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NFPA 1031 Professional Qualifications for Fire Inspector 1987 Edition

National Fire Protection Association Batterymarch Park, Quincy, MA 02269

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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.

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.

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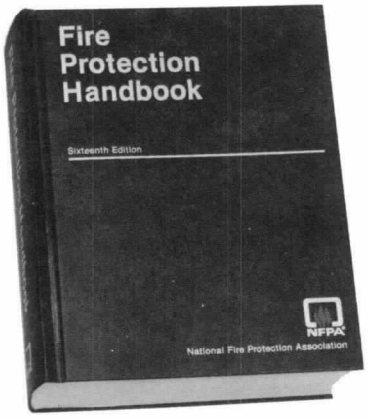

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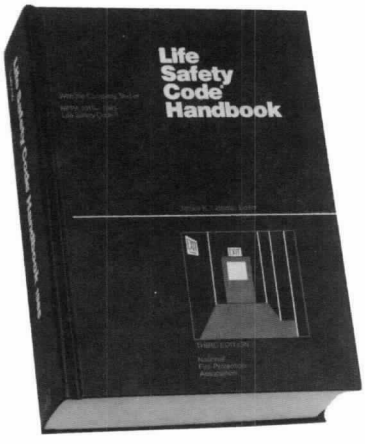

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National Professional Qualifications System

established by the

Joint Council of National Fire Service Organizations

Constituent Members of the
Joint Council of National Fire Service Organizations

Fire Marshals Association of North America
International Association of Arson Investigators
International Association of Black Professional Fire Fighters
International Association of Fire Chiefs
International Association of Fire Fighters
International Fire Service Training Association
International Municipal Signal Association
International Society of Fire Service Instructors
Metropolitan Committee of International Association of Fire Chiefs
National Fire Protection Association
National Volunteer Fire Council

The Joint Council of National Fire Service Organizations consists of leaders of the principal national organizations representing the Fire Service of the United States. It meets periodically to review current developments and to establish areas of common interest where cooperative efforts of member organizations can be used for maximum results.

An important step in the establishment of national standards of professional competence for the fire service was taken by the Joint Council on October 25, 1972.

The Council decided that one area of common interest in which national collective action was desirable was in the establishment of standards upon which the levels of competency within the fire service could be determined.

A committee of the Council was delegated the responsibility of preparing an acceptable system for the development of the standards. Following several months of work, during which the suggestions of constituent organizations were incorporated, the Committee submitted the final proposal to the Joint Council and the following system was approved and established:

1. Committees to develop standards of professional competency, made up of peer group representation; and
2. An independent Board to oversee and validate standards developed and the implementation of such standards in a nationally coordinated continuing professional development program for the fire service.

The Secretariat for Committees and Board is to be provided by the staff of the National Fire Protection Association.

1. Fire Service Professional Standards Development Committees

There are four committees, each of which is made up of representatives of organizations which are constituent members of the Joint Council and certain other persons nominated by the Joint Council, collectively.

The four committees are respectively responsible for the development and preparation of recommended minimum standards of professional competence required of:

1. Fire Fighters
2. Fire Inspectors and Investigators
3. Fire Service Instructors
4. Fire Service Officers.

Each committee is established and operated under NFPA standards-making procedures with one important variation, which is that no draft standard shall be submitted to NFPA for final adoption until it has been approved by the National Professional Qualifications Board for the Fire Service.

Standards are prepared for use after final adoption as a basis for nationally standardized examinations by authorized agencies and the standards are available for adoption by federal, state and local authorities.

Committees do not determine, or become involved in, actual certification procedures or the direct implementation of the standards; they do assist implementing agencies by a continuing review and revision of the standards.

The authorized representation on each committee is as follows:

1. Fire Fighter Qualifications Committee

International Association of Fire Chiefs
International Association of Fire Fighters
International Association of Black Professional Fire Fighters
International Fire Service Training Association
International Society of Fire Service Instructors
National Fire Protection Association
Joint Council of National Fire Service Organizations

2. Fire Inspector and Investigator Qualifications Committee

Fire Marshals Association of North America
International Association of Arson Investigators
International Association of Fire Chiefs
International Association of Fire Fighters
National Fire Protection Association
Joint Council of National Fire Service Organizations

3. Fire Service Instructor Qualifications Committee

International Association of Fire Chiefs
International Association of Fire Fighters
International Fire Service Training Association
International Society of Fire Service Instructors
National Fire Protection Association
Joint Council of National Fire Service Organizations

4. Fire Service Officer Qualifications Committee

Fire Marshals Association of North America
International Association of Fire Chiefs
International Association of Fire Fighters
International Association of Black Professional Fire Fighters
International Society of Fire Service Instructors
Metropolitan Committee of the International Association of Fire Chiefs
National Fire Protection Association
Joint Council of National Fire Service Organizations

2. National Professional Qualifications Board for the Fire Service

A nine-person Board appointed by the Joint Council to act on behalf of the Council in the following duties and responsibilities:

(i) The Board is constituted to supervise a nationally coordinated continuing professional development program for the Fire Service.

(ii) The Board shall be responsive to the needs and opinions of all groups involved with the Fire Service and of others, including individuals who have related interests.

(iii) It shall identify and define levels of professional progression.

(iv) It shall correlate, review and validate draft standards prepared by the Technical Committees established to produce professional standards for each level of fire service responsibility.

(v) It shall approve all draft standards before such are submitted for final adoption procedures.

(vi) It shall be responsible for the accreditation and supervision of any national programs of certification and shall coordinate with implementing agencies to ensure validity and reliability of the evaluation criteria used in connection with such programs.

CURRENT COMPOSITION OF THE BOARD

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Duane Pell
International Association of Fire Fighters
11036 North 28 Drive # 111
Phoenix, AZ 85029

STATEMENT BY THE BOARD AS TO THE APPLICABILITY OF STANDARDS DEVELOPED UNDER THE SYSTEM

Application to Existing Positions

It is not the intent of the Board that these standards shall have the effect of rendering invalid any rank, qualification and appointment acquired prior to the adoption of this standard.

Upon adoption of any standard, the authority having jurisdiction shall classify its existing ranks, qualifications, and appointments to determine equivalency with an appropriate level of the standard.

An incumbent of a position established prior to adoption of a standard shall be considered qualified and eligible for future progression in accordance with the standards.

Existing Systems

Those existing systems of qualifications which meet or exceed these minimum standards should continue in force.

It is the intent, however, that existing systems of qualifications that fail to meet these standards be discontinued after adoption of the standard, so that all persons acquiring qualification thereafter do so in accordance with this standard.

The Board recognizes that, at present, wide variations exist in the standards of competence required of members of the fire service; and, that due to geographic considerations and the differing requirements of the many organizations providing fire protection, higher levels of competence than those provided in the standards produced under the National System may be desirable in certain areas.

The Board considers it essential that all members of the fire service eventually achieve the minimum standards.

Performance Objectives

The Board directed all committees to develop standards in terms of terminal performance objectives, which are considered the *minimum* necessary for a person to be considered competent to engage in providing fire service at the respective level and in the role specified by the standard, no matter where that person is serving.

In this connection, it is pointed out that the statement of performance objectives contained in the standards is not a training program outline. A number of instructional steps are required for mastery of an objective. Teaching outlines will be more detailed and extensive, as a single objective can require many hours of instruction and may interrelate to instruction for other objectives.

The Standards

The standards are designed so that any member of the fire service can achieve the level required by various means; these include participation in state and local training programs, self-study, attendance at colleges offering suitable courses, and by combinations of these means.

The standards are the first step; there must also be a controlled testing procedure by which personnel can be officially certified when they have demonstrated their competency. The Board stresses that such testing procedures are essential to a meaningful program of professionalism and, accordingly, is prepared, in conformance with the directions of the Joint Council of National Fire Service Organizations, to review the validity and quality of testing procedures established by state and local authorities, and to accredit such procedures.

The Board strongly recommends that certification procedures be established on a statewide basis in every state where no such system exists at present, and that every fire department participate in the program.

The establishment of standards and testing procedures will not, in themselves, ensure that all personnel will achieve the required levels of competency. It follows that training programs should be developed to prepare members of the fire service to acquire the skills and knowledge necessary to achieve the terminal performance objectives of the standards.

Throughout the standards, levels of numerical ascending sequence have been used to denote increasing degrees of responsibility: e.g., Fire Inspector I, II, III, the lowest or basic level being I. A similar sequence will be used in each standard; the total number of levels varying in accordance with the number of steps involved in the individual standard.

Approval of Standard

This version of NFPA 1031, *Standard for Professional Qualifications for Fire Inspector,* was approved by the National Professional Qualifications Board for the Fire Service in February, 1987, with the recommendation that it be submitted for adoption at the NFPA Annual Meeting to be held in Cincinnati, Ohio in May, 1987.

(The foregoing is not part of the standard.)

