

INSTRUCTOR GUIDE

TOPIC: DUTY AND RESPONSIBILITY TO ACT SAFELY

LEVEL OF INSTRUCTION:

TIME REQUIRED: TWO HOURS

MATERIALS: APPROPRIATE AUDIO-VISUAL MATERIALS

REFERENCES: Fire Department Safety Officer, 1st ed., International Fire Service Training Association; Essentials of Fire Fighting, 4th ed., International Fire Service Training Association

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PREPARATION:

MOTIVATION: Safety is everyone's responsibility and not just that of the officers. If an unsafe is observed or about to take place, it should be made known so that the work environment can be made safer.

OBJECTIVE (SPO):

The firefighter will demonstrate a general knowledge of safe practices at the station and at the emergency scene.

OVERVIEW:

DUTY AND RESPONSIBILITY TO ACT SAFELY

- * Regulations and Standards
- * Scene Safety
- * Standard Operating Procedures

DUTY AND RESPONSIBILITY TO ACT SAFELY

- SPO: The firefighter will demonstrate a general knowledge of safe practices at the station and at the emergency scene.
- EO 1-1 List some of the laws, regulations, and standards that apply to making the fire service a safer place in which to operate.
- EO 1-2 Identify various practices that contribute to an unsafe emergency scene.
- EO 1-3 Identify elements of standard operating procedures that can improve safety in the station and at the emergency scene.

This drill should be conducted as an interactive discussion to increase safety awareness among all in attendance. Everyone should be empowered to take action to reduce or eliminate unsafe practices and procedures.

NOTE: The term “employee” is used many places in this guide because it is used in the respective laws. It is intended to refer to both career and volunteer members of the fire and rescue service.

I. REGULATIONS AND STANDARDS (EO 1-1)

A. Occupational Safety and Health Act (PL 91-596) Signed into Law in 1970

1. Instructed Secretary of Labor to promulgate mandatory occupational safety and health standards
2. Occupational Safety and Health Administration (OSHA) created in Department of Labor
3. Section 5(b) of the Act required all employees to comply with the "standards, rules, regulations, and orders issued pursuant to this Act"

B. Requirements of Employers Covered under OSHA Regulations

1. Furnish each employee a place of employment free from recognized hazards that would cause or likely to cause death or serious physical harm
2. Comply with occupational safety and health standards promulgated under PL 91-596
3. Fire service required to comply with all applicable OSHA regulations published in Title 29, Code of Federal Regulations (CFR), or equivalent regulations issued by state government that elect to assume responsibility for the development of standards and enforcement (MARYLAND IS AN OSHA STATE)
4. Although 29 CFR 1910, Subpart L, Fire Protection Industrial Fire Brigades, did not apply directly to municipal fire departments or fire protection districts, it contained applicable requirements for fire service
5. 29 CFR 1910.1200 hazard communication standard
6. Fire departments covered by numerous other applicable regulations
 - a. General industry standard (29 CFR 1910)

- b. Parts of construction standard (29 CFR 1926), in particular Subpart P on excavations (trench rescue)
 - 7. In years since adoption of 29 CFR 1910, requirements have increased with mandates
 - a. Hazardous materials mitigation (29 CFR 1910.120) which includes a requirement for an incident management system
 - b. Confined space entry (29 CFR 1910.146)
 - c. Increased respiratory protection (29 CFR 1910.134) which includes the two-in/two-out requirement
 - d. Infection control, identification, and notification (29 CFR 1910.1030)
- C. NFPA 1500, Standard on Fire Department Occupational Safety and Health Program Published in 1987 to meet mandates of Federal government
 - 1. Provides minimum requirements for fire service related occupational safety and health program
 - 2. Specifies health and safety guidelines for fire department and emergency services personnel involved in rescue, fire suppression, emergency medical services, hazardous materials operations, special operations, and other related activities
 - 3. Standard mandates safety training program, health and safety committee and position of health and safety officer within organization
- D. Maryland Fire Service Health and Safety Consensus Standard (copy is included at the end of the Guide)
 - 1. Issued by Maryland Occupational Safety and Health on January 1, 2002
 - 2. Provides a policy for development of health and safety standard by local fire and rescue departments within Maryland to protect members during emergency operations
 - 3. Standard applicable to all members of public safety departments that provide rescue, fire suppression, emergency medical services,

hazardous materials mitigation, special operations, and other emergency services in Maryland

