

CERTIFICATION CURRICULUM MANUAL

CHAPTER FOUR FIRE INSPECTOR

NFPA 1030, 2024 Edition

Effective March 9, 2026



Texas Commission on Fire Protection
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COURSE OVERVIEW BASIC FIRE INSPECTOR

The Fire Inspector candidate is required to meet the Job Performance Requirements (JPRs) of chapter 7 of National Fire Protection Association (NFPA) 1030, *Standard for Professional Qualifications for Fire Prevention Program Positions, 2024 edition*.

The following items are included in Chapter 7 of the Basic Fire Inspector certification curriculum manual:

- Course Overview
- Course Outline (establishes the recommended hours for teaching this course)
- Reference List (textbooks and other recommended course materials)
- Equipment List
- Course Instructor Information
- Performance Skills List

This is a required certification; therefore, an expanded curriculum is provided as a guideline when creating your own course lesson plans.

Performance skills are available in Chapter 4 of the Performance Skills Manual.

All documents in this curriculum manual, and in the skills manual, are available free of charge to download, copy and distribute as necessary. TCFP does not provide printed copies.

Definition of a Fire Inspector

A Basic Fire Inspector is an individual who has met the requirements in Chapter 7 of NFPA 1030, *Standard for Professional Qualifications for Fire Prevention Program Positions, 2024 edition*. An individual who meets the job performance requirements specified in this standard and applies codes and standards, performs fire inspections, plans review duties, facilitates training, and resolves code-related issues.

CURRICULUM OUTLINE

BASIC FIRE INSPECTOR		
SECTION	SUBJECT	RECOMMENDED HOURS
7.1	General	2
7.2	Administration	10
7.3	Legal	2
7.4	Field Inspection	138
7.5	Plans Review	8
Recommended Hours*		160

*Actual hours required will depend on the number of students, the number of examiners, availability of equipment, and the student skill level.

REFERENCE LIST BASIC FIRE INSPECTOR

This Reference List is provided as a general guide for both instructors and students to locate information pertaining to the specific objectives in the TCFP Curriculum. This list is not all inclusive and does not in any way limit TCFP development and use of questions to test the objectives of the curriculum:

Required References

Certified Training Facilities approved to teach this curriculum must have the following reference materials:

Fire Inspection and Code Enforcement (9th ed.) (2023). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association

Local Codes and Standards

NFPA 1030 (1031): Standard for Professional Qualifications for Fire Prevention Program Positions, (2024 ed.). Quincy, MA: National Fire Protection Association. NFPA Publications

Standards Manual for Fire Protection Personnel, Austin, TX: Texas Commission on Fire Protection

Recommended References

The most current edition of the following publications is recommended (not required) supplemental material for program use.

Emergency Response Guidebook, (current edition). U.S. Department of Transportation

EQUIPMENT LIST BASIC FIRE INSPECTOR

- Applicable fire, life safety, and building codes and standards adopted by the AHJ
- AHJ policies and procedures
- Sample inspection reports
- Sample complaint reports
- Sample permit applications with associated plans
- Sample modification or variance request forms or templates
- Sample notices of violation, correction notices, and enforcement documentation
- Floor plans, site plans, facility layout diagrams, or dimensioned architectural plans
- Occupant load calculation references or forms
- Approved fire protection system drawings and specifications
- Hazardous materials inventory information or Safety Data Sheets (SDS)
- Emergency plans or evacuation diagrams
- Fire flow test data or water supply information
- Measuring tools (tape measure or laser measure), if required by the scenario
- Calculator
- Instructor-provided scenario narratives, case studies, photographs, or visual aids
- AHJ-approved inspection, re-inspection, or plan review forms
- Documentation and note-taking tools (paper or electronic)

COURSE INSTRUCTOR INFORMATION BASIC FIRE INSPECTOR

Instructor Qualifications

Fire Inspector courses must be taught by a person meeting the requirements described in Chapter 427§307 of the TCFP Standards Manual.

Supplemental Information

Instructors are expected to provide supplemental information if the main reference text does not cover all of the knowledge requirements set forth in the NFPA standard.

Certification Testing

Testing for certification in the state of Texas will be based on the knowledge and skills requirements of National Fire Protection Association (NFPA) 1030, *Standard for Professional Qualifications for Fire Prevention Program Positions*, 2024 edition, Chapter 7. All training programs must strictly adhere to the NFPA standard.

All test questions and performance skills evaluations will be based on the NFPA Job Performance Requirements (JPRs), requisite knowledge objectives, and requisite skills objectives found in the NFPA standard. Additionally, questions and performance skill evaluations may include information found in, or derived from, the NFPA standard annex, particularly Annex A, which includes explanatory material that may further clarify JPRs.