NFPA 1031

Standard for

Professional Qualifications for Fire Inspector

1987 Edition

This edition of NFPA 1031, *Standard for Professional Qualifications for Fire Inspector*, was prepared by the Technical Committee on Fire Inspector and Investigator Professional Qualifications, and acted on by the National Fire Protection Association, Inc. at its Annual Meeting held May 18-21, 1987 in Cincinnati, Ohio. It was issued by the Standards Council on June 10, 1987, with an effective date of June 30, 1987, and supersedes all previous editions.

The 1987 edition of this standard has been approved by the American National Standards Institute.

Origin and Development of NFPA 1031

On December 14, 1972, the National Professional Qualifications Board for the Fire Service directed the chairmen of four technical committees to develop minimum professional qualifications for each of the following areas: fire fighter, fire officer, fire inspector and investigator, and fire service instructor.

In compliance with this directive, the Technical Committee on Fire Service Professional Standards Development for Fire Inspector and Investigator Qualifications met in many general and subcommittee sessions from 1973 through 1977. Much material was reviewed and many drafts developed. The Committee in its deliberations developed a position that fire prevention education, which was normally conducted by fire inspection or fire marshal personnel, had sufficient need for special or additional qualifications so that a third category of professional competence was developed in addition to the two of fire inspector and fire investigator.

In 1985, the Committee was asked by the Joint Council of Fire Service Organizations and the National Professional Qualifications Board to determine if NFPA 1031, which covered professional qualifications for Fire Inspector, Fire Investigator, and Public Fire Education Officer, could be modified to allow entry into these professional classifications by individuals who may not have been certified as a Fire Fighter III. The Committee, after careful evaluation, felt that the development of separate standards with the possibility of certification of individuals outside the traditional fire service system was justified. The Committee established three Subcommittees made up of specialists from the three career classifications. The Subcommittee met and developed proposals which were then submitted to the full Committee. The Committee feels that NFPA 1031, *Professional Qualifications for Fire Inspector*, represents an effective document that will provide organizations both within and outside the traditional fire service a system to ensure the competency of fire inspectors.

This edition of NFPA 1031 was submitted to the National Professional Qualifications Board and approved by them in February 1987. It was then presented to and approved by the NFPA membership at its Annual Meeting in Cincinnati, Ohio, in May, 1987.

Technical Committee on

Fire Inspector and Investigator

Professional Qualifications

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Nashville, TN
Rep. Fire Marshals Assn. of North America

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At Large Rep.
Charles H. Donaldson, Int'l. Fire Service Training Assn.
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Douglas P. Forsman, Champaign Fire Dept., IL
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Kay F. Marano, Int'l. Society of Fire Service Instructors
Robert E. May, Int'l. Assn. of Arson Investigators
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Rep. NFPA

Alternates

Stephen P. Austin, State Farm Fire & Casualty Co.
(Alternate to R. E. May)
Jimmie Leon Badgett, Dallas County, Texas
(Alternate to K. Marano)
Olin L. Greene, Office of State Fire Marshal
(Alternate to D. Turlington)
William Peterson, Plano Fire Dept, TX
(Alternate to D. Forsman)
William R. Rucinski, Fire Marshal Div., Dept. of State Police
(Alternate to H. Boyd)
Myrle K. Wise, Denver Fire Dept.
(Alternate to IAFC Rep.)

Gary O. Tokle, 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.

Contents

NFPA 1031

Standard for

Professional Qualifications

for Fire Inspector

1987 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.

Chapter 1 Administration

1-1* Scope. This standard identifies the professional levels of competence required for fire inspectors. It specifically covers the requirements for knowledge and the progression through levels of competency.

1-2* Purpose. The purpose of this standard is to specify in terms of performance objectives the minimum requirements of professional competence required for service as a fire inspector. It is not the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements. This standard shall cover the requirements for three levels of progression for fire inspector (Fire Inspector I, II, and III) and the prerequisites for Fire Inspector I. It is not the intent of this standard to require that a jurisdiction establish separate positions or employ separate people for related job classifications such as Fire Investigator and Fire Education Officer.

1-3 General.

1-3.1* The standards for each level of professional competence shall be completed in accordance with recognized practices and procedures or as defined by law or the authority having jurisdiction.

1-3.2 It is not required that the objectives be mastered in the order in which they appear. The local or state training authority shall establish the instructional priorities and the training program content to prepare individuals to meet the performance objectives of this standard.

1-3.3 Fire Inspector.

1-3.3.1 The candidate shall meet all the objectives specified in Chapter 3 for Fire Inspector I before being certified as a Fire Inspector I.

1-3.3.2 The Fire Inspector I shall meet all the objectives specified in Chapter 4 for Fire Inspector II before being certified as a Fire Inspector II.

1-3.3.3 The Fire Inspector II shall meet all the objectives specified in Chapter 5 for Fire Inspector III before being certified as a Fire Inspector III.

1-3.4 The performance standards for each level of progression shall be met in their entirety before certification at that level.

1-3.5 Candidates and applicants for Fire Inspector I, II, or III shall meet the physical requirements established by the authority having jurisdiction for the position classification involved.

1-3.6* The Fire Inspector I shall be at least 18 years of age.

1-3.7* There shall be a thorough investigation and evaluation of the candidate's character before the candidate is accepted.

1-3.8 The Fire Inspector I shall demonstrate a knowledge of occupationally related personal safety practices and procedures.

Chapter 2 Definitions

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."

BLEVE. Boiling Liquid Expanding Vapor Explosion.

Candidate. The individual who has made application to become a Fire Inspector I, II, or III but as yet has not achieved compliance with the specified objectives for those levels of certification.

Code Requirements(s). The statement in a law, or-

dinance, or legally adopted reference that mandates or guides a particular action or procedure or restricts a particular action or procedure.

Define. To supply a description (orally or in writing) that gives the precise meaning of essential qualities.

Demonstrate. To perform a set of procedures with or without a verbal explanation.

Fire Department. The agency that provides fire suppression and other fire-related services.

Fire Hazard. Any situation, process, material, or condition that, on the basis of applicable data, may cause a fire or explosion or provide a ready fuel supply to augment the spread or intensity of the fire or explosion, posing a threat to life or property.

Fire Inspector I. The individual who has demonstrated the knowledge and ability to perform the objectives specified in this standard for the Fire Inspector I level.

Fire Inspector II. The Fire Inspector I who has demonstrated the knowledge and ability to perform the objectives specified in this standard for the Fire Inspector II level.

Fire Inspector III. A Fire Inspector II who is qualified to perform as the technical and administrative supervisor of a group of fire inspectors or placed in charge of a particular branch or section of a fire prevention bureau and has demonstrated the knowledge and ability to perform the objectives specified in this standard for the Fire Inspector III level.

Fire Prevention Bureau. A section or agency of a fire department or other jurisdiction that is responsible for fire prevention duties including, but not limited to, code enforcement, conduct of fire inspections, public relations, or public information work, fire investigation, the keeping of fire records, and any other activity that may have as its ultimate purpose the prevention of fire and the reduction of life and property losses from fire. These sections or agencies may also be known as the Fire Prevention Division, Fire Marshal's Office, or other such terms.

Fire Prevention Division. (*See definition of Fire Prevention Bureau.*)

Identify. To physically select, indicate, or explain verbally or in writing, using acceptable and recognizable terms.

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.

Objective. A goal achieved through the attainment of a skill, knowledge, or both, that can be observed or measured.

Qualified. Having satisfactorily completed the requirements of the objectives.

Regulation. The statute, law, ordinance, or authorized rules by which something or someone is governed.

Shall. Indicates a mandatory requirement.

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

Chapter 3 Fire Inspector I

3-1 General.*

3-1.1 The Fire Inspector I shall demonstrate an ability to clearly express himself/herself orally.

3-1.2* The Fire Inspector I shall demonstrate an ability to clearly express himself/herself in writing.

3-1.3* The Fire Inspector I shall have a high school diploma or a state recognized equivalent.

3-1.4 The Fire Inspector I shall demonstrate through tests, or interview, or both, the ability to interact with the public, under conditions of code enforcement or fire prevention duties, with tact, discretion, and without loss of authority.

3-1.5* The Fire Inspector I shall identify the organization of the fire department or the entity for which duties will be performed.

3-1.6 The Fire Inspector I shall identify the applicable organizational rules and regulations.

3-1.7 The Fire Inspector I shall demonstrate a knowledge of the legally established responsibilities and empowerment related to the performance of the inspector's duties.

3-1.8 The Fire Inspector I shall demonstrate a knowledge of the established procedure for modification of code requirements.

3-1.9 The Fire Inspector I shall demonstrate a knowledge of the established appeals procedure and judicial review process for the jurisdiction in which the inspector is employed.

3-1.10 The Fire Inspector I shall demonstrate a knowledge of other agencies that may be referred to for assistance in correcting hazards.

3-1.11 The Fire Inspector I shall have a knowledge of which other jurisdictional authorities may have requirements, or conduct inspections, involving life safety or fire protection.

