledge:* Fire department procedures for answering nonemergency telephone calls.

(B) *Requisite Skills:* The ability to operate fire station telephone and intercom equipment.

5.2.3 Transmit and receive messages via the fire department radio, given a fire department radio and operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ.

(A) *Requisite Knowledge:* Departmental radio procedures and etiquette for routine traffic, emergency traffic, and emergency evacuation signals.

(B) *Requisite Skills:* The ability to operate radio equipment and discriminate between routine and emergency traffic.

5.3 Fireground Operations. This duty involves performing activities necessary to ensure life safety, fire control, and property conservation, according to the following job performance requirements.

5.3.1* Use SCBA during emergency operations, given SCBA and other personal protective equipment, so that the SCBA is correctly donned and activated within one minute, the SCBA is correctly worn, controlled breathing techniques are used, emergency procedures are enacted if the SCBA fails, all low-air warnings are recognized, respiratory protection is not intentionally compromised, and hazardous areas are exited prior to air depletion.

(A) *Requisite Knowledge:* Conditions that require respiratory protection, uses and limitations of SCBA, components of SCBA, donning procedures, breathing techniques, indications for and emergency procedures used with SCBA, and physical requirements of the SCBA wearer.

(B) *Requisite Skills:* The ability to control breathing, replace SCBA air cylinders, use SCBA to exit through restricted passages, initiate and complete emergency procedures in the event of SCBA failure or air depletion, and complete donning procedures.

5.3.2* Respond on apparatus to an emergency scene, given personal protective clothing and other necessary personal protective equipment, so that the apparatus is correctly mounted and dismounted, seat belts are used while the vehicle is in motion, and other personal protective equipment is correctly used.

(A) *Requisite Knowledge:* Mounting and dismounting procedures for riding fire apparatus; hazards and ways to avoid hazards associated with riding apparatus; prohibited practices; types of department personal protective equipment and the means for usage.

(B) *Requisite Skills:* The ability to use each piece of provided safety equipment.

5.3.3* Operate in established work areas at emergency scenes, given protective equipment, traffic and scene control devices, structure fire and roadway emergency scenes, traffic hazards

and downed electrical wires, so that procedures are followed, protective equipment is worn, protected work areas are established as directed using traffic and scene control devices, and the fire fighter performs assigned tasks only in established, protected work areas.

(A) *Requisite Knowledge:* Potential hazards involved in operating on emergency scenes including vehicle traffic, utilities, and environmental conditions; proper procedures for dismounting apparatus in traffic; procedures for safe operation at emergency scenes; and the protective equipment available for members' safety on emergency scenes and work zone designations.

(B) *Requisite Skills:* The ability to use PPC, the deployment of traffic and scene control devices, dismount apparatus and operate in the protected work areas as directed.

5.3.4* Force entry into a structure, given personal protective equipment, tools, and an assignment, so that the tools are used as designed, the barrier is removed, and the opening is in a safe condition and ready for entry.

(A) *Requisite Knowledge:* Basic construction of typical doors, windows, and walls within the department's community or service area; operation of doors, windows, and locks; and the dangers associated with forcing entry through doors, windows, and walls.

(B) *Requisite Skills:* The ability to transport and operate hand and power tools and to force entry through doors, windows, and walls using assorted methods and tools.

5.3.5* Exit a hazardous area as a team, given vision-obscured conditions, so that a safe haven is found before exhausting the air supply, others are not endangered, and the team integrity is maintained.

(A) *Requisite Knowledge:* Personnel accountability systems, communication procedures, emergency evacuation methods, what constitutes a safe haven, elements that create or indicate a hazard, and emergency procedures for loss of air supply.

(B) *Requisite Skills:* The ability to operate as a team member in vision-obscured conditions, locate and follow a guideline, conserve air supply, and evaluate areas for hazards and identify a safe haven.

5.3.6* Set up ground ladders, given single and extension ladders, an assignment, and team members if needed, so that hazards are assessed, the ladder is stable, the angle is correct for climbing, extension ladders are extended to the necessary height with the fly locked, the top is placed against a reliable structural component, and the assignment is accomplished.

(A) *Requisite Knowledge:* Parts of a ladder, hazards associated with setting up ladders, what constitutes a stable foundation for ladder placement, different angles for various tasks, safety limits to the degree of angulation, and what constitutes a reliable structural component for top placement.

(B) *Requisite Skills:* The ability to carry ladders, raise ladders, extend ladders and lock flies, determine that a wall and roof will support the ladder, judge extension ladder height requirements, and place the ladder to avoid obvious hazards.

5.3.7* Attack a passenger vehicle fire operating as a member of a team, given personal protective equipment, attack line, and hand tools, so that hazards are avoided, leaking flammable liquids are identified and controlled, protection from flash fires is maintained, all vehicle compartments are overhauled, and the fire is extinguished.

(A) *Requisite Knowledge:* Principles of fire streams as they relate to fighting automobile fires; precautions to be followed when advancing hose lines toward an automobile; observable results that a fire stream has been properly applied; identifying alternative fuels and the hazards associated with them; dangerous conditions created during an automobile fire; common types of accidents or injuries related to fighting automobile fires and how to avoid them; how to access locked passenger, trunk, and engine compartments; and methods for overhauling an automobile.

(B) *Requisite Skills:* The ability to identify automobile fuel type; assess and control fuel leaks; open, close, and adjust the flow and pattern on nozzles; apply water for maximum effectiveness while maintaining flash fire protection; advance 1½-in. (38-mm) or larger diameter attack lines; and expose hidden fires by opening all automobile compartments.

5.3.8* Extinguish fires in exterior Class A materials, given fires in stacked or piled and small unattached structures or storage containers that can be fought from the exterior, attack lines, hand tools and master stream devices, and an assignment, so that exposures are protected, the spread of fire is stopped, collapse hazards are avoided, water application is effective, the fire is extinguished, and signs of the origin area(s) and arson are preserved.

(A) *Requisite Knowledge:* Types of attack lines and water streams appropriate for attacking stacked, piled materials and outdoor fires; dangers — such as collapse — associated with stacked and piled materials; various extinguishing agents and their effect on different material configurations; tools and methods to use in breaking up various types of materials; the difficulties related to complete extinguishment of stacked and piled materials; water application methods for exposure protection and fire extinguishment; dangers such as exposure to toxic or hazardous materials associated with storage building and container fires; obvious signs of origin and cause; and techniques for the preservation of fire cause evidence.

(B) *Requisite Skills:* The ability to recognize inherent hazards related to the material's configuration, operate handlines or master streams, break up material using hand tools and water streams, evaluate for complete extinguishment, operate hose lines and other water application devices, evaluate and modify water application for maximum penetration, search for and expose hidden fires, assess patterns for origin determination, and evaluate for complete extinguishment.

5.3.9 Conduct a search and rescue in a structure operating as a member of a team, given an assignment, obscured vision conditions, personal protective equipment, a flashlight, forcible entry tools, hose lines, and ladders when necessary, so that ladders are correctly placed when used, all assigned areas are searched, all victims are located and removed, team integrity is maintained, and team members' safety — including respiratory protection — is not compromised.