4. Standard consists of sixteen sections
 - a. Purpose
 - b. Scope
 - c. Definitions
 - d. Organizational statement and operational procedures
 - e. Implementation period
 - f. Medical standards
 - g. Substance abuse program
 - h. Personal protective equipment (PPE) standards
 - i. Emergency operations standards
 - j. Investigation of vehicle collisions and personnel injuries
 - k. Vehicles
 - l. Tools and equipment
 - m. Facility Safety
 - n. Workplace violence
 - o. Post incident analysis and critiques
 - p. Revisions to the consensus standard

E. Legal, Ethical, and Economic Factors to Consider

1. Legal responsibilities
 - a. Responsibility for providing occupational safety and health program based upon applicable laws, codes, and standards
 - b. Management has legal and ethical obligations to comply with law

2. Ethical factors

- a. Fire chief takes pro-active approach to ensure safe and healthy work environment
- b. Approach means making safety primary part of department's policies and procedures
- c. Administration must show it supports creation, implementation, and enforcement of health and safety program

3. Economic considerations

- a. Pro-active occupational safety and health program is means for protecting department's assets and protecting against catastrophic loss
- b. Cost of prevention is offset by savings from lost-time injuries, training replacement employees, worker's compensation costs, equipment replacement, and possible litigation

II, SCENE SAFETY (EO 1-2)

The portion of the lesson guide should be used as an opportunity to review various tasks and activities undertaken by firefighters on the emergency scene and identify potential safety concerns. This list is not intended to be all-inclusion but only to offer some points for discussion.

A. Personal Safety

1. Walk rather than run on the scene and watch where you are walking
2. Watch for slippery surfaces
3. Hydrate regularly whether or not you need it and rest periodically
4. Watch out for each other before taking any action
5. Use common sense when undertaking any activity
6. Work within the established accountability system and avoid freelancing by staying with your officer and crew

7. Make sure the scene is safe before stopping and exiting the apparatus
 - a. Downed power lines that may energize vehicles at a automobile accident or the ground as you step off the apparatus
 - b. Stability of the building
 - c. Moving traffic or other arriving emergency vehicles, especially on heavily traveled roadways where traffic had not been rerouted or halted
 - d. Unusual conditions that may indicate the presence of explosives or other hazards designed injury responding personnel
 - e. Individuals who may become violent
 - f. Situations such as domestic violence or use of weapons where the scene has not been made safe by law enforcement personnel
 - g. The presence or potential presence of hazardous materials
 - h. Potential release of materials from a closed container exposed to high levels of heat
8. Wear personal protective clothing appropriate for the particular incident and work to be performed and have it on before beginning any work
9. Utilize respiratory protection anytime you are working in an immediately dangerous to life and health (IDLH) environment and make sure that personal alert safety system (PASS) device is activated
10. Work in teams of two or more and stay in constant contact with each other
11. Use ground fault interrupter receptacles or breakers with any electrical powered equipment
12. Have a rapid intervention team constantly available to help firefighters or teams in need of assistance
13. Do not fuel tools and equipment until they have cooled sufficiently