3-2 Forcible Entry.

3-2.1 The Fire Inspector I shall identify procedures for forcible entry.

3-2.2 The Fire Inspector I shall identify conditions that may hamper fire department access to a building or premises in event of fire or other emergency.

3-3 Protective Breathing Apparatus.

3-3.1 The Fire Inspector I shall identify four hazardous respiratory environments encountered during fire emergencies.

3-3.2 The Fire Inspector I shall identify the use, limitations, and safety features of protective breathing apparatus.

3-4 Salvage.

3-4.1 The Fire Inspector I shall identify the purpose of salvage and its value to the public and the fire department.

3-4.2 The Fire Inspector I shall identify locations in buildings, objects, etc., that require special protection during salvage operations.

3-5 Fire Hose, Nozzles, and Appliances.

3-5.1* The Fire Inspector I shall identify the sizes, types, amounts, and use of hose carried on a pumper.

3-5.2 The Fire Inspector I shall identify the use of nozzles, hose adapters, and hose appliances.

3-5.3 The Fire Inspector I shall demonstrate connecting a fire hose to a hydrant, and fully opening and closing the hydrant.

3-5.4 The Fire Inspector I shall identify the techniques for coupling and uncoupling fire hose, advancing a hose line from a standpipe, and extending a hose line.

3-5.5 The Fire Inspector I shall identify procedures for inspection and maintenance of fire hose, couplings, and nozzles.

3-5.6 The Fire Inspector I shall identify hydrant-to-pumper hose connections.

3-6 Fire Streams.

3-6.1 The Fire Inspector I shall define a fire stream and the following methods of water application:

(a) direct
(b) indirect
(c) combination.

3-6.2 The Fire Inspector I shall define *water hammer* and the methods for its prevention.

3-7 Ladders. The Fire Inspector I shall identify the use and limitations of each type of fire department ladder.

3-8 Ventilation.

3-8.1 The Fire Inspector I shall define the principles of ventilation and identify the advantages and effects of ventilation.

3-8.2 The Fire Inspector I shall define the term *backdraft explosion*.

3-9 Fire Behavior.

3-9.1 The Fire Inspector I shall define the term *fire*.

3-9.2 The Fire Inspector I shall define the *fire tetrahedron*.

3-9.3 The Fire Inspector I shall identify two of each of the following: chemical, mechanical, and electrical energy heat sources.

3-9.4* The Fire Inspector I shall identify the following potential stages of fire:

(a) preburning
(b) initial burning
(c) vigorous burning
(d) interactive burning
(e) remote burning.

3-9.5 The Fire Inspector I shall define the terms *flashover* and *flameover*.

3-9.6 The Fire Inspector I shall define the three methods of heat transfer.

3-9.7 The Fire Inspector I shall define the three physical states of matter in which fuels are commonly found.

3-9.8 The Fire Inspector I shall define the hazard of finely divided fuels as they relate to the combustion process.

3-9.9 The Fire Inspector I shall define *flash point* and *ignition temperature*.

3-9.10 The Fire Inspector I shall define the relationship of oxygen concentration in air and its effect on the combustion process.

3-9.11 The Fire Inspector I shall identify three products of combustion commonly found in structural fires that create life hazards.

3-9.12 The Fire Inspector I shall define the following units of heat measurement:

(a) British Thermal Unit (BTU)
(b) Fahrenheit (°F)
(c) Celsius (°C)
(d) Calorie (C)
(e) Kilowatt (kw)
(f) British Thermal Units/second (BTU/s)
(g) Watt (w)
(h) Megawatt (mw)
(i) Joule (j).

3-10 Overhaul. The Fire Inspector I shall identify the purpose of overhaul.

3-11 Utilities. The Fire Inspector I shall identify the procedures for shutting off the gas, electrical, and water services to a building.

3-12 Flammable and Combustible Liquids. (*See NFPA 30, Flammable and Combustible Liquids Code.*)

3-12.1* Properties of Flammable and Combustible Liquids.

3-12.1.1 The Fire Inspector I shall identify the general properties of flammable and combustible liquids.

3-12.1.2 The Fire Inspector I shall define the basic effects of temperature and pressure on flammable and combustible liquids.

3-12.1.3 The Fire Inspector I shall define flammable and explosive limits.

3-12.1.4 The Fire Inspector I shall define *specific gravity*.

3-12.1.5 The Fire Inspector I shall define *boiling point*.

3-12.1.6 The Fire Inspector I shall define the basic classes of flammable and combustible liquids as defined by NFPA 30, *Flammable and Combustible Liquids Code*.

3-12.2 Storage, Handling, and Use of Flammable and Combustible Liquids.

3-12.2.1 The Fire Inspector I shall identify the fire hazards associated with the storage, handling, and use of flammable and combustible liquids.

3-12.2.2 The Fire Inspector I shall identify the regulations and hazards attendant to the transfer of flammable and combustible liquids.

3-12.2.3 The Fire Inspector I shall identify the regulations and fire hazards attendant to finishing processes that involve flammable and combustible liquids.

3-12.2.4 The Fire Inspector I shall identify what conditions constitute possible sources of ignition during storage, handling, and use of flammable and combustible liquids.

3-12.2.5 The Fire Inspector I shall identify conditions that might be conducive to creating explosive atmospheres in the storage, handling, and use of flammable and combustible liquids.

3-12.2.6 The Fire Inspector I shall identify conditions associated with the typical storage, handling, and use of flammable and combustible liquids that might be conducive to a BLEVE situation.

3-12.2.7 The Fire Inspector I shall identify regulations or code provisions related to the storage, handling, and use of flammable or combustible liquids.

3-12.2.8 The Fire Inspector I shall identify the procedures for investigating flammable or combustible liquid leaks or suspected leaks.

3-12.3 Underground Storage Tanks for Flammable and Combustible Liquids.

3-12.3.1 The Fire Inspector I shall identify regulations and acceptable installation practices relative to underground storage tanks for flammable and combustible liquids.

3-12.3.2 The Fire Inspector I shall identify venting procedures and devices installed on underground storage tanks for flammable and combustible liquids.

3-12.3.3 The Fire Inspector I shall identify the normal requirements and acceptable installation practices relative to piping and valves attendant to underground storage tanks for flammable and combustible liquids.

3-12.3.4 The Fire Inspector I shall identify the testing methods and requirements for underground storage tanks and piping as specified in NFPA 30, *Flammable and Combustible Liquids Code*, or other applicable sources.

3-12.4 Aboveground Storage Tanks for Flammable and Combustible Liquids.

3-12.4.1 The Fire Inspector I shall identify the regulations and acceptable installation practices relative to inside storage of flammable and combustible liquids.

3-12.4.2 The Fire Inspector I shall identify how to determine whether normal and emergency venting devices are being properly maintained.

3-12.4.3 The Fire Inspector I shall identify drainage, diking systems, or both, that may be required for aboveground storage of flammable and combustible liquids.

3-12.4.4 The Fire Inspector I shall identify requirements for an installation of piping and valves attendant to aboveground storage tanks for flammable and combustible liquids.

3-12.4.5 The Fire Inspector I shall identify the testing methods and requirements for aboveground storage tanks and piping as specified in NFPA 30, *Flammable and Combustible Liquids Code*, or other applicable sources.

3-12.5 Inside Storage Tanks for Flammable and Combustible Liquids.

3-12.5.1 The Fire Inspector I shall identify the regulations and acceptable installation practices relative to inside tank storage of flammable and combustible liquids.

3-12.5.2 The Fire Inspector I shall identify how to determine if normal and emergency venting devices are being properly maintained.

3-12.5.3 The Fire Inspector I shall identify drainage or containment systems that may be required for the inside storage of flammable and combustible liquids.

3-12.5.4 The Fire Inspector I shall identify the requirements and acceptable installation practices relative to piping and valves attendant to the inside storage of flammable and combustible liquids.

3-12.6 Outside Container Storage for Flammable and Combustible Liquids.

3-12.6.1 The Fire Inspector I shall identify the regulations or code requirements relative to the outside container storage of flammable and combustible liquids.

3-12.6.2 The Fire Inspector I shall identify acceptable flammable and combustible liquid containers for outside storage.

3-12.6.3 The Fire Inspector I shall identify acceptable locations and storage parameters such as aisle spacing, stacking, storing of containers in vertical or horizontal positions, etc., relative to the outside storage of flammable and combustible liquids.

3-12.6.4 The Fire Inspector I shall identify container venting devices and venting practices.

3-12.7 Inside Container Storage for Flammable and Combustible Liquids.

3-12.7.1 The Fire Inspector I shall identify the regulations, including quantity limitations, that may exist for different occupancies relative to the inside storage of flammable and combustible liquids.

3-12.7.2 The Fire Inspector I shall identity acceptable flammable and combustible liquid containers for inside storage.