(A) *Requisite Knowledge:* Use of forcible entry tools during rescue operations, ladder operations for rescue, psychological effects of operating in obscured conditions and ways to manage them, methods to determine if an area is tenable, primary and secondary search techniques, team members' roles and goals, methods to use and indicators of finding victims, victim removal methods (including various carries), and considerations related to respiratory protection.

(B) *Requisite Skills:* The ability to use SCBA to exit through restricted passages, set up and use different types of ladders for

various types of rescue operations, rescue a fire fighter with functioning respiratory protection, rescue a fire fighter whose respiratory protection is not functioning, rescue a person who has no respiratory protection, and assess areas to determine tenability.

5.3.10* Attack an interior structure fire operating as a member of a team, given an attack line, ladders when needed, personal protective equipment, tools, and an assignment, so that team integrity is maintained, the attack line is deployed for advancement, ladders are correctly placed when used, access is gained into the fire area, effective water application practices are used, the fire is approached correctly, attack techniques facilitate suppression given the level of the fire, hidden fires are located and controlled, the correct body posture is maintained, hazards are recognized and managed, and the fire is brought under control.

(A) *Requisite Knowledge:* Principles of fire streams; types, design, operation, nozzle pressure effects, and flow capabilities of nozzles; precautions to be followed when advancing hose lines to a fire; observable results that a fire stream has been properly applied; dangerous building conditions created by fire; principles of exposure protection; potential long-term consequences of exposure to products of combustion; physical states of matter in which fuels are found; common types of accidents or injuries and their causes; and the application of each size and type of attack line, the role of the backup team in fire attack situations, attack and control techniques for grade level and above and below grade levels, and exposing hidden fires.

(B) *Requisite Skills:* The ability to prevent water hammers when shutting down nozzles; open, close, and adjust nozzle flow and patterns; apply water using direct, indirect, and combination attacks; advance charged and uncharged 1½-in. (38-mm) diameter or larger hose lines up ladders and up and down interior and exterior stairways; extend hose lines; replace burst hose sections; operate charged hose lines of 1½-in. (38-mm) diameter or larger while secured to a ground ladder; couple and uncouple various handline connections; carry hose; attack fires at grade level and above and below grade levels; and locate and suppress interior wall and subfloor fires.

5.3.11 Perform horizontal ventilation on a structure operating as part of a team, given an assignment, personal protective equipment, ventilation tools, equipment, and ladders, so that the ventilation openings are free of obstructions, tools are used as designed, ladders are correctly placed, ventilation devices are correctly placed, and the structure is cleared of smoke.

(A) *Requisite Knowledge:* The principles, advantages, limitations, and effects of horizontal, mechanical, and hydraulic ventilation; safety considerations when venting a structure; fire behavior in a structure; the products of combustion found in a structure fire; the signs, causes, effects, and prevention of backdrafts; and the relationship of oxygen concentration to life safety and fire growth.

(B) *Requisite Skills:* The ability to transport and operate ventilation tools and equipment and ladders and to use safe procedures for breaking window and door glass and removing obstructions.

5.3.12 Perform vertical ventilation on a structure as part of a team, given an assignment, personal protective equipment, ground and roof ladders, and tools, so that ladders are positioned for ventilation, a specified opening is created, all ventilation barriers are removed, structural integrity is not compromised, products of combustion are released from the structure, and the team retreats from the area when ventilation is accomplished.

(A) *Requisite Knowledge:* The methods of heat transfer; the principles of thermal layering within a structure on fire; the techniques and safety precautions for venting flat roofs, pitched roofs, and basements; basic indicators of potential collapse or roof failure; the effects of construction type and elapsed time under fire conditions on structural integrity; and the advantages and disadvantages of vertical and trench/strip ventilation.

(B) *Requisite Skills:* The ability to transport and operate ventilation tools and equipment; hoist ventilation tools to a roof; cut roofing and flooring materials to vent flat roofs, pitched roofs, and basements; sound a roof for integrity; clear an opening with hand tools; select, carry, deploy, and secure ground ladders for ventilation activities; deploy roof ladders on pitched roofs while secured to a ground ladder; and carry ventilation-related tools and equipment while ascending and descending ladders.

5.3.13 Overhaul a fire scene, given personal protective equipment, attack line, hand tools, a flashlight, and an assignment, so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished.

(A) *Requisite Knowledge:* Types of fire attack lines and water application devices most effective for overhaul, water application methods for extinguishment that limit water damage, types of tools and methods used to expose hidden fire, dangers associated with overhaul, obvious signs of area of origin or signs of arson, and reasons for protection of fire scene.

(B) *Requisite Skills:* The ability to deploy and operate an attack line; remove flooring, ceiling, and wall components to expose void spaces without compromising structural integrity; apply water for maximum effectiveness; expose and extinguish hidden fires in walls, ceilings, and subfloor spaces; recognize and preserve obvious signs of area of origin and arson; and evaluate for complete extinguishment.

5.3.14 Conserve property as a member of a team, given salvage tools and equipment and an assignment, so that the building and its contents are protected from further damage.

(A) *Requisite Knowledge:* The purpose of property conservation and its value to the public, methods used to protect property, types of and uses for salvage covers, operations at properties protected with automatic sprinklers, how to stop the flow of water from an automatic sprinkler head, identification of the main control valve on an automatic sprinkler system, and forcible entry issues related to salvage.

(B) *Requisite Skills:* The ability to cluster furniture; deploy covering materials; roll and fold salvage covers for reuse; construct water chutes and catch-alls; remove water; cover building openings, including doors, windows, floor openings, and roof openings; separate, remove, and relocate charred material to a safe location while protecting the area of origin for cause determination; stop the flow of water from a sprinkler with sprinkler wedges or stoppers; and operate a main control valve on an automatic sprinkler system.

5.3.15* Connect a fire department pumper to a water supply as a member of a team, given supply or intake hose, hose tools, and a fire hydrant or static water source, so that connections are tight and water flow is unobstructed.

(A) *Requisite Knowledge:* Loading and off-loading procedures for mobile water supply apparatus; fire hydrant operation; and

suitable static water supply sources, procedures, and protocol for connecting to various water sources.

(B) *Requisite Skills:* The ability to hand lay a supply hose, connect and place hard suction hose for drafting operations, deploy portable water tanks as well as the equipment necessary to transfer water between and draft from them, make hydrant-to-pumper hose connections for forward and reverse lays, connect supply hose to a hydrant, and fully open and close the hydrant.

5.3.16* Extinguish incipient Class A, Class B, and Class C fires, given a selection of portable fire extinguishers, so that the correct extinguisher is chosen, the fire is completely extinguished, and correct extinguisher-handling techniques are followed.

(A) *Requisite Knowledge:* The classifications of fire; the types of, rating systems for, and risks associated with each class of fire; and the operating methods of, and limitations of portable extinguishers.

(B) *Requisite Skills:* The ability to operate portable fire extinguishers, approach fire with portable fire extinguishers, select an appropriate extinguisher based on the size and type of fire, and safely carry portable fire extinguishers.

5.3.17 Illuminate the emergency scene, given fire service electrical equipment and an assignment, so that designated areas are illuminated and all equipment is operated within the manufacturer's listed safety precautions.

(A) *Requisite Knowledge:* Safety principles and practices, power supply capacity and limitations, and light deployment methods.

