

FIRE FIGHTER ADVISORY COMMITTEE**AGENDA****September 23, 2015 9:00 A.M.****1701 N. Congress Ave., William B. Travis Building, Room 1-104, Austin, Texas**

The Fire Fighter Advisory Committee will convene in open session to deliberate and possibly take formal action on any of the following agenda items:

- 1. Roll call - 9:00 a.m.**
- 2. Adoption of June 3, 2015 Fire Fighter Advisory Committee meeting minutes.**
- 3. Report from the Curriculum and Testing Committee with discussion and possible action on recommendations regarding possible changes to the Certification Curriculum Manual, including but not limited to the following:**
 - a. Basic Fire Suppression Curriculum, Firefighter I**
 - b. Basic Fire Suppression Curriculum, Firefighter II**
 - c. Basic Fire Suppression Curriculum outlines**
 - d. Basic Fire Suppression Curriculum reference lists**
 - e. Driver-Operator/Pumper reference list**
- 4. Discussion and possible action on proposed rule changes to title 37 TAC, Chapter 421, Standards for Certification, including but not limited to §421.5, Definitions and §421.17, Requirement to Maintain Certification.**
- 5. Discussion and possible action on proposed rule changes to title 37 TAC, Chapter 437, Fees, including but not limited to §437.3, Certification Application Processing Fees, §437.5, Renewal Fees and §437.13, Processing Fees for Test Application.**
- 6. Discussion and possible action on proposed rule changes to title 37 TAC, Chapter 441, Continuing Education, including but not limited to §441.5, Requirements.**
- 7. Discussion and possible action on the development of a voluntary Fire and Life Safety Educator certification.**
- 8. Discussion and possible action regarding requirements for advisory committee members.**
- 9. Discussion and possible action on setting future meeting dates, locations and agenda items.**
- 10. Adjourn meeting.**

1. **Roll call---9:00 a.m.**

2. **Adoption of the June 3, 2015 Fire Fighter Advisory Committee meeting minutes.**

TEXAS COMMISSION ON FIRE PROTECTION

Presiding Officer Jim Reidy called the June 3, 2015 meeting of the Fire Fighter Advisory Committee to order at 9:00 a.m. at the William B. Travis Building, 1701 N. Congress Ave., Room 1-104, in Austin, Texas.

Attending	Jim Reidy	Michael Wisko	Tommy Anderson	Amado Cano, Jr.	Ken Swindle
	Jason Collier*	Daniel DeYear	J. P. Steelman	Michael Jones	
					*absent entire meeting
					**absent part of meeting

Staff	Tim Rutland	Deborah Cowan	Joyce Guinn	Mark Roughton	Sylvia Miller
	Andrew Lutostanski, Assistant Attorney General				

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| 1. Roll call | Secretary J. P. Steelman called roll and a quorum was present. |
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| 2. Adoption of Minutes | A motion was made by Michael Wisko and seconded by J. P. Steelman to approve the minutes of the March 26, 2015, fire fighter advisory committee meeting as discussed. The motion carried. |
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| 3. Report from Curriculum & Testing Committee | Grace Wilson gave a brief update on the committee activities since last meeting. She informed the committee that there were two new Ad HOC committees one for Inspector and the other one for the AARF curricula. No action necessary. |
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| 4. 2014 Injury Report | <p>After discussion, a motion was made by Tommy Anderson and seconded by Amado Cano Jr. to recommend to the commission that cancer reporting should be included in the injury report. The cancer must be diagnosed, work related and reported to workers compensation with the specific type of cancer included. Commission to determine whether it will be mandatory or voluntary to report based on legal determination. The motion carried.</p> <p>After further discussion, a motion was made by Daniel DeYear and seconded by Tommy Anderson to include data based on the National Fire Protection Association (NFPA), U. S. Fire Administration statistics and the State Fire Marshal's Office (SFMO) TEXFIRS information regarding total number of injuries versus number of runs made by the fire department. The motion carried.</p> |
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| 5. 37 TAC, Chapter 421 | A motion was made by Tommy Anderson and seconded by Daniel DeYear to approve for recommendation to the commission amendments to 37 TAC, Chapter 421, §421.5 as discussed. The motion carried. |
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| 6. 37 TAC, Chapter 445 | A motion was made by Michael Wisko and seconded by Amado Cano, Jr. to approve for recommendation to the commission amendments to 37 TAC, Chapter 445, §445.3 and §455.5 as discussed. The motion carried. |
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| 7. Future meeting dates, locations agenda items | The next meeting was scheduled for September 23, 2015 beginning at 9:00 a.m. |
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| 8. Adjournment | A motion to adjourn was made by J. P. Steelman and seconded by Daniel DeYear. The motion carried. |
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Jim Reidy
Presiding Officer

- 3. Report from the Curriculum and Testing Committee with discussion and possible action on recommendations regarding possible changes to the Certification Curriculum Manual, including but not limited to the following:**
 - a. Basic Fire Suppression Curriculum, Firefighter I**
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 - d. Basic Fire Suppression Curriculum reference lists**
 - e. Driver-Operator/Pumper reference list**

SECTION 101

BASIC FIRE SUPPRESSION – FIREFIGHTER I

A Basic Structure Fire Protection Personnel is a fire fighter who has met all the job performance requirements (JPRs) of Fire Fighter I and Fire Fighter II as defined in NFPA 1001, *Standard for Fire Fighter Professional Qualifications*. In order to satisfactorily meet these requirements, the fire fighter trainee must meet all the JPRs and demonstrate mastery of all the knowledge, skills and ability requirements of the following components of the Texas Commission on Fire Protection Curriculum Manual:

- Chapter 1, Section 101 – 5 Basic Fire Suppression – Firefighter I
- Chapter 1, Section 102 – 6 Basic Fire Suppression – Firefighter II
- Chapter 6, Section 601 – 4 Hazardous Materials Awareness
- Chapter 6, Section 602 – 5 Hazardous Materials Operations
- Chapter 6, Section 603 – 6.2 Hazardous Materials Operations – Mission Specific Competencies – Using Personal Protective Equipment
- Chapter 6, Section 603 – 6.6 Hazardous Materials Operations – Mission Specific Competencies – Product Control

101-5.1 General

101-5.1.1 General Knowledge Requirements

The organization of the fire department; the role of the Fire Fighter I in the organization; the mission of fire service; the fire department’s standard operating procedures (SOPs) and rules and regulations as they apply to the Fire Fighter I; the value of life safety initiatives in support of the fire department mission and to reduce fire fighter line-of-duty injuries and fatalities; the role of other agencies as they relate to the fire department; aspects of the fire department’s member assistance program; the importance of physical fitness and a healthy lifestyle to the performance of the duties of a fire fighter; the critical aspects of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

1. Organization of the fire department
 - a. History
 - b. Organizational structure
2. The role of the Fire Fighter I
3. Mission of the fire service
 - a. Emergency activities
 - b. Non-emergency activities

4. The value of life safety initiatives in support of the fire department mission and to reduce fire fighter line-of-duty injuries and fatalities
 - a. Courage To Be Safe So Everyone Goes Home
5. Role of other agencies as they relate to the fire department
 - a. Private entities
 - b. Local
 - c. Regional
 - d. State
 - e. Federal
6. Aspects of the fire department's member assistance program
 - a. Critical Incident Stress Management (CISM)
 - b. Member Assistance Programs (MAP)
7. Importance of physical fitness and a healthy lifestyle to the performance of duties of a fire fighter
8. The critical aspects of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*
9. The combustion process and key terms associated with fire science
 - a. The four products of combustion commonly found in structural fires that create a life hazard
 - i. Flame
 - ii. Heat
 - iii. Smoke
 - iv. Gases and irritants
 - b. Key terms
 - i. Fire
 - ii. Flash point
 - iii. Ignition temperature
 - iv. Fire point
 - v. Flammable or explosive range
 - a) LEL
 - b) UEL
 - vi. Boiling point
 - vii. Oxidation
 - viii. Pyrolysis
 - ix. Reducing agent
 - x. Vaporization
 - xi. Combustion
 - xii. Vapor density
 - xiii. Specific gravity

xiv. Thermal layering/heat stratification/thermal balance

10. Fire theory

- a. Key terms
 - i. Fire triangle
 - ii. Fire tetrahedron
- b. Describe the relationship of the concentration of oxygen to combustibility and **life firefighter** safety
 - i. **Ventilation-limited fire conditions**
 - ii. **Flow paths**
 - iii. **Door control**

11. Identify and describe heat energy sources

- a. Chemical heat energy
- b. Electrical heat energy
- c. Mechanical heat energy
- d. Nuclear heat energy

12. The stages of a fire and describe the appropriate action to be taken for extinguishment

- a. Conditions and associated hazards and the appropriate actions to be taken for extinguishment
 - i. Ignition
 - ii. Growth
 - iii. **Decay - oxygen depleted**
 - iv. Flashover
 - v. Fully developed/fully involved
 - vi. Decay - **fuel depleted**
- b. Special conditions that occur during a fire's growth
 - i. Flameover/rollover
 - ii. Thermal layering
 - iii. **Ventilation-limited**
 - iv. Backdraft
- c. Methods of heat transfer
 - i. Conduction
 - ii. Convection
 - iii. Radiation
 - iv. Direct flame impingement

13. Physical states of matter in which fuels are commonly found

- a. Define and describe three types of fuel
 - i. Solid fuel
 - ii. Liquid fuel
 - iii. Gaseous fuel

- b. Define and describe the chemical and physical properties of fuels
 - i. Specific gravity
 - ii. Vapor density
 - iii. The theory of surface to mass ratio as it relates to the combustion process

14. Identify and describe chemical by-products of combustion

- a. Poisonous gases and irritants common in smoke
 - i. Carbon dioxide
 - ii. Carbon monoxide
 - iii. Hydrogen cyanide

15. Identify and describe the units of heat measurement

- a. British thermal unit (BTU)
- b. Fahrenheit (°F)
- c. Celsius (°C)
- d. Calorie (C)

16. Identify and describe the fire extinguishment theory

- a. Describe the fire extinguishment theory
- b. Identify and describe four methods of extinguishment
 - i. Temperature reduction
 - ii. Fuel removal
 - iii. Oxygen exclusion
 - iv. Inhibiting chemical reaction

17. Identify and describe the characteristics of water as it relates to its fire extinguishing potential

- a. Identify and describe the physical characteristics of water
- b. Identify and describe the Law of Specific Heat
- c. Identify and describe the Law of Latent heat
- d. Identify and describe the advantages and disadvantages of water as an extinguishing agent
- e. Identify and describe the Law of Heat Flow

101-5.1.2 General Skill Requirements

The ability to don personal protective clothing, doff personal protective clothing and prepare for reuse, hoist tools and equipment using ropes and the correct knot, and locate information in departmental documents and standard or code materials.

- 1. Types of personal protective equipment (PPE) ensembles
 - a. Station/work uniforms

- b. Structural firefighting
 - c. Wildland firefighting
 - d. Emergency medical service (EMS)
 - e. Specialized ensembles (i.e. ARFF, technical rescue)
2. Donning
 3. Doffing/preparing for re-use
 4. Care and maintenance
 - a. Basic inspection
 - b. Advanced inspection
 - c. Record keeping
 - d. Familiarization with NFPA 1851

101-5.2 **Fire Department Communications**

This duty shall involve initiating responses, receiving telephone calls, and using fire department communications equipment to correctly relay verbal or written information, according to the JPRs in 5.2.1 through 5.2.4.

- 101-5.2.1 Initiate the response to a reported emergency, given the report of an emergency, fire department SOPs, and communications equipment, so that all necessary information is obtained, communications equipment is operated correctly, and the information is relayed promptly and accurately to the dispatch center.
- 101-A.5.2.1 The Fire Fighter I should be able to receive and accurately process information received at the station. Fire Fighters used as telecommunicators (dispatchers) should meet the requirements of NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator*, for qualification standards and JPRs.

Requisite Knowledge. Procedures for reporting an emergency; departmental SOPs for taking and receiving alarms, radio codes, or procedures; and information needs of dispatch center.

1. Procedures for reporting an emergency
 - a. Conventional phone
 - b. Cellular phone
 - c. Call box
 - d. Telecommunication Devices for the Deaf (TDD)
 - e. Still alarms or walk-ins
 - f. Automatic alarms

2. Departmental SOPs for taking and receiving alarms
 - a. Nature of emergency
 - b. Location of emergency
 - c. Caller information
 - d. Responding units
 - e. Call back number

3. Radio codes or procedures
 - a. Clear speech – plain English
 - b. Emergency communications
 - i. Emergency communications per AHJ
 - ii. Mayday
 - iii. Evacuation order

4. Information needs of dispatch center
 - a. Nature of emergency
 - b. Location of emergency
 - c. Caller information
 - d. Responding units
 - e. Call back number

Requisite Skills. The ability to operate fire department communications equipment, relay information, and record information.

- 101-5.2.2 Receive a telephone call, given a fire department phone, so that procedures for answering the phone are used and the caller's information is relayed.

Requisite Knowledge. Fire department procedures for answering nonemergency telephone calls.

1. Departmental standard operating procedures (SOPs)
2. Phone etiquette

Requisite Skills. The ability to operate fire station telephone and intercom equipment.

- 101-5.2.3 Transmit and receive messages via the fire department radio, given a fire department radio and operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ.

Requisite Knowledge. Departmental radio procedures and etiquette for routine traffic, emergency traffic, and emergency evacuation signals.

1. Departmental radio procedures and etiquette for routine traffic
2. Departmental radio procedures and etiquette for emergency traffic
3. Departmental radio procedures and etiquette for emergency evacuation procedures

Requisite Skills. The ability to operate radio equipment and discriminate between routine and emergency traffic.

101-5.2.4 Activate an emergency call for assistance, given vision-obscured conditions, PPE, and department SOPs, so that the fire fighter can be located and rescued.

101-A.5.2.4 An emergency call for assistance can be initiated by the use of a radio, pass device, or other means to alert others to a fire fighter's need of emergency assistance. This should also include the term *mayday*, *fire fighter down*, or such other terminology as determined by the AHJ.

Requisite Knowledge. Personnel accountability systems, emergency communication procedures, and emergency evacuation methods.

1. Personnel accountability systems
 - a. Passport
 - b. Tag system
 - c. Electronic system
2. Emergency communication procedures
 - a. Radio
 - b. Face-to-face
 - c. Tagline
 - d. Evacuation signal
3. Emergency evacuation methods
 - a. Roof escape
 - b. Balcony escape
 - c. Self rescue
 - d. Ladder escape
 - e. Room escape

Requisite Skills. The ability to initiate an emergency call for assistance in accordance with the AHJ's procedures, the ability to use other methods of emergency calls for assistance.

101-5.3 **Fireground Operations**

This duty shall involve performing activities necessary to ensure life safety, fire control, and property conservation, according to the JPRs in 5.3.1 through 5.3.19.

- 101-5.3.1 Use self-contained breathing apparatus (SCBA) during emergency operations, given SCBA and other personal protective equipment, so that the SCBA is correctly donned, the SCBA is correctly worn, controlled breathing techniques are used, emergency procedures are enacted if the SCBA fails, all low-air warnings are recognized, respiratory protection is not intentionally compromised, and hazardous areas are exited prior to air depletion.
- 101-A.5.3.1 The Fire Fighter I should already be wearing full protective clothing prior to the beginning of the SCBA-donning procedure. In addition to fully donning and activating the SCBA, the Fire Fighter I should also replace any personal protective clothing (i.e., gloves, protective hood, helmet, etc.) displaced during the donning procedure and activate the personal alert safety system (PASS) device.

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

1. Conditions that require respiratory protection
 - a. Oxygen deficiency
 - b. Elevated temperatures
 - c. Toxic environments
 - d. Smoke (by-products of combustion)
2. Uses and limitations of SCBA
 - a. Wearer
 - i. Facial and long hair
 - ii. Protective clothing
 - iii. Donning
 - a) Properly donned
 - b) SCBA correctly worn
 - iv. Eyeglasses or contact lenses
 - v. Use in high or low temperatures

- vi. Accidental submersion
 - vii. Communication
 - viii. Working in teams
 - ix. Personal alert safety system (PASS)
 - x. Doffing
 - xi. Physical conditioning
 - b. Equipment
 - c. Air supply
3. Types of SCBA
- a. Open circuit
 - b. Closed circuit
 - c. Supplied air respirators (SARs)
4. Components of SCBA
- a. Backpack and harness assembly
 - b. Air cylinder assembly
 - c. Regulator assembly
 - d. Face piece assembly
 - e. PASS device
 - f. Rapid Intervention Crew/Universal Air Connection (RIC/UAC)
5. Donning and doffing procedures
- a. Over-the-head method
 - b. Coat method
 - c. Seat mounted
 - d. Compartment mounted
6. Breathing techniques
- a. Controlled breathing
 - b. Buddy breathing
7. Indications for and emergency procedures used with SCBA
- a. Use of emergency by-pass or purge valve
 - b. Rapid Intervention Crew/Universal Air Connection (RIC/UAC)
 - c. Conservation of air
8. Physical requirements of the SCBA wearer
- a. Cardiovascular conditioning
 - b. Respiratory conditioning
 - c. Psychological/emotional stability
9. Maintenance and inspections
- a. Replacing a cylinder

- b. Refilling a cylinder
- c. Cleaning
- d. Inspections
 - i. Daily
 - ii. Monthly
 - iii. Annually

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

101-5.3.2 Respond on apparatus to an emergency scene, given personal protective clothing and other necessary personal protective equipment, so that the apparatus is correctly mounted and dismounted, seat belts are used while the vehicle is in motion, and other personal protective equipment is correctly used.

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

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

1. Mounting procedures for riding fire apparatus
 - a. Hand grip
 - b. Footing
 - c. Seatbelt
2. Dismounting procedures for riding fire apparatus
3. Hazards associated with riding fire apparatus
4. Ways to avoid hazards associated with riding fire apparatus
 - a. Seated and utilizing safety restraints
 - b. Hearing protection, if required
 - c. Secure loose objects in cab
5. Prohibited practices

- a. Donning PPE while in motion
 - b. Riding on the tailboard/sideboards
6. Types of departmental personal protective equipment (PPE) and the means for usage
- a. Safety bars/gates
 - b. Safety chains

Requisite Skills. The ability to use each piece of provided safety equipment.

101-5.3.3 Establish and operate in work areas at emergency scenes, given protective equipment, traffic and scene control devices, structure fire and roadway emergency scenes, traffic hazards and downed electrical wires, an assignment, and SOPs, so that procedures are followed, protective equipment is worn, protected work areas are established as directed using traffic and scene control devices, and the fire fighter performs assigned tasks only in established, protected work areas.

