DOD FIRE FIGHTER CERTIFICATION SYSTEM
STUDENT STUDY GUIDE
CDC 10312

These requirements are extracted from NFPA 1031: Professional Qualifications for Fire Inspector, 1993 edition. The relevant NFPA standard is listed in each section of the certification materials. Each section is to be used in conjunction with the NFPA standard to ensure all information is covered Instructor Guide Sheets briefly outline the information for each objective.

This Student Study Guide was develop by the AFRC Training Committee. If you have any question or comments please feel free to contact us.

The Training Committee reviews material in this volume annually for technical accuracy, adequacy, and currency.

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ATTENTION: You have completed the Fire Inspector I training. Do you qualify as an Fire Inspector II - ALMOST

REVIEW: The previous CDC has laid the groundwork for you as an Fire Inspector. Now is time to continue.

OVERVIEW: This block of instruction will provide the minimum requirements needed to legally make you a Fire Inspector II.

MOTIVATION: If you think sitting through this block and absorbing the information will qualify you as a Fire Inspector II, a quick look at the laws and penalties will tell you otherwise.

TRANSITION: Being prepared inspect a building properly will help keep you out of legal trouble. Keep this in mind as we begin.

Unit 1 **Administration**

Objectives: NFPA Standard 1031, Chapter 4, and para 4-2

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

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

Reference: NFPA 1, Fire Protection Code, (para 1-10); NFPA 101, Safety to Life from Fire in Buildings and Structures, (page 101-17 thru 18); NFPA 220, Types of Building Construction, NFPA 703, Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials

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

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

Reference: NFPA 1, Fire Protection Code, (para 1-15)

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

Reference: IFSTA, Fire Inspection and code Enforcement, (page 26-29); Local Policy

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

Reference: IFSTA, Fire Inspection and code Enforcement, (chapter 8); Local Policy

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

Reference: NFPA 1, Fire Protection Code, (para 4-2.6); Local Policy

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

Reference: IFSTA, Fire Inspection and code Enforcement, (page 27-32)

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

Reference: IFSTA, Practical Fire and Arson Investigation, Kirk's Fire Investigation

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

Reference: IFSTA, Kirk's Fire Investigation

4.3.1. **Description of Duty for Fire Inspector II –** Task within this duty include code enforcement inspections and analyses of new and existing structures and properties for construction, occupancy, fire protection and exposures.

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 8, page 62)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 4, page 25, para 4-1.11 & page 237, para A-4-1.11 thru A-4-1.2)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 8, page 62)

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

Reference: NFPA 220, Types of Building Construction, (chapter 3, pages 3-1 thru 3-5, & 5-6); NFPA 703, Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials, (chapter 2, page 2-1 thru 2-5, chapter 3, pages 5-6); NFPA 255, (chapter 3, page 10, para 3-1.7 thru 3-4)

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

Reference: NFPA 10R, Portable Fire Extinguisher in Family Dwellings, (withdrawn); NFPA 12A, Halon 1301 Fire Extinguishing System, (chapter 4, page 10-11); NFPA 13, Installation of Sprinkler Systems, (chapter 9, page 68, para 9-1.1); NFPA 13D, Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, (chapter 1, page 6, para 4-4); NFPA 13R, Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height, (chapter 2, page 13, para 2-7, page 18, para A-2-7); NFPA 14, Installation of Standpipe and Hose Systems, (chapter 6, page 186-1, page 32, para A-6-1); NFPA 16A, (chapter 6 & 4, page 9, para 4-2); NFPA 17, Dry Chemical Extinguishing Systems, (chapter 9, page 14, para 9-1.3 thru 9-1.4, 9-3 & 8-1); NFPA 2001, Clean Agent Fire Extinguishing Systems,