(B) *Requisite Skills:* The ability to operate department power supply and lighting equipment, deploy cords and connectors, reset ground-fault interrupter (GFI) devices, and locate lights for best effect.

5.3.18 Turn off building utilities, given tools and an assignment, so that the assignment is safely completed.

(A) *Requisite Knowledge:* Properties, principles, and safety concerns for electricity, gas, and water systems; utility disconnect methods and associated dangers; and use of required safety equipment.

(B) *Requisite Skills:* The ability to identify utility control devices, operate control valves or switches, and assess for related hazards.

5.3.19* Combat a ground cover fire operating as a member of a team, given protective clothing, SCBA if needed, hose lines, extinguishers or hand tools, and an assignment, so that threats to property are reported, threats to personal safety are recognized, retreat is quickly accomplished when warranted, and the assignment is completed.

(A) *Requisite Knowledge:* Types of ground cover fires, parts of ground cover fires, methods to contain or suppress, and safety principles and practices.

(B) *Requisite Skills:* The ability to determine exposure threats based on fire spread potential, protect exposures, construct a fire line or extinguish with hand tools, maintain integrity of established fire lines, and suppress ground cover fires using water.

5.4 Rescue Operations. This duty involves no requirements for Fire Fighter I.

5.5 Prevention, Preparedness, and Maintenance. This duty involves performing activities that reduce the loss of life and property due to fire through hazard identification, inspection,

education, and response readiness, according to the following job performance requirements.

5.5.1 Perform a fire safety survey in a private dwelling, given survey forms and procedures, so that fire and life-safety hazards are identified, recommendations for their correction are made to the occupant, and unresolved issues are referred to the proper authority.

(A) *Requisite Knowledge:* Organizational policy and procedures, common causes of fire and their prevention, the importance of a fire safety survey and public fire education programs to fire department public relations and the community, and referral procedures.

(B) *Requisite Skills:* The ability to complete forms, recognize hazards, match findings to preapproved recommendations, and effectively communicate findings to occupants or referrals.

5.5.2* Present fire safety information to station visitors or small groups, given prepared materials, so that all information is presented, the information is accurate, and questions are answered or referred.

(A) *Requisite Knowledge:* Parts of informational materials and how to use them, basic presentation skills, and departmental standard operating procedures for giving fire station tours.

(B) *Requisite Skills:* The ability to document presentations and to use prepared materials.

5.5.3 Clean and check ladders, ventilation equipment, self-contained breathing apparatus (SCBA), ropes, salvage equipment, and hand tools, given cleaning tools, cleaning supplies, and an assignment, so that equipment is clean and maintained according to manufacturer's or departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise.

(A) *Requisite Knowledge:* Types of cleaning methods for various tools and equipment, correct use of cleaning solvents, and manufacturer's or departmental guidelines for cleaning equipment and tools.

(B) *Requisite Skills:* The ability to select correct tools for various parts and pieces of equipment, follow guidelines, and complete recording and reporting procedures.

5.5.4 Clean, inspect, and return fire hose to service, given washing equipment, water, detergent, tools, and replacement gaskets, so that damage is noted and corrected, the hose is clean, and the equipment is placed in a ready state for service.

(A) *Requisite Knowledge:* Departmental procedures for noting a defective hose and removing it from service, cleaning methods, and hose rolls and loads.

(B) *Requisite Skills:* The ability to clean different types of hose; operate hose washing and drying equipment; mark defective hose; and replace coupling gaskets, roll hose, and reload hose.

Chapter 6 Fire Fighter II

6.1 General.

6.1.1 For certification at Level II, the Fire Fighter I shall meet the general knowledge requirements in 6.1.1.1, the general skill requirements in 6.1.1.2, and the job performance requirements defined in Sections 6.2 through 6.5 of this standard and the requirements defined in Chapter 5, Competencies for the

First Responder at the Operational Level, of NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*.

6.1.1.1 General Knowledge Requirements. Responsibilities of the Fire Fighter II in assuming and transferring command within an incident management system, performing assigned duties in conformance with applicable NFPA and other safety regulations and authority having jurisdiction procedures, and the role of a Fire Fighter II within the organization.

6.1.1.2 General Skill Requirements. The ability to determine the need for command, organize and coordinate an incident management system until command is transferred, and function within an assigned role in the incident management system.

6.2 Fire Department Communications. This duty involves performing activities related to initiating and reporting responses, according to the following job performance requirements.

6.2.1 Complete a basic incident report, given the report forms, guidelines, and information, so that all pertinent information is recorded, the information is accurate, and the report is complete.

(A) *Requisite Knowledge:* Content requirements for basic incident reports, the purpose and usefulness of accurate reports, consequences of inaccurate reports, how to obtain necessary information, and required coding procedures.

(B) *Requisite Skills:* The ability to determine necessary codes, proof reports, and operate fire department computers or other equipment necessary to complete reports.

6.2.2* Communicate the need for team assistance, given fire department communications equipment, standard operating procedures (SOPs), and a team, so that the supervisor is consistently informed of team needs, departmental SOPs are followed, and the assignment is accomplished safely.

(A) *Requisite Knowledge:* SOPs for alarm assignments and fire department radio communication procedures.

(B) *Requisite Skills:* The ability to operate fire department communications equipment.

6.3 Fireground Operations. This duty involves performing activities necessary to insure life safety, fire control, and property conservation, according to the following job performance requirements.

6.3.1* Extinguish an ignitable liquid fire, operating as a member of a team, given an assignment, an attack line, personal protective equipment, a foam proportioning device, a nozzle, foam concentrates, and a water supply, so that the correct type of foam concentrate is selected for the given fuel and conditions, a properly proportioned foam stream is applied to the surface of the fuel to create and maintain a foam blanket, fire is extinguished, reignition is prevented, team protection is maintained with a foam stream, and the hazard is faced until retreat to safe haven is reached.

(A) *Requisite Knowledge:* Methods by which foam prevents or controls a hazard; principles by which foam is generated; causes for poor foam generation and corrective measures; difference between hydrocarbon and polar solvent fuels and the concentrates that work on each; the characteristics, uses, and limitations of fire-fighting foams; the advantages and disadvantages of using fog nozzles versus foam nozzles for foam application; foam stream application techniques; hazards associated with foam use; and methods to reduce or avoid hazards.

(B) *Requisite Skills:* The ability to prepare a foam concentrate supply for use, assemble foam stream components, master various foam application techniques, and approach and retreat from spills as part of a coordinated team.

6.3.2* Coordinate an interior attack line for team's accomplishment of an assignment in a structure fire, given attack lines, personnel, personal protective equipment, and tools, so that crew integrity is established; attack techniques are selected for the given level of the fire (for example, attic, grade level, upper levels, or basement); attack techniques are communicated to the attack teams; constant team coordination is maintained; fire growth and development is continuously evaluated; search, rescue, and ventilation requirements are communicated or managed; hazards are reported to the attack teams; and incident command is apprised of changing conditions.

(A) *Requisite Knowledge:* Selection of the nozzle and hose for fire attack given different fire situations; selection of adapters and appliances to be used for specific fire ground situations; dangerous building conditions created by fire and fire suppression activities; indicators of building collapse; the effects of fire and fire suppression activities on wood, masonry (brick, block, stone), cast iron, steel, reinforced concrete, gypsum wall board, glass, and plaster on lath; search and rescue and ventilation procedures; indicators of structural instability; suppression approaches and practices for various types of structural fires; and the association between specific tools and special forcible entry needs.