Components of the Expanded Curriculum

Each section of the curriculum identifies the NFPA JPR and subdivides the requisite knowledge requirements into learning components. For example:

Curriculum	Explanation
7.4.2 Identify the occupancy classifications of a building, given a description of the uses, so that all areas are classified in accordance with applicable codes and standards.	NFPA JPR
Requisite Knowledge: Occupancy classification, applicable codes and standards, operational features, and fire hazard classifications presented by various occupancies.	Requisite Knowledge Statement
1) Occupancy classifications	First part of Requisite Knowledge
a. (if applicable)	Associated learning components
2) Applicable codes and standards	Second part of Requisite Knowledge
a. (if applicable)	Associated learning components

3) Operational features and fire hazards	Third part of Requisite Knowledge
a. (if applicable)	Associated learning components
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Instructor Note: A.7.4.2 – Judgment should be exercised in the classification of occupancies within a building. Small uses that are an accessory to a major occupancy should be evaluated within the framework of the adopted codes and standards, recognizing that not all spaces require separation while some spaces will always require separation.</p> </div>	Refers to Annex A – Explanatory Material

NFPA Annex B Information

Refer to *Annex B: Explanation of the Professional Qualifications Standards and Concepts of JPRs* in the NFPA Standard for an explanation of the NFPA Professional Qualifications Standards, the concepts of JPRs, and the process for converting JPRs into instructional objectives.

TCFP Standards Manual

It is critical that the course instructor review the chapters in the TCFP Standards Manual that apply to this curriculum. Of primary importance are the following chapters:

- Chapter 421, Standards for Certification
- Chapter 437, Fees
- Chapter 429, Fire Inspector and Plan Examiner Certification
- Chapter 439, Examinations for Certification
- Chapter 449, Subchapter B, Head of a Prevention Only Department

These chapters do not address every issue that could impact this curriculum. Therefore, the course instructor is encouraged to become familiar with the TCFP Standards Manual.

Description of Certification Level

For additional information, see Chapter 429 of the Texas Commission on Fire Protection standards manual for fire protection personnel.

PERFORMANCE SKILLS LIST

BASIC FIRE INSPECTOR			
Category	Skill #	Functional Name	NFPA JPR #
Administration	1	Code Application, Inspection, and Report Writing	7.2.1, 7.2.2
Administration	2	Permit and Plan Review Administration	7.2.3, 7.2.4, 7.2.5
Administration	3	Complaint Investigation	7.2.6
Administration	4	Code Modification	7.2.7
Legal	5	Complaint Investigation to Policy Improvement	7.3.1, 7.3.2, 7.3.3
Field Inspection	6	Occupancy, Construction, and Life Safety Compliance	7.4.1, 7.4.2
Field Inspection	7	Construction	7.4.3
Field Inspection	8	Life Safety Compliance	7.4.6
Field Inspection	9	Fire Protection and Integrated Systems Testing	7.4.4, 7.4.5, 7.4.13, 7.4.14
Field Inspection	10	Hazardous Materials and Special Hazards Compliance	7.4.7, 7.4.10, 7.4.11
Field Inspection	11	Emergency Planning	7.4.8, 7.4.9
Field Inspection	12	Fire Growth Potential	7.4.12
Field Inspection	13	Site Inspection – Access and Fire Flow	7.4.15, 7.4.16
Plans Review	14	Occupancy Classification and Construction Type	7.5.1, 7.5.6
Plans Review	15	Fire Protection System Review and Field Comparison	7.5.3, 7.5.4
Plans Review	16	Occupancy Load Calculation and Means of Egress	7.5.2, 7.5.5

CURRICULUM MANUAL BASIC FIRE INSPECTOR

7.1 General

The Fire Inspector shall meet the job performance requirements defined in Sections 7.2 through 7.5.

Instructor Note A.7.1

The intent of the committee is that individuals at the fire inspector level perform fire safety inspections. This level can include first responder inspector individuals who through experience and formal continuing education have achieved the prerequisite knowledge and skills noted and graduates of degree programs in associated fields who can demonstrate the prerequisite knowledge and skills noted.

7.2 Administration

This duty involves conducting research, interpreting codes, implementing policy, testifying at legal proceedings, and facilitating training, according to the job performance requirements in 7.2.1 through 7.2.7.

Instructor Note A.7.2

The responsibilities and duties of this position are at a higher level than that of first responder inspector. If functions are similar or overlapping, it is assumed that those performed at this level will be at a higher technical level and will require more professional expertise, as should be visible in presentation, performance, and quality.

7.2.1 Apply applicable codes or standards, given the findings of a completed inspection, the codes and standards, and the policies of the AHJ, so that the applicable codes, standards, and policies are identified, and compliance is determined.

