

NFPA 1031

Professional Qualifications for Fire Inspector 1993 Edition



NOTICE

All questions or other communications relating to this document should be sent only to NFPA Headquarters, addressed to the attention of the Committee responsible for the document.

For information on the procedures for requesting Technical Committees to issue Formal Interpretations, proposing Tentative Interim Amendments, proposing amendments for Committee consideration, and appeals on matters relating to the content of the document, write to the Secretary, Standards Council, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

A statement, written or oral, that is not processed in accordance with Section 16 of the Regulations Governing Committee Projects shall not be considered the official position of NFPA or any of its Committees and shall not be considered to be, nor be relied upon as, a Formal Interpretation.

Users of this document should consult applicable Federal, State and local laws and regulations. NFPA does not, by the publication of this document, intend to urge action which is not in compliance with applicable laws and this document may not be construed as doing so.

Policy Adopted by NFPA Board of Directors on December 3, 1982

The Board of Directors reaffirms that the National Fire Protection Association recognizes that the toxicity of the products of combustion is an important factor in the loss of life from fire. NFPA has dealt with that subject in its technical committee documents for many years.

There is a concern that the growing use of synthetic materials may produce more or additional toxic products of combustion in a fire environment. The Board has, therefore, asked all NFPA technical committees to review the documents for which they are responsible to be sure that the documents respond to this current concern. To assist the committees in meeting this request, the Board has appointed an advisory committee to provide specific guidance to the technical committees on questions relating to assessing the hazards of the products of combustion.

Licensing Provision — This document is copyrighted by the National Fire Protection Association (NFPA).

1. Adoption by Reference — Public authorities and others are urged to reference this document in laws, ordinances, regulations, administrative orders or similar instruments. Any deletions, additions and changes desired by the adopting authority must be noted separately. Those using this method are requested to notify the NFPA (Attention: Secretary, Standards Council) in writing of such use. The term "adoption by reference" means the citing of title and publishing information only.

2. Adoption by Transcription — **A.** Public authorities with lawmaking or rule-making powers only, upon written notice to the NFPA (Attention: Secretary, Standards Council), will be granted a royalty-free license to print and republish this document in whole or in part, with changes and additions, if any, noted separately, in laws, ordinances, regulations, administrative orders or similar instruments having the force of law, provided that: (1) due notice of NFPA's copyright is contained in each law and in each copy thereof; and, (2) that such printing and republication is limited to numbers sufficient to satisfy the jurisdiction's lawmaking or rulemaking process. **B.** Once this NFPA Code or Standard has been adopted into law, all printings of this document by public authorities with lawmaking or rulemaking powers or any other persons desiring to reproduce this document or its contents as adopted by the jurisdiction in whole or in part, in any form, upon written request to NFPA (Attention: Secretary, Standards Council), will be granted a nonexclusive license to print, republish, and vend this document in whole or in part, with changes and additions, if any, noted separately provided that due notice of NFPA's copyright is contained in each copy. Such license shall be granted only upon agreement to pay NFPA a royalty. This royalty is required to provide funds for the research and development necessary to continue the work of NFPA and its volunteers in continually updating and revising NFPA standards. Under certain circumstances, public authorities with lawmaking or rulemaking powers may apply for and may receive a special royalty when the public interest will be served thereby.

3. Scope of License Grant — The terms and conditions set forth above do not extend to the index to this document.

(For further explanation, see the Policy Concerning the Adoption, Printing and Publication of NFPA Documents which is available upon request from the NFPA.)

Statement on NFPA Procedures

This material has been developed under the published procedures of the National Fire Protection Association, which are designed to assure the appointment of technically competent Committees having balanced representation. While these procedures assure the highest degree of care, neither the National Fire Protection Association, its members, nor those participating in its activities accepts any liability resulting from compliance or noncompliance with the provisions given herein, for any restrictions imposed on materials or processes, or for the completeness of the text.

NFPA has no power or authority to police or enforce compliance with the contents of this document and any certification of products stating compliance with requirements of this document is made at the peril of the certifier.

You can have impact on issues that affect the fire safety industry—How?

When you belong to NFPA you'll receive special membership benefits that help you make informed decisions and make your voice a stronger one in the fire safety community. Your benefits include:

1. **Voting privileges** on proposed changes to existing codes and standards, and on new codes and standards.
2. The *NFPA Journal*, *Fire News* newsletter, and *NFPA Journal Reference Directory & Buyers' Guide*—your source for fire statistics, reports, investigations, manufacturers, and codes and standards references.
3. **10% discount** on all products and services.
4. **Special invitations** to Annual, Fall, and Regional Meetings—where you can compare notes with your colleagues and take a position on issues that affect you. All these benefits—plus the pride and confidence that comes with membership in an internationally acclaimed organization can be yours for annual dues of \$95.00. Join today!

☐ **YES! Send me an application to join my colleagues at NFPA today!**

Name _____ Date _____
Address _____ Signature _____
City, State, Zip _____
Code PA1 _____

Stay up-to-date on fire codes with this super, money-saving service!

In the dynamic world of fire protection, you need to keep up with current fire code requirements, recent changes, and new developments. The *National Fire Codes*® Subscription Service makes that an easier job! This complete service delivers every NFPA code and standard directly to you—over 280 essential codes in all! As a subscriber, you automatically receive new and revised documents from NFPA's Annual and Fall Meetings—as soon as they are published. Plus, additional mailings keep you informed of changes as they happen, so you are always working with the latest requirements.

☐ **YES! Start my subscription today! (Item No. 2H-NFCSS) \$600.00 (NFPA Members \$540.00*)**

Total amount enclosed \$ _____ NFPA Member No. _____
Name _____ ☐ I enclose a check (payable to NFPA).
Address _____ ☐ Please bill me.
City, State, Zip _____

* Prices subject to change

For easy ordering, call toll-free
1-800-344-3555!
Monday–Friday, 8:30 AM–8:00 PM, ET

NFPA listens to our customers. Please let us know what you think.

What types of products would you like to see more of?

- | | |
|--|--|
| <input type="checkbox"/> seminars | <input type="checkbox"/> training packages |
| <input type="checkbox"/> code handbooks | <input type="checkbox"/> informational brochures |
| <input type="checkbox"/> general reference books | <input type="checkbox"/> electronic media |
| <input type="checkbox"/> videos | <input type="checkbox"/> other _____ |

In what subject area(s) would you like to see more products?

- | | |
|---|--|
| <input type="checkbox"/> electrical | <input type="checkbox"/> life safety |
| <input type="checkbox"/> Fire Prevention Week | <input type="checkbox"/> fire service |
| <input type="checkbox"/> public education | <input type="checkbox"/> hazardous materials |
| <input type="checkbox"/> other _____ | |

How can NFPA better serve your needs?

*Join over 63,000
professionals
like yourself.
Belong to NFPA!*

*You can't beat
this value on
NFPA codes and
standards...*

*Thank you
for your
purchases!*



BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 3376 BOSTON, MA

POSTAGE WILL BE PAID BY ADDRESSEE

NATIONAL FIRE PROTECTION ASSOCIATION
1 BATTERYMARCH PARK
PO BOX 9101
QUINCY MA 02269-9904

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



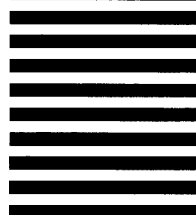
BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 3376 BOSTON, MA

POSTAGE WILL BE PAID BY ADDRESSEE

NATIONAL FIRE PROTECTION ASSOCIATION
1 BATTERYMARCH PARK
PO BOX 9101
QUINCY MA 02269-9904

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 3376 BOSTON, MA

POSTAGE WILL BE PAID BY ADDRESSEE

NATIONAL FIRE PROTECTION ASSOCIATION
1 BATTERYMARCH PARK
PO BOX 9101
QUINCY MA 02269-9904
Attn: Product Development

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



Copyright © 1993 NFPA, All Rights Reserved

NFPA 1031
Standard for
Professional Qualifications for
Fire Inspector
1993 Edition

This edition of NFPA 1031, *Standard for Professional Qualifications for Fire Inspector*, was prepared by the Technical Committee on Fire Inspector Professional Qualifications, released by the Correlating Committee on Professional Qualifications, and acted on by the National Fire Protection Association, Inc. at its Annual Meeting held May 24-27, 1993, in Orlando, FL. It was issued by the Standards Council on July 23, 1993, with an effective date of August 20, 1993, and supersedes all previous editions.