(B) *Requisite Skills:* The ability to assemble a team, choose attack techniques for various levels of a fire (e.g., attic, grade level, upper levels, or basement), evaluate and forecast a fire's growth and development, select tools for forcible entry, incorporate search and rescue procedures and ventilation procedures in the completion of the attack team efforts, and determine developing hazardous building or fire conditions.

6.3.3* Control a flammable gas cylinder fire operating as a member of a team, given an assignment, a cylinder outside of a structure, an attack line, personal protective equipment, and tools, so that crew integrity is maintained, contents are identified, safe havens are identified prior to advancing, open valves are closed, flames are not extinguished unless the leaking gas is eliminated, the cylinder is cooled, cylinder integrity is evaluated, hazardous conditions are recognized and acted upon, and the cylinder is faced during approach and retreat.

(A) *Requisite Knowledge:* Characteristics of pressurized flammable gases, elements of a gas cylinder, effects of heat and pressure on closed cylinders, boiling liquid expanding vapor explosion (BLEVE) signs and effects, methods for identifying contents, how to identify safe havens before approaching flammable gas cylinder fires, water stream usage and demands for pressurized cylinder fires, what to do if the fire is prematurely extinguished, valve types and their operation, alternative actions related to various hazards and when to retreat.

(B) *Requisite Skills:* The ability to execute effective advances and retreats, apply various techniques for water application, assess cylinder integrity and changing cylinder conditions, operate control valves, choose effective procedures when conditions change.

6.3.4* Protect evidence of fire cause and origin, given a flashlight and overhaul tools, so that the evidence is noted and protected from further disturbance until investigators can arrive on the scene.

(A) *Requisite Knowledge:* Methods to assess origin and cause; types of evidence; means to protect various types of evidence; the role and relationship of Fire Fighter IIs, criminal investigators, and insurance investigators in fire investigations; and the effects and problems associated with removing property or evidence from the scene.

(B) *Requisite Skills:* The ability to locate the fire's origin area, recognize possible causes, and protect the evidence.

6.4 Rescue Operations. This duty involves performing activities related to accessing and disentangling victims from motor vehicle accidents and helping special rescue teams, according to the following job performance requirements.

6.4.1* Extricate a victim entrapped in a motor vehicle as part of a team, given stabilization and extrication tools, so that the vehicle is stabilized, the victim disentangled without further injury, and hazards are managed.

(A) *Requisite Knowledge:* The fire department's role at a vehicle accident, points of strength and weakness in auto body construction, dangers associated with vehicle components and systems, the uses and limitations of hand and power extrication equipment, and safety procedures when using various types of extrication equipment.

(B) *Requisite Skills:* The ability to operate hand and power tools used for forcible entry and rescue as designed; use cribbing and shoring material; and choose and apply appropriate techniques for moving or removing vehicle roofs, doors, windshields, windows, steering wheels or columns, and the dashboard.

6.4.2* Assist rescue operation teams, given standard operating procedures, necessary rescue equipment, and an assignment, so that procedures are followed, rescue items are recognized and retrieved in the time as prescribed by the AHJ, and the assignment is completed.

(A) *Requisite Knowledge:* The fire fighter's role at a special rescue operation, the hazards associated with special rescue operations, types and uses for rescue tools, and rescue practices and goals.

(B) *Requisite Skills:* The ability to identify and retrieve various types of rescue tools, establish public barriers, and assist rescue teams as a member of the team when assigned.

6.5 Prevention, Preparedness, and Maintenance. This duty involves performing activities related to reducing the loss of life and property due to fire through hazard identification, inspection, and response readiness, according to the following job performance requirements.

6.5.1* Prepare a preincident survey, given forms, necessary tools, and an assignment, so that all required occupancy information is recorded, items of concern are noted, and accurate sketches or diagrams are prepared.

(A) *Requisite Knowledge:* The sources of water supply for fire protection; the fundamentals of fire suppression and detection systems; common symbols used in diagramming construction features, utilities, hazards, and fire protection systems; departmental requirements for a preincident survey and form completion; and the importance of accurate diagrams.

(B) *Requisite Skills:* The ability to identify the components of fire suppression and detection systems; sketch the site, buildings, and special features; detect hazards and special considerations to include in the preincident sketch; and complete all related departmental forms.

6.5.2 Maintain power plants, power tools, and lighting equipment, given tools and manufacturers' instructions, so that equipment is clean and maintained according to manufacturer and departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise.

(A) *Requisite Knowledge:* Types of cleaning methods, correct use of cleaning solvents, manufacturer and departmental guidelines for maintaining equipment and its documentation, and problem-reporting practices.

(B) *Requisite Skills:* The ability to select correct tools; follow guidelines; complete recording and reporting procedures; and operate power plants, power tools, and lighting equipment.

6.5.3 Perform an annual service test on fire hose, given a pump, a marking device, pressure gauges, a timer, record sheets, and related equipment, so that procedures are followed, the condition of the hose is evaluated, any damaged hose is removed from service, and the results are recorded.

(A)* *Requisite Knowledge:* Procedures for safely conducting hose service testing, indicators that dictate any hose be removed from service, and recording procedures for hose test results.

(B) *Requisite Skills:* The ability to operate hose testing equipment and nozzles and to record results.

6.5.4* Test the operability of and flow from a fire hydrant, given a Pitot tube, pressure gauge, and other necessary tools, so that the readiness of the hydrant is assured and the flow of water from the hydrant can be calculated and recorded.

(A) *Requisite Knowledge:* How water flow is reduced by hydrant obstructions; direction of hydrant outlets to suitability of use; the effect of mechanical damage, rust, corrosion, failure to open the hydrant fully, and susceptibility to freezing; and the meaning of the terms *static*, *residual*, and *flow pressure*.

(B) *Requisite Skills:* The ability to operate a pressurized hydrant, use a Pitot tube and pressure gauges, detect damage, and record results of test.

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.1.3.2 See Annex B for additional information regarding the use of job performance requirements for training and evaluation.

A.1.3.3 It is recommended, where practical, that evaluators be individuals who were not directly involved as instructors for the requirement being evaluated.

A.1.3.5 Many jurisdictions choose to deliver Fire Fighter I training in modules that allow personnel to be trained in certain fire fighter tasks and to perform limited duties under direct supervision prior to meeting the complete requirements for Fire Fighter I certification.

A.3.1 Definitions of action verbs used in the job performance requirements in this document are based on the first definition of the word found in *Webster's Third New International Dictionary of the English Language*.

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 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.3.2.2 Authority Having Jurisdiction (AHJ). The phrase "authority having jurisdiction," or its acronym AHJ, 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.3.2.3 Listed. The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

A.3.3.4 Fire Fighter II. This person will function as an integral member of a team of equally or less experienced fire fighters to accomplish a series of tasks. When engaged in hazardous activities, the Fire Fighter II maintains direct communications with a supervisor.