3-12.7.3 The Fire Inspector I shall identify storage parameters such as aisle spacing, stacking, storage of containers in vertical or horizontal positions, etc., relative to the inside storage of flammable and combustible liquids.

3-12.7.4 The Fire Inspector I shall identify normal and emergency venting devices or procedures acceptable for the inside storage of flammable and combustible liquids.

3-12.8 Flammable and Combustible Liquids Fire Extinguishment.

3-12.8.1 The Fire Inspector I shall identify techniques for flammable and combustible liquids fire extinguishment.

3-12.8.2 The Fire Inspector I shall identify portable fire extinguisher installation requirements for areas involving flammable and combustible liquids.

3-12.8.3 The Fire Inspector I shall identify fixed fire extinguishing systems required or installed for flammable and combustible liquids storage, handling, and use.

3-12.9 Flammable and Combustible Liquids Labeling.

3-12.9.1* The Fire Inspector I shall identify the regulatory labeling and placarding systems used for flammable and combustible liquids identification.

3-12.10 Transportation of Flammable and Combustible Liquids.

3-12.10.1 The Fire Inspector I shall identify regulations relative to the transportation of flammable and combustible liquids within the jurisdiction.

3-12.10.2 The Fire Inspector I shall identify which agencies regulate the transportation of flammable and combustible liquids within the jurisdiction.

3-12.10.3 The Fire Inspector I shall identify which agencies offer assistance in handling flammable and combustible liquids emergencies in the jurisdiction.

3-13 Compressed and Liquefied Gases.

3-13.1* Properties of Compressed and Liquefied Gases.

3-13.1.1 The Fire Inspector I shall identify the general properties of compressed and liquefied gases.

3-13.1.2 The Fire Inspector I shall identify the effects of temperature and pressure as they relate to compressed and liquefied gases.

3-13.1.3 The Fire Inspector I shall define specific gravity, particularly as it relates to compressed and liquefied gases.

3-13.1.4 The Fire Inspector I shall identify the differences between compressed and liquefied gases.

3-13.2 Storage, Handling, and Use of Compressed and Liquefied Gases.

3-13.2.1 The Fire Inspector I shall identify the fire hazards associated with the typical storage, handling, and use of compressed and liquefied gases.

3-13.2.2 The Fire Inspector I shall identify possible ignition sources and fire causes involving compressed and liquefied gases.

3-13.2.3 The Fire Inspector I shall identify the conditions that might be conducive to fire initiation and propagation involving compressed and liquefied gases.

3-13.2.4 The Fire Inspector I shall identify the procedure for investigating flammable gas leaks or suspected leaks.

3-13.3 Compressed and Liquefied Gas Containers. The Fire Inspector I shall identify the acceptable installation and storage practices relative to compressed and liquefied gas containers.

3-13.4 Compressed and Liquefied Gas Transfer Operations. The Fire Inspector I shall identify the practices and procedures involved in the transfer of compressed and liquefied gases.

3-13.5 Compressed and Liquefied Gas Leaks. The Fire Inspector I shall identify methods of compressed and liquefied gases leakage control.

3-13.6 Transportation of Compressed and Liquefied Gases.

3-13.6.1 The Fire Inspector I shall identify the regulations relative to the transportation of compressed and liquefied gases.

3-13.6.2 The Fire Inspector I shall identify the agencies that regulate the transportation of compressed and liquefied gases within the jurisdiction.

3-13.6.3 The Fire Inspector I shall identify the agencies that offer assistance in handling compressed and liquefied gases emergencies within the jurisdiction.

3-13.7 Fire Extinguishment of Compressed and Liquefied Gases.

3-13.7.1 The Fire Inspector I shall identify fire extinguishment practices and procedures for compressed and liquefied gases emergencies.

3-13.7.2 The Fire Inspector I shall identify portable fire extinguisher installation requirements for areas involving compressed and liquefied gases.

3-13.7.3 The Fire Inspector I shall identify requirements for fixed fire extinguishing systems required for the storage, handling, and use of compressed and liquefied gases.

3-13.8 Labeling of Compressed and Liquefied Gases. The Fire Inspector I shall identify regulatory labeling and placarding regulations relative to compressed and liquefied gases.

3-14 Explosives, Including Fireworks.

3-14.1* Properties of Explosives. The Fire Inspector I shall identify the classifications of explosives. (*See NFPA 495, Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials.*)

3-14.2 The Fire Inspector I shall identify the need for security of explosives.

3-14.3 The Fire Inspector I shall identify the regulations relative to the transportation of explosives, including fireworks, within the jurisdiction in which the inspector is employed.

3-14.4 The Fire Inspector I shall identify the common hazards associated with the typical storage, handling, and use of explosives, including fireworks.

3-14.5 Labeling of Explosives, Including Fireworks. The Fire Inspector I shall identify regulatory labeling and placarding systems relative to explosives, including fireworks.

3-14.6 The Fire Inspector I shall identify the sources from which detailed or technical information on explosives, including fireworks, might be obtained.

3-14.7 Storage of Explosives, Including Fireworks.

3-14.7.1 The Fire Inspector I shall identify code requirements and regulations for the storage of explosives, including fireworks.

3-14.7.2 The Fire Inspector I shall identify the type and construction of storage facilities required for the various classes of explosives.

3-15 Other Hazardous Materials.

3-15.1 General.

3-15.1.1 The Fire Inspector I shall identify the regulatory labeling and placarding systems for various types and quantities of hazardous materials.

3-15.1.2 The Fire Inspector I shall identify code requirements and regulations for the storage, handling, and use of various types and quantities of hazardous materials.

3-15.1.3 The Fire Inspector I shall identify sources of detailed and technical information about various hazardous materials.

3-15.2* Specific Hazardous Materials.

3-15.2.1* The Fire Inspector I shall identify the characteristics of corrosives and shall be able to name the more common corrosives.

3-15.2.2* The Fire Inspector I shall identify reactive material characteristics and shall be able to name the more common reactive materials.

3-15.2.3* The Fire Inspector I shall identify unstable material characteristics and shall be able to name the more common unstable materials.

3-15.2.4* The Fire Inspector I shall identify toxic materials characteristics and shall be able to name the more common toxic materials.

3-15.2.5* The Fire Inspector I shall identify radioactive material characteristics and shall be able to name the more common radioactive materials.

3-15.2.6* The Fire Inspector I shall identify oxidizing material characteristics and shall be able to name the more common oxidizing materials.

3-15.2.7 The Fire Inspector I shall identify the general fire hazard properties of the various types of plastics.

3-15.2.8 The Fire Inspector I shall identify the code re-

quirements and regulations for the typical storage, handling, and use of natural and synthetic fibers.

3-15.3 Combustible Metals.

3-15.3.1* The Fire Inspector I shall identify combustible metal characteristics and shall be able to name the more common combustible metals.

3-15.3.2 The Fire Inspector I shall identify the code requirements and regulations relative to the storage, handling, and use of combustible metals.

3-15.4 Combustible Dusts.

3-15.4.1* The Fire Inspector I shall identify combustible dust characteristics and shall be able to name the more common combustible dusts.

3-15.4.2 The Fire Inspector I shall identify the basic fire and explosion characteristics of the various combustible dusts.

3-15.4.3 The Fire Inspector I shall identify the code requirements and regulations relative to the storage and handling of combustible dusts.

3-16 Fire Protection Equipment.

3-16.1 Portable Fire Extinguishers.

3-16.1.1 The Fire Inspector I shall identify the classification of types of fires as they relate to the use of portable extinguishers.

3-16.1.2* The Fire Inspector I, given a group of differing extinguishers, shall identify the appropriate extinguishers for the various classes of fires.

3-16.1.3 The Fire Inspector I shall define the portable extinguishers' rating system.

3-16.1.4 The Fire Inspector I shall identify the types of portable fire extinguishers. (*See NFPA 10, Standard for Portable Fire Extinguishers.*)

3-16.1.5 The Fire Inspector I shall demonstrate the use of portable fire extinguishers.

3-16.1.6 The Fire Inspector I shall identify how to evaluate the operational readiness of portable fire extinguishers.

3-16.1.7 The Fire Inspector I shall identify the capability of extinguishing agents and the proper method for agent application.

3-16.1.8 The Fire Inspector I shall identify code requirements and regulations relative to the distribution and location of portable fire extinguishers.

3-16.1.9 The Fire Inspector I shall identify portable fire extinguisher maintenance requirements and procedures.

3-16.2 Fixed Fire Extinguishing Systems.

3-16.2.1* The Fire Inspector I shall identify fixed fire extinguishing systems.

3-16.2.2 The Fire Inspector I shall identify how to evaluate the operational readiness of fixed fire extinguishing systems.

3-16.2.3 The Fire Inspector I shall identify the capabilities of the extinguishing agent and the proper procedures for agent application in a fixed fire extinguishing system.

3-16.3 Sprinkler Systems.