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

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

Federal law requires that fire department SOPs when operating on the roadway be in compliance with the US Department of Transportation publication *Manual on Uniform Traffic Control Devices*.

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

1. Potential hazards involved in operating on emergency scenes
 - a. Vehicle traffic
 - b. Utilities
 - c. Environmental conditions
2. Proper procedures for dismounting apparatus in traffic
3. Procedures for safe operation at emergency scenes
4. Protective equipment available for members' safety on emergency scenes
5. Protective equipment available for members' safety on work zone designations

Requisite Skills. The ability to use personal protective clothing, deploy traffic and scene control devices, dismount apparatus, and operate in the protected work areas as directed.

101-5.3.4 Force entry into a structure, given personal protective equipment, tools, and an assignment, so that the tools are used as designed, the barrier is removed, and the opening is in a safe condition and ready for entry.

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

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

1. Basic construction types within the department's community or service area
 - a. Doors
 - i. Swinging doors
 - a) Inward opening
 - b) Outward opening
 - c) Double swing
 - ii. Wooden doors
 - iii. Metal doors
 - iv. Tempered plate glass doors
 - v. Revolving doors

- vi. Sliding doors
 - vii. Overhead doors
 - viii. Fire doors
 - b. Windows
 - i. Checkrail windows (double-hung)
 - ii. Casement windows (hinged)
 - iii. Projected windows (factory)
 - iv. Awning and jalousie windows
 - v. Plastic windows (high security)
 - vi. Screened or barred windows
 - c. Walls
 - i. Masonry and veneered walls
 - ii. Metal walls
 - iii. Wood frame walls
 - iv. Partition walls
2. Operation
- a. Doors
 - b. Windows
 - c. Locks
3. Dangers associated with forcing entry
- a. Through doors
 - b. Through windows
 - c. Through walls
4. Tools
- a. Cutting tools
 - b. Prying tools
 - c. Pushing/pulling tools
 - d. Striking tools
5. Maintenance of tools
- a. Axe heads and cutting edges
 - b. Wooden handles
 - c. Fiberglass handles
 - d. Unprotected metal surfaces
 - e. Power equipment

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

101-5.3.5 Exit a hazardous area as a team, given vision-obscured conditions, so that a safe haven is found before exhausting the air supply, others are not endangered, and the team integrity is maintained.

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

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

1. Personnel accountability systems
 - a. Passport
 - b. Tag system
 - c. Electronic system
2. Communication procedures
 - a. Radio
 - b. Face-to-face
 - c. Tagline
 - d. Evacuation signal
3. Emergency evacuation methods
 - a. Roof escape
 - b. Balcony escape
 - c. Self rescue
 - d. Ladder escape
 - e. Room escape
4. What constitutes a safe haven/refuge
 - a. Absence of immediately dangerous to life and health (IDLH) hazard
 - b. Area outside of collapse zone
5. Elements that indicate or create a hazard
6. Emergency procedures for loss of air supply
 - a. Stay calm/don't panic

- b. Activate PASS device
- c. Declare Mayday

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

101-5.3.6 Set up ground ladders, given single and extension ladders, an assignment, and team members if needed, so that hazards are assessed, the ladder is stable, the angle is correct for climbing, extension ladders are extended to the necessary height with the fly locked, the top is placed against a reliable structural component, and the assignment is accomplished.

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

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

1. Parts of a ladder
 - a. Beam
 - b. Bed section
 - c. Butt
 - d. Butt spur
 - e. Fly section
 - f. Guides
 - g. Halyard
 - h. Heat sensor label
 - i. Hooks
 - j. Pawls (dogs)
 - k. Protection plates
 - l. Pulley
 - m. Rail
 - n. Rung
 - o. Staypole
 - p. Stops
 - q. Tie rod
 - r. Tip
2. Hazards associated with setting up ladders
 - a. Overhead obstruction (energized power lines)

- b. Lifting and moving
 - c. Uneven terrain
 - d. Soft spots
 - e. High traffic areas (doorways)
 - f. Exposure to flame or heat
3. What constitutes a stable foundation for ladder placement
 - a. Flat, stable surface
 - b. Non-skid surface
 4. Different angles for various tasks
 - a. Roof
 - b. Window
 - i. Entry
 - ii. Ventilation or working
 - iii. Rescue set
 5. Safety limits to the degree of angulation
 6. What constitutes a reliable structural component for top placement

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

101-5.3.7 Attack a passenger vehicle fire operating as a member of a team, given personal protective equipment, attack line, and hand tools, so that hazards are avoided, leaking flammable liquids are identified and controlled, protection from flash fires is maintained, all vehicle compartments are overhauled, and the fire is extinguished.

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

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

1. Principles of fire streams as they relate to vehicle fires

- a. Straight stream
 - b. Full fog
 - c. Power cone
2. Precautions to be followed when advancing hose lines toward a vehicle
 - a. Uphill
 - b. Upwind
 - c. 45 degree angle approach
3. Observable results that a fire stream has been properly applied
4. Identifying alternative fuels and the hazards associated with them
 - a. Compressed Natural Gas (CNG)
 - b. Liquefied Petroleum Gas (LPG)
 - c. Ethanol
 - d. High voltage electrical power
5. Dangerous conditions created during a vehicle fire
 - a. Energy absorbing bumpers
 - b. Hydraulic pistons (supports)
 - i. Hatchbacks
 - ii. Trunks
 - iii. Tailgates
 - iv. Hoods
 - c. Shock absorbers/struts
 - d. Toxic by-products of combustion
 - e. Supplemental Restraint System (SRS)
 - f. Side Impact Protection System (SIPS)
 - g. Batteries
 - h. Combustible metals
6. Common types of accidents or injuries related to fighting vehicle fires and how to avoid them
 - a. Traffic hazards
 - b. Injuries
 - c. Respiratory
7. Access compartments
 - a. Passenger
 - b. Trunk
 - c. Engine
8. Methods for overhauling a vehicle

- a. Chock wheels
- b. Disable battery
- c. Apply water thoroughly
- d. Confirm no leaking fluids or fuels

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

101-5.3.8 Extinguish fires in exterior Class A materials, given fires in stacked or piled and small unattached structures or storage containers that can be fought from the exterior, attack lines, hand tools and master stream devices, and an assignment, so that exposures are protected, the spread of fire is stopped, collapse hazards are avoided, water application is effective, the fire is extinguished, and signs of the origin area(s) and arson are preserved.

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

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

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

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

obvious signs of origin and cause; and techniques for the preservation of fire cause evidence.

1. Types of attack lines and water streams appropriate for attacking stacked, piled materials and outdoor fires
 - a. Types of attack lines
 - i. $\frac{3}{4}$ or 1 inch (booster or reel line)
 - ii. $1\frac{1}{2}$ to $1\frac{3}{4}$ inches
 - iii. 2 to $2\frac{1}{2}$ inches
 - iv. 3 inch or greater
 - b. Water streams
 - i. Low volume (less than 40 GPM)
 - ii. Handline (40 to 350 GPM)
 - iii. Master (350 GPM or greater)
2. Dangers associated with stacked and piled materials
 - a. Collapse
 - b. Energized sources
 - c. Products of combustion
 - d. Increased weight (absorption of water)
 - e. Exposures
3. Various extinguishing agents and their effects on different material configurations
 - a. Water
 - i. Cooling
 - ii. Increased surface tension
 - b. Foam
 - i. Blanketing or smothering
 - ii. Cooling
 - iii. Decreased surface tension
4. Tools and methods to use in breaking up various types of materials
 - a. Tools
 - i. Pike pole
 - ii. Rubbish hook
 - iii. Rake
 - b. Heavy equipment
 - i. Tractor
 - ii. Dozer
5. Difficulties related to complete extinguishment of stacked and piled materials
 - a. Agent penetration

- b. Access
 - c. Density of material
 - d. Height and area of pile
6. Water application methods for exposure protection and fire extinguishment
 - a. Direct application
 - b. Indirect application
 7. Dangers such as exposure to toxic or hazardous materials associated with storage building and container fires
 8. Obvious signs of origin and cause
 - a. Burn pattern
 - b. Charring
 - c. Evidence of accelerants
 - d. Trailers
 9. Techniques for the preservation of fire cause evidence
 - a. Protect evidence
 - b. Preserve area
 - c. Limit access

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

101-5.3.9 Conduct a search and rescue in a structure operating as a member of a team, given an assignment, obscured vision conditions, personal protective equipment, a flashlight, forcible entry tools, hose lines, and ladders when necessary, so that ladders are correctly placed when used, all assigned areas are searched, all victims are located and removed, team integrity is maintained, and team members' safety — including respiratory protection — is not compromised.

101-A.5.3.9 Fire departments and training organizations must use reason and good judgment when training fire fighters to perform fire fighter rescue (rapid intervention) and self-survival evolutions. Training programs should put more emphasis on avoiding being trapped or disoriented in severe fire conditions than they should on getting out of them. While learning practical

fire fighter rescue and self-survival skills is important, the particular skills that are taught should not require fire fighters to use tools beyond the limits of their intended use, should not place the fire fighters in an inordinate amount of danger during the training evolutions, and should be techniques that could realistically be required on the fireground. Fire departments and training organizations should balance the risk of injury or death to the fire fighter during training on these evolutions with the actual chance that they would ever need to apply them in real life. There are numerous accounts of fire fighters being injured or killed during rapid intervention and self-survival training of skills that will never, or should never, be performed on the fireground. One example of these questionable techniques is sliding down ground ladders. In the rare event that more than one fire fighter will need to exit the same window in an expedient manner, once the first fire fighter steps down two or three rungs, they are not obstructing the next fire fighter from exiting the window. Yet, numerous fire fighters have been seriously injured or died attempting to perform this task in training.

From NFPA 1001 (2013 Edition) Annex, A.5.3.9(B):

“It is not the intent of the Technical Committee on Fire Fighter Professional Qualifications to prohibit a fire fighter from partially or completely removing the backpack assembly, as an emergency procedure only, to exit through a restricted passage, without removing the face piece or compromising the air supply in any manner.”

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

1. Use of forcible entry tools during rescue operations
 - a. Striking
 - b. Prying
 - c. Cutting
 - d. Pulling

2. Ladder operations for rescue
 - a. Conscious victim
 - b. Unconscious victim
 - c. Fire fighter rescue

3. Psychological effects of operating in obscured conditions and ways to manage them
4. Methods to determine if an area is tenable
 - a. Level of heat
 - b. Smoke
 - c. Ventilation-limited fire conditions**
 - d. Creation of flow paths**
 - e. Structural stability
 - f. Risk/benefit analysis
5. Primary and secondary search techniques
 - a. Define the following
 - i. Primary search
 - ii. Secondary search
 - b. Search techniques
 - i. Right hand/left hand
 - ii. Large area/small area considerations
 - iii. Rope assisted, or hose line
 - iv. Tools **(used to extend reach during search)**
 - v. **Vent-Enter-Isolate-Search (VEIS)**
6. Team members' roles and goals
 - a. Finding victims
 - b. Obtaining information on the extent of the fire
 - c. Search priorities
 - i. Closest to fire area
 - ii. Remainder of fire floor
 - iii. Floor above
 - iv. Floor below
 - d. Rescue vs. recovery
7. Methods to use and indicators of finding victims
 - a. Probable victim locations
 - i. Behind doors
 - ii. Under windows
 - iii. On/under beds
 - iv. In closets
 - v. In bathtubs
 - b. Additional considerations
 - i. Type of occupancy
 - ii. Time of day
 - iii. Building size and arrangement
 - iv. Information from neighbors

- v. Occupant indicators
 - a) Vehicles in driveway
 - b) Toys in yard
- c. Call out/listen
- d. Victim sighting through opening (i.e. window/door)
- e. **Door control to prevent flow paths**

- 8. Victim removal methods
 - a. Types of carries
 - i. Extremity carry
 - ii. Seat carry
 - iii. Chair carry
 - iv. Webbing drag
 - v. Blanket drag
 - vi. Ladder rescue
 - a) Conscious
 - b) Unconscious
 - b. Securing of a victim
 - i. Basket
 - ii. Stretcher
 - iii. Long spine board
 - iv. Other devices

- 9. Considerations related to respiratory protection
 - a. Personal use/work time
 - b. Emergency procedures
 - c. Rescue air/RIT pak
 - d. Conditions for use
 - i. Heat
 - ii. Smoke
 - iii. Oxygen deficiency
 - iv. Toxic atmospheres

Requisite Skills. The ability to use SCBA to exit through restricted passages, set up and use different types of ladders for various types of rescue operations, rescue a fire fighter with functioning respiratory protection, rescue a fire fighter whose respiratory protection is not functioning, rescue a person who has no respiratory protection, and assess areas to determine tenability.

- 101-5.3.10 Attack an interior structure fire operating as a member of a team, given an attack line, ladders when needed, personal protective equipment, tools, and an assignment, so that team integrity is maintained, the attack line is deployed for advancement, ladders are correctly placed when used,

access is gained into the fire area, effective water application practices are used, the fire is approached correctly, attack techniques facilitate suppression given the level of the fire, hidden fires are located and controlled, the correct body posture is maintained, hazards are recognized and managed, and the fire is brought under control.

101-A.5.3.10 The Fire Fighter I should be proficient in the various attack approaches for room and contents fires at three different levels (at grade, above grade, and below grade). Maintenance of body posture in the standard refers to staying low during initial attack, protecting oneself from falling objects, and otherwise using common sense given the state of the fire's growth or suppression. Live fire evolutions should be conducted in accordance with the requirements of NFPA 1403, *Standard on Live Fire Training Evolutions*. It is further recommended that prior to involvement in live fire evolutions, the fire fighter demonstrates the use of SCBA in smoke and elevated temperature conditions. In areas where environmental or other concerns restrict the use of Class A fuels for training evolutions, properly installed and monitored gas-fueled fire simulators might be substituted.

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

1. Principles of fire streams
 - a. Definitions
 - i. Pressure
 - ii. Friction loss
 - iii. Elevation loss/gain
 - iv. Fire stream
 - v. Vaporization
 - vi. Latent heat vaporization
 - vii. British Thermal Unit (BTU)
 - viii. Water hammer
 - b. Fire streams
 - i. Low-volume stream
 - ii. Handline stream

- iii. Master stream
- iv. Cooling/extinguishing properties

2. Types of nozzles

- a. Solid stream
 - i. Types
 - ii. Advantages
 - iii. Disadvantages
 - iv. Flow rate
- b. Fog stream
 - i. Types
 - ii. Advantages
 - iii. Disadvantages
 - iv. Flow rate
 - v. Water flow adjustment
 - a) Manually adjustable
 - b) Automatic (constant-pressure)
 - vi. Stream patterns
 - a) Straight stream
 - b) Narrow fog
 - c) Wide fog
 - vii. Broken stream
 - a) Types
 - b) Advantages
 - c) Disadvantages
 - d) Flow rate
- c. Specialty nozzles
 - i. Types
 - ii. Advantages
 - iii. Disadvantages
 - iv. Flow rate

3. Design of nozzles

- a. Solid stream nozzle
 - i. Components/parts
 - ii. Operating pressure
 - a) 50 psi hand line
 - b) 80 psi master stream
- b. Fog stream nozzle
 - i. Components/parts
 - ii. Operating pressure
 - a) 100 psi hand line
 - b) 50-75 psi low pressure hand line
 - c) 100 psi master stream

- c. Broken stream nozzle
 - i. Components/parts
 - ii. Operating pressure varies by design
- 4. Operation of nozzles
 - a. Operating valves
 - i. Ball valve
 - ii. Slide valve
 - iii. Rotary control valve
 - b. Flow selection
 - i. Automatic
 - ii. Adjustable
 - iii. Fixed
- 5. Nozzle pressure effects
 - a. Reach
 - i. Solid stream
 - ii. Fog stream
 - iii. Broken stream
 - b. Nozzle reaction
 - i. Solid stream
 - ii. Fog stream
 - iii. Broken stream
 - c. Water pattern
 - i. Solid stream
 - ii. Straight stream
 - iii. Narrow fog
 - iv. Wide fog
 - v. Broken stream
 - d. **Flow paths caused by air entrainment**
 - i. **Solid or straight streams**
 - ii. **Fog streams**
- 6. Flow capabilities of nozzles
 - a. Low volume nozzles – 40 GPM or less
 - b. Hand line nozzles – 40-350 GPM
 - c. Master stream nozzles – 350 GPM and above
- 7. Precautions to take when advancing hose lines to a fire
 - a. Into a structure
 - b. Up a stairway
 - c. Down a stairway
 - d. From a standpipe
 - e. Up a ladder

8. Observable results that a fire stream has been properly applied
 - a. Direct attack
 - i. Smoke
 - ii. Heat
 - iii. Flame
 - b. Indirect attack
 - i. Smoke
 - ii. Heat
 - iii. Flame
 - iv. Patterns
 - a) T pattern
 - b) Z pattern
 - c) O pattern
 - c. Combination attack
 - i. Smoke
 - ii. Heat
 - iii. Flame
 - iv. Patterns
 - a) T pattern
 - b) Z pattern
 - c) O pattern
9. Dangerous building conditions created by fire
 - a. Flashover
 - b. Rollover
 - c. Ventilation-limited**
 - d. Backdraft
 - e. Smoke explosion
 - f. Imminent building collapse
 - g. Fire behind, below, or above attack team
 - h. Kinks or obstructions to the hose line
 - i. Holes, weak stairs, or other fall hazards
 - j. Suspended loads on fire-weakened supports
 - k. Hazardous or highly flammable commodities likely to spill
 - l. Electrical shock hazards
10. Principles of exposure protection
 - a. Conduction
 - b. Convection
 - c. Radiation
 - d. Direct flame impingement

11. Potential long-term consequences of exposure to products of combustion
 - a. Respiratory diseases
 - b. Cardiovascular diseases
 - c. Stroke
 - d. Cancer
 - e. Death

12. Physical states of matter in which fuels are found
 - a. Solid
 - b. Liquid
 - c. Gaseous

13. Common types of accidents or injuries and their causes
 - a. Common injuries
 - b. Common activities
 - c. Common causes
 - i. Slips, trips, falls
 - ii. Failure to wear proper PPE
 - iii. Failure to follow safety procedures

14. Application of each size and type of attack line
 - a. 30-350 GPM
 - b. 1½" to 3" hose lines
 - c. AHJ

15. The role of the backup team in fire attack situations
 - a. "Two-in/two-out" rule
 - b. Fire fighter rescue
 - c. AHJ

16. Attack and control techniques for grade level, above grade level and below grade level
 - a. Grade level
 - i. Single story structures
 - ii. Large single story structures
 - b. Above grade level
 - i. Multi-story structures
 - ii. Low-rise
 - iii. Mid-rise
 - iv. High-rise
 - c. Below grade level
 - i. Basements
 - ii. Vaults

- d. **Coordinating fire attack with ventilation**
- e. **Exterior offensive attack**
 - i. **Blitz attack**
 - ii. **Transitional attack**
 - iii. **Softening the target**

17. Exposing hidden fires

- a. Overhaul techniques
 - i. Opening walls
 - ii. Opening floors
 - iii. Opening ceilings
- b. Other concealed spaces – special considerations
 - i. Utility chutes/shafts
 - ii. Cocklofts
 - iii. Attics
 - iv. Basements
 - v. Other

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

- 101-5.3.11 Perform horizontal ventilation on a structure operating as part of a team, given an assignment, personal protective equipment, ventilation tools, equipment, and ladders, so that the ventilation openings are free of obstructions, tools are used as designed, ladders are correctly placed, ventilation devices are correctly placed, and the structure is cleared of smoke.