A.4.1(3) The candidate should meet the requirements of NFPA 1582, *Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians*, within a reasonable period of time prior to entering into training or testing for Fire Fighter I to ensure his or her ability to safely perform the required tasks.

A.4.3 Programs such as the Department of Transportation First Responder and American Red Cross curricula offer models that can be followed.

A.5.2.1 The Fire Fighter I should be able to receive and accurately process information received at the station. Fire fighters used as telecommunicators (dispatchers) should meet the requirements of NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator*, for qualification standards and job performance requirements.

A.5.3.1 The Fire Fighter I should already be wearing full protective clothing prior to the beginning of this SCBA-donning procedure. In addition to fully donning and activating the SCBA, the Fire Fighter I should also replace any personal protective clothing (i.e., gloves, protective hood, helmet, etc.) displaced during the donning procedure and activate the PASS device within the specified 1-minute time limit.

A.5.3.2 Other personal protective equipment might include hearing protection in cabs that have a noise level in excess of 90 dBA, eye protection for fire fighters riding in jump seats that are not fully enclosed, and SCBAs for those departments that require fire fighters to don SCBAs while en route to the emergency.

A.5.3.3 The safety of responders operating at an emergency scene is a key concern and one of the primary skills that the fire fighter must develop. Operations on roads and highways, on scenes where visibility is restricted, or where utilities may be unstable present a significant risk to the fire fighter as they dismount from apparatus and initiate emergency operations. Special protective equipment and constant attention to potential hazards is essential.

Fire fighters can be assigned to direct the movement of traffic at the scene or set up flare or cone lines either independently or in conjunction with law/traffic enforcement officers. A firefighter assigned to this duty (either briefly or until the incident is under control) should understand the proper techniques to control traffic and the appropriate use of protective clothing and signaling equipment.

A.5.3.4 The Fire Fighter I should be able to force entry through wood, glass, and metal doors that open in and out; overhead doors; and windows common to the community or service area.

A.5.3.5 When training exercises are intended to simulate emergency conditions, smoke-generating devices that do not create a hazard are required. Several accidents have occurred when smoke bombs or other smoke-generating devices that produce a toxic atmosphere have been used for training exercises. All exercises should be conducted in accordance with the requirements of NFPA 1404, *Standard for Fire Service Respiratory Protection Training*.

A.5.3.6 The fire fighter should be able to accomplish this task with each type and length of ground ladder carried by the department.

A.5.3.7 Passenger vehicles include automobiles, light trucks, and vans.

A.5.3.8 The Fire Fighter I should be able to extinguish fires in stacked or piled materials such as hay bales, pallets, lumber, piles of mulch, sawdust, other bulk Class A materials, or small unattached structures that are attacked from the exterior. The tactics for extinguishing each of these types of fires are similar enough to be included in one JPR.

Live fire evolutions should be conducted in accordance with the requirements of NFPA 1403, *Standard on Live Fire Training Evolutions*. It is further recommended that prior to involvement in live fire evolutions, the fire fighter demonstrate the use of SCBA in smoke and elevated temperature conditions.

In areas where environmental or other concerns restrict the use of Class A fuels for training evolutions, properly installed and monitored gas-fueled fire simulators might be substituted.

A.5.3.10 The Fire Fighter I should be proficient in the various attack approaches for room and contents fires at three different levels (at grade, above grade, and below grade). Maintenance of body posture in the standard refers to staying low during initial attack, protecting oneself from falling objects, and otherwise using common sense given the state of the fire's growth or suppression.

Live fire evolutions should be conducted in accordance with the requirements of NFPA 1403, *Standard on Live Fire Training*

Evolutions. It is further recommended that prior to involvement in live fire evolutions, the fire fighter demonstrate the use of SCBA in smoke and elevated temperature conditions.

In areas where environmental or other concerns restrict the use of Class A fuels for training evolutions, properly installed and monitored gas-fueled fire simulators might be substituted.

A.5.3.15 Static water sources can include portable water tanks, ponds, creeks, and so forth.

A.5.3.16 The Fire Fighter I should be able to extinguish incipient Class A fires such as wastebaskets, small piles of pallets, wood, or hay; Class B fires of approximately 9 ft² (0.84 m²); and Class C fires where the electrical equipment is energized.

A.5.3.19 Protective clothing is not personal protective clothing as used throughout the rest of this document. Some jurisdictions provide fire fighters with different clothing for ground cover fires than is worn for structural fires. This clothing can be substituted for structural protective clothing in order to meet the intent of this job performance requirement.

A.5.5.2 The Fire Fighter I should be able to present basic information on how to (1) stop, drop, and roll when one's clothes are on fire; (2) crawl low in smoke; (3) perform escape planning; (4) alert others of an emergency; (5) call the fire department; and (6) properly place, test, and maintain residential smoke detectors. The Fire Fighter I is not expected to be an accomplished speaker or instructor.

A.6.2.2 The Fire Fighter II could be assigned to accomplish or coordinate tasks away from direct supervision. Many of these tasks could result in the need for additional or replacement personnel due to the ever-changing conditions on the scene of an emergency. The Fire Fighter II is expected to identify these needs and effectively communicate this information within an incident management system. Use of radio communication equipment necessitates that these communications be accurate and efficient.

A.6.3.1 The Fire Fighter II should be able to accomplish this task with each type of foam concentrate used by the jurisdiction. This could include the use of both Class A and B foam concentrates on appropriate fires. When using Class B foams to attack flammable or combustible liquid fires, the Fire Fighter II should extinguish a fire of at least 100 ft² (9 m²). The Fire Fighter II is not expected to calculate application rates and densities. The intent of this JPR can be met in training through the use of training foam concentrates or gas-fired training props.

A.6.3.2 The Fire Fighter II should be able to coordinate the actions of the interior attack line team at common residential fires and small business fires in the fire department's district. Complex or large interior fire management should be left to the officers; however, this job performance requirement will facilitate the development of the Fire Fighter II towards effectively handling specific assignments within large fires.

Jurisdictions that use Fire Fighter IIs as acting company officers should comply with the requirements of NFPA 1021, *Standard for Fire Officer Professional Qualifications*.

A.6.3.3 Controlling flammable gas cylinder fires can be a very dangerous operation. The Fire Fighter II should act as a team member, under the direct supervision of an officer, during these operations.

A.6.3.4 The Fire Fighter II should be able to recognize important evidence as to a fire's cause and maintain the evidence

so that further testing can be done without contamination or chain-of-custody problems. Evidence should be left in place (when possible, otherwise chain-of-custody must be established), not altered by improper handling, walking, and so forth, and not destroyed. Possible means to protect evidence is to avoid touching, protect with salvage covers during overhaul, or rope off the area where the evidence lies. The Fire Fighter II is not intended to be highly proficient at origin and cause determination.

Jurisdictions that use Fire Fighter IIs to determine origin and cause should comply with the requirements of NFPA 1021, *Standard for Fire Officer Professional Qualifications*.

A.6.4.1 In the context of this standard, the term *extricate* refers to those activities required to allow emergency medical personnel access to the victim, stabilization of the vehicle, the displacement or removal of vehicle components obstructing victim removal, and the protection of the victim and response personnel from hazards associated with motor vehicle accidents and the use of hand and power tools on a motor vehicle.