The 1993 edition of this document has been approved by the American National Standards Institute.

Origin and Development of NFPA 1031

In 1972, the Joint Council of National Fire Service Organizations (JCNFSO) created the National Professional Qualifications Board for the Fire Service (NPQB) 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 jobs: fire fighter, fire officer, fire service instructor, and fire inspector and investigator.

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 uniformed fire service. The various levels of achievement in the standards were to build upon 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 revised to allow civilian entry into many of the fields, except for the progression from fire fighter to fire officer. These revisions facilitated the use of the documents by other than the uniformed fire services.

The Committee on Fire Inspector and Investigator Professional Qualifications met from 1973 through 1977 and produced the first edition of NFPA 1031, *Professional Qualifications for Fire Inspector, Fire Investigator, and Fire Prevention Education Officer*. This document was adopted by the Association in May of 1977.

Subsequent to the adoption of the initial edition, the Committee met regularly to revise and update the standard. In 1986, the Joint Council directed the Committee to develop separate documents for each of the job functions the original document addressed. This direction was coupled with the decision to remove the job of fire inspector from the strict career path previously followed and allow for civilian entry. The first edition of this new document, NFPA 1031, *Standard for Professional Qualifications for Fire Inspector*, was adopted by the Association in June of 1987.

In 1990, responsibility for the appointment of Professional Qualifications committees and the development of the Professional Qualifications standards was assumed by the NFPA. The Professional Qualifications Correlating Committee was appointed by the NFPA Standards Council and assumed the responsibility for coordinating the requirements of all of the documents in the Professional Qualifications system.

The Technical Committee on Fire Inspector Professional Qualifications was established by the NFPA Standards Council in 1990 based on a recommendation by the Professional Qualifications Correlating Committee. This recommendation addressed the need for specific expertise in the area of fire inspector to review and revise the existing document. This committee met numerous times to complete a job task analysis and develop specific job performance requirements for the job of fire inspector.

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 inspector. These job performance requirements are applicable to fire inspectors both public and private.

Correlating Committee on Professional Qualifications

Douglas P. Forsman, *Chair*
Oklahoma State University, OK

Jon C. Jones, *Secretary*
Nat'l Fire Protection Assn.
(Nonvoting)

Louis J. Amabili, Delaware State Fire School, DE
Rep. ISFSI
Stephen P. Austin, State Farm Fire & Casualty Co., DE
Rep. IAAI
Dan W. Bailey, USDA Forest Service, MT
Gene P. Carlson, Oklahoma State University, OK
Rep. IFSTA

Jack K. McElfish, Clayton Cnty Fire Dept., GA
Rep. IAFC
Mary Nachbar, Minnesota State Fire Marshal Division, MN
William Peterson, Plano Fire Dept., TX
Rep. IFSTA
Ted Vratny, Boulder Regional Communications Center, CO
John P. Wolf, University of Kansas, KS

Technical Committee on Fire Inspector Professional Qualifications

William Peterson, *Chair*
Rep. Int'l Fire Service Training Assn.

Richard W. Carlson, Okolona Fire Dept., KY
Donald Charles Craige, Exxon Research & Engineering Co., NJ
William A. Cross, Yale University, CT
Michael G. Golden, CIGNA, IL
Barbara Koffron, Phoenix Fire Dept., AZ

David Linebaugh, Colorado Springs Fire Dept., CO
Maurice M. Pilette, Mechanical Designs Ltd., MA
Edward P. Plaugher, Fairfax Cnty Fire/Rescue Dept., VA
Mark Riffey, Nat'l Fire Sprinkler Assn., IN
Rep. Nat'l Fire Sprinkler Assn.
Scott A. Stookey, Austin Fire Dept., TX

Alternates

Joseph T. Cavallari, Yale University, CT
(Alt. to W. A. Cross)

Stephen D. Hart, Fire Sprinkler Advisory Board of California, CA
(Alt. to M. Riffey)

Jon C. Jones, NFPA Staff Liaison

This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred.

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.

Committee Scope: To develop and prepare minimum standards of professional competence required of fire inspectors.

Contents

| | | | |
|--|----------------|---|----------------|
| Chapter 1 Administration | 1031- 5 | 4-3 Field Inspection | 1031- 9 |
| 1-1 Scope | 1031- 5 | 4-4 Plans Review | 1031-10 |
| 1-2 Purpose | 1031- 5 | Chapter 5 Fire Inspector III | 1031-10 |
| 1-3 General | 1031- 5 | 5-1 General | 1031-10 |
| Chapter 2 Definitions | 1031- 5 | 5-2 Administration | 1031-10 |
| Chapter 3 Fire Inspector I | 1031- 6 | 5-3 Field Inspection | 1031-10 |
| 3-1 General | 1031- 6 | 5-4 Plans Review | 1031-11 |
| 3-2 Administration | 1031- 6 | Chapter 6 Referenced Publications | 1031-11 |
| 3-3 Field Inspection | 1031- 7 | Appendix A Explanatory Material | 1031-11 |
| 3-4 Plans Review | 1031- 8 | Appendix B Referenced Publications | 1031-12 |
| Chapter 4 Fire Inspector II | 1031- 8 | Appendix C | 1031-13 |
| 4-1 General | 1031- 8 | Index | 1031-17 |
| 4-2 Administration | 1031- 8 | | |

NFPA 1031
Standard for
Professional Qualifications for
Fire Inspector
1993 Edition

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

Information on referenced publications can be found in Chapter 6 and Appendix B.

Chapter 1 Administration

1-1 Scope. This standard identifies the professional levels of performance required for fire inspectors. It specifically identifies the job performance requirements necessary to perform as a fire inspector.

1-2* Purpose. The purpose of this standard is to specify in terms of job performance requirements the minimum standards for professional competence for fire inspectors. This standard defines three levels of progression for fire inspector and the prerequisite skills and knowledge for Fire Inspector I. This standard does not address management responsibilities, nor is it the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements.

1-3 General.

1-3.1* Prior to engaging in training as a Fire Inspector I, the inspector candidate shall provide evidence of knowledge of characteristics and behavior of fire, fire prevention principles, written and oral communications, public relations, and basic mathematics.

1-3.2 The job performance requirements for each level of progression as a fire inspector shall be completed in accordance with recognized practices and procedures or as defined by law or the authority having jurisdiction.

1-3.3 The job performance requirements need not be mastered in the order in which they appear. The local, state/provincial, or federal training programs shall establish the instructional priority and the training program content to prepare individuals to meet the job performance requirements of this standard.

1-3.4* Evaluation of job performance requirements shall be by individuals approved by the authority having jurisdiction.

1-3.5 The fire inspector shall meet all of the requirements defined in Chapter 3 prior to being certified as a Fire Inspector I.

1-3.6 The Fire Inspector I shall meet all of the requirements defined in Chapter 4 prior to being certified as a Fire Inspector II.