3-16.3.1 The Fire Inspector I shall identify the different types of sprinkler systems. (*See NFPA 13, Standard for the Installation of Sprinkler Systems.*)

3-16.3.2 The Fire Inspector I shall identify the following:

(a) wet sprinkler system
(b) dry sprinkler system
(c) deluge sprinkler system.

3-16.3.3 The Fire Inspector I shall identify the fire department sprinkler connection and water motor alarm.

3-16.3.4 The Fire Inspector I shall connect hose lines to the fire department connection of a sprinkler or a standpipe system.

3-16.3.5 The Fire Inspector I shall identify how automatic sprinkler heads open and release water.

3-16.3.6 The Fire Inspector I shall demonstrate how to temporarily stop the flow of water from a sprinkler head.

3-16.3.7 The Fire Inspector I shall identify the difference between an automatic sprinkler system that affords complete coverage and a partial sprinkler system.

3-16.3.8 The Fire Inspector I shall identify at least three sources of water supply to an automatic sprinkler system.

3-16.3.9 The Fire Inspector I shall identify how to evaluate the operational readiness of sprinkler systems.

3-16.3.10 The Fire Inspector I shall identify the capabilities or limitations of sprinkler systems.

3-16.3.11 The Fire Inspector I shall define the value of automatic sprinklers in providing safety to life of occupants of a structure.

3-16.3.12 The Fire Inspector I shall identify and define the dangers of premature closure of sprinkler main control valves and of using hydrants to supply hose streams when the same water system is supplying the automatic sprinkler system.

3-16.4 Standpipe and Hose Systems.

3-16.4.1 The Fire Inspector I shall identify the types of standpipe and hose systems. (*See NFPA 14, Standard for the Installation of Standpipe and Hose Systems.*)

3-16.4.2 The Fire Inspector I shall identify standpipe and hose systems and their appurtenances.

3-16.4.3 The Fire Inspector I shall identify how to evaluate the operational readiness of a standpipe and hose system.

3-16.4.4 The Fire Inspector I shall identify standpipe and hose system equipment use and capabilities.

3-16.5 Water Supply Systems.

3-16.5.1* The Fire Inspector I shall identify the types of water distribution systems and other water sources in the local community.

3-16.5.2 The Fire Inspector I shall identify characteristics of private water supply systems.

3-16.5.3 The Fire Inspector I shall identify and explain the four fundamental components of a modern water system.

3-16.5.4 The Fire Inspector I shall identify the following parts of a water distribution system:

(a) distributors

(b) primary feeders

(c) secondary feeders.

3-16.5.5 The Fire Inspector I shall identify a:

(a) dry barrel hydrant

(b) wet barrel hydrant.

3-16.5.6 The Fire Inspector I shall define the following terms:

(a) normal operation pressure of a water distribution system

(b) residual pressure of a water distribution system

(c) flow pressure.

3-16.5.7* The Fire Inspector I shall identify the following types of water main valves:

(a) indicating

(b) nonindicating

(c) post indicator

(d) outside screw and yoke.

3-16.5.8 The Fire Inspector I shall identify hydrant usability by:

(a) obstructions to use of hydrant

(b) direction of hydrant outlets to suitability of use

(c) mechanical aboveground damage

(d) condition of paint for rust or corrosion

(e) the flow by fully opening the hydrant

(f) ability to drain.

3-16.5.9 The Fire Inspector I shall identify how to evaluate the operational readiness of a water supply system.

3-16.5.10 The Fire Inspector I, given a pitot tube and gage, shall use, read, and record several flow pressures.

3-16.5.11 The Fire Inspector I, given a chart, sizes of openings, and flow pressures, shall determine the quantity of water flowing from the openings.

3-16.5.12 The Fire Inspector I, given a chart, shall identify the approximate discharge capacities of various water pipe sizes.

3-16.5.13 The Fire Inspector I shall identify the pipe sizes used in water distributions systems for residential, business, and industrial districts.

3-16.5.14 The Fire Inspector I shall identify two causes of increased resistance or friction loss in water mains.

3-16.6 Heat, Smoke, and Flame Detection Systems. (*See NFPA 72E, Standard on Automatic Fire Detectors, and NFPA 74, Standard for the Installation, Maintenance, and Use of Household Fire Warning Equipment.*)

3-16.6.1 The Fire Inspector I shall identify heat, smoke, and flame detection systems and devices.

3-16.6.2 The Fire Inspector I shall identify how to evaluate the operational readiness of heat, smoke, and flame detection systems or device.

3-16.6.3 The Fire Inspector I shall identify the proper installation locations of heat, smoke, and flame detection devices.

3-16.7 Fire Alarm Systems and Devices. *(See NFPA 72A, 72B, 72C, 72D & 72E.)*

3-16.7.1 The Fire Inspector I shall identify local fire alarm systems and devices.

3-16.7.2 The Fire Inspector I shall identify how to evaluate the operational readiness of local fire alarm systems and devices.

3-16.7.3 The Fire Inspector I shall identify the warning capability of local fire alarm systems and devices.

3-16.7.4 The Fire Inspector I shall identify the operation of municipal fire alarm systems.

3-16.7.5 The Fire Inspector I shall identify the interconnection between local and municipal fire alarm systems.

3-16.7.6 The Fire Inspector I shall differentiate between residential, local, proprietary, central station, and municipal fire alarm systems.

3-16.7.7 The Fire Inspector I shall demonstrate a knowledge of the proper installation locations of fire alarm system components or devices.

3-17 Heating and Cooking Equipment.

3-17.1 The Fire Inspector I shall identify the fire hazards related to the various types of heating and cooking equipment.

3-17.2 The Fire Inspector I shall identify the general

safeguards incorporated in the various types of heating and cooking equipment systems.

3-17.3 The Fire Inspector I shall identify the fire hazards and code requirements related to installation and fuel storage of heating and cooking equipment.

3-17.4 The Fire Inspector I shall identify sources of detailed and technical information about heating and cooking equipment.

3-18 Principles of Electricity.

3-18.1 The Fire Inspector I shall have a basic knowledge of elementary electrical theory.

3-18.2* The Fire Inspector I shall identify the installation of and safety devices used in electrical systems.

3-18.3 The Fire Inspector I shall identify the fire and life hazards associated with the typical uses of electricity and electrical systems.

3-18.4 The Fire Inspector I shall identify sources of detailed and technical information related to electricity and electrical systems.

3-19 General Firesafety.

3-19.1 General.

3-19.1.1 The Fire Inspector I shall identify code requirements, regulations, basic operational features, and fire hazards presented by various occupancies and, particularly, public assembly, residential, business, mercantile, office, storage, industrial, manufacturing, and utility occupancies. (*See NFPA 101®, Life Safety Code®.*)

3-19.1.2 The Fire Inspector I shall identify general firesafety code requirements and regulations including but not limited to trash and debris, smoking, open burning, maintaining fire department access, housekeeping procedures, reporting of fire incidents, and limiting combustible decorations and furnishings.

3-19.1.3 The Fire Inspector I shall identify the requirements and purpose of emergency evacuation plans.

3-19.1.4 The Fire Inspector I shall identify the duties and responsibilities of a fire inspector assigned to a fire prevention detail in places of public assembly.

3-19.1.5 Means of Egress. (*See NFPA 101, Life Safety Code.*)

3-19.1.5.1 The Fire Inspector I shall identify the means of egress requirements for various occupancies.

3-19.1.5.2 The Fire Inspector I shall identify how to determine that existing egress facilities for a given building, floor, or room are adequate for the occupancy involved.

3-19.1.5.3 The Fire Inspector I shall identify how to determine whether travel distances to exits are within allowable limits.

3-19.1.5.4 The Fire Inspector I shall identify how to determine whether there is adequate access to egress facilities.

3-19.1.5.5 The Fire Inspector I shall identify how to determine whether exits are properly illuminated, marked, placed, secured, openable, and equipped with hardware.

3-19.1.5.6 The Fire Inspector I shall identify how to distinguish between enclosed stairwells and smoke towers, and to determine whether general construction and access are properly maintained.

3-19.1.5.7 The Fire Inspector I shall identify how to determine whether egress paths are adequate in width and properly illuminated and maintained.

3-19.1.5.8 The Fire Inspector I shall identify the code requirements and regulations relative to the maintenance of means of egress from various occupancies.

3-19.1.6 Interior Finishes. (*See NFPA 101, Life Safety Code, and NFPA 220, Standard on Types of Building Construction.*)

3-19.1.6.1 The Fire Inspector I shall identify acceptable flame spread and smoke ratings for the various areas of an occupancy.

3-19.1.6.2 The Fire Inspector I shall identify acceptable test methods and markings or labeling for interior finishes and carpeting.

3-19.1.6.3 The Fire Inspector I shall identify the purpose and acceptability of fire retardant paints and impregnation treatments.

3-19.1.7 Building Construction.

3-19.1.7.1 The Fire Inspector I shall identify the features of fire protection and life safety related to building construction for various types of occupancies.