As persons performing extrication can be different from those performing medical functions, this standard does not address medical care of the victim. An awareness of the needs and responsibilities of emergency medical functions is recommended to allow for efficient coordination between the “extrication” team and the “medical” team.

A.6.4.2 The Fire Fighter II is not expected to be proficient in special rescue skills. The Fire Fighter II should be able to help special rescue teams in their efforts to safely manage structural collapses, trench collapses, cave and tunnel emergencies, water and ice emergencies, elevator and escalator emergencies, energized electrical line emergencies, and industrial accidents.

A.6.5.1 The Fire Fighter II should be able to compile information related to potential emergency incidents within their community for use by officers in the development of preincident plans. Jurisdictions that use Fire Fighter IIs to develop preincident plans should comply with the requirements of NFPA 1021, *Standard for Fire Officer Professional Qualifications*.

A.6.5.3(A) Procedures for conducting hose testing can be found in Chapter 5, Service Testing, of NFPA 1962, *Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles*.

A.6.5.4 All fire fighters should be able to flow test a hydrant. While not all fire departments have hydrants in their jurisdiction, departments without hydrants in their jurisdiction can effectively train and evaluate a Fire Fighter II’s flow testing skills by using hose streams.

Annex B Explanation of the Standard and Concepts of JPRs

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

B.1 Explanation of the Standard and Concepts of Job Performance Requirements (JPRs). The primary benefit of establishing national professional qualification standards is to provide both public and private sectors with a framework of the job requirements for the fire service. Other benefits include enhancement of the profession, individual as well as organizational growth and development, and standardization of practices.

NFPA professional qualifications standards identify the minimum JPRs for specific fire service positions. The standards can be used for training design and evaluation, certification, measuring and critiquing on-the-job performance, defining hiring practices, and setting organizational policies, procedures, and goals. (Other applications are encouraged.)

Professional qualifications standards for a specific job are organized by major areas of responsibility defined as duties. For example, the fire fighter’s duties might include fire suppression, rescue, and water supply; and the public fire educator’s duties might include education, planning and development, and administration. Duties are major functional areas of responsibility within a job.

The professional qualifications standards are written as JPRs. JPRs describe the performance required for a specific job. JPRs are grouped according to the duties of a job. The complete list of JPRs for each duty defines what an individual must be able to do in order to successfully perform that duty. Together, the duties and their JPRs define the job parameters, that is, the standard as a whole is a description of a job.

B.2 Breaking Down the Components of a JPR. The JPR is the assembly of three critical components. (See Table B.2.) These components are as follows:

- (1) Task that is to be performed
- (2) Tools, equipment, or materials that must be provided to successfully complete the task
- (3) Evaluation parameters and/or performance outcomes

Table B.2 Example of a JPR

(1) Task	(1) Ventilate a pitched roof
(2) Tools, equipment, or materials	(2) Given an ax, a pike pole, an extension ladder, and a roof ladder
(3) Evaluation parameters and performance outcomes	(3) So that a 4-ft × 4-ft hole is created; all ventilation barriers are removed; ladders are properly positioned for ventilation; ventilation holes are correctly placed; and smoke, heat, and combustion by-products are released from the structure

B.2.1 The Task to Be Performed. The first component is a concise, brief statement of what the person is supposed to do.

B.2.2 Tools, Equipment, or Materials that Must be Provided to Successfully Complete the Task. This component ensures that all individuals completing the task are given the same minimal tools, equipment, or materials when being evaluated. By listing these items, the performer and evaluator know what must be provided in order to complete the task.

B.2.3 Evaluation Parameters and/or Performance Outcomes. This component defines how well one must perform each task — for both the performer and the evaluator. The JPR guides performance towards successful completion by identifying evaluation parameters and/or performance outcomes. This portion of the JPR promotes consistency in evaluation by reducing the variables used to gauge performance.

In addition to these three components, the JPR contains requisite knowledge and skills. Just as the term *requisite* suggests, these are the necessary knowledge and skills one must have prior to being able to perform the task. Requisite knowledge and skills are the foundation for task performance.

Once the components and requisites are put together, the JPR might read as follows.

B.2.3.1 Example 1. The Fire Fighter I shall ventilate a pitched roof, given an ax, a pike pole, an extension ladder, and a roof ladder, so that a 4-ft × 4-ft hole is created, all ventilation barriers are removed, ladders are properly positioned for ventilation, and ventilation holes are correctly placed.

(A) *Requisite Knowledge:* Pitched roof construction, safety considerations with roof ventilation, the dangers associated with improper ventilation, knowledge of ventilation tools, the effects of ventilation on fire growth, smoke movement in structures, signs of backdraft, and the knowledge of vertical and forced ventilation.

(B) *Requisite Skills:* The ability to remove roof covering; properly initiate roof cuts; use the pike pole to clear ventilation barriers; use ax properly for sounding, cutting, and stripping; position ladders; and climb and position self on ladder.

B.2.3.2 Example 2. The Fire Investigator shall interpret burn patterns, given standard equipment and tools and some structural/content remains, so that each individual pattern is evaluated with respect to the burning characteristics of the material involved.

(A) *Requisite Knowledge:* Knowledge of fire development and the interrelationship of heat release rate, form, and ignitability of materials.

(B) *Requisite Skill:* The ability to interpret the effects of burning characteristics on different types of materials.

B.3 Examples of Potential Uses

B.3.1 Certification. JPRs can be used to establish the evaluation criteria for certification at a specific job level. When used for certification, evaluation must be based on the successful completion of JPRs.

First, the evaluator would verify the attainment of requisite knowledge and skills prior to JPR evaluation. Verification might be accomplished through documentation review or testing.

Next, the candidate would be evaluated on completing the JPRs. The candidate would perform the task and be evaluated based on the evaluation parameters, the performance outcomes, or both. This performance-based evaluation can be either practical (for psychomotor skills such as “ventilate a roof”) or written (for cognitive skills such as “interpret burn patterns”).

Note that psychomotor skills are those physical skills that can be demonstrated or observed. Cognitive skills (or mental skills) cannot be observed, but are rather evaluated on how one completes the task (process oriented) or the task outcome (product oriented).

Using Example 1, a practical performance-based evaluation would measure one’s ability to “ventilate a pitched roof.” The candidate passes this particular evaluation if the standard was met — that is, a 4-ft × 4-ft hole was created; all ventilation barriers

were removed; ladders were properly positioned for ventilation; ventilation holes were correctly placed; and smoke, heat, and combustion by-products were released from the structure.

For Example 2, when evaluating the task “interpret burn patterns,” the candidate could be given a written assessment in the form of a scenario, photographs, and drawings and then be asked to respond to specific written questions related to the JPR’s evaluation parameters.

Remember, when evaluating performance, you must give the person the tools, equipment, or materials listed in the job performance requirements — for example, an ax, a pike pole, an extension ladder, and a roof ladder — before he or she can be properly evaluated.

B.3.2 Curriculum Development/Training Design and Evaluation. The statements contained in this document that refer to job performance were designed and written as JPRs. Although a resemblance to instructional objectives might be present, these statements should not be used in a teaching situation until after they have been modified for instructional use.