B. Search and Rescue Safety

1. Do not enter a building in which the fire has progressed to the point where viable victims are not likely to be found
2. Attempt entry only after ventilation is accomplished when backdraft conditions exist
3. Work from a single operational plan
4. Monitor fire conditions that might affect search teams and individual firefighters
5. Be aware of the secondary means of egress established for personnel involved in the search
6. Search systematically to increase efficiency and to reduce the possibility of becoming disoriented
7. Stay low and move cautiously while searching
8. Stay alert and use all senses
9. Feel doors for excessive heat before opening them
10. Mark entry doors into rooms, remember the direction turned when entering the room, and turn the opposite direction when exiting
11. Maintain contact with a wall when visibility is obscured and extend reach by using ropes or straps
12. Have a charged hoseline at hand whenever possible when working on the fire floor or the floor immediately above or below the fire because it can be used as a guide for egress as well as firefighting
13. Coordinate with ventilation teams before opening windows to relieve heat and smoke during search
14. Close the door, report the condition, and be guided by the supervisor's orders if fire is encountered during a search
15. Report promptly to the supervisor once the search is complete
16. If disoriented, remain calm, retrace steps to the original location if possible, seek an exit from the building or fire area, locate a hoseline

C. Entry Safety

1. Tools should be carried properly to protect the firefighter and anyone who might be near the tool
2. When using hand tools for forcible tool, a safety check should be made to avoid striking someone with the tool or debris produced when using the tool
3. Clean all glass out of an opening with a tool before reaching through it
4. Eye and respiratory protection should be worn when operating hand tools and hearing protection may also be needed for power tools
5. Any guards, shields, or other tool-safety devices that the manufacturer provides with power tool should be in place and used as intended
6. Match the saw with the task and the material to be cut and never push the saw beyond its design limitations
7. Do not use any power saw when working in a flammable atmosphere or near flammable liquids
8. Follow manufacturer's guidelines for proper saw operation
9. Keep blades and chains well sharpened
10. Be aware of hidden hazards such as electrical wires, gas lines, and water lines
11. Make sure that doors and windows will stay open once opened
12. Plan the entry before making an opening in a load-bearing masonry wall
13. Be aware that sudden movement can take place when applying force with power tools

D. Ladder Safety

1. Choose the proper ladder for the job

2. Use leg muscles, not back or arm muscles, when lifting ladders below the waist
3. Use the proper number of firefighters for each raise
4. Make sure that ladders are not raised into electrical wires
5. Check the ladder for the proper climbing angle
6. Check the pawls to be sure that they are seated over the rungs
7. Make sure that the ladder is secure at the top or the bottom (preferably both) before climbing
8. Climb smoothly and rhythmically
9. Do not overload the ladder
10. Always tie in to ground ladders with a leg lock or ladder belt when working from the ladder
11. Inspect ladders for damage and wear after each use

E. Ventilation Safety

1. Observe the wind direction with relation to exposures
2. Work with the wind at your back or side to provide protection while cutting the roof opening
3. Note the existence of obstructions or excess weight on the roof when may make operations more difficult or reduce the amount of time before a roof fails
4. Provide a secondary means of escape for crews on the roof
5. Exercise care in making the opening so that main the structural supports are not cut
6. Guard any openings to prevent personnel from falling into the building
7. Evacuate the roof promptly when ventilation work is complete
8. Use lifelines, roof ladders, or other means to protect personnel from sliding and falling off the roof

9. Make sure that a roof ladder (if used) is firmly secured over the peak of the roof before operating from it
10. Exercise caution in working around electric wires and guy wires
11. Caution axe users to beware of overhead obstructions within the range of their axe
12. Start power tools on the ground to ensure operation but shut them off before hoisting or carrying to the roof
13. Make sure that the angle of the cut is not toward the body
14. Extend ladders at least five rungs above the roofline and secure the ladder
15. Check the roof for structural integrity before stepping on it and do not jump onto a roof without checking it first
16. Use pre-incident planning and surveys to identify buildings that have roofs supported by lightweight or wooden trusses
17. Be aware that melting asphalt, “spongy” roof that is normally solid, smoke coming from the roof, and fire coming from the roof may be warning signs of an unsafe roof condition; consider using a ladder to better distribute weight
18. Work in groups of at least two, with no more people than absolutely necessary to get the job done
19. Wear eye protection when working with positive pressure ventilation equipment