Requisite Knowledge: Fire behavior; fire department access; water supply; flame spread and smoke development ratings of contents, interior finishes, building construction elements, life safety systems, decorations, decorative materials, and furnishings; and safe housekeeping practices.

- 1) Fire behavior
- 2) Fire department access

- 3) Water supply
 - a. Types
 - i. Public systems
 - ii. Private systems
 - iii. Other sources
 - b. Distribution System Components
 - c. Water Supply System Testing and Inspection
 - d. Fire Flow Testing
- 4) Flame spread and smoke development ratings of:
 - a. Contents
 - b. Interior finishes
 - c. Building construction elements
 - d. Life safety systems
 - e. Decorations
 - f. Decorative materials
 - g. Furnishings
- 5) Safe housekeeping practices

Requisite Skills: The ability to observe, communicate, apply codes and standards, recognize hazardous conditions, and make correct and appropriate decisions.

7.2.2

Complete inspection reports, given agency policy and procedures and observations from an assigned field inspection, so that the report is clear and concise and reflects the findings of the inspection in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Applicable codes, standards, and policies adopted by the AHJ.

- 1) Applicable codes
 - a. Model codes
 - b. Model code organizations
 - i. International Code Council (ICC)
 - ii. National Fire Protection Association (NFPA)
 - c. Code adoption
- 2) Applicable standards
 - a. National Fire Protection Association (NFPA)
- 3) Applicable policies
 - a. Inspection priorities and frequency
 - i. Permit model

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ii. Inspection model

Requisite Skills: The ability to conduct a field inspection, apply codes and standards, and communicate orally, in writing, and electronically in a manner approved by the AHJ.

7.2.3 Process a permit application, given a specific request, so that the application is evaluated, and a permit is issued or denied in accordance with the applicable codes and standards and the policies and procedures of the AHJ.

Requisite Knowledge: Permit application process and applicable codes, standards, and policies and procedures of the AHJ.

- 1) Permit application process
- 2) Applicable codes, standards, and policies and procedures adopted by the AHJ

Requisite Skills: The ability to apply the applicable codes, standards, and policies and procedures of the AHJ to the permit application process.

7.2.4 Enforce permit regulations, given a permit application or report of a violation and applicable codes, standards, and policies of the AHJ, so that enforcement actions are taken in accordance with the applicable codes and standards and the policies of the AHJ and the violation is corrected.

Requisite Knowledge: Legal authority for permit issuance and revocation, and applicable codes and standards adopted by the AHJ.

- 1) Legal authority for permit issuance and revocation
 - a. Conditions of issuance
 - b. Liability
 - c. Authority to suspend or revoke
- 2) Applicable codes and standards adopted by the AHJ

Requisite Skills: The ability to communicate, make correct and appropriate decisions, and evaluate consequences of improper enforcement.

7.2.5 Process a plan review application, given a specific submittal, so that the application is evaluated and processed in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Plan review application process, policies, procedures, and code requirements of the AHJ.

- 1) Plan review application process
- 2) Policies and procedures
- 3) Code requirements

Requisite Skills: The ability to communicate orally, in writing, and electronically in a manner approved by the AHJ on matters related to policies, procedures, and code requirements of the AHJ.

7.2.6

Investigate complaints, given a reported situation or condition, so that complaint information is recorded, the investigation process is initiated, and the complaint is resolved or referred in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Applicable codes, standards, and policies adopted by the AHJ and policies of the AHJ.

- 1) Applicable codes and standards adopted by the AHJ
- 2) Policies adopted by the AHJ

Requisite Skills: The ability to interpret codes and standards, recognize problems, and refer complaints to other agencies when required.

Instructor Note A.7.2.6

The objective of a complaint investigation is the recognition and correction or removal of a fire or life safety hazard. The resolution of the complaint will depend heavily on the technical evaluation of the complaint and the selection of possible corrective actions. More than one solution might be available.

7.2.7

Explain the modifications process to the adopted codes and standards of the AHJ, given a fire or life safety issue, so that the proposed modifications address the problem, need, or deficiency.

Requisite Knowledge: State statutes or local ordinances establishing or empowering the AHJ to adopt, enforce, and modify codes and standards; the legal instruments establishing or adopting codes and standards; and the development and adoption process for fire and life safety legislation or regulations.

- 1) State statutes or local ordinances establishing or empowering the AHJ to adopt, enforce, and modify codes and standards
- 2) The legal instruments establishing or adopting codes and standards
- 3) The development and adoption process for fire and life safety legislation or regulations

Requisite Skills: The ability to recognize problems, collect information and develop alternative solutions.

Instructor Note A.7.2.7

Local or regional modifications to codes and standards developed through the consensus process can be made to address specific local environmental and societal factors with adequate input from affected parties and oversight by the AHJ's governing body. Such modifications should be based on substantiated information, compiled and presented to justify the impacts of the regulation or modification proposed. Data professionally presented can support a request for a governing body to modify a code or a standard.