JPRs state the behaviors required to perform specific skill(s) on the job, as opposed to a learning situation. These statements should be converted into instructional objectives with behaviors, conditions, and standards that can be measured within the teaching/learning environment. A JPR that requires a fire fighter to “ventilate a pitched roof” should be converted into a measurable instructional objective for use when teaching the skill. [See Figure B.3.2(a).]

Using Example 1, a terminal instructional objective might read as follows.

The learner will ventilate a pitched roof, given a simulated roof, an ax, a pike pole, an extension ladder, and a roof ladder, so that 100 percent accuracy is attained on a skills checklist. (At a minimum, the skills checklist should include each of the measurement criteria from the job performance requirements.)

Figure B.3.2(b) is a sample checklist for use in evaluating this objective.

While the differences between job performance requirements and instructional objectives are subtle in appearance, the purpose of each statement differs greatly. JPRs state what is necessary to perform the job in the “real world.” Instructional objectives, however, are used to identify what students must do at the end of a training session and are stated in behavioral terms that are measurable in the training environment.

By converting JPRs into instructional objectives, instructors will be able to clarify performance expectations and avoid confusion related to using statements designed for purposes other than teaching. Additionally, instructors will be able to add local/state/regional elements of performance into the standards as intended by the developers.

Requisite skills and knowledge should be converted into enabling objectives. These help to define the course content. The course content would include each of the requisite knowledge and skills. Using the above example, the enabling objectives would be pitched roof construction, safety considerations with roof ventilation, removal of roof covering, properly initiated roof cuts, and so on. This ensures that the course content supports the terminal objective.

Note that it is assumed that the reader is familiar with curriculum development or training design and evaluation.

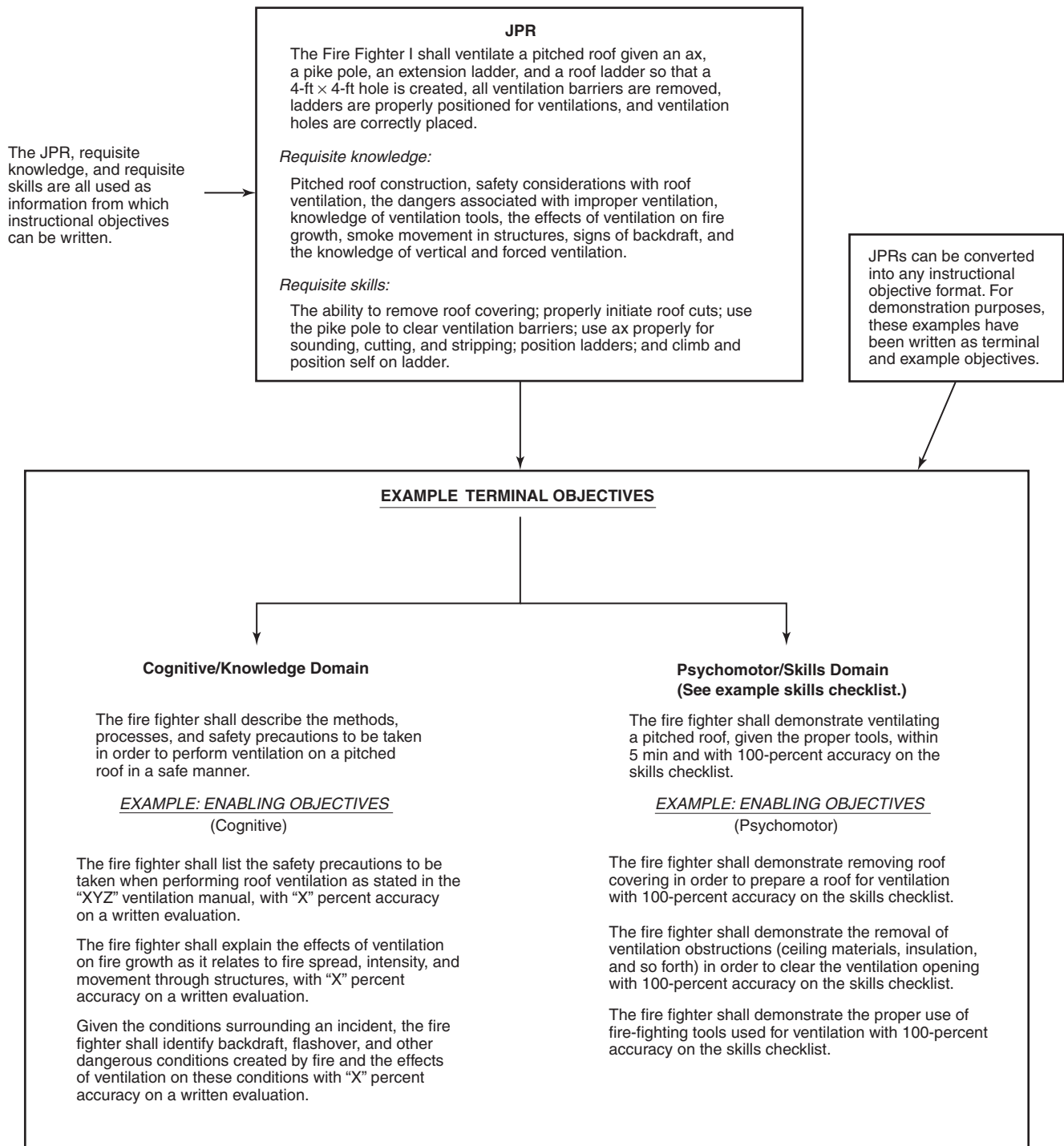


FIGURE B.3.2(a) Converting JPRs into Instructional Objectives.

Objective:

The fire fighter shall demonstrate ventilating a pitched roof, given the proper tools, within 5 min and with 100-percent accuracy on the skills checklist.

1. A 4-ft × 4-ft hole was created. ☐ Yes ☐ No
2. All ventilation barriers were removed. ☐ Yes ☐ No
3. Ladders were properly positioned. ☐ Yes ☐ No
4. Ventilation holes were correctly placed (directly over fire, at highest point, and so forth). ☐ Yes ☐ No
5. Task completed within 5 min. ☐ Yes ☐ No
(Time to complete task: _____)

FIGURE B.3.2(b) Skills Checklist.

B.4 Other Uses. While the professional qualifications standards are principally used to guide the development of training and certification programs, there are a number of other potential uses for the documents. Because the documents are written in JPR terms, they lend themselves well to any area of the profession where a level of performance or expertise must be determined. These areas might include the following:

- (1) *Employee Evaluation/Performance Critiquing.* The JPRs can be used as a guide by both the supervisor and the employee during an evaluation. The JPRs for a specific job define tasks that are essential to perform on the job as well as the evaluation criteria to measure when those tasks are completed.
- (2) *Establishing Hiring Criteria.* The professional qualifications standards can be used in a number of ways to further the establishment of hiring criteria. The AHJ could simply require certification at a specific job level — for example, Fire Fighter I. The JPRs could also be used as the basis for pre-employment screening by establishing essential minimal tasks and the related evaluation criteria. An added benefit is that individuals interested in employment can work towards the minimal hiring criteria at local colleges.
- (3) *Employee Development.* The professional qualifications standards can be useful to both the employee and the employer in developing a plan for the individual's growth within the organization. The JPRs and the associated requisite knowledge and skills can be used as a guide to determine additional training and education required for the employee to master his or her job or profession.
- (4) *Succession Planning.* Succession planning or career pathing addresses the efficient placement of people into jobs in response to current needs and anticipated future needs. A career development path can be established for targeted individuals to prepare them for growth within the organization. The JPRs and requisite knowledge and skills could then be used to develop an educational path to aid in the individual's advancement within the organization or profession.
- (5) *Establishing Organizational Policies, Procedures, and Goals.* The JPRs can be incorporated into organizational policies, procedures, and goals where employee performance is addressed.