F. Fire Attack Safety

1. Make sure all hose connections are secure
2. Be careful when working around a static water source
3. Be alert for dangers
 - a. Imminent building collapse
 - b. Fire that is behind, below, or above the attack team

- c. Kinks or obstructions to the hoseline
 - d. Holes, weak stairs, or other fall hazards
 - e. Suspended loads on fire-weakened supports
 - f. Hazardous or highly flammable commodities likely to spill
 - g. Backdraft or flashover conditions
 - h. Electrical shock hazards
 - i. Overexertion, confusion, or panic by team members
 - j. Victims
3. Make sure that all firefighters are positioned on the same side of the attack line
 4. Stay to the side of door or window to avoid blocking the opening or being in the path of the fire
 5. Feel door by exposing back of wrist by pulling down wristlet
 6. Bleed air out of hoseline before entering the area
 7. Stay low and out of the path of heat and smoke
 8. When possible, advance up stairways before charging the hoseline
 9. Do not allow a charged attack line to pin you against a corner, bend, or turn
 10. A charged attack line in an vision-obscured area poses a falling or tripping hazard
 11. Know what you are descending into before you move into a confined area with thick black smoke, zero visibility, and the potential for a flashover
 12. Position firefighters at corners to feed hose and keep it kink-free
 13. Do not descend into a basement area or down stairwells without a charged attack line ready

14. Use a nozzle pattern that will give appropriate reach and penetration without upsetting the thermal balance or producing excessive steam
15. Use the attack method (direct, indirect, or combination) appropriate for the size of the fire and level of heat
16. Do not allow streams to be directed into openings created for ventilation
17. If necessary, cool the area before entering to reduce the potential for injury or a flashover
18. Make sure that you know where everyone in the area is and that no one is in an opening before opening the nozzle
19. Consider venting the area by opening a window just prior to initiating attack
20. Have a charged hoseline in place and ready for use when overhauling
21. Continue to use respiratory protection during the overhaul process until it has been determined that air in the area is safe without respiratory protection
22. Do not operate master streams for interior attack when firefighters are operating inside the structure
23. Coordinate the fire attack so that attack lines are not advancing from opposing directions
24. Select the proper size hoseline and nozzle flow rate for the amount of fire being attacked

III. STANDARD OPERATING PROCEDURES (EO 1-3)

A. Why are they needed?

1. Reduces chaos on the scene
2. All resources can be used in a coordinated effort to rescue victims, stabilize the incident, and conserve property
3. Incorporate safety as a top priority
4. Provide guidance that can be used on any type of incident including medical emergencies

B. What do they include? Here is an example

1. All personnel will wear complete protective clothing and self-contained breathing apparatus
2. The first unit on the scene assumes command
3. The first-arriving engine attacks the fire
4. The second-arriving engine lays a supply line(s) to the first engine
5. The third arriving engine performs the duties of the rapid intervention team
6. The first-arriving ladder truck performs necessary forcible entry, search, rescue, and ventilation

C. How do they contribute to personal safety

1. Complete the incident command system
2. Improve accountability and reduce the opportunity to freelance
3. Provide some guidance on the assignment for each responding unit and the personnel on that unit
4. Provide guidance when it may be necessary stage while the scene is being secured (violent incident)

REVIEW: Look at reports and articles related to firefighter injuries and deaths to identify any lessons that can be learned and incorporated into departmental operating procedures.

DUTY AND RESPONSIBILITY TO ACT SAFELY

- * Regulations and Standards
- * Scene Safety
- * Standard Operating Procedures

REMOTIVATION: Everyone is responsible for safety on the incident scene. Coupled with this is the requirement that everyone operate in a safe manner. Safety begins at the individual level regardless of what policies, procedures, laws, and regulations are in place.

ASSIGNMENT:

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EVALUATION:

Maryland Fire Service Health and Safety Consensus Standard
January 1, 2002

.01 Purpose.

The purpose of this Consensus Standard is to provide a policy for the development of a health and safety standard by local fire and rescue departments within the State of Maryland to protect members during emergency operations.