7.3

Legal

This duty involves the ability to participate in various legal proceedings, such as enforcement of the adopted codes and standards of the AHJ, handling various complaints, and initiating legal action where necessary.

7.3.1

Understand legal proceedings, given the findings of a field inspection or a complaint and consultation with legal counsel, so that all information is presented in a factual manner.

Requisite Knowledge: The legal requirements pertaining to rules of evidence and types of legal proceedings.

- 1) The legal requirements pertaining to rules of evidence and types of legal proceedings
 - a. Texas Rules of Evidence
 - b. Types of legal proceedings
 - i. Appeals
 - ii. Criminal
 - iii. Civil

Requisite Skills: The ability to maintain a professional demeanor, communicate, listen, and differentiate facts from opinions.

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Instructor Note A.7.3.1

Inspectors should have knowledge of the process for legal proceedings in their AHJs, such as the appeals process related to code enforcement, administrative hearings, depositions, and professional demeanor for formal court appearances.

7.3.2 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 AHJ and due process of law is followed.

Requisite Knowledge: Legal procedure for fire code enforcement and authority and limitations of police powers.

- 1) Legal procedure for fire code enforcement and authority and limitations of police powers

Requisite Skills: The ability to address legal action in accordance with the policies and procedures of the AHJ.

7.3.3 Recommend policies and procedures for the delivery of inspection services, given management objectives, so that inspections are conducted in accordance with the policies of the AHJ.

Requisite Knowledge: Policies and procedures of the AHJ related to code enforcement as well as sources of detailed and technical information relating to fire protection and life safety.

- 1) Policies and procedures of the AHJ related to code enforcement
- 2) Sources of detailed and technical information relating to fire protection and life safety

Requisite Skills: The ability to identify approved construction methods and materials related to fire safety, read and interpret construction plans and specifications, educate, conduct research, make decisions, recognize problems, and resolve conflicts.

Instructor Note A.7.3.3

Mandated inspection frequencies, follow-up visits, and timely response to complaints require good time-management skills of the individual and a coordinated management program. Improvements in the delivery of inspection services can often be originated at the inspector level.

7.4 Field Inspection

This duty involves conducting fire and life safety inspections, to include enforcement actions, and analyses of new and existing structures and properties for construction, occupancy, fire protection, and exposures, according to the job performance requirements in 7.4.1 through 7.4.16.

7.4.1 Compute the maximum allowable occupant load of a building, given plans, field observations, or description of its uses, so that the maximum allowable occupant load calculation is in accordance with applicable codes and standards.

Requisite Knowledge: How to calculate occupant loads for an occupancy and for building use and code requirements, regulations, and operational features presented by various occupancies.

- 1) Calculate occupant loads for an occupancy and for building use
 - a. Code requirements
 - b. Regulations
 - c. Operational features presented by various occupancies

Requisite Skills: The ability to calculate occupant loads, identify occupancy factors related to various occupancy classifications, use measuring tools, read plans, and use a calculator.

7.4.2 Identify the occupancy classifications of a building, given a description of the uses, so that all areas are classified in accordance with applicable codes and standards.

Requisite Knowledge: Occupancy classification, applicable codes and standards, operational features, and fire hazard classifications presented by various occupancies.

- 1) Occupancy classifications
- 2) Applicable codes and standards
- 3) Operational features and fire hazards

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Requisite Skills: The ability to interpret code requirements and recognize building uses associated with each occupancy classification.

Instructor Note A.7.4.2

Judgment should be exercised in the classification of occupancies within a building. Small uses that are an accessory to a major occupancy should be evaluated within the framework of the adopted codes and standards, recognizing that not all spaces require separation while some spaces will always require separation.

7.4.3 Evaluate a building's area, height, occupancy classification, and construction type, given an approved set of plans and construction features, so that it is confirmed that the building is in compliance with applicable codes and standards.

Requisite 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.

- 1) Building construction with emphasis on fire-rated construction
- 2) Evaluation of methods of construction
- 3) Assemblies for fire rating
- 4) Analysis of test results
- 5) Manufacturer's specifications

Requisite Skills: The ability to identify characteristics of each type of building construction and occupancy classification.

Instructor Note A.7.4.3

The fire inspector should be able to assess proper construction type based on new construction or changes to a building that have occurred since the original occupancy of the building. Examples of such changes can include renovations or additions, changes in storage commodity, changes in occupancy classification, and similar changes that might occur throughout the life of a building.

7.4.4 Evaluate fire protection systems and equipment provided for life safety and property protection, given field observations and hazard classifications of

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the facility and documentation, the hazards protected, and the system specifications, so that the fire protection systems provided are approved for the occupancy, commodity, or hazard being protected.