1-3.7 The Fire Inspector II shall meet all of the requirements defined in Chapter 5 prior to being certified as a Fire Inspector III.

1-3.8* The fire inspector at all levels of progression shall remain current with inspection methodology, fire protection technology, and current applicable codes and standards by attending workshops/seminars or by means of professional publications and journals.

1-3.9* The fire inspector at all levels shall perform assigned duties safely. The authority having jurisdiction shall provide personal protective clothing and the equipment necessary to conduct assigned inspections.

1-3.10* The fire inspectors at all levels shall be provided with codes, standards, policies, and procedures applicable to the jurisdiction and their assignment.

Chapter 2* Definitions

For the purpose of this standard, the following terms shall have the meanings given below.

Approved. Acceptable to the "authority having jurisdiction."

NOTE: 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 or 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 concerned with product evaluations which is in a position to determine compliance with appropriate standards for the current production of listed items.

Authority Having Jurisdiction. The "authority having jurisdiction" is the organization, office or individual responsible for "approving" equipment, an installation or a procedure.

NOTE: 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, 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 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."

Candidate. A person who has made application to become a fire inspector.

Construction Documents. Documents that consist of scaled design drawings and specifications for the purpose of construction of new facilities or modification to existing facilities.

Fire Growth Potential. The potential size or intensity of a fire over a period of time based on the available fuel and the fire's configuration.

Fire Inspector I. An individual at the first level of progression who has met the job performance requirements specified in this standard for Level I. The Fire Inspector I conducts basic fire inspections and applies codes and standards.

Fire Inspector II. An individual at the second or intermediate level of progression who has met the job performance requirements specified in this standard for Level II. The Fire Inspector II conducts most types of inspections and interprets applicable codes and standards.

Fire Inspector III. An individual at the third and most advanced level of progression who has met the job performance requirements specified in this standard for Level III. The Fire Inspector III performs all types of fire inspection, plans review duties, and resolves complex code-related issues.

Fire Protection Systems. Systems, devices, and equipment used to detect a fire and its by-products, actuate an alarm or suppress or control a fire and its by-products, or any combination thereof.

Job Performance Requirement. 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.

Labeled. Equipment or materials to which has been attached a label, symbol or other identifying mark of an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Listed. Equipment or materials included in a list published by an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NOTE: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which 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.

Means of Egress. Means of egress include the exit access, exit enclosure, exit discharge, doors, hardware, arrangement, capacity, marking, and illumination, all of which are intended to allow building occupants to promptly exit a building in the event of an emergency.

Personal Protective Clothing. Clothing provided for the fire inspector's personal protection, including a helmet/hard hat, safety glasses, safety shoes/boots, gloves, and coveralls.

Plan. A graphic representation of a building or portion of a building, fire protection system, or fire assembly or equipment. The plan can include specifications, cut sheets, and other engineering data. The term includes sketches, floor plans, shop drawings, and blueprints.

Process and Operations. Examples of processes and operations include the manufacture, storage, and transportation of goods and chemicals; the storage and dispensing of flammable and combustible liquids, solids, and gases; and the manufacture, use, storage, and transportation of explosives, spray painting, milling, and the like.

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

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

Shall. Indicates a mandatory requirement.

Shop Drawings. For the purposes of this standard, shop drawings are scaled working drawings, equipment cut sheets, and design calculations. (*See definition of Construction Documents.*)

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

Task. A specific job behavior or activity.

Chapter 3 Fire Inspector I

3-1* General. The Fire Inspector I shall meet the job performance requirements defined in Sections 3-2 through 3-4. In addition, the Fire Inspector I shall meet the requirements of Section 2-2 of NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*.

3-2 Administration.

3-2.1 Description of Duty for Fire Inspector I. Tasks within this duty include the preparation of correspondence and inspection reports, handling of complaints, and maintenance of records.

3-2.1.1 Prerequisite Knowledge: Structure, function, and operational procedures of the organization and methods/procedures for interaction with other agencies.

3-2.2 Prepare written correspondence to communicate fire protection and prevention practices, given a common fire safety issue, so that the correspondence is concise, accurately reflects applicable codes and standards, and is appropriate for the intended audience.

3-2.3 Prepare inspection reports, given observations from a field inspection, so that the report is clear and concise and accurately reflects the findings of the inspection in accordance with applicable codes and standards.

3-2.4 Recognize the need for a permit, given a situation or condition, so that required permits are issued in accordance with the policies of the agency being represented.

3-2.5 Describe the plan review policies of the jurisdiction, given a situation or condition, a set of construction plans, and the plan review policy of the jurisdiction, so that required plans are processed in accordance with the policies of the agency being represented.

3-2.6 Schedule inspection and other related activities so that available time is used efficiently.

3-2.6.1 *Prerequisite Skills:* Time management skills, operation of equipment necessary to do job.

3-2.7 Document complaints, given a reported situation or condition, so that complaint information is recorded and the appropriate process is initiated.

3-2.8 Maintain files, given inspection reports, complaint investigations, and related documents, so that information can be easily retrieved and is filed in compliance with the recordkeeping policies of the organization.

3-2.8.1 *Prerequisite Knowledge:* Legal requirements for record retention, freedom of information requests, community right-to-know.

3-2.9 Identify the applicable code or standard, given a fire protection related issue, so that the proper document, edition, and section are referenced.

3-3 Field Inspection.

3-3.1 Description of Duty for Fire Inspector I. Tasks within this duty include fire safety inspections of new and existing structures and properties for construction, occupancy, fire protection, and exposures.

3-3.1.1 *Prerequisite Knowledge:* Inspection and enforcement procedures, legal and ethical authority and responsibilities.

3-3.2 Identify the occupancy classification of a single-use structure, given a description of the structure and its use, so that an accurate classification is made according to the applicable codes and standards.

3-3.2.1 *Prerequisite Knowledge:* Occupancy classification types; applicable codes and standards, regulations, operational features, and fire hazards presented by various occupancies.

3-3.3 Compute the allowable occupant load of a single-use building or portion thereof, given a detailed description of the building or portion of the building, so that the calculated allowable occupant load is established in accordance with applicable codes and standards.

3-3.3.1 *Prerequisite Knowledge:* Occupancy classifications, occupant load factors.

3-3.4* Inspect means of egress elements, given observations made during a field inspection of an existing building, so that means of egress elements are maintained in compliance with applicable codes and standards and all deficiencies are discovered, noted, and communicated in accordance with the policies of the agency represented.

3-3.4.1 *Prerequisite Knowledge:* Means of egress elements, maintenance requirements of egress elements, types of construction, occupancy egress requirements, and relationship of fixed fire protection systems to egress requirements.

3-3.5* Classify the type of construction for an addition or remodeling project, given field observations or a description of the project and the materials being used, so that the construction type is classified and recorded in accordance with the applicable codes and standards and the policies of the agency being represented.

3-3.5.1 *Prerequisite Knowledge:* Types of construction classification, rated construction components, typical building construction methods and materials.

3-3.6* Determine the operational readiness of existing automatic sprinkler, fire alarm, kitchen hood systems, and first-aid fire extinguishers, given test documentation and field observations, so that the system(s) or equipment is in an operational state, maintenance is documented, and all deficiencies are discovered, noted, and communicated in accordance with the policies of the agency being represented.

3-3.6.1 *Prerequisite Knowledge:* A basic understanding of portable fire extinguishers, fixed fire extinguishing systems, automatic fire sprinkler systems, standpipe and hose systems, water supply systems, automatic and manual fire alarm systems and devices.

3-3.7* Verify code compliance of common industrial/commercial processes and operations, given field observations, so that processes or operations are conducted and maintained in accordance with applicable codes and standards and all code violations are discovered, noted, and communicated in accordance with the policies of the agency being represented.