.02 Scope.

This Consensus Standard is applicable to all members of public safety departments that provide rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations and other emergency services in the State of Maryland.

.03 Definitions.

A. In this Consensus Standard, the following terms have the meanings indicated.

B. Terms Defined.

- (1) "Accountability System" means a system of firefighter accountability that provides for the tracking of all members at emergency operations and training activities.
- (2) "Authority Having Jurisdiction (AHJ)" means the fire and/or rescue department legally authorized to provide emergency services for a given geographical area.
- (3) "Command Level Officer" means a member of the AHJ who has command authority and responsibility at the scene of an emergency incident.
- (4) "Emergency Medical Services" means individuals licensed or certified by the Maryland Emergency Medical Services Board, such as: First Responder, Emergency Medical Technician Basic (EMTB), Emergency Medical Technician Paramedic (EMTP) and Cardiac Rescue Technician (CRT).
- (5) "Emergency Responder" means an individual involved in performing the duties and responsibilities of a fire and rescue department under the auspices of that organization.
- (6) "Immediately Dangerous to Life and Health (IDLH)" means an atmosphere that :

- (a) Poses an immediate threat to life;
 - (b) Would cause irreversible adverse health effects; or
 - (c) Would impair an individual's ability to escape from a dangerous atmosphere.
- (7) "Incident Commander" means the person in overall command of an emergency incident, including the responsibility for the direction and coordination of the response effort.
- (8) "Incident Critique" means a formal review of an incident with participants attending to discuss their respective actions.
- (9) "MAYDAY" means an emergency distress signal indicating that one, or more, fire and rescue personnel is in need of emergency assistance.
- (10) "National Fire Protection Association (NFPA)" means a member organization that develops consensus standards on firefighter and officer training, fire protection systems, and firefighter safety.
- (11) "Personal Alert Safety System (PASS)" means a device to warn others that its user may be incapacitated; designed to meet NFPA 1982, Standard for Personal Alert Safety Systems for Firefighters.
- (12) "Personal Protective Equipment (PPE)" means equipment designed to protect a user from injury or illness.
- (13) "Personnel Accountability Report (PAR)" means a reporting of the location, status and welfare of personnel assigned to a given unit.
- (14) "Post Incident Analysis (PIA)" means a written document, compiled by the Incident Commander that reviews the various aspects of an incident. Based on the findings of a PIA an Incident Critique may be warranted.
- (15) "Qualified Personnel" means a person qualified or trained in any of the following ways:
- (a) Pre-Emergency Responders who have completed pre-response training, as determined by the AHJ, based on the level of anticipated response;
 - (b) Emergency responders at the firefighter or fire officer level, trained and certified by the AHJ;

- (c) First Responder, Emergency Medical Technician Basic (EMTB), Emergency Medical Technician Paramedic (EMTP) and Cardiac Rescue Technician (CRT) licensed or certified by Maryland Emergency Medical Services Board; or
 - (d) Wildland Firefighter meeting the requirements of the Maryland Forestry Service.
- (16) "Rapid Intervention Crew (RIC)" means a minimum of two emergency responders qualified as firefighters in accordance with the Maryland Fire Service Personnel Qualifications Board and available for rescue of a member or a team if the need arises.
- (17) "Senior Command Level Officer" A Fire Officer identified by the AHJ as routinely having the authority and responsibility administratively or operationally over multiple fire suppression companies.
- (18) "Standard Principles of Risk" The standardized operational risk management principles for emergency operations in Maryland.

.04 Organizational Statement and Operational Procedures.

- A. Each fire and rescue department within the State of Maryland shall prepare and maintain a statement or written policy, which defines its purpose. (Appendix I)
- B. Each AHJ shall prepare and maintain operational procedures which define authority, roles, responsibilities, training requirements, resources, services to be performed and basic organizational structure for the fire and rescue department.
- C. The AHJ shall ensure that the organizational statement and operational procedures are routinely reviewed and, as required, updated.
- D. Organizational statement and operational procedures shall be available for review by the Commissioner of Labor and Industry or his/her designee.