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

1. Principles, advantages, limitations and effects of horizontal, mechanical and hydraulic ventilation
 - a. Purposes
 - i. Life safety
 - ii. Fire attack and extinguishment
 - iii. Fire spread control
 - iv. Reduce flashover potential
 - v. Reduce backdraft potential
 - vi. Property conservation
 - b. Types of horizontal ventilation
 - i. Natural
 - ii. Mechanical
 - a) Positive pressure
 - b) Negative pressure
 - c) Hydraulic
 - c. Advantages
 - i. Natural
 - ii. Mechanical
 - a) Positive pressure
 - b) Negative pressure
 - c) Hydraulic
 - d. Limitations
 - i. Natural
 - ii. Mechanical
 - a) Positive pressure
 - b) Negative pressure
 - c) Hydraulic
 - e. Effects
 - i. Natural
 - ii. Mechanical
 - a) Positive pressure
 - b) Negative pressure
 - c) Hydraulic
2. Safety considerations when venting a structure
 - a. Life safety hazards
 - b. Determining the location and extent of the fire
 - c. Identifying building construction features
 - d. **Flow paths**
 - e. Predicting fire travel and growth
3. Fire behavior in a structure
 - a. Products of combustion
 - b. Behavior of heat, smoke and fire gases

- c. Airflow characteristics
- 4. Products of combustion found in a structure fire
 - a. Heat
 - b. Smoke
 - c. Gases and irritants
- 5. Backdrafts
 - a. Signs
 - b. Causes
 - c. Effects
 - d. Prevention
- 6. Relationship of oxygen concentration to life safety and fire growth
 - a. **Firefighter safety**
 - b. **Victim safety**

Requisite Skills. The ability to transport and operate ventilation tools and equipment and ladders, and to use safe procedures for breaking window and door glass and removing obstructions.

- 101-5.3.12 Perform vertical ventilation on a structure as part of a team, given an assignment, personal protective equipment, ground and roof ladders, and tools, so that ladders are positioned for ventilation, a specified opening is created, all ventilation barriers are removed, structural integrity is not compromised, products of combustion are released from the structure, and the team retreats from the area when ventilation is accomplished.

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

- 1. Methods of heat transfer
 - a. Conduction
 - b. Convection
 - c. Radiation
 - d. Direct flame impingement
- 2. Principles of thermal layering within a structure on fire
 - a. Definition of thermal layering (i.e. heat stratification, thermal balance)

- b. Thermal layering as it relates to ventilation
 - c. Thermal layering in relation to life safety/rescue
3. Roof Styles
- a. Flat
 - b. Pitched
 - i. Hip
 - ii. Gable
 - iii. Mansard
 - iv. Shed
 - v. Butterfly
 - vi. Gambrel
4. Techniques and safety precautions for venting flat roofs
- a. Weather conditions
 - b. Determining need
 - c. Exposures
 - d. Obstructions/weight on roof
 - e. Maintain structural support integrity during cut
 - f. PPE
 - g. Tools
 - h. Ladder placement
 - i. Sounding roof
 - j. Slips, trips, and falls
 - k. Reduced visibility
 - l. Equipment safety
 - m. Location of vent cut
 - n. Secondary means of escape
 - o. Personnel
 - p. Types of cuts
5. Techniques and safety precautions for venting pitched roofs
- a. Angle of pitch
 - b. Weather conditions
 - c. Determining need
 - d. Exposures
 - e. Obstructions/weight on roof
 - f. Maintain structural support integrity during cut
 - g. PPE
 - h. Tools
 - i. Ladder placement
 - j. Sounding roof
 - k. Slips, trips, and falls
 - l. Reduced visibility

- m. Equipment safety
 - n. Location of vent cut
 - o. Secondary means of escape
 - p. Personnel
 - q. Types of cuts
6. Techniques and safety precautions for venting basements
- a. Determining need
 - b. Exposures
 - c. Obstructions/weight on floor above
 - d. Maintain structural support integrity during cut
 - e. PPE
 - f. Tools
 - g. Slips, trips, and falls
 - h. Reduced visibility
 - i. Equipment safety
 - j. Location of ventilation openings
 - k. Personnel
7. Basic indicators of potential collapse or roof failure
- a. Construction
 - i. Solid beam
 - ii. Light weight trusses
 - b. Size up
 - i. Sagging roof
 - ii. Spongy roof
 - iii. Melting tar
 - iv. Smoke seepage
 - v. Visible fire
 - c. Elapsed time of fire
8. Effects of construction type
- a. Structural integrity
 - b. Fire spread
9. Elapse time under fire conditions on structural integrity
10. Vertical ventilation
- a. Advantages
 - b. Disadvantages
11. Trench/strip ventilation
- a. Advantages
 - b. Disadvantages

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

- 101-5.3.13 Overhaul a fire scene, given personal protective equipment, attack line, hand tools, a flashlight, and an assignment, so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished.

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

1. Types of fire attack lines and water application devices most effective for overhaul
 - a. Attack lines
 - b. Fire extinguishers
 - c. Buckets and basins
 - d. SOPs per AHJ
2. Water application methods for extinguishment that limit water damage
 - a. Water conservation
 - b. Soaking in buckets and basins
3. Types of tools to expose hidden fire
 - a. Prying and pulling tools
 - b. Cutting tools
 - c. Striking tools
 - d. Power tools
 - e. Thermal imaging camera
4. Methods to expose hidden fires
 - a. Sight
 - b. Touch
 - c. Sound
 - d. Electronic instruments

5. Dangers associated with overhaul
 - a. Toxic atmospheric conditions
 - b. Weakened floors and structural members
 - c. Sharp objects and debris
 - d. Utilities
 - e. Slippery surfaces
6. Obvious signs of area of origin or signs of arson
 - a. Burn patterns
 - b. Smoke markings
 - c. Physical evidence
7. Reasons for protection of fire scene
 - a. Securing the scene
 - b. Preservation of evidence

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

- 101-5.3.14 Conserve property as a member of a team, given salvage tools and equipment and an assignment, so that the building and its contents are protected from further damage.

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

1. The purpose of property conservation and its value to the public
2. Methods used to protect property
 - a. Removal of property
 - b. Protection of property in place
3. Types and uses of salvage covers
 - a. Types
 - b. Uses
 - i. Cover property

- ii. Construct basins, chutes and catchalls
 - iii. Floor runners
 - iv. Debris removal
- 4. Operations at properties protected with automatic sprinklers
- 5. How to stop the flow of water from an automatic sprinkler head
 - a. Sprinkler stops and wedges
 - b. Operate main control valves
- 6. Identification of the main control valve on an automatic sprinkler system
 - a. Sprinkler riser
 - b. Indicating valves
 - i. Outside stem and yoke (OS&Y)
 - ii. Butterfly valve
 - iii. Wall post indicator valve (WPIV)
 - iv. Post indicator valve (PIV)
 - v. Post indicator valve assembly (PIVA)
- 7. Forcible entry issues related to salvage
 - a. Utilize forcible entry only when necessary
 - b. Try before you pry

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

101-5.3.15 Connect a fire department pumper to a water supply as a member of a team, given supply or intake hose, hose tools, and a fire hydrant or static water source, so that connections are tight and water flow is unobstructed.

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

Requisite Knowledge. Loading and off-loading procedures for mobile water supply apparatus; fire hydrant operation; and suitable static water supply sources, procedures, and protocol for connecting to various water sources.

1. Loading and off-loading procedures for mobile water supply apparatus (AHJ)
 - a. Portable water tanks
 - b. Drafting and siphoning appliances
 - c. Relay pumping apparatus
 - d. Fill apparatus and drafting appliances
 - e. Portable pumps
 - f. Fire hydrant appliances
 - g. Dry hydrants or suction supply points
2. Fire hydrant operation
 - a. Types
 - i. Dry barrel hydrant
 - ii. Wet barrel hydrant
 - b. Color coding
 - i. Class AA light blue
 - ii. Class A green
 - iii. Class B orange
 - iv. Class C red
3. Suitable static water supply sources
 - a. Lakes
 - b. Rivers
 - c. Streams
 - d. Ponds
 - e. Pools
4. Procedures protocol for connecting to various water sources
 - a. Hydrant to pumper connection
 - i. Forward hose lay
 - ii. Reverse hose lay
 - b. Drafting

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

- 101-5.3.16 Extinguish incipient Class A, Class B, and Class C fires, given a selection of portable fire extinguishers, so that the correct extinguisher is chosen,

the fire is completely extinguished, and correct extinguisher-handling techniques are followed.

101-A.5.3.16 The Fire Fighter I should be able to extinguish incipient Class A fires such as wastebaskets, small piles of pallets, wood, or hay; Class B fires of approximately 9 ft² (0.84 m²); and Class C fires where the electrical equipment is energized. If the Fire Department has Class D or K type extinguishers, the fire fighter should be knowledgeable on the devices and their use.

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

1. Classifications of fire
 - a. Class A – ordinary combustible materials
 - b. Class B – flammable and/or combustible liquids and gases
 - c. Class C – energized electrical equipment
 - d. Class D – combustible metals
 - e. Class K – combustible cooking oils

2. Types of fire
 - a. Combustible materials
 - b. Flammable liquids and gases
 - c. Energized electrical equipment
 - d. Combustible metals
 - e. Combustible cooking oils

3. Rating systems for fire
 - a. Class A test
 - i. Wood panel
 - ii. Wood crib
 - b. Class B test
 - i. Pan of flammable liquid
 - ii. n-heptane used
 - c. Class C test
 - i. Applies to energized electrical fires only
 - ii. De-energized equipment is treated as a class A, B or D fire
 - d. Class D test
 - i. Metal fires only
 - ii. Dry powder agent must be formulated to the specific metal
 - e. Class K test

- i. Cooking oil fires
 - ii. Uses a specialized extinguishing agent
- 4. Operating methods of portable extinguishers
 - a. Acronym PASS
 - i. Pull
 - ii. Aim
 - iii. Squeeze
 - iv. Sweep
 - b. Distance from the fire
- 5. Limitations of portable extinguishers
 - a. Type of agent for fire
 - b. Size of extinguisher for fire

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

- 101-5.3.17 Illuminate the emergency scene, given fire service electrical equipment and an assignment, so that designated areas are illuminated and all equipment is operated within the manufacturer's listed safety precautions.

Requisite Knowledge. Safety principles and practices, power supply capacity and limitations, and light deployment methods.

- 1. Safety principles and practices
 - a. Safely lifts equipment during set up
 - b. Locates the power plant in a remote and well-ventilated position
 - c. Arranges power cords neatly to minimize tripping hazards
 - d. Ground Fault Interrupter (GFI) operations
- 2. Power supply capacity and limitations
 - a. Power supply (portable or mounted)
 - b. Lights
 - c. Auxiliary equipment
 - d. Cords
 - e. Connectors
- 3. Light deployment methods
 - a. Organizes lights to illuminate area sufficiently
 - b. Follow equipment operating guidelines

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

- 101-5.3.18 Turn off building utilities, given tools and an assignment, so that the assignment is safely completed.

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

1. Electrical systems
 - a. Properties
 - b. Principles
 - c. Safety concerns
2. Gas systems
 - a. Properties
 - b. Principles
 - c. Safety concerns
3. Water systems
 - a. Properties
 - b. Principles
 - c. Safety concerns
4. Utility disconnect methods
 - a. Electrical
 - i. Electric meter
 - ii. Main breaker box
 - b. Natural gas meter
 - c. Water meter
5. Dangers associated with utility disconnect methods
 - a. Electrocutation
 - b. Fire/explosion
6. Use of required safety equipment (AHJ)

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

- 101-5.3.19 Combat a ground cover fire operating as a member of a team, given protective clothing, SCBA if needed, hose lines, extinguishers or hand

tools, and an assignment, so that threats to property are reported, threats to personal safety are recognized, retreat is quickly accomplished when warranted, and the assignment is completed.

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

Requisite Knowledge. Types of ground cover fires, parts of ground cover fires, methods to contain or suppress, and safety principles and practices.

1. Types of ground cover fires
 - a. Crown fire – aerial fuel
 - b. Surface fire – surface fuel
 - c. Subsurface fire – subsurface fuel
2. Parts of ground cover fires
 - a. Head
 - b. Origin
 - c. Heel
 - d. Flanks
 - e. Fingers
 - f. Spot fires
 - g. Island
 - h. Perimeter
 - i. Green
 - j. Black
3. Methods to contain or suppress
 - a. Direct attack
 - b. Indirect attack
4. Safety principles and practices
 - a. Proper use of PPE
 - b. Proper use of tools
 - c. Scene hazard awareness
5. Factors influencing the spread of ground fires
 - a. Weather
 - b. Topography
 - c. Fuel

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

- 101-5.3.20 Tie a knot appropriate for hoisting tool, given personal protective equipment, tools, ropes, and an assignment, so that the knots used are appropriate for hoisting tools securely and as directed.

Requisite Knowledge. Knot types and usage; the difference between life safety and utility rope; reasons for placing rope out of service; the types of knots to use for given tools, ropes, or situations; hoisting methods for tools and equipment; and using rope to support response activities.

1. Knot types and use
 - a. Safety knot or overhand knot
 - b. Half hitch
 - c. Clove hitch
 - d. Figure 8
 - e. Figure 8 on a bight
 - f. Figure 8 with a follow through
 - g. Bowline
 - h. Sheet bend or becket bend
2. Differentiating between life safety and utility rope
 - a. Natural
 - b. Synthetic
3. Reasons for placing rope out of service
 - a. Inspection
 - i. Routine
 - ii. After use
 - b. Storage
 - c. Maintenance
4. Types of knots used for given tools, ropes or situations
 - a. Hoisting an axe
 - b. Pike pole
 - c. Hose
 - d. Ladder
 - e. Power tools or fans
5. Hoisting methods for tools and equipment

6. Using rope to support response activities
 - a. Utility
 - b. Life safety/rescue

Requisite Skills. The ability to hoist tools using specific knots based on the type of tool.

101-5.4 **Rescue Operations**

This duty shall involve no requirements for Fire Fighter I.

101-5.5 **Preparedness and Maintenance**

This duty shall involve performing activities that reduce the loss of life and property due to fire through response readiness, according to the JPRs in 5.5.1 and 5.5.2.

- 101-5.5.1 Clean and check ladders, ventilation equipment, SCBA, ropes, salvage equipment, and hand tools, given cleaning tools, cleaning supplies, and an assignment, so that equipment is clean and maintained according to manufacturer's or departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise.

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

1. Types of cleaning methods for various tools and equipment
 - a. Ladders
 - b. Ventilation equipment
 - c. SCBA
 - d. Ropes
 - e. Salvage equipment
 - f. Hand tools
2. Correct use of cleaning solvents
 - a. Mild diluted detergent
 - b. Safety solvent
 - c. Water

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

- 101-5.5.2 Clean, inspect, and return fire hose to service, given washing equipment, water, detergent, tools, and replacement gaskets, so that damage is noted

and corrected, the hose is clean, and the equipment is placed in a ready state for service.

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

1. Departmental procedures for noting a defective hose and removing it from service (AHJ)
2. Cleaning methods
 - a. Rinse
 - b. Gently scrub with mild detergent
 - c. Final rinse
3. Hose rolls
 - a. Straight roll
 - b. Donut roll
 - c. Twin donut roll
 - d. Self-locking twin donut roll
4. Hose loads
 - a. Forward lay
 - b. Reverse lay
 - c. Accordion load
 - d. Horseshoe load
 - e. Reverse horseshoe load
 - f. Flat load
 - g. Triple layer load
 - h. Minuteman load
 - i. Booster hose load (reel)

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

SECTION 102
BASIC FIRE SUPPRESSION – FIREFIGHTER II

A Basic Structure Fire Protection Personnel is a Fire Fighter who has met all the job performance requirements of Fire Fighter I and Fire Fighter II as defined in NFPA 1001 *Standard for Fire Fighter Professional Qualifications*. In order to satisfactorily meet these requirements, the Fire Fighter trainee must meet all the job performance requirements (JPRs) and demonstrate mastery of all the knowledge, skills, and ability requirements of the following components of the Texas Commission on Fire Protection Certification Curriculum Manual:

- Chapter 1, Section 101 – 5 Basic Fire Suppression – Firefighter I
- Chapter 1, Section 102 – 6 Basic Fire Suppression – Firefighter II
- Chapter 6, Section 601 – 4 Hazardous Materials Awareness
- Chapter 6, Section 602 – 5 Hazardous Materials Operations
- Chapter 6, Section 603 – 6.2 Hazardous Materials Operations – Mission Specific Competencies – Using Personal Protective Equipment
- Chapter 6, Section 603 – 6.6 Hazardous Materials Operations – Mission Specific Competencies – Product Control

102-6.1 **General**

102-6.1.1 **General Knowledge Requirements**

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

1. Identify and describe the purpose of an Incident Management System
 - i. Common terminology
 - ii. Modular organization
 - iii. Integrated communications
 - iv. Unified command structure
 - v. Consolidated action plans
 - vi. Manageable span of control
 - vii. Predesignated incident facilities
 - viii. Comprehensive resource management

2. Functions necessary to manage an incident effectively and the responsibilities within the Incident Management System
 - i. Command
 - ii. Safety
 - iii. Liaison

- iv. Information
 - v. Operations
 - vi. Planning
 - vii. Logistics
 - viii. Finance/Administration
3. Components and functions of the operations section within the Incident Management System
- a. Incident Command
 - b. Staging
 - c. Branches
 - d. Divisions and Groups
 - e. Strike Teams and Task Forces
 - f. Single Resources
4. Procedure for implementing the Incident Management System
- a. Hazard and risk analysis
 - i. What has occurred?
 - ii. What is the current status of the emergency?
 - iii. Is anyone trapped or injured?
 - iv. Can the emergency be handled with the resources on scene or en route?
 - v. Does the emergency fall within the scope of the individual's training?
 - b. Risk vs. benefit
5. Establishing command and the transfer of command
- a. First on scene
 - i. Investigation
 - ii. Command
 - iii. Pass command for fast attack/rescue
 - b. Considerations for transfer of command
 - i. Arrival of senior staff
 - ii. Specialized incident
 - iii. Resource requirements
 - iv. Time restraints
 - v. Demobilization
 - c. Methods of transferring command
 - i. Face-to-face
 - ii. Via radio
6. Transferring command
- a. Situation status report (sit stat)
 - b. Communicating transfer of command

102-6.1.2 **General Skill Requirements**

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

102-6.2 **Fire Department Communications**

This duty shall involve performing activities related to initiating and reporting responses, according to the JPRs in 6.2.1 and 6.2.2.