3-3.7.1 *Prerequisite Knowledge:* Principles of electricity, materials storage, welding and cutting, application of flammable finishes, dip tanks, dry cleaning, dust hazards, heating and cooking equipment.

3-3.8 Estimate the fire growth potential in a building or space, given field observations, so that the contents and construction elements can be evaluated for compliance with applicable codes and standards.

3-3.8.1 *Prerequisite Knowledge:* Flame spread and smoke ratings of contents, interior finishes, decorations, decorative materials, and furnishings; construction assemblies or devices; building construction components installed for fire-related purposes including but not limited to fire doors, fire stops, draft curtains, fire walls, smoke vents, chimneys, flues, and rated ceilings; classes of roof covering; test methods and markings or labeling; special building construction features including but not limited to projection booths, stages, proscenium openings, and flammable liquid storage rooms.

3-3.9* Verify that emergency planning and preparedness measures are in place and have been practiced, given field observations, copies of emergency plans and records of exercises, so that plans are prepared and exercises have been performed in accordance with applicable codes and standards and all deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

3-3.9.1 *Prerequisite Knowledge:* Identify the requirements relative to fire drills that are required within the jurisdiction. Identify how to conduct or evaluate, or both, fire drills in various occupancies and human behavior during fires and emergencies.

3-3.10 Verify emergency access for a site, given field observations, so that all access points are discovered and all deficiencies are identified and communicated in accordance with the policies of the agency being represented.

3-3.10.1 *Prerequisite Knowledge:* Emergency access and accessibility requirements.

3-3.11 Verify fire flows for a site, given fire flow test results and water supply data, so that required fire flows are in accordance with applicable codes and standards and all deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

3-3.11.1 *Prerequisite Knowledge:* Identify the types of water distribution systems and other water sources in the local community, water distribution system testing, and characteristics of public and private water supply systems.

3-3.11.2 *Prerequisite Skills:* Use of Pitot tube and gauges, calculation and graphing of fire flow results.

3-3.12 Verify code compliance for storage, handling, and use of flammable and combustible liquids, given field observations and inspection guidelines from the authority having jurisdiction, so that applicable codes and standards are addressed and all deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

3-3.12.1 *Prerequisite Knowledge:* Classification, properties, labeling, transportation, storage, handling, and use of flammable and combustible liquids.

3-3.13 Verify code compliance for the storage, handling, and use of hazardous substances or materials, given field observations and inspection guidelines from the authority having jurisdiction, so that applicable codes and standards for each hazardous substance or material encountered are properly addressed and all deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

3-3.13.1 *Prerequisite Knowledge:* Classification, properties, labeling, transportation, storage, handling, and use of fireworks and explosives; compressed and liquefied gases; flammable solids; toxic materials; oxidizers; radioactive materials; corrosive and other regulated materials.

3-3.14 Verify code compliance of heating, ventilation, and air conditioning and other building service equipment and operations, given field observations, so that the systems and other equipment are maintained in accordance with applicable codes and standards and all deficiencies are discovered, noted, and communicated in accordance with the policies of the agency being represented.

3-3.14.1 *Prerequisite Knowledge:* Types, installation, maintenance, and use of building service equipment; installation of kitchen cooking equipment, including hoods and ducts.

3-3.15 Compare an approved plan to an installed fire protection system, given approved plans and field observations, so that any changes or modifications to the system are identified, noted, and communicated in accordance with the policies of the agency being represented.

3-3.15.1 *Prerequisite Knowledge:* Fire protection symbols and terminology.

3-3.15.2 *Prerequisite Skills:* Ability to read and comprehend plans for fire protection systems.

3-4 Plans Review. No job performance requirements for Fire Inspector I.

Chapter 4 Fire Inspector II

4-1 General.

4-1.1 The Fire Inspector II shall meet the job performance requirements defined in Sections 4-2 through 4-4.

4-2 Administration.

4-2.1 Description of Duty for Fire Inspector II. Tasks within this duty include research, interpretation of codes, implementing policy, testifying at legal proceedings, and creating forms and job aids.

4-2.2 Develop written correspondence to communicate fire protection and prevention requirements, given a complex fire safety issue, so that the correspondence reflects research and accurate interpretation of applicable codes and standards.

4-2.2.1 *Prerequisite Skills:* Code-related research.

4-2.3 Issue permits, given a permit request or application, so that applicable codes and standards are met.

4-2.4 Create inspection checklists and forms, given applicable codes, standards, and departmental policies and procedures, so that the materials developed are clear and concise and key issues are addressed.

4-2.5 Recommend policies and procedures for conducting field inspections and plans review, given an issue or special need, so that the recommendations are clearly defined, concise, and address the particular issue or need.

4-2.6 Explain the application process for permit and plan review, given a specific request, so that the explanation is concise, appropriate for the intended audience, and consistent with the applicable policies and procedures of the agency being represented.

4-2.7 Testify at legal proceedings, given the findings of an inspection, a plan review, or a complaint, and consultation with legal counsel, so that all information is presented accurately and the inspector's demeanor is appropriate to the proceeding.

4-2.7.1 *Prerequisite Knowledge:* The legal requirements pertaining to evidence rules in the legal system, knowledge of types of legal proceedings.

4-2.7.2 *Prerequisite Skills:* Courtroom demeanor, communication and listening skills, ability to differentiate facts from opinions.

4-3 Field Inspection.

4-3.1 Description of Duty for Fire Inspector II. Tasks within this duty include code enforcement inspections and analyses of new and existing structures and properties for construction, occupancy, fire protection, and exposures.

4-3.2 Compute the occupant load of a multi-use building, given field observations or a description of its uses, so that the maximum occupant load calculation is accurate and in accordance with applicable codes and standards.

4-3.3 Identify the occupancy classification of a mixed-use building, given a description of the uses, so that each area is properly classified in accordance with applicable codes and standards.

4-3.4 Classify the type of construction in a building, given field observations or a description of the building's height, area, occupancy, and construction features, so that the construction type is properly classified according to applicable codes and standards.

4-3.4.1 *Prerequisite Knowledge:* Building construction with emphasis on fire-rated construction, evaluation of methods of construction and assemblies for fire rating, analysis of test results, and manufacturer's specifications.

4-3.5 Evaluate the operational readiness of all existing fire protection systems and equipment for a building or facility, given field observations and documentation of periodic testing and system specifications, so that it can be determined if the system(s) and equipment are in an operational state and maintained in accordance with applicable codes and standards and so that all deficiencies are discovered, noted, and communicated in accordance with the policies of the agency being represented.

4-3.5.1 *Prerequisite Knowledge:* Proper selection, distribution, location, and testing of portable fire extinguishers; methods used to evaluate the operational readiness of water supply systems used for fire protection; evaluation and testing of automatic sprinkler, water spray, and stand-pipe systems, and fire pumps; evaluation and testing of fixed fire suppression systems including CO₂, Halon, foam, and dry chemical; evaluation and testing of automatic fire detection and alarm systems and devices.

4-3.6 Evaluate an acceptance test for a new fire protection system, given an installed system, so that the system performance can be analyzed for compliance with applicable codes and standards and approval decisions made.

4-3.6.1 *Prerequisite Knowledge:* Acceptance test procedures.

4-3.6.2 *Prerequisite Skills:* Ability to supervise performance of acceptance tests.

4-3.7 Analyze the egress elements of a building or portion of a building, given observations made during a field inspection, so that means of egress elements are provided and located in accordance with applicable codes and standards and all deficiencies are discovered, noted, and com-

municated in accordance with the policies of the agency being represented.