Requisite Knowledge: Applicable codes and standards for fire protection systems, basic physical science as it relates to fire behavior and fire suppression, implications and hazards associated with system operation, installation techniques and acceptance inspection, testing and reports of maintenance of completed installations, and use and function of various systems.

- 1) Applicable codes and standards for fire protection systems
- 2) Basic physical science as it relates to fire behavior and fire suppression
- 3) Implications and hazards associated with system operation
- 4) Installation techniques and acceptance inspection
- 5) Testing and reports of maintenance of completed installations
- 6) Use and function of various systems

Requisite Skills: The ability to recognize hazards and deficiencies, use codes and standards, and read reports, plans, and specifications.

Instructor Note A.7.4.4

This requirement includes buildings under construction or demolition. Building documentation includes performance-based design documents to ensure input features remain applicable to the building as it is currently configured. The design documentation should include an operations and maintenance manual, which acts as a user guide to the performance-based design. The operations and maintenance manual includes the assumptions and estimates made during the design regarding concepts such as selected fire scenarios and fuel loads, building use, occupant characteristics, and system reliability. The inspector should be able to compare these original assumptions and estimates to those that would be used to evaluate the building as it is currently configured.

7.4.5 Witness an acceptance test for an integrated fire protection system, given approved shop drawings, test protocols, and an installed system, so that system performance can be evaluated for compliance, and deficiencies are

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identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Acceptance test procedures and applicable codes and standards.

- 1) Acceptance test procedures
- 2) Applicable codes and standards

Requisite Skills: The ability to witness and validate the performance of acceptance tests.

Instructor Note A.7.4.5

As determined by the AHJ, individuals should be able to demonstrate knowledge of the codes and standards related to the installation requirements and acceptance testing requirements for an integrated fire protection and life safety system, such as elevator recall upon activation of a fixed fire alarm system or activation and operation of a smoke removal (HVAC) system upon activation of a fire detector or suppression system, or other integrated fire protection systems of a similar nature in a structure in accordance with the applicable building, mechanical, or fire code of the jurisdiction. Test protocols might include contractor's pretest documentation, test criteria from codes and standards, and other specific test criteria as might be developed by the system designer. (See *NFPA 3*)

7.4.6 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 deficiencies are identified, documented, and reported in accordance with the policies of the AHJ.

Requisite Knowledge: Applicable codes and standards adopted by the AHJ related to means of egress elements, maintenance requirements of egress elements, types of construction, occupancy egress requirements, and the relationship of fixed fire protection systems to egress requirements and to approved means of egress elements, including, but not limited to, doors, hardware, and lights.

- 1) Acceptable means of egress devices

Requisite Skills: The ability to observe and recognize problems, calculate, make correct and appropriate decisions related to means of egress, use measuring tools, and make field sketches.

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Instructor Note A.7.4.6

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.

7.4.7 Identify hazardous conditions involving equipment, processes, and operations, given field observations and documentation, so that the equipment, processes, or operations are installed in accordance with applicable codes and standards and deficiencies are identified, documented, and reported in accordance with the policies of the AHJ.

Requisite Knowledge: Applicable codes and standards, accepted fire protection practices, fire behavior, ignition sources, safe housekeeping practices, and additional reference materials related to protection of hazardous processes and code enforcement.

- 1) Applicable codes and standards
- 2) Accepted fire protection practices
- 3) Fire behavior
- 4) Ignition sources
- 5) Safe housekeeping practices
- 6) Additional reference materials related to protection of hazardous processes and code enforcement

Requisite Skills: The ability to observe, communicate, interpret codes, recognize problems, and make decisions.

Instructor Note A.7.4.7

The fire inspector is expected to have knowledge of processes and operations that include milling operations, energy storage systems, other emerging technologies or industries, and the manufacture, storage, and use of hazardous chemicals and explosives.

7.4.8 Evaluate emergency planning and preparedness procedures, given existing or proposed plans and procedures and applicable codes and standards, so that compliance is determined.

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Requisite Knowledge: Occupancy requirements for emergency evacuation plans, fire safety programs for crowd control, roles of agencies and individuals in implementation and development of emergency plans.

- 1) Occupancy requirements for emergency evacuation plans
- 2) Fire safety programs for crowd control
- 3) Roles of agencies and individuals in implementation and development of emergency plans

Requisite Skills: The ability to compare submitted emergency plans and procedures with applicable codes and standards adopted by the AHJ.

Instructor Note A.7.4.8

Emergency planning might include components for building evacuation, sheltering of occupants in place, and securing occupants from outside threats.

7.4.9

Assist with the development and evaluation of emergency planning and procedures, given a description of a building and its use, so that plans and procedures are in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Applicable codes and standards adopted by the AHJ; purpose, use, and applicability of evacuation plans; and human behavior.