B.5 Bibliography.

Annett, John and Neville E. Stanton. 2001. *Task Analysis*. London and New York: Taylor and Francis.

Brannick, Michael T. and Edward L. Levine. 2001. *Job Analysis: Methods, Research and Applications for Human Resource Management in the New Millennium*. Conwin Press.

Dubois, David D., Ph.D. 1993. *Competency-Based Performance Improvement*. Amherst, MA: HRD Press.

Fine, Sidney A. and Steven F. Cronshaw. 1999. *Functional Job Analysis: A Foundation for Human Resources Management (Applied Psychology Series)*. Lawrence Erlbaum Association.

Gupta, Kavita. 1999. *A Practical Guide to Needs Assessment*. San Francisco, CA: Jossey-Bass/Pfeiffer.

Hartley, Darin E. 1999. *Job Analysis at the Speed of Reality*. Amherst, MA: HRD Press.

Hodell, Chuck. 2000. *ISD From the Ground Up*. Alexandria, VA: American Society for Training & Development.

Jonassen, David H., Martin Tessmer, and Wallace H. Han-num. 1999. *Task Analysis Methods for Instructional Design*. Lawrence Erlbaum Association.

McArdle, Gerie. 1998. *Conducting a Needs Analysis (Fifty-Minute Book)*. Crisp Publishing.

McCain, Donald V. 1999. *Creating Training Courses*. Alexandria, VA: American Society for Training & Development.

Phillips, Jack J. 2000. *In Action: Performance Analysis and Consulting*. Alexandria, VA: American Society for Training & Development.

Phillips, Jack J. and Elwood F. Holton III. 1995. *In Action: Conducting Needs Assessment*. Alexandria, VA: American Society for Training & Development.

Robinson, Dana Gaines and James C. Robinson. 1998. *Moving from Training to Performance: A Practical Guidebook*. San Francisco: Berrett-Koehler.

Schippmann, Jeffrey S. 1999. *Strategic Job Modeling: Working at the Core of Integrated Human Resources*. Lawrence Erlbaum Association.

Shepherd, Andrew. 2000. *Hierarchical Task Analysis*. London and New York: Taylor and Francis.

Zemke, Ron and Thomas Kramlinger. 1982. *Figuring Things Out: A Trainer's Guide to Task, Needs, and Organizational Analysis*. Perseus Press.

Annex C Comparison of NFPA 1001 1992 Edition Versus 1997 Edition

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

C.1 The 1997 edition of NFPA 1001 is the first edition of this standard to be released in the JPR format. The revision of this standard into the JPR format resulted in a significant reorganization of the Fire Fighter I and II objectives contained in the 1992 edition of the standard. In order to assist the user of this standard in matching the location of objectives contained in the 1992 edition with their new location in the 1997 edition, Table C.1 is provided.

Table C.1 NFPA 1001 Editions Conversion Table

Objective Number in 1992 Edition	Objective Number in 1997 Edition
3-2.1	3-1.1.1
3-2.2	3-1.1.1
3-2.3	3-1.1.1

Table C.1 *Continued*

Objective Number in 1992 Edition	Objective Number in 1997 Edition
3-2.4	3-1.1.1 3-2.1(a) 3-3.10(a)
3-2.5	3-1.1.1
3-2.6	**
3-2.7	3-1.1.1
3-2.8	3-1.1.1
3-3.1	3-1.1.1
3-3.2	3-3.4(a)
3-3.3	3-3.9(a)
3-3.4	3-3.1(b) 3-3.4(a)
3-3.5	3-3.17(a)
3-3.6	3-3.17
3-3.7	3-3.2(b)
3-3.8	3-3.2(a)
3-3.9	3-3.17
3-3.10	3-3.9(a)
3-3.11	**
3-3.12	3-3.9(a)
3-4.1	3-2.1(a)
3-4.2	3-2.1(a)
3-4.3	3-2.1(b)
3-4.4	3-2.2
3-4.5	3-2.3
3-5.1	3-3.11(a)
3-5.2	3-3.11(a)
3-5.3	3-3.11(a)
3-5.4	3-3.11(a)
3-5.5	3-3.12(a)
3-5.6	3-3.9(a)
3-5.7	3-3.10(a)
3-5.8	3-3.11(a)
3-6.1	3-3.15(a)
3-6.2	3-3.15(a)
3-6.3	3-3.15(b)
3-6.4	3-3.15
3-7.1	3-1.1.2
3-7.2	3-1.1.2
3-7.3	3-1.1.2
3-7.4	3-3.1(a)
3-7.5	3-3.1(a)
3-7.6	3-3.1(a)
3-7.7	3-3.1(a)
3-7.8	3-3.1(a)
3-7.9	3-3.1(b)
3-7.10	3-5.3
3-7.11	3-3.4(b)
3-7.12	3-3.1(b)
3-7.13	3-3.1(b)
3-7.14	3-3.1(b)

Table C.1 *Continued*

Objective Number in 1992 Edition	Objective Number in 1997 Edition
3-7.15	3-3.1(b)
3-7.16	3-5.3
3-7.17	3-3.8(b)
3-8.1	3-3.3(a)
3-8.2	3-3.3(b)
3-8.3	3-3.3(a)
3-8.4	3-3.3(b)
3-8.5	3-5.3
3-8.6	3-3.3(b)
3-9.1	3-3.10(a)
3-9.2	3-3.10(a)
3-9.3	3-3.10(a) 3-3.11(a)
3-9.4	3-3.10(a)
3-9.5	3-3.10(a)
3-9.6	3-3.10(b)
3-9.7	3-3.11(a)
3-9.8	3-3.11(b)
3-9.9	3-3.11(a)
3-9.10	3-3.11(b)
3-9.11	3-3.10
3-9.12	3-3.10(b)
3-9.13	3-3.11
3-10.1	3-1.1.2
3-10.2	3-1.1.2
3-10.3	3-5.3
3-10.4	3-1.1.2
3-10.5	3-1.1.1
3-10.6	3-1.1.1
3-11.1	3-3.5(a)
3-11.2	3-3.5(b) 3-3.11(b)
3-11.3	3-3.11(b)
3-11.4	3-3.8(b)
3-11.5	3-3.9(b) 3-3.11(b)
3-12.1	3-3.7(a) 3-3.9(a)
3-12.2	3-3.9(b)
3-12.3	3-3.9(b)
3-12.4	3-3.9(b) 3-5.4(b)
3-12.5	3-3.9(b)
3-12.6	3-3.9(b)
3-12.7	3-3.14(b)
3-12.8	3-3.9(a)
3-12.9	3-3.9(b)
3-12.10	3-3.9(b)
3-12.11	3-3.9(a)
3-12.12	3-3.9(b)
3-12.13	3-3.9(a)