4-3.7.1 *Prerequisite Knowledge:* Acceptable means of egress devices including but not limited to doors, hardware, and lights.

4-3.7.2 *Prerequisite Skills:* Calculation of egress requirements.

4-3.8* Evaluate code compliance of complex industrial/commercial processes and operations, given field observations, so that processes or operations are conducted and maintained in accordance with applicable codes and standards and all violations are discovered, noted, and communicated in accordance with the policies of the agency being represented.

4-3.8.1 *Prerequisite Knowledge:* Fire protection and safety requirements for heating and cooking equipment and industrial ovens and furnaces; handling and storage of flammable and combustible liquids, compressed and liquefied gases, and explosives, including fireworks.

4-3.9 Estimate the fire growth potential of the furnishings and decorative materials used in a building or portion of a building, given field observations, a description of the building, and the decorative materials and furnishings used, so that accurate fire growth potential is used in the evaluation of the fire protection provided within the building.

4-3.9.1 *Prerequisite Knowledge:* Evaluation of test procedures and reports on flammability of decorations, decorative materials, and furnishings.

4-3.10 Evaluate emergency planning and preparedness procedures, given copies of existing or proposed plans and procedures, to determine their applicability to the facility and their compliance with codes and standards.

4-3.10.1 *Prerequisite Knowledge:* Occupancy requirements for emergency evacuation plans, fire safety programs for crowd control, roles of agencies and individuals in implementation and development of emergency evacuation plans, information sources for emergency evacuation plans.

4-3.11 Verify code compliance in processes or operations utilizing hazardous substances or materials, given field observations and inspection guidelines from the authority having jurisdiction, so that applicable codes and standards for each process or operation encountered are properly addressed and all deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

4-3.11.1 *Prerequisite Knowledge:* Processes and operations utilizing hazardous substances and materials.

4-3.12 Verify code compliance in processes or operations utilizing flammable and combustible liquids, given field observations and inspection guidelines from the authority having jurisdiction, so that applicable codes and standards for each process or operation encountered are properly addressed and all deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

4-3.12.1 Prerequisite Knowledge: Processes and operations utilizing flammable and combustible liquids.

4-4 Plans Review.

4-4.1 Description of Duty for Fire Inspector II. Tasks within this duty include the review and approval of plans and specifications that meet the intent of applicable codes and standards for fire and life safety and building construction and processes.

4-4.2 Classify the occupancy type, given a set of plans, specifications, and a description of a building, so that the classification is made according to applicable codes and standards.

4-4.3 Compute the occupant load, given a floor plan of a building or portion of the building, so that the calculated occupant load is in accordance with applicable codes and standards.

4-4.4 Verify code compliance, given shop drawings and system specifications for a process or operation, so that each system is reviewed for code compliance and all deficiencies are discovered and reported in accordance with the policies of the agency being represented.

4-4.4.1 Prerequisite Skills: Ability to read basic floor plan or shop drawings and identify symbols used by the jurisdiction.

4-4.5 Verify that egress elements are provided, given a floor plan of a building or portion of a building, so that all elements are identified, checked against applicable codes and standards, and any deficiencies are discovered and communicated in accordance with the policies of the agency being represented.

4-4.6 Suggest methods of compliance, given a set of deficiencies from a plan review, so that each suggested method is clearly stated and would rectify the related deficiency.

4-4.7 Categorize a building into a particular construction type, given a set of plans and specifications, so that the assigned construction type is based on the proposed area, height, number of stories, location of the building, and applicable codes and standards.

Chapter 5 Fire Inspector III

5-1 General. The Fire Inspector III shall meet the job performance requirements defined in Sections 5-2 through 5-4.

5-2 Administration.

5-2.1 Description of Duty for the Fire Inspector III. Tasks for this duty include recommendation, creation, and evaluation of policies and procedures for fire safety inspections and code enforcement activities.

5-2.2 Generate correspondence related to the issuance of appeals and variances, given a request for a variance or an appeal, so that the resulting document clearly addresses the issue.

5-2.2.1 Prerequisite Knowledge: The established procedure for modification and upgrade of applicable codes and standards, the judicial review process, and the established appeals procedure for the jurisdiction.

5-2.3 Facilitate code adoption and modification processes, given fire loss data and a demonstrated need or deficiency, so that the code is properly written and precisely addresses the identified need or deficiency.

5-2.3.1 Prerequisite Knowledge: The development and adoption process for fire safety legislation or regulations.

5-2.3.2 Prerequisite Skills: The ability to compose legally adoptable language.

5-2.4 Assess the impact of proposed codes, ordinances, and other legislation, given draft documents, so that the impact of the proposal on fire safety and code enforcement activities is documented.

5-2.4.1 Prerequisite Knowledge: The process for the development of codes and standards at the local, state/provincial, and national level; sources that can provide information and technical assistance in the development of fire safety legislation.

5-2.5 Develop policies and procedures for the administration of inspection functions, given management objectives, so that the policies are clearly defined and concise and in accordance with the legal obligations of the jurisdiction.

5-2.5.1 Prerequisite Knowledge: Legal precedence and the various systems of government that affect the performance of the fire inspector's duties.

5-2.6 Suggest technical reference material acquisition, given a scope of responsibility, budget limitations, and specific code-related issues, so that resources matching specific needs are acquired within budget limitations.

5-2.6.1 Prerequisite Knowledge: Types and sources of publications, including approval and listings guides, codes and standards, and technical references.

5-2.7 Enforce permit regulations, given a report of a violation and appropriate regulations, so that revocation decisions are in accordance with the policies of the agency represented and applicable codes and standards.

5-2.8 Initiate legal action related to a fire code violation, given a description of a violation and a legal opinion, so that the action taken is in accordance with the policies of the agency represented and due process of law is followed.

5-2.8.1 Prerequisite Knowledge: Legal procedure for fire code enforcement.

5-2.9 Recommend a program budget, given organizational goals, budget guidelines, and organizational needs, so that overall program needs are addressed within budget guidelines.

5-3 Field Inspection.

5-3.1 Description of Duty for the Fire Inspector III. Tasks within this duty include analysis of code compliance alternatives; evaluation of construction, occupancy, fire protection, and exposures; and emergency planning.

5-3.2 Assess alternative methods to adjust occupant loads, given a description of an area, building, or portion of a building and its intended use, so that the permitted occupant load is in accordance with applicable codes and standards.

5-3.3 Evaluate corrective measures, given a list of means of egress deficiencies in a building and the proposed correction, so that each deficiency and its proposed correction are evaluated for compliance with applicable codes and standards, and noncompliant corrections are identified and reported in accordance with the policies of the agency being represented.

5-3.4 Evaluate fire protection systems and equipment provided for the protection of a building or facility, given field observations of the facility, the hazards protected, and the system specifications, so that the fire protection systems provided are appropriate for the hazard being protected and are installed in compliance with applicable codes and standards, and all discrepancies are discovered and communicated in accordance with the policies of the agency being represented.

5-3.5 Evaluate the construction type required for an addition or remodeling project, given a description of the building and its use, so that the construction type is evaluated based on applicable codes and standards and discrepancies are discovered and communicated in accordance with the policies of the agency being represented.

5-3.6 Evaluate alternative protection measures, given deficiencies noted during a field inspection of a facility at the time a process or operation was being conducted, so that the process or operation is provided with a level of protection that is in compliance with applicable codes and standards.

5-3.7 Evaluate fire protection plans and practices, given a field report describing a facility housing a complex process or operation, so that the fire growth potential for all areas is determined, the level of protection is appropriate to the hazard, and applicable codes and standards are met.

5-3.8 Recommend criteria for the development of emergency planning and procedures, given a description of a building and its use, so that plans and procedures are in compliance with applicable codes and standards.