- 1) Applicable codes and standards adopted by the AHJ
- 2) Purpose, use, and applicability of evacuation plans; and human behavior

Requisite Skills: The ability to read plans and reports and recognize problems.

Instructor Note A.7.4.9

The fire inspector is expected to evaluate emergency planning and procedures, which can incorporate the location and operation of emergency shutdown systems where provided in chemical, explosive, large mechanical, high-voltage electrical, or hazardous occupancies, and occupancies where security needs involve lock-down procedures or other egress procedures.

7.4.10 Verify code compliance for storage, handling, and use of flammable and combustible liquids and gases, given field observations and inspection guidelines from the AHJ, so that deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Flammable and combustible liquids properties and hazards, safety data sheets, safe handling practices, applicable codes and standards, fire protection systems and equipment approved for the material, fire behavior, safety procedures, and storage compatibility.

- 1) Flammable and combustible liquids properties and hazards
- 2) Material safety data sheet
- 3) Safe handling practices
- 4) Applicable codes and standards
 - a. Quantity
 - b. Limits
- 5) Fire protection systems and equipment approved for the material
- 6) Fire behavior
- 7) Safety procedures
- 8) Storage compatibility

Requisite Skills: The ability to identify typical fire hazards associated with processes or operations utilizing flammable and combustible liquids and to observe, communicate, interpret codes, recognize deficiencies, and make appropriate decisions.

7.4.11 Evaluate code compliance for the storage, handling, and use of hazardous materials, given field observations, so that deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Hazardous materials properties and hazards, safety data sheets, safe handling practices, applicable codes and standards, fire protection systems and equipment approved for the material, fire behavior, safety procedures, chemical reactions, and storage compatibility.

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- 1) Hazardous materials properties and hazards
- 2) Safety data sheets
- 3) Safe handling practices
- 4) Applicable codes and standards
 - a. Quantity
 - b. Limits
- 5) Fire protection systems
- 6) Equipment approved for the material
- 7) Fire behavior
- 8) Safety procedures
- 9) Chemical reactions
- 10) Storage compatibility

Requisite Skills: The ability to identify fire hazards associated with processes or operations utilizing hazardous materials and to observe, communicate, interpret codes, recognize deficiencies, and make appropriate decisions.

7.4.12

Determine fire growth potential in a building or space, given field observations or plans, so that the contents, interior finish, and construction elements are evaluated for compliance, and deficiencies are identified, documented, and corrected in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Basic fire behavior; flame spread and smoke development ratings of contents, interior finishes, building construction elements, decorations, decorative materials, and furnishings; and safe housekeeping practices.

- 1) Basic fire behavior
- 2) Flame spread ratings of contents
- 3) Smoke development ratings of contents

- 4) Interior finishes
- 5) Building construction elements
- 6) Decorations
- 7) Decorative materials
- 8) Furnishings
- 9) Safe housekeeping practices

Requisite Skills: The ability to observe, communicate, interpret codes and standards, recognize hazardous conditions, and make appropriate decisions.

Instructor Note A.7.4.12

Fire growth is dependent on several factors, including, but not limited to, fuel load, characteristics of the materials involved, exposed surface area, material height and array, continuity of combustible materials within a space, ceiling height, and ventilation or openness of the space. Availability of an ignition source is usually not considered since fire growth is evaluated on the assumption that a fire has already begun and is not predicated on whether a fire will or will not start.

7.4.13

Verify compliance with construction documents, given a performance-based design, so that life safety systems and building services equipment are installed, inspected, and tested to perform as described in the engineering documents and the operations and maintenance manual that accompanies the design, so that deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Applicable codes and standards for installation and testing of fire protection systems, means of egress, and building services equipment.

- 1) Applicable codes and standards for installation and testing of fire protection systems
 - a. Fire sprinklers (e.g., NFPA 13)
 - b. Standpipe systems (e.g., NFPA 14)
 - c. Fire alarm systems (e.g., NFPA 72)
 - d. Fire pumps (e.g., NFPA 20)
 - e. Smoke control (e.g., International Building Code or NFPA 92A)

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f. Emergency and/or standby power requirements (e.g., International Building Code and applicable electrical code(s))

- 2) Means of egress
- 3) Building services equipment

Requisite Skills: The ability to witness and validate tests of fire protection systems and building services equipment.

Instructor Note A.7.4.13

Performance-based design involves the evaluation of risk through a systematic process. See Rose, Flamberg, and Leverenz, *Guidance Document for Incorporating Risk Concepts* into NFPA Codes and Standards, for further information. The *SFPE Guide to Performance-Based Fire Protection* also provides detailed information on how to conduct a performance-based design.

7.4.14

Verify code compliance of heating, ventilation, 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 deficiencies are identified, documented, and reported in accordance with the policies of the AHJ.