.05 Implementation Period.

- A. Each affected fire service organization shall develop a written implementation plan within six months of adoption of this Consensus Standard. (Appendix II)
- B. This plan shall identify compliance dates with each element of this Consensus Standard.
- C. Compliance with all elements of this Consensus Standard shall be achieved in accordance with the implementation schedule herein.

.06 Medical Standards

A. Periodic Medical Evaluation of Emergency Responders.

(1) Medical Evaluation Program.

- (a) Each AHJ shall establish a medical evaluation program for emergency responders under the supervision of a physician having board certification in occupational medicine, internal medicine, emergency medicine, or family practice, with training in occupational medicine desired.
- (b) The supervising physician must have familiarity with the roles and occupational requirements of firefighters and EMS personnel and must have access to and knowledge of the appropriate occupational health and safety standards for firefighters and EMS personnel.
- (c) Prior to beginning service as a volunteer or career member, active responders shall receive a baseline medical evaluation and shall be evaluated annually thereafter.
- (d) Each annual medical evaluation shall consist of:
 - (i) vital signs and
 - (ii) a written and oral screening for medical history, health risk factors and occupational exposures.
- (e) Physical examinations shall be conducted:
 - (i) initially,
 - (ii) every 3 years until age 30,
 - (iii) every 2 years between age 31 and 40, and
 - (iv) every year after the age of 40.
- (f) The physical exam shall include diagnostic testing appropriate for the responder's medical history, health risk factors and occupational exposure.
- (g) This standard reflects the minimal medical evaluation for emergency responders. Nothing in this standard shall preclude the AHJ from providing a more comprehensive evaluation.

- (2) Physical Examination: Each physical examination shall include:
 - (a) vital signs, and
 - (b) an evaluation of the head, eyes (including fundus), ears, nose, and throat, lungs, heart, abdomen (including a digital rectal exam), external genitals, spine, extremities, and nervous system.

- (3) Diagnostic Testing. Specific diagnostic tests shall be conducted as provided in this Consensus Standard.
 - (a) For every physical examination:
 - (i) Visual acuity,
 - (ii) Audiometry,
 - (iii) Stool for occult hemoglobin,
 - (iv) Lipid profile, including total cholesterol, LDL, HDL, and triglycerides. (baseline and every five years thereafter or as otherwise clinically indicated),
 - (v) Urinalysis, including a dip stick screen and full urinalysis if indicated, and
 - (vi) EKG.
 - (b) For an individual actively engaged in firefighting or required to use SCBA, at each physical:
 - (i) Spirometry,
 - (ii) Blood work to include CBC with differential and platelets and a chemical profile that includes electrolytes (sodium, potassium, chloride and CO₂), glucose, BUN, creatinine, AST (SGOT), alkaline phosphatase, totals bilirubin, total protein, albumin and calcium, and
 - (iii) Chest X-ray (baseline and every 7 years thereafter)
 - (c) For an individual actively in contact with patient care or exposed to bloodborne pathogens (as clinically appropriate):
 - (i) Annual PPD, and

- (ii) Annual hepatitis C titer.
 - (d) For an individual whose job requires strenuous exertion, such as firefighting, rescue, or EMS operations:
 - (i) If there are CVD risk factors, an exercise stress test beginning at age 35 and repeated every other year; or
 - (ii) If there are not CVD risk factors, an exercise stress test beginning at age 40 and repeated every three years.
 - (e) All emergency responders are encouraged to receive other appropriate health screening from their private physicians including clinically appropriate screening for cervical, breast, colon, and prostate cancer.
- B. Immunizations. Consistent with CDC guidelines, the AHJ shall provide the following immunizations to emergency responders:
 - (1) diphtheria/tetanus;
 - (2) If the responder is in contact with patients:
 - (a) measles/mumps/rubella,
 - (b) hepatitis B,
 - (c) varicella, and
 - (d) influenza.
 - (3) The AHJ shall also provide other such immunizations as appropriate when recommended by the CDC for emergency responders.
- C. Wellness/Fitness Program. The AHJ shall provide a wellness / fitness program to emergency responders. Components of such a program shall include:
 - (1) Access to fitness equipment and facilities
 - (a) Access to exercise specialists
 - (b) Injury/fitness/medical rehabilitation
 - (c) Behavioral health services (e.g., smoking cessation, nutrition, critical incident stress management)