5-3.9 Evaluate alternative methods for compliance with applicable codes and standards, given a field inspection of a process or operation involving the storage, handling, and use of hazardous materials and substances, so that all deficiencies are noted and addressed, and the operation is protected to a level that is in compliance with applicable codes and standards.

5-3.10 Evaluate alternative methods for compliance with applicable codes and standards, given a field inspection of a process or operation involving the storage, handling, and use of flammable and combustible liquids, so that all deficiencies are noted and addressed, and the operation is protected to a level that is in compliance with applicable codes and standards.

5-4 Plans Review.

5-4.1 Description of Duty for Fire Inspector III. Tasks within this duty include the analysis and approval of plans

and specifications that meet the intent of applicable codes and standards for fire protection systems and equipment, site plans, and construction features for complex occupancies.

5-4.2 Analyze all fire protection systems and equipment provided, given a set of plans and specifications and a description of the facilities' intended use, so that each system and all equipment provided are reviewed, based on applicable codes and standards, and all discrepancies or variations are discovered and communicated in accordance with the policies of the agency being represented.

5-4.3 Analyze the construction and fire protection elements, given a set of plans and specifications for a complex building or facility, so that the protection provided for the facility is in accordance with applicable codes and standards, and all discrepancies are discovered and communicated in accordance with the policies of the agency being represented.

5-4.4 Evaluate a proposed site, given a site plan and fire flow test results, so that emergency access to the site and required fire flows are provided as required by applicable codes and standards, and all discrepancies are discovered and communicated in accordance with the policies of the agency being represented.

Chapter 6 Referenced Publications

6-1 The following documents or portions thereof are referenced within this standard and shall be considered part of the requirements of this document. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

6-1.1 NFPA Publication. 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*, 1992 edition.

Appendix A Explanatory Material

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

A-1-2 Management responsibilities should be addressed by the agency or organization that the inspector represents. For fire service organizations, NFPA 1021, *Standard for Fire Officer Professional Qualifications*, should be used for guidance. For civilian inspectors, the authority having jurisdiction should define the agency requirements for progression to positions of management responsibility.

A-1-3.1 To train and work as a fire inspector, the committee has determined that the candidate must possess, at a minimum, basic knowledge of the characteristics and behavior of fire (including basic fire cause determination) and fire prevention principles, and skill in written and oral communication, public relations, and basic mathematics (whole numbers; fractions and decimals; percentages, averages, and estimations; algebraic equations; powers and

roots; ratios and proportions; linear surface and volume measurements). Evidence of this knowledge could be attendance at training sessions provided by the agency, certificates of training, and documentation of high school or college coursework. It is not the intent of the committee to require college-level coursework as part of this requirement. The authority having jurisdiction should determine the type of evidence and specific levels of preparation for inspectors it employs.

A-1-3.4 It is recommended that evaluators be individuals who were not directly involved as instructors for the requirement being evaluated.

A-1-3.8 The intent of the committee is that individuals at the Fire Inspector III level should assist in the training and education of inspectors at lower levels.

A-1-3.9 It is recommended that the following equipment be provided to the fire inspector to accomplish assigned duties: flashlight, drafting tools (scale, rulers, compass, graph paper, etc.), tape measure (50 ft), calculator, small mirror, clipboard, photography equipment, Pitot tube, and pressure gauges. Personal protective clothing, such as hard hats, eye protection, boots, coveralls, etc., as defined in Chapter 2, should be available as necessary.

A-1-3.10 In order for inspectors to perform their jobs or be evaluated on their performances of the job requirements of this standard, basic resource materials must be available for reference. These materials include those codes and standards applicable to that jurisdiction where the inspector is working or being evaluated. Policies and procedures that define and regulate the inspector's job must also be provided. This is of particular importance where inspectors are being evaluated by an agency other than their employer. It is the intent of this standard to measure the inspector's ability to use fire codes and standards within the guidelines set by the policies and procedures of a jurisdiction. These skills should be readily transferable, regardless of the specific codes or standards or the editions being used.

A-2 The action verbs used in describing the job performance requirements in this document are based on the first definition of the verb found in *Webster's Third New International Dictionary of the English Language*.

A-3-1 The intent of the committee is that individuals at the Fire Inspector I level perform basic fire safety inspections. Individuals at this level may include fire fighters who are normally assigned to fire suppression or other individuals whose primary job responsibilities are not fire inspection.

A-3-3.4 Examples of means of egress elements include exit access, exit enclosures, exit discharges, exit travel distances, arrangement, capacity, stairways, ramps, doors, hardware, exit markings, and illumination.

A-3-3.5 A building description includes height and area dimensions, construction type, and construction materials.

A-3-3.6 To meet this requirement, the Fire Inspector I is required to simply verify that valves are open and secured, control panels are on with no trouble indications, and fire extinguishers or systems are sealed, with proper gauge readings. Documentation of maintenance would include

inspection tags and records of alarm system and device tests and sprinkler or standpipe main drain tests, etc.

A-3-3.7 The Fire Inspector I is expected to have knowledge of processes and operations that include spray painting and flammable and combustible liquids storage, dispensing, and use.

A-3-3.9 Emergency planning and preparation includes fire drills, announcements, evacuation plans, fire department access, response personnel, and standby personnel.

A-4-3.8 The Fire Inspector II is expected to have knowledge of processes and operations that include milling and the manufacture, storage, and use of chemicals and explosives.

Appendix B Referenced Publications

B-1 The following documents or portions thereof are for informational purposes only and thus are not considered part of the requirements of this document. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

B-2 The publications listed in this appendix are referenced to the specific job performance requirement or associated prerequisite knowledge or skill.

B-2.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 1, *Fire Prevention Code*, 1992 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 1990 edition.

NFPA 11, *Standard for Low Expansion Foam and Combined Agent Systems*, 1988 edition.

NFPA 11A, *Standard for Medium- and High-Expansion Foam Systems*, 1988 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 1993 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 1992 edition.

NFPA 12B, *Standard on Halon 1211 Fire Extinguishing Systems*, 1990 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 1991 edition.

NFPA 13A, *Recommended Practice for the Inspection, Testing and Maintenance of Sprinkler Systems*, 1987 edition.

NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Mobile Homes*, 1991 edition.

NFPA 13R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height*, 1991 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 1993 edition.

NFPA 16, *Standard on the Installation of Deluge Foam-Water Sprinkler and Foam-Water Spray Systems*, 1991 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 1990 edition.

NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 1990 edition.

NFPA 20, *Standard for the Installation of Centrifugal Fire Pumps*, 1993 edition.

NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, 1992 edition.

NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products*, 1990 edition.

NFPA 33, *Standard for Spray Application Using Flammable and Combustible Materials*, 1989 edition.

NFPA 34, *Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids*, 1989 edition.

NFPA 35, *Standard for the Manufacture of Organic Coatings*, 1987 edition.

NFPA 40E, *Code for the Storage of Pyroxylin Plastic*, 1993 edition.

NFPA 43A, *Code for the Storage of Liquid and Solid Oxidizers*, 1990 edition.

NFPA 43B, *Code for the Storage of Organic Peroxide Formulations*, 1993 edition.

NFPA 43D, *Code for Storage of Pesticides in Portable Containers*, 1986 edition.

NFPA 50, *Standard for Bulk Oxygen Systems at Consumer Sites*, 1990 edition.

NFPA 50A, *Standard for Gaseous Hydrogen Systems at Consumer Sites*, 1989 edition.

NFPA 50B, *Standard for Liquefied Hydrogen Systems at Consumer Sites*, 1989 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 1992 edition.

NFPA 51A, *Standard for Acetylene Cylinder Charging Plants*, 1989 edition.