Requisite Knowledge: Types, installation, maintenance, and use of building service equipment; operation of smoke and heat vents; installation of kitchen cooking equipment (including hoods and ducts), laundry chutes, elevators, and escalators; emerging technologies and energy efficiency systems; and applicable codes and standards adopted by the AHJ.

- 1) Types of building service equipment
- 2) Installation of building service equipment
- 3) Maintenance of building service equipment
- 4) Use of building service equipment
- 5) Operation of smoke and heat vents
- 6) Installation of kitchen cooking equipment (including hoods and ducts)
- 7) Installation of laundry chutes
- 8) Installation of elevators

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9) Installation of escalators

10) Applicable codes and standards adopted by the AHJ

Requisite Skills: The ability to observe, recognize deficiencies, interpret codes and standards, and write reports.

Instructor Note A.7.4.14

The fire inspector should coordinate with other agencies within the AHJ that have expertise in the area of mechanical equipment to provide a uniform approach to achieve a fire-safe environment. There are emerging technologies in energy efficiency that the fire inspector should be aware of that these systems can impact fire growth development and fire protection system design.

7.4.15

Verify emergency access for an existing site, given field observations and approved plans, so that the required access for emergency responders is maintained and deficiencies are identified, documented, and corrected in accordance with the applicable policies of the AHJ.

Requisite Knowledge: Policies of the AHJ, and emergency access and accessibility requirements.

1) Policies of the AHJ

2) Emergency access and accessibility requirements

Requisite Skills: The ability to identify the emergency access requirements and observe and report deficiencies per the policies of the AHJ.

Instructor Note A.7.4.15

Emergency access includes emergency vehicle access roadways, pathway access from roadways to the building, fire department connections, key box facilities, gate access, and door access into structures. The fire inspector is expected to be able to find and correct deficiencies and obstructions to fire and emergency personnel access into buildings, such as blocked roadways, missing or outdated keys in key boxes, locked gates, and inaccessible doors. Actual response operations, safe zones, and vehicle size, width, and turning capabilities should be evaluated for a given site. For sites with topographical limitations, such as a riverfront or mountainside setting, alternate methods to provide access should be evaluated based upon the requirements of the responding personnel to approach and address incidents within the site.

7.4.16 Verify available 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 deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Types of water distribution systems and other water sources in the local community, water distribution system testing, characteristics of public and private water supply systems, and flow testing procedures.

- 1) Types of water distribution systems
- 2) Other water sources in the local community
- 3) Water distribution system testing
- 4) Characteristics of public water supply systems
- 5) Characteristics of private water supply systems
- 6) Flow testing procedures

Requisite Skills: The ability to use Pitot tubes, gauges, and other data gathering devices as well as the ability to graph and evaluate fire flow results.

7.5 Plans Review

This duty involves field verification of shop drawings, plans, and construction documents to ensure that they meet the intent of applicable codes and standards for fire and life safety, according to the following job performance requirements.

7.5.1 Classify an occupancy, given a set of plans, specifications, and a description of a building and its use, so that the classification is made in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Occupancy classification, applicable codes and standards, regulations, operational features, and fire hazards presented by various occupancies.

- 1) Occupancy classification presented by various occupancies

- 2) Applicable codes and standards presented by various occupancies
- 3) Regulations presented by various occupancies (e.g., applicable state licensing rules, Texas Health and Safety Code)
- 4) Operational features presented by various occupancies
- 5) Fire hazards presented by various occupancies
 - a. Assembly (e.g., decorations)
 - b. Business (e.g., combustible waste)
 - c. Education (e.g., ignition sources)
 - d. Factory/Industrial (e.g., fabrication)
 - e. High-hazard (e.g., hazardous materials)
 - f. Institutional (e.g., egress)
 - g. Mercantile (e.g., fire load)
 - h. Residential (e.g., occupant activities)
 - i. Storage (e.g., storage arrangement)
 - j. Utility/miscellaneous (e.g., combustible waste)

Requisite Skills: The ability to read plans and make appropriate decisions.

Instructor Note A.7.5.1

For facilities that might qualify for more than one occupancy classification, additional information should be sought from the applicant following the initial review of a given set of plans. Occupancy classifications affect the construction type permitted or might limit the use of the building in the future. A different construction type or a more flexible future use of the building might be possible. Judgment should be exercised in the classification of occupancies within a mixed-use building. Small uses that are accessory to a major occupancy should be evaluated within the framework of the adopted building code, recognizing that not all spaces might require separation while some spaces will always require separation.

7.5.2

Compute the maximum allowable occupant load, given a floor plan of a building or portion of the building, so that the calculated occupant load is in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: How to calculate occupant loads for an occupancy and building use, code requirements, regulations, operational features such as fixed seating, and fire hazards presented by various occupancies.