102-6.2.1 Complete a basic incident report, given the report forms, guidelines, and information, so that all pertinent information is recorded, the information is accurate, and the report is complete.

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

1. Content requirements for basic incident reports
 - a. National Fire Incident Reporting System (NFIRS)
 - b. Texas fire incident reporting system (TXFIRS)
2. Purpose of accurate reports
 - a. A legal record of an incident
 - b. Consistent format for the collection of data usable at the state and national level
3. Usefulness of accurate reports
 - a. Provides information to officials for evaluation performance and making changes
 - b. Aids in determining departmental needs
4. Consequences of inaccurate reports
 - a. Incorrect data
 - b. Litigation
5. How to obtain necessary information
 - a. Person or entity involved
 - b. Owner
 - c. Bystanders or eye witnesses
 - d. Dispatch
 - e. Equipment involved in ignition
 - f. Fire fighters on scene

6. Required coding procedures
 - a. NFIRS
 - b. TXFIRS

Required Skills. The ability to determine necessary codes, proof reports, and operate fire department computers or other equipment necessary to complete reports.

102-6.2.2 Communicate the need for team assistance, given fire department communications equipment, SOPs, and a team, so that the supervisor is consistently informed of team needs, departmental SOPs are followed, and the assignment is accomplished safely.

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

Requisite Knowledge. SOPs for alarm assignments and fire department radio communication procedures. (AHJ)

1. Alarm assignment SOP
2. Fire department radio communication procedures

Requisite Skills. The ability to operate fire department communications equipment.

102-6.3 **Fireground Operations**

This duty shall involve performing activities necessary to ensure life safety, fire control, and property conservation, according to the JPRs in 6.3.1 through 6.3.4.

102-6.3.1 Extinguish an ignitable liquid fire, operating as a member of a team, given an assignment, an attack line, personal protective equipment, a foam proportioning device, a nozzle, foam concentrates, and a water supply, so that the correct type of foam concentrate is selected for the given fuel and conditions, a properly proportioned foam stream is applied to the surface of the fuel to create and maintain a foam blanket, fire is extinguished,

reignition is prevented, team protection is maintained with a foam stream, and the hazard is faced until retreat to safe haven is reached

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

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

1. Methods by which foam prevents a hazard
 - a. Blanketing effect
 - b. Vapor suppression
2. Methods by which foam controls a hazard
 - a. Heat resistance
 - b. Fuel resistance
 - c. Vapor suppression
3. Principles by which foam is generated
 - a. Components of finished foam
 - i. Foam solution
 - a) Foam concentrate
 - b) Water
 - ii. Air (aeration/mechanical agitation at the nozzle)
 - b. Water + concentrate = foam solution
 - c. Foam solution + air = finished foam
4. Methods by which foam is generated
 - a. Foam eductor
 - i. Venture principle
 - ii. In-line eductor
 - iii. Bypass eductor

- b. Around the pump foam proportioner
 - c. Balanced pressure foam system
 - d. Premix
5. Cause for poor foam generation
- a. Foam concentrate/fuel type mismatch
 - b. Fuel area and depth
 - c. Wrong application rate
 - d. Inadequate water supply, or pressure
 - e. Foam eductor type and setting
 - f. Nozzle type and setting
 - g. Back pressure
6. Corrective measures for poor foam generation
- a. Identify fuel type
 - i. Hydrocarbon
 - ii. Polar solvent
 - b. Determine fuel depth and surface area
 - c. Determine application rate (GPM/ft²)
 - d. Acquire adequate supply of foam concentrate
 - e. Establish water supply and correct pressure
 - f. Verify proper eductor operation
 - i. Setting (i.e. 1%, 3%, 6%)
 - ii. Concentrate pick-up tube
 - g. Nozzle flow matches eductor capability (GPM) and provides aeration
 - h. Check for hose kinks and/or blockage
 - i. Assure nozzle is fully open
7. Differentiating between hydrocarbon and polar solvent fuels
- a. Hydrocarbon fuels
 - i. Examples
 - ii. Concentrate types
 - iii. Concentrate percentage and application rate
 - b. Polar solvent fuels
 - i. Examples
 - ii. Concentrate types
 - iii. Concentrate percentage and application rate
8. Advantages, uses and limitations of fire-fighting foams
- a. Protein
 - i. High water retention and heat resistance
 - ii. Effective vapor suppression
 - iii. Limited shelf life

- iv. Poor fuel resistance
- v. Slow knockdown
- vi. Poor compatibility with dry chemical agents
- b. Fluoroprotein
 - i. Excellent fuel resistance
 - ii. Compatible with specific dry chemical agents
 - iii. High heat resistance
 - iv. Requires use of foam nozzle
- c. Film Forming Fluoroprotein (FFFP)
 - i. Fast film-forming capability
 - ii. High heat resistance
- d. Aqueous Film Forming Foam (AFFF) / Alcohol Type Concentrate (ATC)
 - i. Fast film-forming capability
 - ii. Applied with regular fog nozzles
 - iii. Compatible with specific dry chemical agents
 - iv. ATC suitable for polar solvent fuel fires
 - v. Quick drain-down may require continued application
- e. High-expansion foam
 - i. Reduces surface tension of water
 - ii. Excellent penetration into Class A materials
 - iii. Poor heat resistance
- f. Class A foams
 - i. Reduces surface tension of water
 - ii. Foamy water solution clings to surfaces
 - iii. Fast extinguishment
 - iv. Requires a more accurate proportioning system
 - v. Impacts fire investigation laboratory tests
 - vi. Creates difficult salvage operations

9. Advantages and disadvantages of using fog nozzles
- a. Suitable for use with AFFF and Class A foams
 - b. Not suitable for use with protein and fluoroprotein foams
 - c. Use of expansion tubes
 - d. Reduced reach when flowing foam

10. Advantages and disadvantages of using foam nozzles
- a. Creates highest quality of foam
 - b. Must be used with protein and fluoroprotein foam
 - c. Stream reach less than a standard fog nozzle

11. Foam stream application techniques
- a. Roll-on technique
 - b. Bank-down technique

c. Rain-down technique

12. Hazards associated with foam usage

- a. Mildly irritating
- b. Mildly corrosive
- c. Environmental impact
- d. Limited foam stream reach

13. Methods to reduce or avoid hazards

- a. Flush affected areas with water
- b. Control run-off
- c. Additional exposure lines for personnel protection

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

102-6.3.2 Coordinate an interior attack line for a team's accomplishment of an assignment in a structure fire, given attack lines, personnel, personal protective equipment, and tools, so that crew integrity is established; attack techniques are selected for the given level of the fire (e.g., attic, grade level, upper levels, or basement); attack techniques are communicated to the attack teams; constant team coordination is maintained; fire growth and development is continuously evaluated; search, rescue, and ventilation requirements are communicated or managed; hazards are reported to the attack teams; and incident command is apprised of changing conditions.

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

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

Requisite Knowledge. Selection of the nozzle and hose for fire attack, given different fire situations; selection of adapters and appliances to be used for specific fireground situations; dangerous building conditions created by fire and fire suppression activities; indicators of building

collapse; the effects of fire and fire suppression activities on wood, masonry (brick, block, stone), cast iron, steel, reinforced concrete, gypsum wallboard, glass, and plaster on lath; search and rescue and ventilation procedures; indicators of structural instability; suppression approaches and practices for various types of structural fires; and the association between specific tools and special forcible entry needs.

1. Selection of the nozzle for fire attack
 - a. Handlines
 - i. Fog nozzles
 - ii. Solid stream
 - iii. Broken stream
 - b. Master streams
 - i. Fog nozzles
 - ii. Solid stream

2. Selection of the hose for fire attack
 - a. Small diameter ($\frac{3}{4}$ ", 1", 1½", 1¾", 2") handlines
 - b. Medium diameter (2½", 3") handlines
 - c. Medium (2½", 3") or large diameter hose (3½", 4", 5", 6") for master stream support

3. Selection of adapters and appliances to be used for specific fire ground situations
 - a. Wyes – gated and non-gated
 - b. Siamese – clapper and non-clapper
 - c. Water thief
 - d. Manifold (portable hydrant)
 - e. Hydrant valve
 - f. Double male
 - g. Double female
 - h. Reducers
 - i. Adapters
 - i. Adapts one thread type to another
 - ii. Adapts threaded couplings to sexless couplings

4. Dangerous building conditions created by fire and fire suppression activities
 - a. **Dangerous fire conditions in a building**
 - i. **Ventilation-limited**
 - ii. **Flashover**
 - iii. **Backdraft**
 - b. Conditions that contribute to the spread and intensity of the fire
 - iv. Fire loading

- v. Combustible furnishings and finishes
 - vi. Roof coverings
 - vii. Wooden floors and ceilings
 - viii. Large, open spaces
 - c. Conditions that make the building susceptible to collapse
 - i. Damage to structural system of the building from fire or firefighting activities
 - ii. Age of the building
 - iii. Lightweight or truss construction
 - iv. Older buildings exposed to weather
 - v. Firefighting operations
 - a) Improper vertical ventilation
 - b) Added weight of water used for fire extinguishment
5. Indicators of building collapse
- a. Deterioration of mortar joints
 - b. Overall age and condition of the building
 - c. Cracks in walls, floors, ceilings, and roofs
 - d. Signs of building repair (tie rods and stars)
 - e. Large open spans
 - f. Bulges, bowing and leaning of walls
 - g. Sagging floors
 - h. Abandoned buildings
 - i. Large volume of fire
 - j. Extended firefighting operations
 - k. Smoke coming from cracks in walls
 - l. Dark smoke from truss roof or floor spaces
 - m. Multiple fires in same building or damage from previous fires
6. Effects of fire suppression activities on:
- a. Wood
 - b. Masonry (brick, block, stone)
 - c. Cast iron
 - d. Steel
 - e. Reinforced concrete
 - f. Gypsum wallboard
 - g. Glass
 - h. Plaster on lath
7. Search and rescue procedures
- a. Define the following
 - i. Primary search
 - ii. Secondary search
 - b. Search techniques

- i. Right hand/left hand
- ii. Large area/small area considerations
- iii. Rope assisted, or hose line
- iv. Use of tools
 - a) To extend reach
 - b) Door chocks or door/latch straps
 - c) Thermal imaging cameras
- v. Vent-Enter-**Isolate**-Search (VEIS)
- vi. Communication during search
- vii. Search marking systems

8. Ventilation procedures

- a. **Door control**
- b. Types
 - i. Natural
 - ii. Mechanical
 - a) Positive pressure
 - b) Negative pressure
 - c) Hydraulic
- c. Techniques
 - i. Horizontal
 - ii. Vertical
- d. Coordinate with fire attack
- e. Special considerations
 - i. Concrete roofs
 - ii. Metal roofs
 - iii. Ventilating basements
 - iv. Ventilating high-rises
 - v. Ventilating windowless buildings
 - vi. Ventilating large buildings

9. Indicators of structural instability

- a. Truss
- b. Lightweight construction
- c. Cracks or separations in walls, floors, ceilings and roof structures
- d. Presence of tie rods and stars
- e. Loose bricks, blocks, or stones falling from buildings
- f. Deteriorated mortar joints
- g. Walls that appear to be leaning
- h. Structural members that appear to be distorted

10. Suppression approaches for various types of structural fires

- a. Offensive

- b. Exterior offensive attack**
 - i. Blitz attack**
 - ii. Transitional attack**
 - iii. Softening the target**
- c. Defensive
- d. Occupancy
 - i. Single-family dwellings
 - ii. Multi-family dwellings
 - iii. Commercial occupancies
 - iv. High-rises

11. Suppression practices for various types of structural fires

- a. Residential fires
 - i. Attic
 - ii. Grade-level
 - iii. Upper-level
 - iv. Basement
 - v. Concealed spaces
- b. Small business fires
 - i. Attic
 - ii. Grade-level
 - iii. Upper-level
 - iv. Basement
 - v. Concealed spaces

12. Association between specific tools and special forcible entry needs

- a. Hand tools
 - i. Pry axe
 - ii. Detroit door opener
- b. Power tools
 - i. Chain saw
 - ii. Circular saw
 - iii. Reciprocating saw
 - iv. Drill
- c. Lock tools
 - i. A tool
 - ii. K tool
 - iii. J tool
 - iv. Shove knife
 - v. Duck bill lock breaker
 - vi. Locking pliers and chain
 - vii. Bam bam tool
 - viii. Elevator keys
- d. Hydraulic/pneumatic tools

- i. Rabbet tool
- ii. Hydraulic spreaders
- iii. Hydraulic rams
- iv. Hydraulic cutters
- v. Pneumatic spreaders
- vi. Pneumatic cutters
- vii. Pneumatic drills and saws

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

102-6.3.3 Control a flammable gas cylinder fire, operating as a member of a team, given an assignment, a cylinder outside of a structure, an attack line, personal protective equipment, and tools, so that crew integrity is maintained, contents are identified, safe havens are identified prior to advancing, open valves are closed, flames are not extinguished unless the leaking gas is eliminated, the cylinder is cooled, cylinder integrity is evaluated, hazardous conditions are recognized and acted upon, and the cylinder is faced during approach and retreat.

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

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

1. Characteristics of pressurized flammable gases
 - a. Pressure
 - b. Vapor pressure
 - c. Vapor density
 - d. Expansion ratio
2. Elements of a gas cylinder

- a. Cylinder design
 - b. Cylinder valves
 - c. Pressure relief valves
 - d. Test limits
3. Effects of heat on closed cylinders
 - a. Increase in pressure
 - b. Thermal damage
 - c. Container failure
 4. Effects of pressure on closed cylinders
 - a. Expansion of cylinder
 - b. Pressure relief valves
 - c. Container failure
 5. Boiling liquid expanding vapor explosion (BLEVE) signs
 - a. Pinging sound of pressure-stretched metal
 - b. Discoloration of metal shell
 - c. Bulge or bubble in metal shell
 - d. Activation of pressure relief valve
 - e. Failure of pressure relief valve
 - f. Increase in intensity of pressure relief valve (torch)
 6. BLEVE effects
 - a. Container failure
 - b. Violent explosion with fragmentation
 - c. Rapid expansion of gases
 - d. Huge fireball
 - e. Radiant heat
 - f. Flying container fragments
 7. Methods for identifying contents
 - a. Placards
 - b. Labels
 - c. Shipping papers
 - d. Facility documents
 8. How to identify safe havens before approaching flammable gas cylinder fires
 - a. Perform scene size-up
 - i. Note position and condition of container
 - ii. Analyze terrain
 - iii. Identify possible safe havens
 - b. Do not approach container from the ends

9. Water stream usage for pressurized cylinder fires
 - a. Volume of water
 - i. Vapor space
 - ii. Point of impingement
 - iii. 500 gpm minimum
 - b. Placement of streams
 - c. Manned vs. unmanned fire streams
10. Water stream demands for pressurized cylinder fires
 - a. Secured, uninterrupted source
 - b. Adequate stream application
11. What to do if the fire is prematurely extinguished
 - a. Vapor dispersion
 - b. Vapor control (close valve)
 - c. Secure or eliminate ignition sources
12. Valve types and their operation
 - a. Shut-off valves
 - b. Pressure relief valves
13. Alternative actions related to various hazards
 - a. Evacuate
 - b. Isolate
 - c. Allow self extinguishment
 - d. Retreat
14. When to retreat
 - a. Failure of relief valve
 - b. Significant container damage
 - c. Loss of water

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

- 102-6.3.4 Protect evidence of fire cause and origin, given a flashlight and overhaul tools, so that the evidence is noted and protected from further disturbance until investigators can arrive on the scene.
- 102-A.6.3.4 The Fire Fighter II should be able to recognize important evidence as to a fire's cause and maintain the evidence so that further testing can be done

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

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

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

1. Methods to assess origin and cause
 - a. Legal considerations (Michigan v. Tyler court decision)
 - b. Unusual odors
 - c. Abnormal behavior of fire when water is applied
 - d. Obstacles hindering fire fighting
 - e. Incendiary devices
 - f. Trailer
 - g. Structural alterations
 - h. Fire patterns
 - i. Heat intensity
 - j. Availability of documents
 - k. Fire detection and protection systems
 - l. Intrusion alarms
 - m. Location of fire
 - n. Personal possessions
 - o. Household items
 - p. Equipment or inventory
 - q. Business records
 - r. Time of day
 - s. Weather conditions
 - t. Vehicles and people on scene

2. Types of evidence
 - a. Physical evidence
 - b. Trace or transfer evidence
 - c. Demonstrative evidence

- d. Direct evidence
 - e. Circumstantial evidence
3. Means to protect various types of evidence
 - a. Securing the fire scene
 - b. Chain of custody
 - c. Do not gather or handle evidence
 - d. Avoid trampling over evidence
 - e. Avoid excess use of water
 - f. Protect human footprints and tire marks
 - g. Protect partially burned papers found in a furnace, stove or fireplace
 - h. Leave charred documents found in containers
 4. Role and relationship of Fire Fighter II to the fire investigation
 - a. The importance of writing a chronological account of important circumstances personally observed
 - b. Identify the importance of reporting hearsay to the investigator
 - c. Identify the importance of performing salvage and overhaul carefully
 5. Criminal investigators
 - a. Fire marshal
 - b. Arson investigator
 - c. Fire investigator
 - d. Police
 6. Insurance investigators in fire investigations
 - a. Insurance investigator
 - b. Private investigator
 7. Effects and problems associated with removing property or evidence from the scene
 - a. Legal considerations (Michigan v. Tyler court decision)
 - b. Chain of custody
 - c. Documentation/photographs

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

102-6.4

Rescue Operations

This duty shall involve performing activities related to accessing and disentangling victims from motor vehicle accidents and helping special rescue teams, according to the JPRs in 6.4.1 and 6.4.2.