NFPA 51B, *Standard for Fire Prevention in Use of Cutting and Welding Processes*, 1989 edition.

NFPA 54, *National Fuel Gas Code*, 1992 edition.

NFPA 55, *Standard for the Storage, Use, and Handling of Compressed and Liquefied Gases in Portable Cylinders*, 1993 edition.

NFPA 72, *National Fire Alarm Code*, 1993 edition.

NFPA 88A, *Standard for Parking Structures*, 1991 edition.

NFPA 88B, *Standard for Repair Garages*, 1991 edition.

NFPA 101, *Life Safety Code*, 1991 edition.

NFPA 231, *Standard for General Storage*, 1990 edition.

NFPA 231C, *Standard for Rack Storage of Materials*, 1991 edition.

NFPA 231D, *Standard for Storage of Rubber Tires*, 1989 edition.

NFPA 231E, *Recommended Practice for the Storage of Baled Cotton*, 1989 edition.

NFPA 231F, *Standard for the Storage of Roll Paper*, 1987 edition.

NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, 1993 edition.

NFPA 1021, *Standard for Fire Officer Professional Qualifications*, 1992 edition.

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

NFPA 1963, *Standard for Screw Threads and Gaskets for Fire Hose Connections*, 1993 edition.

Appendix C

This Appendix is not a part of the requirements of this NFPA document, but is included for information purposes only.

Explanation of the Standards and Concepts of 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 qualification standards identify the minimum job performance requirements for specific fire service positions. The standards may 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 qualification standards for a specific job are organized by major areas of responsibility defined as duties. For example, the fire fighter's duties may include fire suppression, rescue, and water supply; and the Public Fire Educator's duties may include education, planning and development, and administration. Duties are major functional areas of responsibility within a job.

The professional qualification standards are written as job performance requirements (JPRs). Job performance requirements 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 professional qualification standard as a whole is a job description.

Breaking Down the Components of a Job Performance Requirement

The job performance requirement is the assembly of three critical components. These components are as follows:

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

Example

| | |
|--|--|
| (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. |

The task to be performed: The first component is a concise statement of what the person is supposed to do.

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.

Evaluation parameters and/or performance outcomes: This component defines how well one must perform each task—for both the performer and evaluator. The JPR guides 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 prerequisite knowledge and skills. Just as the term prerequisite suggests, these are the necessary knowledge and skills one must have prior to being able to perform the task. Prerequisite knowledge and skills are the foundation for task performance.

Once the components and prerequisites are put together, the JPR might read as follows:

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.

Prerequisite 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.

Prerequisite Skills: 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.

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.

Prerequisite Knowledge: Knowledge of fire development and the interrelationship of heat release rate, form, and ignitability of materials.

Prerequisite Skill: Interpret the effects of burning characteristics on different types of materials.

Examples of Potential Uses

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 verifies the attainment of prerequisite knowledge and skills prior to JPR evaluation. This might be through documentation review or testing.

Next, the candidate is evaluated on completing the JPRs. The candidate performs the task and is *evaluated* based on the evaluation parameters and/or performance outcomes. 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: Psychomotor skills are those physical skills that can be demonstrated or observed. Cognitive skills (or mental skills) cannot be observed, but rather are evaluated on how one completes the task (process oriented) or on the task outcome (product oriented).

Using Example 1, a practical performance-based evaluation would measure the ability to “*ventilate a pitched roof*.” The candidate passes this particular evaluation if the standard was met, i.e., 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 JPRs evaluation parameters.

Remember, when evaluating performance, candidates must be given the tools, equipment, or materials listed in the JPR before they can be properly evaluated, e.g., an ax, a pike pole, an extension ladder, and a roof ladder.

Curriculum Development/Training Design and Evaluation:

The statements contained in this document that refer to job performance were designed and written as job performance requirements. While a resemblance to instructional objectives may be present, these statements should not be used in a teaching situation until after they have been modified for instructional use.

Job performance requirements 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 job performance requirement 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 C-1*.)

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

The candidate 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 JPR.)

Converting JPRs into Instructional Objectives

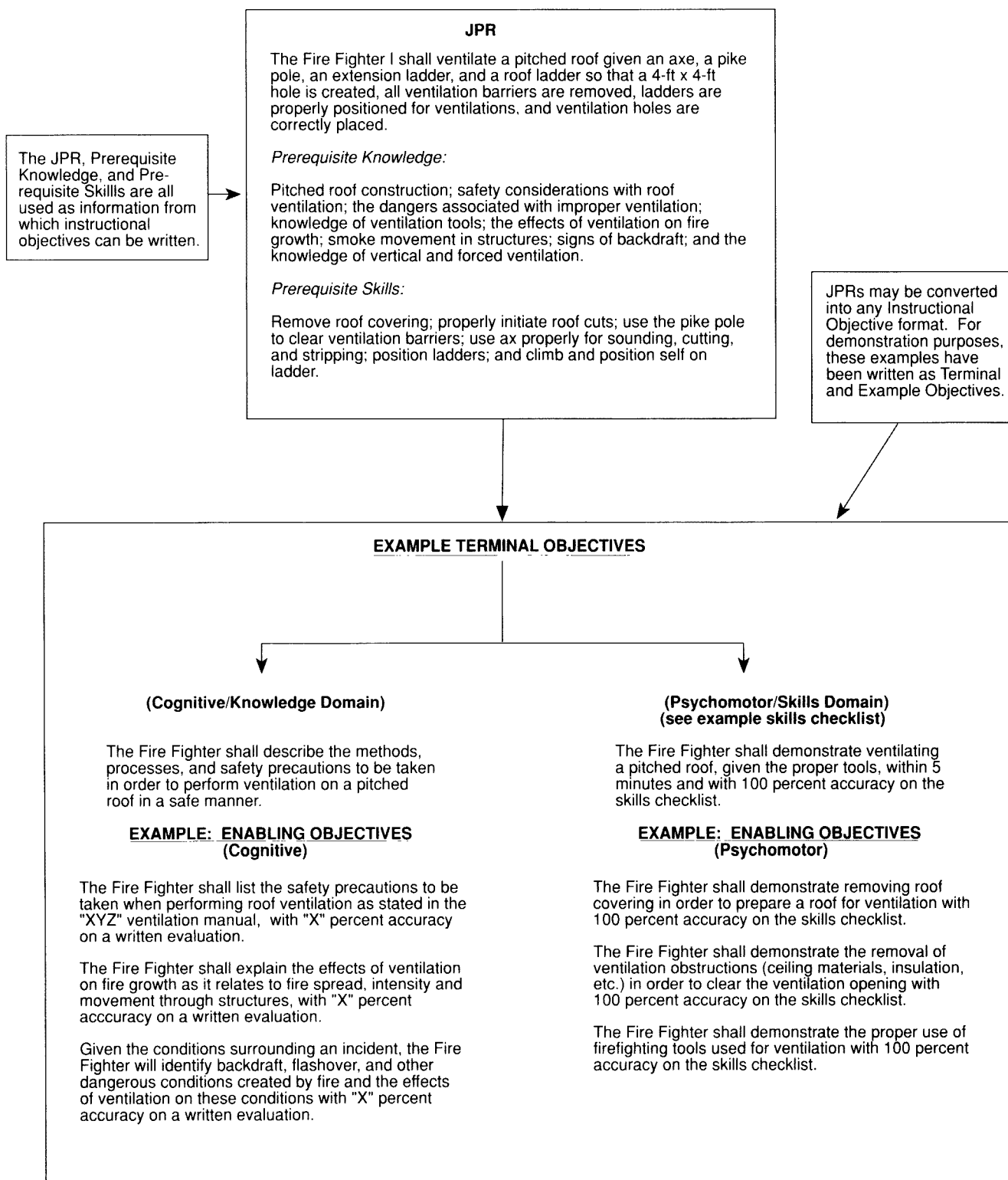


Figure C-1 Converting JPRs into instructional objectives.