3-19.1.7.2 The Fire Inspector I shall identify acceptable test methods and marking or labeling for building construction assemblies or devices.

3-19.1.7.3 The Fire Inspector I shall identify types of fire doors and installation requirements.

3-19.1.7.4 The Fire Inspector I shall identify locations where rated building construction is required.

3-19.1.7.5 The Fire Inspector I shall identify the general fire behavior expected of each type of building construction, including the spread of fire and the level of safety afforded the building, occupants, and fire fighters.

3-19.1.7.6 The Fire Inspector I shall identify building construction components installed for fire-related purposes including but not limited to fire stops, draft curtains, fire walls, smoke vents, chimneys, flues, and rated ceilings.

3-19.1.7.7 The Fire Inspector I shall identify the classes of roof covering.

3-19.1.7.8 The Fire Inspector I shall identify the requirements for and construction of special building construction features including but not limited to projection booths, stages, proscenium openings, and flammable liquid storage rooms.

3-19.1.7.9 The Fire Inspector I shall identify building construction classification by identifying the principal types of building construction as defined in the building code. (*See NFPA 220, Standard on Types of Building Construction.*)

3-19.1.7.10 The Fire Inspector I shall identify building code contents and requirements.

3-19.1.8 Building Equipment.

3-19.1.8.1 The Fire Inspector I shall identify the types of and installation requirements for building service equipment that can affect fire protection and life safety.

3-19.1.8.2 The Fire Inspector I shall identify the proper installation, maintenance, and use of heating, ventilating, and air conditioning systems from a firesafety standpoint as identified in NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*, and NFPA 90B, *Standard for the Installation of Warm Air Heating and Air Conditioning Systems*.

3-19.1.8.3 The Fire Inspector I shall identify the proper installation, maintenance, and use of kitchen cooking equipment, including hoods and ducts.

3-19.2 Decorations, Decorative Materials, and Furnishings.

3-19.2.1 The Fire Inspector I shall identify the firesafety requirements for decorations, decorative materials, and furnishings.

3-19.2.2 The Fire Inspector I shall identify how to field test decorations, decorative materials, and furnishings for acceptability and use in various occupancies.

3-19.3 Fire Drills.

3-19.3.1 The Fire Inspector I shall identify the requirements relative to fire drills that may be required within the jurisdiction.

3-19.3.2 The Fire Inspector I shall identify how to conduct or evaluate, or both, fire drills in various occupancies.

3-20 Inspection and Code Enforcement Procedures.

3-20.1 General.

3-20.1.1 The Fire Inspector I shall identify the common causes of fires and their prevention.

3-20.1.2 The Fire Inspector I shall identify the fire inspection procedures.

3-20.1.3 The Fire Inspector I shall define the importance of public relations relative to the inspection programs.

3-20.1.4 The Fire Inspector I shall define dwelling inspection procedures.

3-20.1.5 The Fire Inspector I shall prepare diagrams or sketches of buildings to record the locations of items of concern during pre-fire planning operations.

3-20.1.6 The Fire Inspector I shall collect and record in writing information required for the purpose of preparing a report on a building inspection or survey.

3-20.1.7 The Fire Inspector I shall identify school exit drill procedures.

3-20.1.8 The Fire Inspector I shall identify life safety programs for the home.

3-20.1.9 The Fire Inspector I shall identify common fire hazards and make recommendations for their correction.

3-20.2 Procedures.

3-20.2.1 The Fire Inspector I shall identify acceptable code enforcement procedures and sources of information for such procedures.

3-20.2.2 The Fire Inspector I shall identify jurisdictional responsibilities of federal, state, and local governments and organizations relative to code enforcement procedures.

3-20.2.3 The Fire Inspector I shall identify anticipated human behavior relative to code enforcement.

3-20.2.4 The Fire Inspector I shall identify local code enforcement procedures.

3-20.2.5 The Fire Inspector I shall identify the judicial system, particularly as it relates to code enforcement procedures.

3-20.2.6 The Fire Inspector I shall identify legal processes as they relate to code enforcement procedures.

3-20.2.7 The Fire Inspector I shall identify recommended courtroom demeanor.

3-20.2.8 The Fire Inspector I shall identify the ethical and legal responsibilities associated with code enforcement procedures.

3-20.2.9 The Fire Inspector I shall identify license or permit requirements within the jurisdiction.

3-20.2.10 The Fire Inspector I shall identify the general procedures for handling complaints.

3-20.3 Report Preparation.

3-20.3.1 The Fire Inspector I shall demonstrate report preparation by writing an inspection report.

3-20.3.2 The Fire Inspector I shall demonstrate accepted filing techniques.

3-20.4 Code Enforcement Equipment. The Fire In-

spector I shall identify how to operate the essential equipment necessary to accomplish code enforcement including, but not limited to, elementary photography equipment and portable flammable and combustible atmosphere detection equipment.

3-20.5 Plans and Specifications. The Fire Inspector I shall identify procedures required for the processing of plans and specifications.

3-20.6 Fire Cause Determination. The Fire Inspector I shall identify the requirements, need, and purpose for fire cause determination and fire investigation.

3-21 Organizational Procedures.

3-21.1 Fire Alarm and Communications.

3-21.1.1 The Fire Inspector I shall define the procedure for a citizen to report a fire or other emergency.

3-21.1.2 The Fire Inspector I shall identify procedures required for receipt and processing of business and personal calls.

3-21.1.3 The Fire Inspector I shall identify prescribed fire department radio procedures and demonstrate the use of both mobile and portable radio equipment.

3-21.2 Safety. The Fire Inspector I shall identify dangerous building conditions created by fire.

Chapter 4 Fire Inspector II

4-1 General. The Fire Inspector II shall demonstrate abilities, understanding, and performance of the requirements specified for Fire Inspector I.

4-1.1* The Fire Inspector II, given specific problems and all pertinent information, shall demonstrate the use of the following: whole numbers; fractions and decimals; percentages, averages, and estimations; algebraic equations; powers and roots; ratios and proportions; linear surface; and volume measurements.

4-1.2 Public Speaking. The Fire Inspector II, given a topic, shall prepare a written speech, develop appropriate visual aids, and deliver the speech.

4-2 Flammable and Combustible Liquids.

4-2.1 The Fire Inspector II shall identify the effect of pressure on the design, size, and contents of storage tanks and containers for flammable and combustible liquids.

4-2.2 The Fire Inspector II shall identify storage, handling, and use conditions of flammable and combustible liquids that are most conducive to the initiation, propagation, and spread of fire.

4-2.3 The Fire Inspector II shall identify the installation and operational requirements of fixed fire extinguishing systems installed in relation to flammable and combustible liquids storage, handling, and use.

4-2.4 The Fire Inspector II shall identify how to abate the fire hazards associated with spills or leaks of flammable or combustible liquids.

4-3 Compressed and Liquefied Gases.

4-3.1 The Fire Inspector II shall identify the physical and chemical characteristics of compressed and liquefied gases and cryogenics.

4-3.2 The Fire Inspector II shall identify the storage, handling, and use conditions of compressed and liquefied gases that are most conducive to the initiation, propagation, and spread of fire.

4-3.3 The Fire Inspector II shall identify the requirements for marking, testing, repair, and maintenance of compressed and liquefied gases containers, cylinders, or tanks.

4-3.4 The Fire Inspector II shall identify the code requirements and regulations relative to quantity limitations, distances, physical damage, and protection for aboveground containers for compressed and liquefied gases.

4-3.5 The Fire Inspector II shall identify special handling procedures for gas transfer operations involving compressed and liquefied gases.

4-3.6 The Fire Inspector II shall identify the operation and use of excess flow check valves in compressed and liquefied gases piping and storage.

4-3.7 The Fire Inspector II shall identify how to abate the fire hazards associated with compressed and liquefied gases spills or leaks.

4-3.8 The Fire Inspector II shall identify the installation and operational requirements of fixed fire extinguishing systems installed concomitant to the storage, handling, and use of compressed and liquefied gases.

4-4 Explosives, Including Fireworks. (*See NFPA 495, Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials, and NFPA 1124, Code for the Manufacture, Transportation, and Storage of Fireworks.*)

4-4.1 The Fire Inspector II shall identify the requirements for security measures for explosives, including fireworks.

4-4.2 The Fire Inspector II shall identify which federal or state regulatory agencies govern the transportation of explosives, including fireworks.

4-4.3 The Fire Inspector II shall identify the effects of temperature and moisture on explosives, including fireworks.

4-4.4 The Fire Inspector II shall identify the sensitivity or stability characteristics of the various types of explosives, including fireworks.

4-4.5 The Fire Inspector II shall identify explosives

storage facility construction and operation.

4-5 Other Hazardous Materials.

4-5.1 Natural and Synthetic Fibers.

4-5.1.1 The Fire Inspector II shall identify sources of technical and detailed information about natural and synthetic fibers.

4-5.1.2 The Fire Inspector II shall identify the fire hazards associated with the storage, handling, and use of natural and synthetic fibers.