102-6.4.1 Extricate a victim entrapped in a motor vehicle as part of a team, given stabilization and extrication tools, so that the vehicle is stabilized, the victim is disentangled without further injury, and hazards are managed.

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

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

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

1. The fire department’s role at a vehicle accident
 - a. Response
 - b. Arrival and size-up
 - c. Stabilization of the scene
 - d. Gaining access and disentangling victims
 - e. Removing and treating the victim

2. Points of strength in auto body construction
 - a. Vehicle door and door posts
 - b. Vehicle roof
 - c. Steering wheel
 - d. Vehicle floor
 - e. Vehicle pedals
 - f. Vehicle seats
 - g. Reinforced dashboard

3. Points of weakness in auto body construction
 - a. Vehicle windshield and windows
 - b. Dashboard

4. Dangers associated with vehicle components and systems
 - a. Vehicle stabilization
 - b. Airbag systems (SRS and SIPS)
 - c. Roll over protection systems (ROPS)
 - d. Hybrid electrical systems
 - e. Fuels

5. Uses and limitations of hand extrication equipment
 - a. Hydraulic devices
 - i. Upright
 - ii. Upside down
 - iii. On its side
 - iv. On an inclined surface
 - b. Pneumatic devices
 - c. Block and tackle
 - d. Cribbing and shoring materials
 - e. Ratchet device

6. Uses and limitations of power extrication equipment
 - a. Hydraulic extrication spreaders
 - b. Hydraulic extrication shears
 - c. Hydraulic extrication ram

7. Safety procedures when using various types of extrication equipment
 - a. PPE
 - b. Flammable hazards
 - c. Electrical hazards
 - d. Pinch hazards
 - e. Crush hazards
 - f. Vehicle safety device deployment hazards
 - g. Proper tool use

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

- 102-6.4.2 Assist rescue operation teams, given standard operating procedures, necessary rescue equipment, and an assignment, so that procedures are followed, rescue items are recognized and retrieved in the time as prescribed by the AHJ, and the assignment is completed.

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

Requisite Knowledge. The fire fighter's role at a technical rescue operation, the hazards associated with technical rescue operations, types and uses for rescue tools, and rescue practices and goals.

1. The fire fighter's role at a technical rescue operation
 - a. Safety
 - b. Receive direction from technical rescue personnel
 - c. Work as a team
 - d. Basic components of rescue operations
 - i. Preparation
 - ii. Response
 - iii. Arrival and size-up
 - iv. Stabilization
 - v. Access
 - vi. Disentanglement
 - vii. Removal
 - viii. Transport
 - ix. Security of the scene and preparation for next call
 - x. Post incident analysis

2. The hazards associated with technical rescue operations
 - a. Machinery
 - b. Confined space
 - c. Rope rescue (vertical rescue)
 - d. Trench
 - e. Structural collapse
 - f. Water and ice
 - g. Energized electrical line
 - h. Elevator and escalator emergencies
 - i. Wilderness
 - j. Mine, tunnel and cave
 - k. Industrial/hazardous materials

3. Types and uses of rescue tools
 - a. Machinery (e.g., hydraulic spreaders/cutters/rams)
 - b. Confined space (e.g., taglines, harnesses, supplied air respirators, air monitoring devices, tripod, winch)

- c. Rope rescue (vertical rescue, e.g., rope, carabiners, anchor plates, pulleys)
 - d. Trench (e.g., shoring, cribbing, stringers, rakers, air monitoring devices)
 - e. Structural collapse (e.g., jacks, shoring, cribbing)
 - f. Water and ice (e.g., PFDs, throw bag of rope)
 - g. Elevator and escalator emergencies (e.g., elevator keys)
 - h. Wilderness (e.g., compass, GPS, stokes basket)
 - i. Mine, tunnel and cave (e.g., shoring, ropes, flashlights)
4. Rescue practices and goals
- a. Machinery
 - b. Confined space
 - c. Rope rescue (vertical rescue)
 - d. Trench
 - e. Structural collapse
 - f. Water and ice
 - g. Elevator and escalator emergencies
 - h. Wilderness
 - i. Mine, tunnel and cave

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

102-6.5 **Fire and Life Safety Initiatives, Preparedness, and Maintenance**

This duty shall involve performing activities related to reducing the loss of life and property due to fire through hazard identification, inspection, and response readiness, according to the JPRs in 6.5.1 through 6.5.5.

102-6.5.1 Perform a fire safety survey in an occupied structure, given survey forms and procedures, so that fire and life safety hazards are identified, recommendations for their correction are made to the occupant, and unresolved issues are referred to the proper authority.

102-A.6.5.1 It is the intent of the committee to recognize that there are response areas that do not have private dwellings. The term occupied structure allows for greater flexibility and for the AHJ to determine which structures could be used for performing a fire safety survey.

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

1. Organizational policy and procedures
 - a. Scheduling considerations
 - i. FD personnel
 - ii. Structure occupant
 - b. Approach and introduction
 - c. Conducting the survey
 - d. Formulate recommendations

2. Common causes of fire and their prevention
 - a. Housekeeping practices
 - b. Smoking
 - c. Open burning
 - d. Electrical sources of ignition
 - e. Common hazards by location
 - i. Kitchen
 - ii. Living area
 - iii. Bedroom
 - iv. Garage/storage
 - v. Bathroom
 - vi. Laundry
 - vii. Attics and basements
 - viii. Exterior
 - f. Special hazards

3. The importance of a fire safety survey and public fire education programs to fire department public relations and the community
 - a. Enhances community life safety
 - b. Prevents loss
 - c. Promotes community support

4. Referral procedures – AHJ

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

- 102-6.5.2 Present fire safety information to station visitors or small groups, given prepared materials, so that all information is presented, the information is accurate, and questions are answered or referred.
- 102-A.6.5.2 The Fire Fighter II should be able to present basic information on how to do the following:

- (1) Stop, drop, and roll when one's clothes are on fire
- (2) Crawl low under smoke
- (3) Plan and practice a home escape plan with two ways out of each room (especially sleeping rooms), a meeting place, and how to call the fire department (from the neighbor's house)
- (4) Alert others to an emergency
- (5) Call the fire department
- (6) Test and maintain residential smoke alarms according to manufacturer's instructions

The Fire Fighter II is not expected to be an accomplished speaker or instructor.

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

1. Educational programs
 - a. Learn Not to Burn
 - b. EDITH (Exit Drill In The Home)
 - c. Installation and maintenance of smoke alarms
 - d. Change your clock – change your battery
 - e. Stop, drop and roll
 - f. Fire safety for babysitters
 - g. Fire safety for seniors
 - h. Fire safety for college students
 - i. Wildland prevention program
2. How to use informational materials
 - a. Pamphlets
 - b. Coloring books
 - c. Public service announcements (PSAs)
 - d. Public presentations
3. Basic presentation skills
 - a. Age and audience appropriateness
 - b. Knowledge of subject – preparation
 - c. Use of props
 - d. Professional attire
 - e. Positive attitude
4. Departmental standard operating procedures (SOPs) for giving fire station tours – AHJ

Requisite Skills. The ability to document presentations and to use prepared materials.

102-6.5.3 Prepare a preincident survey, given forms, necessary tools, and an assignment, so that all required occupancy information is recorded, items of concern are noted, and accurate sketches or diagrams are prepared.

102-A.6.5.3 The Fire Fighter II should be able to compile information related to potential emergency incidents within their community for use by officers in the development of preincident plans. Jurisdictions that use Fire Fighter IIs to develop preincident plans should comply with the requirements of NFPA 1021, *Standard for Fire Officer Professional Qualifications*.

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

1. The sources of water for fire protection
 - a. Pressurized
 - b. Static

2. The fundamentals of fire suppression and detection systems
 - a. Automatic sprinkler systems
 - i. Types
 - a) Wet pipe
 - b) Dry pipe
 - c) Pre-action
 - d) Deluge
 - e) Residential
 - ii. Sprinkler heads
 - a) Deflector style
 - 1) Upright
 - 2) Pendant
 - 3) Side wall
 - 4) Deluge
 - 5) Special
 - b) Activating devices
 - 1) Fusible link
 - 2) Frangible bulb
 - 3) Chemical pellet
 - iii. Control valves
 - a) Outside screw and yoke (OS&Y)

- b) Butterfly valve
 - c) Wall post indicator valve (WPIV)
 - d) Post indicator valve (PIV)
 - e) Post indicator valve assembly (PIVA)
- iv. Valves
 - a) Check valve
 - b) Main drain
 - c) Alarm test
 - d) Inspector test
- v. Fire department connection (FDC)
 - a) Two 2½" inlets
 - b) One large diameter hose (LDH)
- b. Standpipe systems
 - i. Class I
 - a) Fire department use only
 - b) 2½" connection with a valve
 - ii. Class II
 - a) Occupant use
 - b) 1½" single jacket hose preconnected
 - iii. Class III
 - a) Occupant or fire department use
 - b) 2½" connection with 1½" reducer and hose preconnected
- c. Specialized extinguishment systems
 - i. Dry chemical systems
 - ii. Wet chemical systems
 - iii. Foam systems
 - iv. Clean agent systems
 - v. Carbon dioxide systems
- d. Fire department notification systems
 - i. Local alarm systems
 - ii. Remote station systems
 - iii. Auxiliary systems
 - iv. Proprietary systems
 - v. Central station systems
- e. Fire alarm system components
 - i. Initiating devices
 - a) Heat detectors
 - 1) Fixed-temperature detectors
 - 2) Rate-of-rise detectors
 - 3) Combination rate-of-rise fixed temperature detectors
 - b) Smoke detectors
 - 1) Ionization

- 2) Photoelectric
 - c) Flame detectors
 - 1) Ultraviolet (UV)
 - 2) Infrared (IR)
 - d) Fire – gas detectors
 - e) Manual pull station
 - ii. Indicating devices
 - a) Audible
 - 1) Bells
 - 2) Horns
 - 3) Sirens
 - 4) Recorded announcement
 - b) Visual
 - 1) Strobes
 - 2) Rotating beacons
 - c) Fire alarm control panel (FACP)
3. Common symbols used in diagramming construction features, utilities, hazards, and fire protection systems
 - a. Construction features
 - i. Fire escape
 - ii. Skylight
 - iii. Stairs
 - iv. Elevator
 - v. Fire wall
 - b. Utilities
 - i. Gas
 - ii. Electric
 - iii. Water
 - c. Fire protection
 - i. Hydrant
 - ii. Sprinkler riser
 - iii. Fire department connection
 - iv. Automatic sprinklers
 - v. Not sprinklered
 - vi. Standpipe
 - vii. Fire alarm
 - viii. Fire pump
 - d. Hazards
 - i. Gasoline tank
 - ii. Steam boiler
 - a) Vertical
 - b) Horizontal

4. Departmental requirements for a preincident survey
 - a. Tactical information – considerations/planning for:
 - i. Water supply
 - ii. Utilities
 - iii. Search and rescue
 - iv. Forcible entry
 - v. Ladder placement
 - vi. Ventilation
 - b. Occupancy type
 - i. High rise
 - ii. Assembly
 - iii. Health care facilities
 - iv. Detention and correctional facilities
 - v. Residential occupancies
 - c. Locations requiring special considerations
 - i. Gas or liquid fuel pipelines
 - ii. Electrical transmission lines
 - iii. Ships and waterways
 - iv. Subways
 - v. Railroads
 - vi. Airports
 - vii. Industrial facilities
 - viii. Hazardous materials bulk storage locations
5. Departmental requirements for form completion – AHJ
6. The importance of accurate diagrams
 - a. Accurate diagrams promote better decision making
 - b. Enhances civilian and firefighter safety
 - c. Search and rescue operations are conducted efficiently

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

- 102-6.5.4 Maintain power plants, power tools, and lighting equipment, given tools and manufacturers' instructions, so that equipment is clean and maintained according to manufacturer and departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise.

Requisite Knowledge. Types of cleaning methods, correct use of cleaning solvents, manufacturer and departmental guidelines for

maintaining equipment and its documentation, and problem-reporting practices.

1. Types of cleaning methods
 - a. Metal parts
 - b. Wood parts
 - c. Fiberglass/synthetic parts
 - d. Cutting edges
 - e. Power tools
 - f. Electrical/electronic devices
2. Correct use of cleaning solvents
 - a. Associated hazards
 - b. Application
 - c. Safety considerations
3. Manufacturer and departmental guidelines for maintaining equipment and its documentation
 - a. Per the manufacturer's recommendations
 - b. Inspection frequency and procedures per AHJ
4. Problem-reporting practices
 - a. Tag problem item
 - b. Remove from service
 - c. Report problem per AHJ

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

102-6.5.5 Perform an annual service test on fire hose, given a pump, a marking device, pressure gauges, a timer, record sheets, and related equipment, so that procedures are followed, the condition of the hose is evaluated, any damaged hose is removed from service, and the results are recorded.

102-A.6.5.5 Procedures for conducting hose testing can be found in Chapter 5 of NFPA 1962, *Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose*.

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

1. Procedures for safety conducting hose service testing

- a. Routine inspection
 - i. Lay clean hose out on flat surface
 - ii. Inspect hose for defects
 - iii. Mark defects as found
 - iv. Tag hose with description of defects found
 - b. Annual service test
 - i. Don protective gear – wear helmet and gloves at a minimum
 - ii. Connect up to 300 feet maximum of hose to a discharge outlet
 - iii. Attach a nozzle or valve to the end of the hose
 - iv. Fill hose to 50 psi, remove air, twists and kinks in hose
 - v. Mark hose at the base of the coupling
 - vi. Check couplings and hose for leaks
 - vii. If couplings leak at the gasket, replace the gasket
 - viii. After gaskets are replaced or if no leaks are present, increase pressure to manufacturer's recommended pressure per NFPA 1962 and maintain for 5 minutes
 - ix. Monitor hose and couplings for leaks or failure
 - x. Reduce pressure, depressurize hose, and drain
 - xi. Inspect marks at couplings for separation or slippage
 - xii. Tag failures or defects
 - xiii. Distinctly mark hose that passed
 - xiv. Log test results for departmental record
 - c. Safety notes:
 - i. Always wear a helmet and gloves while working around pressurized hose
 - ii. Never walk over, straddle, or stand over hose being pressure tested
2. Indicators that dictate any hose be removed from service
- a. Mechanical damage
 - i. Bent or damaged couplings
 - ii. Hose separating from couplings
 - iii. Cuts or holes
 - iv. Crushed suction hose
 - b. Chemical damage
 - i. Chemical degradation
 - ii. Contamination
 - c. Heat damage
 - i. Burn holes
 - ii. Delamination
 - d. Mildew/rot
 - e. Service test pressure failure (i.e. burst hose)

3. Recording procedures for hose test results
 - a. Hose records should contain:
 - i. Hose size/length, type, and diameter
 - ii. Date of manufacture
 - iii. Date of purchase
 - iv. Testing dates
 - v. Any repairs made
 - b. Other information per AHJ

Requisite Skills. The ability to operate hose testing equipment and nozzles and to record results.

CHAPTER ONE BASIC FIRE SUPPRESSION CURRICULUM OUTLINE

INTRODUCTION

The History of the Curriculum and Testing Committee

The Curriculum and Testing Committee was created and appointed by the commission to periodically review and recommend changes to the commission's testing and training programs. Testing committee members met for the first time on August 24, 1989 in response to the need for certification exams to be administered by the Commission. The intent of the exams is to verify competency for the performance of fire service duties within the State of Texas.

Upon a recommendation in December 1991, through action of the Fire Protection Personnel Advisory Committee and the Commission, approximately one-third of the original twenty-one members were asked to maintain an active role on the committee. In January 1994, there were two more members added to the testing committee. The current Curriculum and Testing Committee consists of eleven fire service professionals including fire officers, college instructors, and fire fighters from around the state.

Committee members are charged with development and review of curricula, test questions, and the testing process leading to certifications based on NFPA Professional Qualifications standards. Review and development of curricula, test questions and performance skill evaluations are integral to the accreditation process as required by the International Fire Service Accreditation Congress.

The amount of questioning and discussion incurred at the meetings, along with the mixture of diverse fire service professionals representing areas within the state, serve as a means for validating curriculum competencies and objectives. It is in the spirit of the fire service of Texas that these individuals contribute to the development of a meaningful testing process for fire service certifications in the state.

**CHAPTER ONE
BASIC FIRE SUPPRESSION
CURRICULUM OUTLINES**

BASIC FIRE SUPPRESSION		
SECTIONS	SUBJECT	RECOMMENDED HOURS
101-5.1; 102-6.1	General	
101-5.2; 102-6.2	Fire Department Communications	
101-5.3; 102-6.3	Fireground Operations	
102-6.4	Rescue Operations	
101-5.5	Preparedness and Maintenance	
102-6.5	Fire and Life Safety Initiatives, Preparedness and Maintenance	
601; 602; 603-6.2; 603-6.6	Hazardous Materials Awareness, Operations, Mission Specific as identified in Chapter Six	
	TOTAL RECOMMENDED HOURS	468*

*TOTAL RECOMMENDED HOURS include Fire Fighter I, Fire Fighter II, Awareness and Operations

FIREFIGHTER I CURRICULUM OUTLINE		
SECTION	SUBJECT	RECOMMENDED HOURS
101-5.1	General	
101-5.2	Fire Department Communications	
101-5.3	Fireground Operations	
101-5.4	(Reserved for future use)	
101-5.5	Preparedness and Maintenance	
	TOTAL RECOMMENDED HOURS	294

FIREFIGHTER II CURRICULUM OUTLINE		
SECTION	SUBJECT	RECOMMENDED HOURS
102-6.1	General	
102-6.2	Fire Department Communications	
102-6.3	Fireground Operations	
102-6.4	Rescue Operations	
102-6.5	Fire and Life Safety Initiatives, Preparedness and Maintenance	
	TOTAL RECOMMENDED HOURS	140

**CHAPTER SIX
HAZARDOUS MATERIALS AWARENESS AND OPERATIONS
CURRICULUM OUTLINES**

HAZARDOUS MATERIALS AWARENESS CURRICULUM OUTLINE		
SECTION	SUBJECT	RECOMMENDED HOURS
601-4.1	General	
601-4.2	Analyzing the Incident	
601-4.3	Planning the Response – Reserved – None required at this level	
601-4.4	Implementing the Planned Response	
601-4.5	Evaluating Progress – Reserved – None required at this level	
601-4.6	Terminating the Incident – Reserved – None required at this level	
	TOTAL RECOMMENDED HOURS	8

HAZARDOUS MATERIALS OPERATIONS CURRICULUM OUTLINE		
SECTION	SUBJECT	RECOMMENDED HOURS
602-5.1	General	
602-5.2	Analyzing the Incident	
602-5.3	Planning the Response	
602-5.4	Implementing the Planned Response	
602-5.5	Evaluating Progress	
602-5.6	Terminating the Incident – Reserved – None required at this level	
603-6.2; 603-6.6	Mission Specific – PPE and Product Control	
	TOTAL RECOMMENDED HOURS	26*

The recommended hours include time for skills evaluation and are based on a class size of 12 students. Hours needed depend on the actual number of students.