Skills Checklist (Roof Ventilation)

OBJECTIVE: The Fire Fighter shall demonstrate ventilating a pitched roof, given the proper tools, within 5 minutes and with 100 percent accuracy on the skills checklist.

YES NO

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. 4-ft x 4-ft hole was created. |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. All ventilation barriers were removed. |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Ladders were properly positioned. |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Ventilation holes were correctly placed (directly over fire, highest point, etc.). |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Task completed within 5 minutes. (Time to complete task: _____). |

Figure C-2 Skills checklist.

Figure C-2 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.

Prerequisite skills and knowledge should be converted into enabling objectives. These help to define the course content. The course content should include each of the prerequisite knowledge and skills. Using Figure C-2, the enabling objectives are pitched roof construction, safety considerations with roof ventilation, remove roof covering, properly initiate roof cuts, etc. These ensure that the course content supports the terminal objective.

NOTE: It is assumed that the reader is familiar with curriculum development or training design and evaluation.

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 these documents. Because they 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. Such areas might include:

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.

Establishing Hiring Criteria. Professional qualifications standards may be used in a number of ways to further the establishment of hiring criteria. The authority having jurisdiction might simply require certification at a specific job level, e.g., Fire Fighter I. The JPRs might 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 toward the minimal hiring criteria at local colleges.

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 prerequisite skills and knowledge can be used as a guide to determine additional training and education required for the employee to master the job or profession.

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 prerequisite knowledge and skills could then be used to develop an educational path to aid in the individual's advancement within the organization or profession.

Establishing Organizational Policies, Procedures, and Goals. The JPRs can be incorporated into organizational policies, procedures, and goals where employee performance is addressed.

Bibliography

- Boyatzis, R. E. (1982). *The Competent Manager: A Model For Effective Performance*. New York: John Wiley & Sons.
- Castle, D. K. (1989). Management Design: A Competency Approach to Create Exemplar Performers. *Performance and Instruction*, 28, 42-48.
- Cetron, M., & O'Toole, T. (1983). *Encounters with the future: A forecast into the 21st century*. New York: McGraw Hill.
- Elkin, G. (1990). Competency-Based Human Resource Development: Making Sense of the Ideas. *Industrial & Commercial Training*, 22, 20-25.
- Furnham, A. (1990). The Question of Competency. *Personnel Management*, 22, 37.
- Gilley, J. W., & Egglund, S. A. (1989). *Principles of Human Resource Development*. Reading: Addison-Wesley.
- Hooton, J. (1990). *Job Performance = Tasks + Competency x Future Forces*. Unpublished manuscript, Vanderbilt University, Peabody College, Nashville, TN.

McLagan, P. A. (1989). Models for HRD Practice. *Training & Development Journal*. Reprinted.

McLagan, P. A., & Suhadolnik, D. (1989). *The Research Report*. Alexandria, VA: American Society for Training and Development.

Nadler, L. (1983, October). HRD on the Spaceship Earth. *Training and Development Journal*, pp. 19-22.

Nadler, L. (1984). *The Handbook of Human Resource Development*. New York: Wiley-Interscience.

Naisbitt, J. (Speaker) (1984). *Megatrends* (Cassette Recording No. 210). Chicago: Nightingale-Conant.

Spellman, B. P. (1987). Future Competencies of the Educational Public Relations Specialist (Doctoral dissertation, University of Houston, 1987). *Dissertation Abstracts International*, 49, 02A.

Springer, J. (1980). *Job Performance Standards and Measures*. A Series of Research Presentation and Discussions for the ASTD Second Annual Invitational Research Seminar, Savannah, Georgia (November 5-8, 1979). Madison, Wisconsin: American Society for Training and Development.

Tracey, W. R. (1984). *Designing Training and Development Systems*. New York: AMACOM.

Index

© 1993 National Fire Protection Association. All Rights Reserved.

The copyright in this index is separate and distinct from the copyright in the document which it indexes. The licensing provisions set forth for the document are not applicable to this index. This index may not be reproduced in whole or in part by any means without the express written permission of the National Fire Protection Association, Inc.

-A-

Access, emergency 3-3.10, 5-4.4
Addition or remodeling project 3-3.5, 5-3.5
Administrative skills
 Fire Inspector I 3-2
 Fire Inspector II 4-2
 Fire Inspector III 5-2
Air conditioning systems 3-3.14
Approved (definition) Chap. 2
Authority having jurisdiction
 Definition Chap. 2
 JPRs defined by 1-3.2
 Protective clothing and equipment provided by 1-3.9
Automatic sprinklers 3-3.6, 4-3.5.1, A-3-3.6

-B-

Budgets, preparation of 5-2.9
Building description A-3-3.5
Building service equipment/operations 3-3.14

-C-

Candidate (definition) Chap. 2
Codes
 Adoption and modification process 5-2.3 to 5-2.4
 Applicability of 3-2.9
 Compliance with 4-4.4; *see also* Flammable and combustible liquids code compliance; Hazardous materials code compliance; Industrial/commercial processes and operations
 Building service equipment/operations 3-3.14
 Enforcement 4-2.7, 5-2.7 to 5-2.8
 For reference use 1-3.10, A-1-3.10
Combustible liquids *see* Flammable and combustible liquids code compliance
Complaints, documentation of 3-2.7
Compressed gases 4-3.8.1
Construction documents (definition) Chap. 2
Construction types
 Addition or remodeling project 3-3.5, 5-3.5
 Analysis of 5-4.3
 Categorization of plans 4-4.7
 Classification of buildings 4-3.4, A-3-3.5
Correspondence, written 3-2.2, 4-2.2, 5-2.2

-D-

Definitions Chap. 2, A-2

-E-

Egress, means of *see* Means of egress
Emergency planning/preparedness
 Development of 5-3.8
 Evaluation of 4-3.10
 Verification of 3-3.9, A-3-3.9
Enforcement of permit regulations 5-2.7
Equipment, fire inspection 1-3.9, A-1-3.9
Evaluation
 Of access 5-4.4
 Of code compliance 4-3.8, 5-3.9, 5-3.10
 Of construction types 5-3.5
 Of emergency planning/preparedness 4-3.10
 Of fire protection systems 4-3.5 to 4-3.6, 5-3.4, 5-3.6 to 5-3.7
 Of job performance requirements 1-3.4, A-1-3.4
 Of means of egress 5-3.3
Explosives 4-3.8.1

-F-

Field inspection skills
 Fire Inspector I 3-3
 Fire Inspector II 4-3
 Fire Inspector III 5-3
Field inspections
 Checklists and forms 4-2.4
 Policies and procedures 4-2.5, 5-2.5
 Reports 3-2.2
 Scheduling 3-2.6
Files, maintenance of 3-2.8
Fire alarms 3-3.6, A-3-3.6
Fire drills 3-3.9.1
Fire extinguishers 3-3.6, 4-3.5.1, A-3-3.6
Fire flows 3-3.11, 5-4.4
Fire growth potential
 Decorative materials and furnishings 4-3.9
 Definition Chap. 2
 Determination of 3-3.8, 5-3.7
Fire Inspector I
 Administrative skills 3-2
 Certification requirements 1-3.5, 3-1, A-3-1
 Definition Chap. 2
 Duties of 3-3.1, A-3-1
 Field inspection skills 3-3
 Plan review skills 3-2.5, 3-3.15
 Prerequisite training 1-3.1, A-1-3.1