4-5.2 Combustible Dusts.

4-5.2.1 The Fire Inspector II shall identify code requirements and regulations governing combustible dusts.

4-5.2.2 The Fire Inspector II shall identify code requirements, regulations, and basic installation practices relative to explosion suppression systems for combustible dusts.

4-6 Fire Protection Equipment.

4-6.1 The Fire Inspector II shall identify how to evaluate the proper installation and testing of all types of fire protection equipment.

4-6.2 The Fire Inspector II shall identify how to evaluate the testing of portable fire extinguishers.

4-6.3 The Fire Inspector II shall identify how to evaluate the testing and maintenance of portable fire extinguishers.

4-6.4 Water Supply Systems.

4-6.4.1 The Fire Inspector II shall identify water system pressure and piping requirements.

4-6.4.2 The Fire Inspector II shall identify hydrant construction, location, and spacing.

4-6.4.3 The Fire Inspector II shall identify the factors that affect fire flow demands.

4-7 Heating and Cooking Equipment.

4-7.1* The Fire Inspector II shall identify the fire hazards related to the various types of heating and cooking equipment and systems.

4-7.2 The Fire Inspector II shall identify the firesafety safeguards normally installed in relation to heating and cooking equipment.

4-7.3 The Fire Inspector II shall identify the fire hazards and code requirements related to heating and cooking equipment installation and fuel storage.

4-7.4 Industrial Ovens and Furnaces. (*See NFPA 86, Standard for Ovens and Furnaces.*)

4-7.4.1 The Fire Inspector II shall identify the fire hazards inherent to industrial ovens and furnace systems.

4-7.4.2 The Fire Inspector II shall identify the fire safeguards installed in relation to industrial ovens and furnaces.

4-8 Safety to Life. (*See NFPA 101, Life Safety Code.*)

4-8.1 Means of Egress.

4-8.1.1 The Fire Inspector II shall identify how to calculate egress requirements.

4-8.1.2 The Fire Inspector II shall identify how to determine the required location of exits.

4-8.1.3 The Fire Inspector II shall identify acceptable means of egress devices including, but not limited to, doors, hardware, and lights.

4-8.2 Interior Finishes.

4-8.2.1 The Fire Inspector II shall identify interior finish requirements in various areas of a building according to its designated occupancy.

4-8.2.2 The Fire Inspector II shall identify how to evaluate tests and test reports of interior finish materials.

4-8.3 Building Construction.

4-8.3.1 The Fire Inspector II shall identify when to specify enclosed stairs, smoke towers, or other methods of egress.

4-8.3.2 The Fire Inspector II shall identify how to evaluate tests and test reports of building construction assemblies or devices.

4-8.3.3 The Fire Inspector II shall identify the locations and types of fire doors that are required in various occupancies.

4-8.3.4 The Fire Inspector II shall identify how to evaluate the tests and test reports of fire doors.

4-8.3.5 The Fire Inspector II shall identify areas that require fire-rated building construction for various occupancies.

4-8.3.6 The Fire Inspector II shall identify conditions that require the installation of special fire-rated building components.

4-8.4 Building Equipment.

4-8.4.1 The Fire Inspector II shall identify conditions that require the installation of fire-related equipment.

4-8.4.2 The Fire Inspector II shall identify proper installation of required and fire-related equipment in buildings.

4-8.5 Decorations, Decorative Materials, and Furnishings. The Fire Inspector II shall identify how to evaluate the test procedures and reports on flammability of decorations, decorative materials, and furnishings.

4-8.6 Fire Loads.

4-8.6.1 The Fire Inspector II shall identify how to calculate fire loads.

4-8.6.2 The Fire Inspector II shall identify acceptable fire loads for various occupancies.

4-8.6.3 The Fire Inspector II shall identify how to classify building contents according to hazard.

4-8.7 Occupant Loads.

4-8.7.1 The Fire Inspector II shall identify how to calculate allowable occupant loads for various occupancies and building areas.

4-8.7.2 The Fire Inspector II shall identify code requirements, regulations, operational features, and fire hazards presented by various occupancies.

4-9 Code Enforcement.

4-9.1 The Fire Inspector II shall identify the legal requirements pertaining to the admissibility of photographs in a civil or criminal court.

4-9.2 Plans and Specifications.

4-9.2.1 The Fire Inspector II shall identify how to read blueprints and identify symbols related to construction plans and specifications.

4-9.2.2 The Fire Inspector II shall identify how to read and interpret construction plans and specifications.

4-9.2.3 The Fire Inspector II shall identify acceptable construction methods and materials related to firesafety.

4-9.2.4 The Fire Inspector II shall identify sources of detailed and technical information relative to plans and specifications.

4-10 Emergency Evacuation Plans.

4-10.1 The Fire Inspector II shall identify how to develop emergency evacuation plans for various occupancies.

4-10.2 The Fire Inspector II shall identify anticipated human behavior during emergencies.

4-10.3 The Fire Inspector II shall identify how to implement firesafety programs for crowd control.

4-10.4 The Fire Inspector II shall identify the role played by each agency and person in implementing an emergency evacuation plan.

4-10.5 The Fire Inspector II shall identify how to coordinate agencies involved in the development of an emergency evacuation plan.

4-10.6 The Fire Inspector II shall identify the sources of technical and detailed information relative to emergency evacuation plans.

4-11 Fire Cause Determination. The Fire Inspector II shall identify fire cause determination procedures.

Chapter 5 Fire Inspector III

5-1 General. The candidate for Fire Inspector III shall demonstrate abilities, understanding, and performance of the requirements specified for Fire Inspector II.

5-2 Administration.

5-2.1 Firesafety Legislation.

5-2.1.1 The Fire Inspector III shall identify how to recognize the need for firesafety legislation or regulations and to develop them.

5-2.1.2 The Fire Inspector III shall identify the various systems of government that affect the performance of the inspector's duty.

5-2.1.3 The Fire Inspector III shall identify sources that can provide information and technical assistance in the development of firesafety legislation.

5-3 Management Functions.

5-3.1 The Fire Inspector III shall identify management systems and procedures.

5-3.2 The Fire Inspector III shall identify the importance of maintaining proper records.

5-3.3 The Fire Inspector III shall identify the types and requirements of data collection systems that affect the performance of the inspector's duties.

5-3.4 The Fire Inspector III shall identify how to use statistics in fire prevention programs.

5-3.5* The Fire Inspector III shall identify how to supervise personnel, and evaluate the effectiveness of supervision at various levels.

5-3.6 The Fire Inspector III shall identify the value of licenses and permits in administering a fire prevention program.

5-3.7 The Fire Inspector III shall identify examination development and techniques for evaluating personnel skills relative to fire prevention and other related firesafety fields. (*See NFPA 1041, Standard for Fire Service Instructor Professional Qualifications.*)

5-3.8 The Fire Inspector III shall identify how to coordinate the activities of the inspector's agency with other agencies and jurisdictions.

5-3.9 The Fire Inspector III shall identify the budgeting systems and process utilized by the jurisdiction in which the inspector is employed.

5-3.10 The Fire Inspector III shall identify commonly utilized budgeting formats and list the advantages and disadvantages of each style.

5-3.11 The Fire Inspector III shall identify how to complete a program-type budget instrument for public fire education activities.

5-3.12 The Fire Inspector III shall identify the cost-benefit analysis calculation, its application, and its interpretation.

5-3.13 The Fire Inspector III shall demonstrate the preparation of a cost-benefit analysis given sample data.

Chapter 6 Referenced Publications

6-1 The following documents or portions thereof are referenced within this document and shall be considered part of the requirements of this document. The edition indicated for each reference shall be the current edition as of the date of the NFPA issuance of this document. These references shall be listed separately to facilitate updating to the latest edition by the user.

6-1.1 NFPA Publications. National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

NFPA 10-1984, *Standard for Portable Fire Extinguishers*

NFPA 13-1987, *Standard for the Installation of Sprinkler Systems*

NFPA 14-1986, *Standard for the Installation of Standpipe and Hose Systems*

NFPA 30-1987, *Flammable and Combustible Liquids Code*

NFPA 72A-1987, *Standard for Local Protective Signaling Systems*

NFPA 72B-1986, *Standard for Auxiliary Protective Signaling Systems*

NFPA 72C-1986, *Standard for Remote Station Protective Signaling Systems*

NFPA 72D-1986, *Standard for Proprietary Protective Signaling Systems*

NFPA 72E-1987, *Standard on Automatic Fire Detectors*

NFPA 74-1984, *Standard for the Installation, Maintenance, and Use of Household Fire Warning Equipment*

NFPA 86-1985, *Standard for Ovens and Furnaces*

NFPA 90A-1985, *Standard for the Installation of Air Conditioning and Ventilating Systems*

NFPA 90B-1984, *Standard for the Installation of Warm Air Heating and Air Conditioning Systems*

NFPA *101*-1985, *Life Safety Code*

NFPA 220-1985, *Standard on Types of Building Construction*

NFPA 495-1985, *Code for the Manufacture, Transportation, Storage, and Use of Explosive Materials*

NFPA 1041-1987, *Standard for Fire Service Instructor Professional Qualifications*

NFPA 1124-1984, *Code for the Manufacture, Transportation, and Storage of Fireworks*

Appendix A

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

A-1-1 This standard may be used by all organizations desiring to establish levels of professional competence for individuals employed as fire inspectors. The requirements set forth by the standard are meant to represent the body of knowledge required for the particular levels described regardless of the method of entry into the service or the public or private orientation of an organization.