***The reduction in Hazardous Materials recommended training hours from 48 hours (for stand-alone delivery as listed in the Hazardous Materials curriculum) to 26 hours is due to the duplication of certain training subjects in both the Hazardous Materials and Firefighter I training curricula (i.e. ICS, Foam, SCBA, Fire Chemistry/Science).**

REFERENCE LIST FOR THE BASIC FIRE SUPPRESSION CURRICULUM

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

Certification Curriculum Manual. Austin, TX: Texas Commission on Fire Protection. Current issue.

Essentials of Fire Fighting (6th ed.) (2013). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association.

***Evidence-Based Practices for Strategic and Tactical Firefighting* (2016). Burlington, MA: Jones & Bartlett Learning.**

Fundamentals of Fire Fighter Skills (3rd ed.) (2014). Sudbury, MA: Jones and Bartlett Publishers, Inc.

NFPA 1001: Standard for Fire Fighter Professional Qualifications (2013 ed.). Quincy, MA: NFPA Publications. National Fire Protection Association.

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

Note to training providers:

The reference lists for Hazardous Materials Awareness and Operations are located in [Chapter 6](#) of the Certification Curriculum Manual.

RECOMMENDED REFERENCE LIST FOR THE DRIVER/OPERATOR-PUMPER CURRICULUM

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

Fire Apparatus Driver/Operator: Pump, Aerial, Tiller and Mobile Water Supply (2nd ed.) (2014). Sudbury, MA: Jones and Bartlett Publishers.

NFPA 1002: Standard on Fire Apparatus Driver/Operator Professional Qualifications (2014 ed.) Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 1901, Standard for Automotive Fire Apparatus, (2009 ed.) Quincy, MA: National Fire Protection Association. NFPA Publications.

Pumping and Aerial Apparatus Driver/Operator Handbook (3rd ed.) (2014). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association.

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

4. **Discussion and possible action on proposed rule changes to title 37 TAC, Chapter 421, Standards for Certification, including but not limited to §421.5, Definitions and §421.17, Requirement to Maintain certification.**

CHAPTER 421

STANDARDS FOR CERTIFICATION

§421.5 Definitions.

The following words and terms, when used in the Standards Manual, shall have the following meanings, unless the context clearly indicates otherwise.

- (1) Admission to employment--An entry level full-time employee of a local government entity in one of the categories of fire protection personnel.
- (2) Appointment--The designation or assignment of a person to a discipline regulated by the commission. The types of appointments are:
 - (A) permanent appointment--the designation or assignment of certified fire protection personnel or certified part time fire protection employees to a particular discipline (See Texas Government Code, Chapter 419, §419.032); and
 - (B) probationary or temporary appointment--the designation or assignment of an individual to a particular discipline, except for head of a fire department, for which the individual has passed the commission's certification and has met the medical requirement of §423.1(c) of this title (relating to Minimum Standards for Structure Fire Protection Personnel), if applicable, but has not yet been certified. (See Texas Government Code, Chapter, §419.032.)
- (3) Approved training--Any training used for a higher level of certification must be approved by the commission and assigned to either the A-List or the B-List. The training submission must be in a manner specified by the commission and contain all information requested by the commission. The commission will not grant credit twice for the same subject content or course. Inclusion on the A-List or B-List does not preclude the course approval process as stated elsewhere in the Standards Manual.
- (4) Assigned/work--A fire protection personnel or a part-time fire protection employee shall be considered "assigned/working" in a position, any time the individual is receiving compensation and performing the duties that are regulated by the commission and has been permanently appointed, as defined in this section, to the particular discipline.
- (5) Assistant fire chief--The officer occupying the first position subordinate to the head of a fire department.
- (6) Auxiliary fire fighter--A volunteer fire fighter.
- (7) Benefits--Benefits shall include, but are not limited to, inclusion in group insurance plans (such as health, life, and disability) or pension plans, stipends, free water usage, and reimbursed travel expenses (such as meals, mileage, and lodging).
- (8) Chief Training Officer--The individual, by whatever title he or she may be called, who coordinates the activities of a certified training facility.
- (9) Class hour--Defined as not less than 50 minutes of instruction, also defined as a contact hour; a standard for certification of fire protection personnel.
- (10) Code--The official legislation creating the commission.
- (11) College credits--Credits earned for studies satisfactorily completed at an institution of higher education accredited by an agency recognized by the U.S. Secretary of Education and including National Fire Academy (NFA) open learning program colleges, or courses recommended for college credit by the American Council on Education (ACE) or delivered through the National Emergency Training Center (both EMI and NFA) programs. A course of study satisfactorily completed and identified on an official transcript from a college or in the ACE National Guide that is primarily related to Fire Service, Emergency Medicine, Emergency Management, or Public

Administration is defined as applicable for Fire Science college credit, and is acceptable for higher levels of certification. A criminal justice course related to fire and or arson investigation that is satisfactorily completed and identified on an official transcript from a college or in the ACE National Guide may be used to qualify for Master Arson Investigator certification.

- (12) Commission--Texas Commission on Fire Protection.
- (13) Commission-recognized training--A curriculum or training program which carries written approval from the commission, or credit hours that appear on an official transcript from an accredited college or university, or any fire service training received from a nationally recognized source, i.e., the National Fire Academy.
- (14) Compensation--Compensation is to include wages, salaries, and "per call" payments (for attending drills, meetings or answering emergencies).
- (15) Expired--Any certification that has not been renewed on or before the end of the certification period.
- (16) Federal fire fighter--A person as defined in Texas Government Code, Chapter 419, §419.084(h).
- (17) Fire chief--The head of a fire department.
- (18) Fire department--A department of a local government that is staffed by one or more fire protection personnel or part-time fire protection employees.
- (19) Fire protection personnel--Any person who is a permanent full-time employee of a fire department or governmental entity and who is appointed duties in one of the following categories/disciplines: fire suppression, fire inspection, fire and arson investigation, marine fire fighting, aircraft rescue fire fighting, fire training, fire education, fire administration and others employed in related positions necessarily or customarily appertaining thereto.
- (20) Fire Code Inspection—Also called Fire Safety Inspection as referenced in Texas Government Code, Chapter 419, §419.909. An inspection performed for the purpose of determining and enforcing compliance with an adopted fire code.
- (21) Fire suppression duties--Engaging in the controlling or extinguishment of a fire of any type or performing activities which are required for and directly related to the control and extinguishment of fires or standing by on the employer's premises or apparatus or nearby in a state of readiness to perform these duties.
- (22) Full-time--An officer or employee is considered full-time if the employee works an average of 40 hours a week or averages 40 hours per week or more during a work cycle in a calendar year. For the purposes of this definition paid leave will be considered time worked.
- (23) Government entity--The local authority having jurisdiction as employer of full-time fire protection personnel in a state agency, incorporated city, village, town or county, education institution or political subdivision.
- (24) High school--A school accredited as a high school by the Texas Education Agency or equivalent accreditation agency from another jurisdiction.
- (25) Immediately dangerous to life or health (IDLH)--An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.
- (26) Incipient stage fire--A fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.
- (27) Instructor:

(A) Lead Instructor--Oversees the presentation of an entire course and assures that course objectives are met in accordance with the applicable curriculum or course material. The lead instructor should have sufficient experience in presenting all units of the course so as to be capable of last-minute substitution for other instructors.

(B) Instructor (also Unit Instructor for wildland courses)--Responsible for the successful presentation of one or more areas of instruction within a course, and should be experienced in the lesson content they are presenting.

(C) Guest Instructor--An individual who may or may not hold Instructor certification but whose special knowledge, skill, and expertise in a particular subject area may enhance the effectiveness of the training in a course. Guest instructors shall teach under the endorsement of the lead instructor.

(28) Interior structural fire fighting--The physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR §1910.155.)

(29) Military active duty (or active duty)-Current full-time military service in the armed forces of the United States, or full-time military service as a member of the Texas military forces or a similar service of another state.

(30) Military service member-A person who is on active duty.

(31) Military spouse-A person who is married to a military service member.

(32) Military veteran-A person who has served on active duty and who was discharged or released from active duty.

(33) [(29)] Municipality--Any incorporated city, village, or town of this state and any county or political subdivision or district in this state. Municipal pertains to a municipality as defined in this section.

(34) [(30)] National Fire Academy semester credit hours--The number of hours credited for attendance of National Fire Academy courses is determined as recommended in the most recent edition of the "National Guide to Educational Credit for Training Programs," American Council on Education (ACE).

(35) [(31)] National Fire Protection Association (NFPA)--An organization established to provide and advocate consensus codes and standards, research, training, and education for fire protection.

(36) [(32)] National Wildfire Coordinating Group (NWCG)--An operational group designed to establish, implement, maintain, and communicate policy, standards, guidelines, and qualifications for wildland fire program management among participating agencies.

(37) [(33)] Non-self-serving affidavit--A sworn document executed by someone other than the individual seeking certification.

(38) [(34)] Participating volunteer fire fighter--An individual who voluntarily seeks certification and regulation by the commission under the Texas Government Code, Chapter 419, Subchapter D.

(39) [(35)] Participating volunteer fire service organization--A fire department that voluntarily seeks regulation by the commission under the Texas Government Code, Chapter 419, Subchapter D.

(40) [(36)] Part-time fire protection employee--An individual who is appointed as a part-time fire protection employee and who receives compensation, including benefits and reimbursement for expenses. A part-time fire protection employee is not full-time as defined in this section.

(41) ~~[(37)]~~ Personal alert safety system (PASS)--Devices that are certified as being compliant with NFPA 1982 and that automatically activates an alarm signal (which can also be manually activated) to alert and assist others in locating a fire fighter or emergency services person who is in danger.

(42) ~~[(38)]~~ Political subdivision--A political subdivision of the State of Texas that includes, but is not limited to the following:

- (A) city;
- (B) county;
- (C) school district;
- (D) junior college district;
- (E) levee improvement district;
- (F) drainage district;
- (G) irrigation district;
- (H) water improvement district;
- (I) water control and improvement district;
- (J) water control and preservation district;
- (K) freshwater supply district;
- (L) navigation district;
- (M) conservation and reclamation district;
- (N) soil conservation district;
- (O) communication district;
- (P) public health district;
- (Q) river authority;
- (R) municipal utility district;
- (S) transit authority;
- (T) hospital district;
- (U) emergency services district;
- (V) rural fire prevention district; and
- (W) any other governmental entity that:
 - (i) embraces a geographical area with a defined boundary;
 - (ii) exists for the purpose of discharging functions of the government; and
 - (iii) possesses authority for subordinate self-government through officers selected by it.

- (43)** ~~[(39)]~~ Pre-fire Planning—Also called a Pre-fire Survey. A walk-through performed by fire fighters for the purpose of gaining familiarity with a building, its contents, and its occupancy.
- (44)** ~~[(40)]~~ Reciprocity for IFSAC seals--Valid documentation of accreditation from the International Fire Service Accreditation Congress used for commission certification may only be used for obtaining an initial certification.
- (45)** ~~[(41)]~~ Recognition of training--A document issued by the commission stating that an individual has completed the training requirements of a specific phase level of the Basic Fire Suppression Curriculum.
- (46)** ~~[(42)]~~ School--Any school, college, university, academy, or local training program which offers fire service training and included within its meaning the combination of course curriculum, instructors, and facilities.
- (47)** ~~[(43)]~~ Structural fire protection personnel--Any person who is a permanent full-time employee of a government entity who engages in fire fighting activities involving structures and may perform other emergency activities typically associated with fire fighting activities such as rescue, emergency medical response, confined space rescue, hazardous materials response, and wildland fire fighting.
- (48)** ~~[(44)]~~ Trainee--An individual who is participating in a commission approved training program.
- (49)** ~~[(45)]~~ Volunteer fire protection personnel--Any person who has met the requirements for membership in a volunteer fire service organization, who is assigned duties in one of the following categories: fire suppression, fire inspection, fire and arson investigation, marine fire fighting, aircraft rescue fire fighting, fire training, fire education, fire administration and others in related positions necessarily or customarily appertaining thereto.
- (50)** ~~[(46)]~~ Volunteer fire service organization--A volunteer fire department or organization not under mandatory regulation by the commission.
- (51)** ~~[(47)]~~ Years of experience--For purposes of higher levels of certification or fire service instructor certification:
- (A) Except as provided in subparagraph (B) of this paragraph, years of experience is defined as full years of full-time, part-time or volunteer fire service while holding:
- (i) a commission certification as a full-time, or part-time employee of a government entity, a member in a volunteer fire service organization, and/or an employee of a regulated non-governmental fire department; or
- (ii) a State Firemen's and Fire Marshals' Association advanced fire fighter certification and have successfully completed, as a minimum, the requirements for an Emergency Care Attendant (ECA) as specified by the Department of State Health Services (DSHS), or its successor agency, or its equivalent; or
- (iii) an equivalent certification as a full-time fire protection personnel of a governmental entity from another jurisdiction, including the military, or while a member in a volunteer fire service organization from another jurisdiction, and have, as a minimum, the requirements for an ECA as specified by the DSHS, or its successor agency, or its equivalent; or
- (iv) for fire service instructor eligibility only, a State Firemen's and Fire Marshals' Association Level II Instructor Certification, received prior to June 1, 2008 or Instructor I received on or after June 1, 2008 or an equivalent instructor certification from the DSHS or the Texas Commission on Law Enforcement. Documentation of at least three years of experience as a volunteer in the fire service shall be in the form of a non self-serving sworn affidavit.
- (B) For fire service personnel certified as required in subparagraph (A) of this paragraph on or before October 31, 1998, years of experience includes the time from the date of employment or membership to date of certification not to exceed one year.

§421.17 Requirement to Maintain Certification.

- (a) All full-time or part-time employees of a fire department or local government ~~[who are]~~ assigned duties identified as fire protection personnel duties must maintain certification by the commission in the discipline(s) to which they are assigned for the duration of their assignment.
- (b) In order to maintain the certification required by this section, the certificate(s) of the employees must be renewed annually by complying with §437.5 of this title (relating to Renewal Fees) and Chapter 441 of this title (relating to Continuing Education) of the commission standards manual.
- (c) **Except for subsection (d), an** ~~[an]~~ individual whose certificate has been expired for one year or longer may not renew the certificate ~~[that was]~~ previously held. To obtain a new certification, an individual must meet the requirements in Chapter 439 of this title (relating to Examinations for Certification).
- (d) A military service member whose certificate has been expired for three years or longer may not renew the certificate previously held. To obtain a new certification, the person must meet the requirements in Chapter 439 of this title (relating to Examinations for Certification). In order to qualify for this provision, the individual must have been a military service member at the time the certificate expired and continued in that status for the duration of the three year period.**
- ~~(e)~~ (d) The commission will provide proof of current certification to individuals whose certification has been renewed.
- ~~(f)~~ (e) All certificate holders are subject to the requirements of §57.491 of the Texas Education Code regarding license renewal and default on student loans.

S.B. No. 1307

AN ACT

relating to occupational licenses for military service members, military veterans, and military spouses.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. The heading to Chapter 55, Occupations Code, as amended by Chapters 66 (S.B. 162) and 348 (H.B. 2254), Acts of the 83rd Legislature, Regular Session, 2013, is reenacted to read as follows:

CHAPTER 55. LICENSING OF MILITARY SERVICE MEMBERS, MILITARY VETERANS, AND MILITARY SPOUSES

SECTION 2. Section 55.001, Occupations Code, is amended to read as follows:

Sec. 55.001. DEFINITIONS. In this chapter:

(1) "Active duty" means current full-time military service in the armed forces of the United States or active duty military service as a member of the Texas military forces, as defined by Section 437.001, Government Code, or similar military service of another state.

(2) "Armed forces of the United States" means the army, navy, air force, coast guard, or marine corps of the United States or a reserve unit of one of those branches of the armed forces.

(3) "License" means a license, certificate, registration, permit, or other form of authorization required by law or a state agency rule that must be obtained by an individual to engage in a particular business.

(4) ~~[(1-a)]~~ "Military service member" means a person who is on active duty ~~[currently serving in the armed forces of the United States, in a reserve component of the armed forces of the United States, including the National Guard, or in the state military service of any state].~~

(5) ~~[(1-b)]~~ "Military spouse" means a person who is married to a military service member ~~[who is currently on active duty].~~

(6) ~~[(1-c)]~~ "Military veteran" means a person who has served on active duty and who was discharged or released from active duty ~~[in the army, navy, air force, marine corps, or coast guard of the United States, or in an auxiliary service of one of those branches of the armed forces].~~

(7) ~~[(2)]~~ "State agency" means a department, board, bureau, commission, committee, division, office, council, or agency of the state.

SECTION 3. Section 55.002, Occupations Code, is amended to read as follows:

Sec. 55.002. EXEMPTION FROM PENALTY FOR FAILURE TO RENEW LICENSE. A state agency that issues a license shall adopt rules to exempt an individual who holds a license issued by the agency from any increased fee or other penalty imposed by the agency for failing to renew the license in a timely manner if the individual establishes to the satisfaction of the agency that the individual failed to renew the license in a timely manner because the individual was serving as a military service member ~~[on active duty in the United States armed forces serving outside this state].~~

SECTION 4. Section 55.003, Occupations Code, is amended to read as follows:

Sec. 55.003. EXTENSION OF LICENSE RENEWAL ~~[CERTAIN]~~ DEADLINES FOR ~~[ACTIVE DUTY]~~ MILITARY SERVICE MEMBERS ~~[PERSONNEL]~~.

A military service member ~~[person]~~ who holds a license ~~[is a member of the state military forces or a reserve component of the armed forces of the United States, and is ordered to~~

~~active duty by proper authority]~~ is entitled to two years of [an] additional [amount of] time, ~~equal to the total number of years or parts of years that the person serves on active duty,~~ to complete:

(1) any continuing education requirements; and

(2) any other requirement related to the renewal of the military service member's ~~[person's]~~ license.

SECTION 5. Section 55.004, Occupations Code, is amended to read as follows:

Sec. 55.004. ALTERNATIVE LICENSING [LICENSE PROCEDURE] FOR MILITARY SERVICE MEMBERS, MILITARY VETERANS, AND MILITARY SPOUSES [SPOUSE].