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

Reference: NFPA 10, Portable Fire Extinguisher, (chapter 2, para 2-1 thru 2-4, chapter 3, para 3-1.1 thru 3-6.4, chapter 4, 4-1.1 thru 4-5.5, & chapter 5, para 5-1.1 thru 5-5.4.3); NFPA 10R, Portable Fire Extinguisher in Family Dwellings, (withdrawn); NFPA 11, Low-Expansion Foam; NFPA 11A, Medium- and High- Expansion Foam Systems; NFPA 12, Carbon Dioxide Extinguishing System; NFPA 12A, Halon 1301 Fire Extinguishing System, (chapter 4, page 10-11); NFPA 17, Dry Chemical Extinguishing Systems; NFPA 25, Inspection, Testing, and Maintenance of water-Based Fire Protection Systems, (chapter 3, page 25-22 thru 25-24, para 3-1 thru 3-5, chapter 5, page 25-26 thru 25-30, para 5-1.1 thru 5-5.2, & chapter 7, page 25-32 thru 25-35, para 7-1.1 thru 7-5); IFSTA, Fire Inspection and code Enforcement, (page 111 thru 112)

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

Reference: NFPA 13, Installation of Sprinkler Systems, (chapter 8)

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

Reference: NFPA 13, Installation of Sprinkler Systems, (chapter 8)

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

Reference: IFSTA, Fire Inspection and code Enforcement, (chapter 3)

4.3.7. Analyze the egress elements of a building or portion of a building, given observations made during a field inspection, so that means of egress elements, are provided and located in accordance with applicable codes and standards and all deficiencies are discovered, noted and communicated in accordance with the policies of the agency being represented.

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 5)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 5)

4.3.7.2. *Prerequisite Skills:* Calculation of egress requirements.

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 5)

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

A-4.3.8. The Fire Inspector II is expected to have knowledge of processes and operations that include milling and the manufacture, storage and use of chemicals and explosives.

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 5)

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

Reference: NFPA 55, Storage, Use, and Handling of Compressed and Liquefied Gases in Portable Cylinders; NFPA 70, National Electrical Code; NFPA 86, Ovens and Furnaces; NFPA 96, Ventilation Control and Fire Protection of commercial Cooking Operations; NFPA 495, Explosive Materials Codes

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (para 4-2.2, A-4-2.2.2 thru A-4-2.2.4)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (para 4-2); IFSTA, Fire Inspection and Code Enforcement, (chapter 4, page 57)

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

Reference: IFSTA, Fire Inspection and Code Enforcement, (chapter 8); IFSTA Hazardous Materials Managing the Incident, (chapter 1, page 18-24)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (para 31-4.1, A-31-4.1.2, 31-5.1, 31-6.4, A-31-6.4.1, A-31-6.4.2, 31-6.5, 31-7, A-31-5.1.2 thru A-31-5.1.3); .1IFSTA Hazardous Materials Managing the Incident, (chapter 1, page 24-31, chapter 5, page 139-152, chapter 9)

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

Reference: NFPA Codes; Local Policy

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

Reference: IFSTA, Fire Inspection and Code Enforcement, (chapter 9)

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

Reference: NFPA Codes; Local Policy

4.3.12.1. *Prerequisite Knowledge:* Processes and operations utilizing flammable and combustible liquids.

Reference: NFPA 34, Dipping and Coating Processes Using Flammable or Combustible Liquids; IFSTA, Fire Inspection and Code Enforcement, (chapter 9)

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

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 8-30)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 8-30)

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

Reference: NFPA 79, Industrial Machinery, NFPA 86C, Industrial Furnaces Using a Special Processing Atmosphere, NFPA 86D, Industrial Furnaces Using Vacuum as an Atmosphere, NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 28); IFSTA, Fire Inspection and Code Enforcement

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

Reference: IFSTA, Fire Inspection and Code Enforcement, (chapter 8)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 5 & 8-29)

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

Reference: IFSTA, Fire Inspection and Code Enforcement, (chapter 8, page 212)

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

Reference: NFPA 101, Safety to Life from Fire in Buildings and Structures, (chapter 8-31); NFPA 220, Types of Building Construction

CONCLUSION

APPLICATION: Students will practice a scenario pertinent to their location.

EVALUATION: Interspersed throughout the lesson with the use of oral questions, specific exam, skill test and CerTest.

SUMMARY: Evaluating the progress of a Inspection should provide you with the input needed to complete your training.

REMOTIVATION: Now that you have completed Fire Inspector II, take what you have learned and apply your knowledge to improve your department. At this point continued to study and learn so that you can progress to the next level.

ASSIGNMENT: N/A

CLOSURE: It's time for the CerTest and then to the CDC Test.