A-1-2 Jurisdiction should determine the number of different job classifications on the basis of their personnel, budget, and local needs. Smaller jurisdictions may require that one person fulfill all duties set forth under several job classifications, while others may establish full- or part-time specialists in a classification or any combination thereof. For certification, an individual must meet the requirements of each classification and the level of progression regardless of whether the individual does or does not hold that title or accomplish the tasks.

A-1-3.1 It is assumed that each jurisdiction using this standard will have the capabilities of checking or testing to insure that the minimum requirements of this standard have been met on either a local, state, or national basis. This may be by examination or other acceptable certification criteria.

A-1-3.6 Two factors indicate the need to establish a minimum age of 18 for new applicants. First, this requirement provides an opportunity to complete minimum educational requirements. In addition, the nature of a fire protection career requires a high degree of motivation and maturity to insure proper efficiency. It is recognized that evaluating motivation and maturity may not be a completely objective process; nevertheless, an applicant's behavior pattern should be sufficiently well established by age 18 to permit a reasonable assessment of interests and the emotional stability necessary to carry out the duties of a fire inspector.

A-1-3.7 An applicant's background, including personal, work, and criminal history, should be evaluated. A fire inspector will be called upon to perform a variety of duties that require a high degree of public trust and confidence. These duties include inspection of property (public and private), enforcement of codes and ordinances, and responsibility for valuable property. These and other duties demand a degree of integrity and honesty that may not be required in other public service positions.

A-3-1 An individual certified as a Fire Fighter I, II, or III will have met some of the requirements for Fire Inspector I, depending on his/her level of certification.

A-3-1.2 English. Intent: The Fire Inspector should have an understanding of written and verbal communications skills. A transcript of a first semester college-level English course, or the results of a Clep test, or an

equivalent method of testing is acceptable.

A-3-1.3 Applicants shall have graduated from high school or have obtained an equivalency certificate.

From the beginning of a career in fire protection, an individual must be able to acquire and correctly associate significant quantities of information covering a wide variety of subject areas. Initially, training will be concentrated on development of manual skills and knowledge of physical sciences. Continuing education will include humanities and administration, particularly if the individual is to progress in the career ladder of his/her organization.

Although a considerable quantity of the knowledge will be obtained through in-service training, certain required levels of educational achievement can only be obtained through community colleges or similar programs at institutions of higher learning. Completion of high school (or an equivalency certificate) is considered a reasonable and identifiable benchmark whereby an applicant demonstrates through past performance the self-discipline and ability to acquire new knowledge necessary to fulfill the immediate and long-range training needs of a fire protection career.

A-3-1.5 The intent of the objective is for fire inspectors to know the chain of command within their organization and to know the type of governing body and/or management that controls the organization.

A-3-5.1 The purpose of the objective is to require the fire inspector to recognize the adaptability of various hose appliances, hose loads, and operational policies that may need to be coordinated with a fire suppression agency in order to provide adequate protection for a given facility. Thread adaptability, available water, length of hose lays, and other similar items need to be recognized and acknowledged by the fire inspector in order to insure proper fire protection.

A-3-9.4 The potential stages of fire are taken from the *Fire Protection Handbook*, 16th Edition, Page 7-6.

A-3-12.1, A-3-13.1, A-3-14.1, A-3-15.2 Chemistry. Intent: The Fire Inspector I should understand the principles of chemistry as they relate to fire protection. A transcript of a college-level chemistry course, or the results of a Clep test, or an equivalent method of testing is acceptable.

A-3-12.9.1 The systems should include those used by the Department of Transporation, the National Fire Protection Association Standard NFPA 704, and the United Nations. There may be others that relate to a particular area as well.

A-3-15.2.1 A list of common corrosives should include the following as a minimum:

hydrochloric acid
nitric acid
sulfuric acid
bromine
chlorine
fluorine
iodine
sodium hydroxide (caustic soda)
potassium hydroxide (caustic potash)
calcium oxide (quick lime)
calcium hypochlorite
hydrazine
hydrogen peroxide.

A-3-15.2.2 A listing of common reactive material should include the following as a minumum:

white or yellow phosphorus
metallic sodium
sodium hydroxide (caustic soda)
potassium hydroxide (caustic potash)
triethyl-aluminum
acetic anhydride
sodium carbide
potassium carbide
calcium carbide
sodium hydride
lithium hydride
calcium oxide (quick lime).

A-3-15.2.3 A listing of common unstable materials should include the following as a minimum:

acetaldehyde
ethylene oxide
hydrogen cyanide
ethyl acrylate
nitromethane
benzoyl peroxide
isopropyl ether.

A-3-15.2.4 A listing of common toxic materials should include the following as a minimum:

strychnine
atropine
aniline
arsenic acid
benzene
toluene
xylene
cresol
hydrogen cyanide
cyanogen chloride
sodium fluoride.

A-3-15.2.5 A listing of common radioactive materials should include the following as a minimum:

radium
cobalt
plutonium
uranium.

A-3-15.2.6 A listing of common oxidizing materials should include the following as a minimum:

sodium nitrate
potassium nitrate
ammonium nitrate
cellulose nitrate
nitric acid
ammonium nitrite
sodium peroxide
potassium peroxide

strontium peroxide
barium peroxide
hydrogen peroxide
potassium chlorate
sodium chlorite
calcium hypochlorite
ammonium dichromate
ammonium perchlorate
potassium perchlorate
sodium perchlorate
magnesium perchlorate
perchloric acid
potassium permanganate
potassium persulfate.

A-3-15.3.1 A listing of common combustible metals should include the following as a minimum:

magnesium
titanium
sodium
lithium
potassium
zirconium
calcium
zinc
sodium-potassium alloys.

A-3-15.4.1 A listing of common combustible dusts should include the following as a minimum:

cocoa
starch
grain
flour
charcoal
graphite
coal
plastic
rubber
aluminum
magnesium.

A-3-16.1.2 The intent of this objective is for the inspector to make a discriminating selection from several different types of extinguishers and to know why a type A extinguisher may not be effective on a type B fire or a type B extinguisher may not be effective on a type A fire, etc.

A-3-16.2.1 Fixed fire extinguishing systems should include those using dry chemicals, carbon dioxide, foam, foam-water, and halogenated agents as extinguishing agents.

A-3-16.5.1 The objective is intended to require inspectors to be familiar with not only pressurized water sources but also static water sources that may be available for fire protection purposes in a community.

A-3-16.5.7(d) In many resource manuals, this device is referred to as an outside stem and yoke valve.

A-3-18.2 This objective refers to an electrical system on the building side of the electrical supply meter.

A-4-1.1 Intent: The Fire Inspector II should have an understanding of basic mathematic principles for fire service application. A transcript of a college-level technical math course, or the results of a Clep test, or an equivalent method of testing is acceptable.

A-4-7.1 This objective for the Fire Inspector II refers to an in-depth knowledge of both residential and commercial heating and cooking equipment. It is differentiated from similar objectives in the Fire Inspector I area and requires the Fire Inspector II to be aware of not only the concepts utilized in the cooking equipment but also the actual mechanical operation of the equipment.

Appendix B

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

An Introduction to Fire Dynamics, NFPA
Automatic Sprinkler Systems Handbook, NFPA
Automatic Sprinkler and Standpipe Systems, NFPA
Building Construction for the Fire Service, 2nd edition, Francis Brannigan
Building Construction Related to the Fire Service, IFSTA
Conducting Fire Inspections, A Guidebook for Field Use, NFPA
Fire Inspection and Code Enforcement, IFSTA
Fire Litigation Handbook, NFPA
Fire Protection Guide on Hazardous Materials, NFPA
Fire Protection Handbook, NFPA
Fire Protection Systems, Inspection, Test and Maintenance Manual, NFPA
Flammable and Combustible Liquids Code Handbook, NFPA
Industrial Fire Hazards Handbook, NFPA
Life Safety Code Handbook, NFPA
Liquefied Petroleum Gases Handbook, NFPA
Managing Fire Services, International City Management Association, Fire Protection Publications, Stillwater, OK
National Electric Code Handbook, NFPA
NFPA Inspection Manual
NFPA 901, *Uniform Coding for Fire Protection*
Principles of Fire Protection Chemistry, NFPA
Private Fire Protection and Detection, IFSTA

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