(a) A state agency that issues a license shall adopt rules for the issuance of the license to an applicant who is a military service member, military veteran, or military spouse ~~[the spouse of a person serving on active duty as a member of the armed forces of the United States]~~ and:

(1) holds a current license issued by another jurisdiction [state] that has licensing requirements that are substantially equivalent to the requirements for the license in this state; or

(2) within the five years preceding the application date held the license in this state ~~[that expired while the applicant lived in another state for at least six months].~~

~~(b) [Rules adopted under this section must include provisions to allow alternative demonstrations of competency to meet the requirements for obtaining the license.~~

~~[(c)] The executive director of a state agency may waive any prerequisite to obtaining a license for an applicant described by Subsection (a) after reviewing the applicant's credentials [issue a license by endorsement in the same manner as the Texas Commission of Licensing and Regulation under Section 51.404 to an applicant described by Subsection (a)].~~

(c) In addition to the rules adopted under Subsection (a), a state agency that issues a license may adopt rules that would establish alternate methods for a military service member, military veteran, or military spouse to demonstrate competency to meet the requirements for obtaining the license.

SECTION 6. The heading to Section 55.005, Occupations Code, as added by Chapter 66 (S.B. 162), Acts of the 83rd Legislature, Regular Session, 2013, is amended to read as follows:

Sec. 55.005. EXPEDITED LICENSE PROCEDURE FOR MILITARY SERVICE MEMBERS, MILITARY VETERANS, AND MILITARY SPOUSES.

SECTION 7. Section 55.005(a), Occupations Code, as added by Chapter 66 (S.B. 162), Acts of the 83rd Legislature, Regular Session, 2013, is amended to read as follows:

(a) A state agency that issues a license shall, as soon as practicable after a military service member, military veteran, or military spouse files an application for a license:

(1) process the application; and

(2) issue the [a] license to an [a-qualified military spouse] applicant who qualifies for the license under Section 55.004 ~~[holds a current license issued by another jurisdiction that has licensing requirements that are substantially equivalent to the licensing requirements in this state].~~

SECTION 8. Section 55.005, Occupations Code, as added by Chapter 348 (H.B. 2254), Acts of the 83rd Legislature, Regular Session, 2013, is redesignated as Section 55.008, Occupations Code, and amended to read as follows:

Sec. 55.008 [~~55.005~~]. APPRENTICESHIP REQUIREMENTS FOR APPLICANT WITH MILITARY EXPERIENCE.

(a) Notwithstanding any other law, if an apprenticeship is required for a ~~[an occupational]~~ license issued by a state agency, the state agency shall credit verified military service, training, or education that is relevant to the occupation toward the apprenticeship requirements for the license.

(b) The state agency shall adopt rules necessary to implement this section.

SECTION 9. The heading to Section 55.006, Occupations Code, is amended to read as follows:

Sec. 55.006. RENEWAL OF EXPEDITED LICENSE ISSUED TO MILITARY SERVICE MEMBER, MILITARY VETERAN, OR MILITARY SPOUSE.

SECTION 10. Chapter 55, Occupations Code, is amended by adding Section 55.009 to read as follows:

Sec. 55.009. NOTICE OF CHAPTER PROVISIONS. A state agency that issues a license shall prominently post a notice on the home page of the agency's Internet website describing the provisions of this chapter that are available to military service members, military veterans, and military spouses.

SECTION 11. The changes in law made by this Act apply only to an application for an occupational license or renewal of an occupational license filed on or after January 1, 2016. An application for a license or for license renewal filed before January 1, 2016, is governed by the law in effect immediately before the effective date of this Act, and that law is continued in effect for that purpose.

SECTION 12. To the extent of any conflict, this Act prevails over another Act of the 84th Legislature, Regular Session, 2015, relating to nonsubstantive additions to and corrections in enacted codes.

SECTION 13. This Act takes effect September 1, 2015.

BILL ANALYSIS

Senate Research Center
84R7822 NC-F

S.B. 1307
By: Menéndez
Veteran Affairs & Military Installations
3/26/2015
As Filed

AUTHOR'S / SPONSOR'S STATEMENT OF INTENT

The state, through the Department of Licensing and Regulation and other regulatory agencies, issues licenses to individuals who seek careers in which certain knowledge and skills are required to perform their duties such as plumbing, nursing, electricians, public safety, et cetera. Veterans and military spouses significantly benefit from occupational licenses because of their unique life circumstances. Many veterans are trained in specialized skillsets like electrical engineering or medical training. Often, military spouses find careers which are easily transferable because their living situation is mobile and dependent on their significant other's deployment schedule. This makes occupational licensing careers like teaching, cosmetology, or nursing desirable because those licenses are transferable from state to state.

Chapter 55 (Licensing of Military Services Members, Military Veterans, and Military Spouses), Occupations Code, regulates the licensing of military service members, veterans, and military spouses. Given the overwhelming support of crediting military skills to occupational licenses, the 83rd Legislature passed six bills amending the Occupations Code. These bills while effective and important left the regulatory code with multiple titles, confusing definitions, and burdensome to interpret. S.B. 1307 would streamline the Occupations Code and ensure that every military spouse, veteran, and active duty service member get credit for their skills and have their occupational licenses expedited.

As proposed, S.B. 1307 amends current law relating to occupational licenses for military service members, military veterans, and military spouses.

RULEMAKING AUTHORITY

Rulemaking authority is expressly granted to state agencies that issue licenses in SECTION 5 (Section 55.004, Occupations Code) of this bill.

Rulemaking authority previously granted to state agencies that issue licenses is modified in SECTION 3 (Section 55.002, Occupations Code), SECTION 5 (Section 55.004, Occupations Code), and SECTION 8 (55.008, Occupations Code) of this bill.

SECTION BY SECTION ANALYSIS

SECTION 1. Reenacts the heading to Chapter 55, Occupations Code, as amended by Chapters 66 (S.B. 162) and 348 (H.B. 2254), Acts of the 83rd Legislature, Regular Session, 2013, to read as follows:

CHAPTER 55. LICENSING OF MILITARY SERVICE MEMBERS, MILITARY VETERANS,
AND MILITARY SPOUSES

SECTION 2. Amends Section 55.001, Occupations Code, as follows:

Sec. 55.001. DEFINITIONS. Defines, in this chapter, "active duty" and "armed forces of the United States," and redefines, in this chapter, "military service member," "military spouse," and "military veteran," and makes nonsubstantive changes.

SECTION 3. Amends Section 55.002, Occupations Code, as follows:

Sec. 55.002. EXEMPTION FROM PENALTY FOR FAILURE TO RENEW LICENSE. Requires a state agency that issues a license to adopt rules to exempt an individual who holds a license issued by the agency from any increased fee or other penalty imposed by the agency for failing to renew the license in a timely manner if the individual establishes to the satisfaction of the agency that the individual failed to renew the license in a timely manner because the individual was serving as a military service member, rather than because the individual was on active duty in the United States armed forces serving outside this state.

SECTION 4. Amends Section 55.003, Occupations Code, as follows:

Sec. 55.003. New heading: EXTENSION OF LICENSE RENEWAL DEADLINES FOR MILITARY SERVICE MEMBERS. Entitles a military service member who holds a license to two years of additional time to complete any continuing education requirements, and any other requirement related to the renewal of the military service member's license, rather than entitles a person who holds a license, is a member of the state military forces or a reserve component of the armed forces of the United States, and is ordered to active duty by proper authority to an additional amount of time equal to the total number of years or parts of years that the person serves on active duty to complete any continuing education requirements and any other requirement related to the renewal of the person's license.

SECTION 5. Amends Section 55.004, Occupations Code, as follows:

Sec. 55.004. New heading: ALTERNATIVE LICENSING FOR MILITARY SERVICE MEMBERS, MILITARY VETERANS, AND MILITARY SPOUSES. (a) Requires a state agency that issues a license to adopt rules for the issuance of the license to an applicant who is a military service member, military veteran, or military spouse, rather than to an applicant who is the spouse of a person serving on active duty as a member of the armed forces of the United States, and:

(1) holds a current license issued by another jurisdiction, rather than state, that has licensing requirements that are substantially equivalent to the requirements for the license in this state; or

(2) within the five years preceding the application date held the license in this state, rather than held the license in this state that expired while the applicant lived in another state for at least six months.

(b) Authorizes the executive director of a state agency to waive any prerequisite to obtaining a license for an applicant described by Subsection (a) after reviewing the applicant's credentials.

(c) Authorizes, in addition to the rules adopted under Subsection (a), a state agency that issues a license to adopt rules that would establish alternate methods for a military service member, military veteran, or military spouse to demonstrate competency to meet the requirements for obtaining the license.

Deletes existing text requiring that rules adopted under this section include provisions to allow alternative demonstrations of competency to meet the requirements for obtaining the license.

Deletes existing text authorizing the executive director of a state agency to issue a license by endorsement in the same manner as the Texas Commission of Licensing and Regulation under Section 51.404 (Endorsement; Reciprocity) to an applicant described by Subsection (a).

Makes a nonsubstantive change.

SECTION 6. Amends the heading to Section 55.005, Occupations Code, as added by Chapter 66 (S.B. 162), Acts of the 83rd Legislature, Regular Session, 2013, to read as follows:

Sec. 55.005. EXPEDITED LICENSE PROCEDURE FOR MILITARY SERVICE MEMBERS, MILITARY VETERANS, AND MILITARY SPOUSES.

SECTION 7. Amends Section 55.005(a), Occupations Code, as added by Chapter 66 (S.B. 162), Acts of the 83rd Legislature, Regular Session, 2013, as follows:

(a) Requires a state agency that issues a license, as soon as practicable after a military service member, military veteran, or military spouse files an application for a license, to:

- (1) process the application; and
- (2) issue the license to an applicant who qualifies for the license under Section 55.004, rather than issue a license to a qualified military spouse applicant who holds a current license issued by another jurisdiction that has licensing requirements that are substantially equivalent to the licensing requirements in this state.

SECTION 8. Redesignates Section 55.005, Occupations Code, as added by Chapter 348 (H.B. 2254), Acts of the 83rd Legislature, Regular Session, 2013, as Section 55.008 and amends it as follows:

Sec. 55.008 APPRENTICESHIP REQUIREMENTS FOR APPLICANT WITH MILITARY EXPERIENCE. (a) Redesignates Section 55.005, as Section 55.008. Requires a state agency, notwithstanding any other law, if an apprenticeship is required for a license, rather than an occupational license, issued by a state agency, to credit verified military service, training, or education that is relevant to the occupation toward the apprenticeship requirements for the license.

(b) Requires the state agency to adopt rules necessary to implement this section.

SECTION 9. Amends the heading to Section 55.006, Occupations Code, to read as follows:

Sec. 55.006. RENEWAL OF EXPEDITED LICENSE ISSUED TO MILITARY SERVICE MEMBER, MILITARY VETERAN, OR MILITARY SPOUSE.

SECTION 10. Amends Chapter 55, Occupations Code, by adding Section 55.009, as follows:

Sec. 55.009. NOTICE OF CHAPTER PROVISIONS. Requires a state agency that issues a license to prominently post a notice on the home page of the agency's Internet website describing the provisions of this chapter that are available to military service members, military veterans, and military spouses.

SECTION 11. Provides that the changes in law made by this Act apply only to an application for an occupational license or renewal of an occupational license filed on or after January 1, 2016. Provides that an application for a license or for license renewal filed before January 1, 2016, is governed by the law in effect immediately before the effective date of this Act, and that law is continued in effect for that purpose.

SECTION 12. Provides that, to the extent of any conflict, this Act prevails over another Act of the 84th Legislature, Regular Session, 2015, relating to nonsubstantive additions to and corrections in enacted codes.

SECTION 13. Effective date: September 1, 2015.

5. **Discussion and possible action on proposed rule changes to title 37 TAC, Chapter 437, Fees, including but not limited to §437.3, Certification Application Processing Fees, §437.5, Renewal Fees and §437.13, Processing Fees for Test Application.**

CHAPTER 437

FEES

§437.3 Certification Application Processing Fees.

- (a) A non-refundable application processing fee of \$85 is required for each certificate issued by the commission. If a certificate is issued within the time provided in §401.125 of this title (relating to Processing Periods), the fee will be applied to the certification. If the certificate is denied, the applicant must pay a new certification application processing fee to file a new application.
- (b) The regulated employing entity shall be responsible for all certification application processing fees required as a condition of appointment.
- (c) Nothing in this section shall prohibit an individual from paying a certification application processing fee for any certificate which he or she is qualified to hold, providing the certificate is not required as a condition of appointment (see subsection (b) of this section concerning certification fees).
- (d) A facility that provides training for any discipline for which the commission has established a curriculum must be certified by the commission. The training facility will be charged a separate certification application processing fee for each discipline or level of discipline for which application is made.
- (e) The certification application processing fee is waived for a military service member or military veteran whose military service, training, or education substantially meets the requirements for commission certification, and is applying for the first time for a certification required by commission rules for appointment to duties.**
- (f) The certification application processing fee is waived for a military service member, military veteran, or military spouse who holds a current license or certification issued by another jurisdiction that has requirements substantially equivalent to the requirements for commission certification, and is applying for the first time for a certification required by commission rules for appointment to duties.**

§437.5 Renewal Fees.

- (a) A non-refundable annual renewal fee of \$85 shall be assessed for each certified individual and certified training facility. If an individual or certified training facility holds more than one certificate, the commission may collect only one renewal fee of \$85, which will renew all certificates held by the individual or certified training facility.
- (b) A regulated employing entity shall pay the renewal fee for each individual who is required to possess certification as a condition of employment.
- (c) If a person re-enters the fire service whose certificate(s) has been expired for less than one year, the regulated entity must pay all applicable renewal fee(s) and any applicable additional fee(s). Upon payment of the required fees, the certificates previously held by the individual, for which he or she continues to qualify, will be renewed.
- (d) If a person wishes to renew a certificate(s) which has been expired less than one year and the individual is not employed by a regulated employing entity as defined in subsection (b) of this section, the individual must pay all applicable renewal fee(s) and any applicable additional fee(s). Upon payment of the required fee(s), the certificate(s) previously held by the individual, for whom he or she continues to qualify, will be renewed.
- (e) Nothing in this section shall prohibit an individual from paying a renewal fee for any certificate which he or she is qualified to hold providing the certificate is not required as a condition of employment.

- (f) Certification renewal information will be sent to all regulated employing entities and individuals holding certification at least 60 days prior to October 31 of each calendar year. Certification renewal information will be sent to certified training facilities at least 60 days prior to February 1 of each calendar year.
- (g) If renewal payment is submitted by mail, all certification renewal fees must be submitted with the renewal invoice to the commission.
- (h) All certification renewal fees must be paid on or before the last day of the certification period (see subsection (i) of this section) to avoid additional fee(s).
- (i) The certification period shall be a period not to exceed one year. The certification period for employees of regulated employing entities, and individuals holding certification is November 1 to October 31. The certification period of certified training facilities is February 1 to January 31.
- (j) All certification renewal fees received from one to 30 days after the last day of the certification period will cause the individual or entity responsible for payment to be assessed a non-refundable late fee of \$42.50 in addition to the renewal fee for each individual or training provider for which a renewal fee was due.
- (k) All certification renewal fees received more than 30 days after the last day of the certification period will cause the individual or entity responsible for payment to be assessed a non-refundable late fee of \$85 in addition to the renewal fee for each individual or training provider for which a renewal fee was due.
- (l) In addition to any non-refundable late fee(s) assessed for certification renewal, the commission may hold an informal conference to determine if any further action(s) is to be taken.
- (m) An individual or entity may petition the commission for a waiver of the late fees required by this section if the person's certificate expired because of the individual or regulated employing entity's good faith clerical error, or expired as a result of termination of the person's employment where the person has been restored to employment through a disciplinary procedure or a court action.
- (1) Applicants claiming good faith clerical error must submit a sworn statement together with any supporting documentation that evidences the applicant's good faith efforts to comply with commission renewal requirements and that failure to comply was due to circumstances beyond the control of the applicant.
- (2) Applicants claiming restoration to employment as a result of a disciplinary or court action must submit a certified copy of the order restoring the applicant to employment.
- (n) An individual, **who is a military service member, or** ~~upon~~ returning from activation to military service, ~~[whose certification has expired,]~~ must notify the commission in writing **if he or she wishes to renew an expired certification. Provided other qualifications for renewal are met, the** ~~[The]~~ individual will have any normally associated late fees waived and will be required to pay a renewal fee of \$85.

§437.13 Processing Fees for Test Application.

- (a) A non-refundable application processing fee of \$85 shall be charged for each examination.
- (b) Fees will be paid in advance with the application or the certified training provider may be invoiced or billed if previous arrangements have been approved by the commission in writing via mail, e-mail or fax.
- (1) Any payment postmarked from 61 to 90 days after the invoice date will cause the provider of training to be assessed a non-refundable late fee of one half the amount shown on the invoice. This late fee is in addition to the amount shown on the invoice for test application processing fees.

(2) Any payment postmarked more than 90 days after the invoice date will cause the provider of training to be assessed a non-refundable late fee in an amount equal to the amount shown on the invoice. This late fee is in addition to the amount shown on the invoice for test application processing fees.

(c) The test application processing fee is waived for a military service member or military veteran whose military service, training, or education substantially meets the training requirements for a commission examination. This subsection applies to initial examinations for certifications required by commission rules for appointment to duties. Retests following a failed initial examination or an examination to regain a certification that was lost are not included.

(d) The test application processing fee is waived for a military service member, military veteran, or military spouse who holds a current license or certification issued by another jurisdiction that has requirements substantially equivalent to the training requirements for a commission examination. This subsection applies to initial examinations for certifications required by commission rules for appointment to duties. Retests following a failed initial examination or an examination to regain a certification that was lost are not included.

S.B. No. 807

AN ACT

relating to occupational license application and examination fees for certain military service members, military veterans, and military spouses.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Chapter 55, Occupations Code, is amended by adding Section 55.009 to read as follows:

Sec. 55.009. LICENSE APPLICATION AND EXAMINATION FEES. Notwithstanding any other law, a state agency that issues a license shall waive the license application and examination fees paid to the state for an applicant who is:

(1) a military service member or military veteran whose military service, training, or education substantially meets all of the requirements for the license; or

(2) a military service member, military veteran, or military spouse who holds a current license issued by another jurisdiction that has licensing requirements that are substantially equivalent to the requirements for the license in this state.

SECTION 2. The changes in law made by this Act apply only to an application for an occupational license filed on or after the effective date of this Act. An application for a license filed before the effective date of this Act is governed by the law in effect immediately before that date, and that law is continued in effect for that purpose.

SECTION 3. This Act takes effect September 1, 2015.