- 1) How to calculate occupant loads for an occupancy and building use

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- 2) Code requirements
- 3) Regulations
- 4) Operational features such as fixed seating
- 5) Fire hazards presented by various occupancies
 - a. Assembly (e.g., decorations)
 - b. Business (e.g., combustible waste)
 - c. Education (e.g., ignition sources)
 - d. Factory/Industrial (e.g., fabrication)
 - e. High-hazard (e.g., hazardous materials)
 - f. Institutional (e.g., egress)
 - g. Mercantile (e.g., fire load)
 - h. Residential (e.g., occupant activities)
 - i. Storage (e.g., storage arrangement)
 - j. Utility/miscellaneous (e.g., combustible waste)
- 6) Mixed-use occupancies
 - a. Incidental use areas
 - b. Accessory use areas
- 7) Design Occupant Load
 - a. Actual occupant load
 - b. Occupant load factors
 - c. Occupant load combinations
 - d. Increased occupant load
- 8) Posting of occupant load
- 9) Outdoor area occupant loads

Requisite Skills: The ability to calculate accurate occupant loads, identify occupancy factors related to various occupancy classifications, use measuring tools, read plans, and use a calculator.

Instructor Note A.7.5.2

Occupant load calculation procedures should recognize the intended use of a given space as determined in the adopted codes and be based on applying a load factor to either the net or gross area of the space. Except for public assembly occupancies, these factors are based on the overall use of a facility and do not guarantee a minimum space allocation per individual in a space.

7.5.3 Review the proposed installation of fire protection systems, given shop drawings and system specifications for a storage commodity, process, or operation, so that the system is reviewed for code compliance and installed in accordance with the approved drawings, and deficiencies are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite 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 standpipe systems and fire pumps; evaluation and testing of fixed fire suppression systems; and evaluation and testing of automatic fire detection and alarm systems and devices.

- 1) Proper selection, distribution, location, and testing of portable fire extinguishers (e.g., NFPA 10, International Fire Code)
- 2) Methods used to evaluate the operational readiness of water supply systems used for fire protection (e.g., NFPA 24, 25, 13, 14)
- 3) Evaluation and testing of automatic sprinkler, water spray, and standpipe systems and fire pumps (e.g., NFPA 13, 14, 17, 20)
- 4) Evaluation and testing of fixed fire suppression systems (e.g., NFPA 15, 16, 17A, 18, 19)
- 5) Evaluation and testing of automatic fire detection and alarm systems and devices (e.g., NFPA 72, International Fire Code)

Requisite Skills: The ability to read basic floor plans or shop drawings and identify symbols recognized by the AHJ.

Instructor Note A.7.5.3

The fire inspector is expected to be able to evaluate proposed fire protection systems and equipment for moderately technical applications. Knowledge of the compatibility and effectiveness of the protection systems and equipment with the hazard to be protected is essential.

7.5.4 Compare an approved plan to an existing fire protection system, given approved plans and field observations, so that any modifications to the system are identified, documented, and reported in accordance with the applicable codes and standards and the policies of the AHJ.

Requisite Knowledge: Fire protection symbols and terminology.

- 1) Fire protection symbols
- 2) Fire protection terminology

Requisite Skills: The ability to read and comprehend plans for fire protection systems, observe, communicate, apply codes and standards, recognize problems, and make appropriate decisions.

7.5.5 Review the means of egress elements provided, given a floor plan of a building or portion of a building, so that all elements are identified and checked against applicable codes and standards and deficiencies are discovered and communicated in accordance with the policies of the AHJ.

Requisite Knowledge: Applicable codes and standards adopted by the AHJ, the identification of standard symbols recognized by the AHJ used in plans, and field verification practices.

- 1) Applicable codes and standards adopted by the AHJ
- 2) Identification of standard symbols recognized by the AHJ used in plans
- 3) Field verification practices

Requisite Skills: The ability to read plans and research codes and standards.

7.5.6 Review the construction type of a building or portion thereof, given a set of plans and specifications, so that the construction type complies with adopted codes and standards of the AHJ.

Requisite 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.

- 1) Building construction with emphasis on fire-related construction
- 2) Evaluation of methods of construction and assemblies for fire ratings
- 3) Analysis of test results
- 4) Manufacturer's specifications

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Requisite Skills: The ability to identify characteristics of each type of building construction.

Instructor Note A.7.5.6

The fire inspector should be familiar with current building materials, concepts, and technologies. New building materials, processes, and technologies are continually being introduced in new building systems. The individual should be able to recognize new systems; research information relevant to the fire, life safety, and security impacts of a new system; and request a professional evaluation of a new system from the design engineer-of-record or architect-of-record. The individual should also be able to determine when further evaluation by an independent third party might be required.

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