BILL ANALYSIS

Senate Research Center
84R14765 NC-D

C.S.S.B. 807
By: Campbell; Lucio
Veteran Affairs & Military Installations
3/19/2015
Committee Report (Substituted)

AUTHOR'S / SPONSOR'S STATEMENT OF INTENT

C.S.S.B. 807 expedites the employment of skilled veterans by waiving examination and fee requirements for occupational licenses issued by state agencies.

One unnecessary burden to the reentry of service members into the workforce is that Texas occupations requiring licensure frequently require an examination and payment of certain fees in order to receive appropriate certification from the state. In the case of service members or veterans who have a substantially equivalent certification from the military, this process is redundant, unduly burdensome, and in need of reform.

Additionally, current Texas statutes do not provide waived or reduced fees for military service members and veterans who initially apply for a Texas occupational license. However, some state agencies have waived some fees for military spouses who are applying for a Texas occupational license when they have a similar license in another jurisdiction with similar licensing requirements.

By recognizing military experience or licenses from other states, Texas can attract the most qualified and skilled veterans and remove barriers to employment for those who are just transitioning out of active duty military service.

C.S.S.B. 807 amends current law relating to occupational license application and examination fees for certain military service members, military veterans, and military spouses.

RULEMAKING AUTHORITY

This bill does not expressly grant any additional rulemaking authority to a state officer, institution, or agency.

SECTION BY SECTION ANALYSIS

SECTION 1. Amends Chapter 55, Occupations Code, by adding Section 55.009, as follows:

Sec. 55.009. LICENSE APPLICATION AND EXAMINATION FEES. Requires a state agency that issues a license, notwithstanding any other law, to waive the license application and examination fees paid to the state for an applicant who is:

- (1) a military service member or military veteran whose military service, training, or education substantially meets all of the requirements for the license; or

(2) a military service member, military veteran, or military spouse who holds a current license issued by another jurisdiction that has licensing requirements that are substantially equivalent to the requirements for the license in this state.

SECTION 2. Makes application of this Act prospective.

SECTION 3. Effective date: September 1, 2015.

6. Discussion and possible action on proposed rule changes to title 37 TAC, Chapter 441 Continuing Education, including but not limited to §441.5, Requirements.

CHAPTER 441

CONTINUING EDUCATION

§441.5 Requirements.

- (a) Continuing education shall be required in order to renew certification.
- (b) The continuing education requirement for renewal shall consist of a minimum of 18 hours of training to be conducted during the certification period. All documentation of training used to satisfy the continuing education requirements must be maintained for a period of three years from the date of the training. Continuing education records shall be maintained by the department in accordance with the Texas State Library and Archives Commission, State and Local Records Management Division, Records Schedule, Local Schedule (GR 1050-28), whichever is greater.
- (c) Level 1 training must be conducted by a certified instructor. Interactive computer-based continuing education training that is supervised and verified by a certified instructor is acceptable.
- (d) The continuing education program of a regulated entity must be administered and maintained in accordance with commission rule by a certified instructor.
- (e) No more than four hours per year in any one subject of Level 1 training may be counted toward the continuing education requirement for a particular certification.
- (f) There shall be no "hour per subject limit" placed on Level 2 courses, except that emergency medical courses shall be limited to four hours per year.
- (g) The head of a fire department may select subject matter for continuing education appropriate for a particular discipline.
- (h) The head of a fire department must certify whether or not the individuals whose certificates are being renewed have complied with the continuing education requirements of this chapter on the certification renewal document. Unless exempted from the continuing education requirements, an individual who fails to comply with the continuing education requirements in this chapter shall be notified by the commission of the failure to comply.
- (i) After notification from the commission of a failure to comply with continuing education requirements, an individual who holds a certificate is prohibited from performing any duties authorized by a required certificate until such time as the deficiency has been resolved and written documentation is furnished by the department head for approval by the commission, through its Fire Service Standards and Certification Division director. Continuing education hours obtained to resolve a deficiency may not be applied to the continuing education requirements for the current certification period.
- (j) Any person who is a member of a paid or volunteer fire department who is on extended leave for a cumulative period of six months or longer due to a documented illness, injury, or activation to military service may be exempted from the continuing education requirement for the applicable renewal period(s). Such exemptions shall be reported by the head of the department to the commission at renewal time, and a copy kept with the department continuing education records for three years.
- (k) Any individual who is not a member of a paid or volunteer fire department who is unable to perform work, substantially similar in nature as would be performed by fire protection personnel appointed to that discipline, may be exempted from the continuing education requirement for the applicable renewal period(s). Commission staff shall determine the exemption using documentation **provided by the individual and the individual's treating physician** of the illness or injury that cumulatively lasts six months or longer, [~~which is provided by the individual and the individual's treating physician~~] or by documentation of **military service or** activation to military service.
- (l) In order to renew certification for any discipline which has a continuing education requirement stated in this chapter, an individual holder of a certificate not employed by a regulated entity must comply

with the continuing education requirements for that discipline. Only 20 total hours of continuing education for each certification period in Level 1 or Level 2 subjects relating to the certification being renewed shall be required to renew all certificates the individual holds, except as provided in §441.17 of this title (relating to Continuing Education for Hazardous Materials Technician).

- (m) An individual certificate holder, not employed by a regulated entity, shall submit documentation of continuing education training upon notification by the commission. An example of documentation of continuing education training may include, but not be limited to a Certificate of Completion, a college or training facility transcript, a fire department training roster, etc. Commission staff will review and may approve or disapprove such documentation of training in accordance with applicable commission rules and/or procedures. The training for a resident of Texas at the time the continuing education training is conducted shall be administered by a commission instructor, commission certified training facility, an accredited institution of higher education, or a military or nationally recognized provider of training. The training for a nonresident of Texas, shall be delivered by a state fire academy, a fire department training facility, an accredited institution of higher education, or a military or nationally recognized provider of training. The individual must submit training documentation to the commission for evaluation of the equivalency of the training required by this chapter. The individual certificate holder is responsible for maintaining all of his/her training records for a period of three years from the date of the training.
- (n) If an individual has completed a commission approved academy in the 12 months prior to his or her certification expiration date, a copy of that certificate of completion will be acceptable documentation of continuing education for that certification renewal period.

7. Discussion and possible action on the development of a voluntary Fire and Life Safety Educator certification.

TEXAS COMMISSION ON FIRE PROTECTION Briefing Statement

FIRE AND LIFE SAFETY EDUCATOR

May 5, 2015

Critical Issue:

Consider developing a Fire and Life Safety Educator voluntary certification level for the Texas fire service that meets the requirements of the National Fire Protection Association (NFPA) 1035 document – *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*, 2015 Edition.

Situation Statement:

Fire and Life Safety Educators (FLSE) are common in Texas fire departments. Many FLSEs are fire inspectors, company officers, firefighters, and chiefs. However, just because an individual is in an FLSE position does not indicate that they know how to relate to children, adolescents, adults, older adults, people who use a language other than English, and other cultures. FLSEs have direct contact with the public. Providing wrong information as part of a fire and life safety presentation, a self-prepared handout, web site/social media posting, or conversation with a member of the public can be deadly if accurate information is not conveyed. The content of fire and life safety education messages is not common knowledge. Therefore Texas needs to assure that FLSEs have the knowledge and skills to deliver accurate information that meets the needs of the target audience.

Throughout the American fire service there is now a greater emphasis on Community Risk Reduction (CRR). Through projects such as Vision 20/20, CRR is becoming mainstream in fire service conversation and education. Starting with the rookie firefighter, the value of CRR to the overall mission of the fire service is explained and shown how it ties into everyday training and service. CRR is very important for the FLSE since they are on the front lines of delivering this service to the citizens in Texas.

Certification provides Texas firefighters who have multiple responsibilities a road map in which to focus their training and education succinctly so as to acquire the knowledge and skills needed and not waste valuable time and resources for training that does not impact their role as an FLSE. Training and certifying to NFPA 1035 provides the needed information to educate the Texas fire service to do the job required of an FLSE. The information and skills in NFPA 1035 insure that FLSE have the appropriate knowledge, skills, and abilities to communicate the right message to the intended audience who is at risk. Certification makes all of the Texas fire service better consumers to choose training and education that leads to certification.

Also in each *Assistance to Firefighters Grants Program* application for the *Fire Prevention & Safety* grants, a common question is whether the applicant has someone on staff trained as an FLSE and if not whether any of the grant money is going to train someone to do this job. This certification level will help all Texas fire departments applying for this grant to answer this question.

Strategy:

1. Authorize the development of an Ad Hoc Committee to develop curriculum and testing materials for a Texas Fire and Life Safety Educator I, II, and III only that meets the requirements of NFPA 1035, *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*, 2015 Edition.

2. Authorize the development of an Ad Hoc Committee to develop curriculum and testing materials for a Texas Fire and Life Safety Educator I, II, and III that meets the requirements other than those identified in NFPA 1035, *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*, 2015 Edition.
 3. Do not authorize the development of any Ad Hoc Committee to develop curriculum and testing materials for a Texas Fire and Life Safety Educator I, II, and III that meets the requirements of NFPA 1035, *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*, 2015 Edition.
-

Impact:

1. If approved, a start date of the advertising for participants on the Ad Hoc Committee is recommended.
-

Action:

1. Hutto Fire Rescue recommends that the Texas Commission on Fire Protection authorize the development of an Ad Hoc Committee to develop curriculum and testing materials for a Texas Fire and Life Safety Educator I, II, and III only that meets the requirements of NFPA 1035, *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*, 2015 Edition.

Prepared By:

 Scott D. Kerwood, PhD, CFO, EFO, CFPS, CEMSO, FIFireE
 Fire Chief

Recommended By:

 Scott D. Kerwood, PhD, CFO, EFO, CFPS, CEMSO, FIFireE
 Fire Chief

Survey Results Regarding Proposal for a New
Fire and Life Safety Educator Certification
September, 2015

SUMMARY

The Texas Commission on Fire Protection conducted a survey to obtain feedback from the Texas fire service regarding the possibility of developing a Fire and Life Safety Educator certification (actually three certifications: Level I, Level II, and Level III). The survey was made available on the TCFP website from August 5th to September 4th, 2015. The Texas Fire Chief's Association and the Texas State Fire Fighter's Association were contacted with a request to make their membership aware of the survey. One hundred fifty-five individuals responded.

The following questions were asked:

1. How familiar are you with NFPA 1035?
2. If TCFP were to offer a new voluntary Fire and Life Safety Educator certification, how likely would you be to pursue one or more levels?
3. How valuable would the addition of a Fire and Life Safety Educator certification be to your department's operations?
4. What personnel in your department would be likely to benefit from the certification?
(Choices: Administration, EMS, Fire Prevention, Fire Suppression, Support Services, other)
5. Are there other certifications that you would prefer to see TCFP develop before a Fire and Life Safety Educator certification? (Yes/No answer. If yes, state the certification)
6. Additional comments

General results:

- 80% of respondents were at least *somewhat familiar* with NFPA 1035.
- 60% of respondents stated they would be extremely likely or very likely to pursue one or more levels of the certification.
- Nearly half (49%) of respondents felt this certification would be *extremely valuable* or *very valuable* to their department operations.
- Fire Prevention personnel were mentioned most often as benefiting from the certification(s).
- A little more than a quarter (26%) of respondents indicated the commission should focus on other certifications before the Fire & Life Safety Educator certification is pursued.
- Of those who provided alternate options for commission focus, 35% specifically suggested Driver/Operator-Aerial or various Technical Rescue certifications.

Fire and Life Safety Educator Survey results

Q1. Familiarity with NFPA 1035

	Very	Somewhat	Not At All	Total Responses
Survey 1	18	62	20	100
Survey 2	11	34	10	55
Subtotals	29	96	30	155
%	18.71	61.94	19.35	100.00

Q2. Likelihood of Pursuing F&LSE cert

	Highly Likely	Very Likely	Undecided	Very Unlikely	Highly Unlikely	Total Responses
Survey 1	31	25	15	16	13	100
Survey 2	28	9	12	3	3	55
Subtotals	59	34	27	19	16	155
%	38.06	21.94	17.42	12.26	10.32	100.00

Q3. Value of F&LSE cert to department operations

	Extremely Valuable	Very Valuable	Fairly Valuable	Somewhat Valuable	Not Very Valuable	Total Responses
Survey 1	16	26	21	15	22	100
Survey 2	20	14	9	6	6	55
Subtotals	36	40	30	21	28	155
%	23.23	25.81	19.35	13.55	18.06	100.00

Q4. Department most likely to benefit from F&LSE cert

	Administration	EMS	Fire Prevention	Fire Suppression	Support Services	Total Responses
Survey 1	38	7	81	32	16	174
Survey 2	24	9	48	25	19	125
Subtotals	62	16	129	57	35	299
%	20.74	5.35	43.14	19.06	11.71	100.00

Q5. Develop other certifications before F&LSE

	No	Yes	Total Responses
Survey 1	73	27	100
Survey 2	41	14	55
Subtotals	114	41	155
%	73.55	26.45	100.00

SURVEY GENERAL FEEDBACK COMMENTS

- ❖ Great idea, would definitely pursue this.
 - ❖ do it
 - ❖ This is a much needed certification and I would defiantly be one of the first to enroll
 - ❖ Texas needs to be a forerunner in this area of certification.
 - ❖ I would be interested in working on a committee for the above David J Raupp
 - ❖ Although there is probably value in the subject matter. It's not worth \$510.00 to obtain a level 3 certification (not including price of the course).
 - ❖ I don't have an answer for 5 yet but this new cert seems useless to me.
 - ❖ I am not familiar with the standard, but the subject matter is extremely valuable and I would hope that such a certification would train the student in these vital areas.
 - ❖ The TCFP makes certification much too difficult now. The commission should stop trying to reinvent the wheel and fix the wheels they already have.
 - ❖ Needed certification for the State
 - ❖ I got my 1035 certification through the A & M Fire School. Attended three years in a row. Loved it.
 - ❖ Please update Marine certification
 - ❖ I think this certification would be an important certification for anyone in the public service.
 - ❖ Specify levels of certification required based on job duties. F&LS I, II reserved for public educators. Level III for Administrative leaders. Same with YFIS, reserve program manager for administrative personnel. Take in to account prior training and classes for required certification.
 - ❖ I feel we have enough certifications from the TCFP.
 - ❖ More Certs mean more money that department don't have
 - ❖ keep up the great work.
-

- ❖ Great idea and another avenue to add professional credentialing for the prevention folks.
 - ❖ Why certify someone on this topic? I would prefer to see initiatives, programs, and fire education ideas for departments. Perhaps recognize participating departments for their accomplishments in said area. This topic is important; however, I do not see the need to certify personnel. Perhaps certify or accredit a department. Additional certifications will increase funding for TCFP, but could put a burden on departments; I simply do not think it is a worthy certification at this time.
 - ❖ The certifications lend legitimacy to what we do. Thanks for continuing to develop additional certs.
 - ❖ The voluntary certification would improve KSA of firefighters and/or fire inspectors who are engaged in delivering public education programs. Would provide a professional recognition /designation for staff engaged in public education outreach programs.
 - ❖ I know it has been kicked around but some rescue certs would be great..confined space, high angle, etc...
 - ❖ The Fire and Life Safety Educator would be beneficial. Always need a certification for DO Aerial
 - ❖ I'd also like to see TCFP begin to regulate rescue training for fire personnel in Texas. There needs to be standardization there in case of a large scale event.
 - ❖ In keeping with the entire scope of NFPA 1035 we should also include PIO and Juvenile Firesetter Intervention Specialist
 - ❖ hurry
 - ❖ I have the Fire Safety Director New York Fire Department 2003.
 - ❖ This cert will aid to give educators confirmation and commitment to educating the public.
 - ❖ There is a need for this certification not sure about three levels of certification. There are many other job duties that keep the prevention personnel from performing Public Education. There is a need for Fire Safety Coaches- Fire Educators training kids how to escape fires and safety during PE class. I have developed a program I will share with the Texas Fire Service using the NFPA recommendations for fire prevention week.
 - ❖ If this would remain a "voluntary" certification, that would be fine. But often, these voluntary certifications migrate into required certifications!
 - ❖ Great idea!
-

- ❖ The department that I currently work for just last year created the position of Fire Educator. I believe that this will be an excellent addition to the certifications. The person that holds this position is currently a civilian and has no knowledge of the fire service. This certification would be invaluable to have so that they have a better understanding of the profession and safety that is involved with it.
-

ALTERNATE CERTIFICATION RECOMMENDATIONS

- ❖ NFPA 1006 series, Instructor III, IFSAC accreditation in the current non-IFSAC certs
 - ❖ NFPA 1037 Fire Marshal//for prevention only department heads
 - ❖ Fire Marshal
 - ❖ Volunteer firefighter training program which once completed will lead to TCFP certification
 - ❖ Aerial Apparatus Driver Operator
 - ❖ Water, rope, confined space rescue. Follow Pro Board
 - ❖ I'm sure there are specific certifications that would be much more beneficial to the operational safety of firefighters
 - ❖ PIO certification
 - ❖ Fire Inspector 1, Fire Inspector 2, Plans Examiner. All as separate certifications such as outlined by NFPA. Instead of the all-in-one certification that we currently have. This would be very beneficial to many departments in Texas.
 - ❖ Specialized rescue (rope tech, swift water, confined space etc)
 - ❖ aerial/ladder driver operator
 - ❖ Rescue Technician
 - ❖ Driver/Operator-Aerial, Rescue certifications of various types. Including but not limited to rope rescue, swift water, trench rescue, confined space and various other rescue certifications
 - ❖ Technical Rescue Certifications
 - ❖ Health and Safety Officer, Aerial Operator, Rescue Tech
 - ❖ Industrial Fire Fighter NFPA 1081
 - ❖ Driver Operator-Aerial
 - ❖ Rescue
 - ❖ Health & Safety Officer, DO-Aerial, DO-ARFF, & DO-MWS, and Rescue Certifications
 - ❖ Fire inspector to 3 levels Inspector I, II and Plans reviewer. 3 separate certs
-

- ❖ Driver Operator Aerial
 - ❖ Public Information Officer
 - ❖ Water Rescue
 - ❖ Would also like to see Technical Rescue certs but think Fire and Life Safety Educator is equally as important.
 - ❖ Aerial Operator
 - ❖ Aerial Operator
 - ❖ Public Information Officer
 - ❖ Fire Marshal
 - ❖ Ariel DO
 - ❖ Rope Rescue and Swift water Rescue certification
 - ❖ Aerial Operator
-

8. Discussion and possible action regarding requirements for advisory committee members.

9. Discussion and possible action on setting future meeting dates, locations and agenda items.

10. Adjourn meeting.