(2) The AHJ shall annually evaluate the fitness level of all emergency responders. Such an evaluation includes:

- (a) Aerobic capacity (maximal or sub-maximal),
- (b) Muscular strength,
- (c) Muscular endurance, and
- (d) Flexibility

D. Medical Data. The AHJ shall collect health and wellness data annually and maintain a database of such information

E. Medical Record Confidentiality.

- (1) All medical, fitness and health records shall be confidential and are to be handled in accordance with 29 C.F.R. 1910.1020 - Access to Employee Exposure and Medical Records.
- (2) The AHJ may maintain a record of physical examination, but may release such information to a third party only with the written consent of the responder.

F. Fitness for duty.

- (1) The physician conducting the medical evaluation on behalf of the AHJ shall:
 - (a) Provide the results of the evaluation to the emergency responder; and
 - (b) Upon the request of the AHJ, and with the written request of the responder, provide a copy of the results of the evaluation to the AHJ
 - (c) Report to the AHJ whether the emergency responder is:
 - (i) Fit for duty,
 - (ii) Fit for duty with restrictions, with functional restrictions listed,
 - (iii) Temporarily unfit for duty, pending remediation or further evaluation), or

- (iv) Permanently unfit for duty.
 - (2) Emergency responders that are deemed to be "fit for duty with restrictions" or "temporarily unfit for duty" shall be referred to the wellness/fitness program for rehabilitation. (Appendix III)
- G. Exposure monitoring. The AHJ shall establish a system to record an emergency responder's:
 - (1) Exposure to hazardous materials or toxic substances,
 - (2) Exposures to potentially infectious or contagious blood or body fluids,
 - (3) Significant injury or illness, or
 - (4) Medication that might impair ability to work
- H. Exposure Management. The AHJ shall have in place a system for monitoring and managing the evaluation and treatment of occupationally-related injuries and exposures, including to Blood borne Pathogens, hazardous materials and smoke inhalation.
- .07 Substance Abuse Program. The AHJ shall establish a substance abuse policy, which includes entry and subsequent screenings.
- .08 Personal Protective Equipment (PPE) Standards.
 - A. General.
 - (1) Each AHJ shall:
 - (a) Provide PPE to its members commensurate with the level of hazard and response expected;
 - (b) Train members in the care and use of issued PPE; and
 - (c) Provide for the inspection and maintenance of PPE, as required, on at least an annual basis and possibly more often in busy units. (Appendix IV)
 - (2) Where a standard relating to PPE is identified, the current standard is referenced.
 - B. Respirators:
 - (1) Self-Contained breathing apparatus (SCBA) shall:

- (a) Be positive pressure,
 - (b) Be NIOSH certified,
 - (c) Comply with NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters, and
 - (d) Have a minimum rated service time of at least 30 minutes.
- (2) Negative pressure respirators shall be NIOSH certified.
- (3) Members assigned to wear respirators shall be fit tested in accordance with 29 CFR 1910.134. (Appendix V)
- (4) SCBA steel or composite cylinders (steel, fiberglass or Kevlar over aluminum or carbon) shall:
 - (a) Be refilled using blast protection chambers or fragmentation shielding; and
 - (b) Have hydrostatic tests performed in accordance with U.S. Department of Transportation Regulations.
- (5) Breathing air for SCBA shall:
 - (a) Be third party tested and certified quarterly;
 - (b) Meet American National Standards Institute/Compressed Gas Association G7.1, Commodity Specification for Air, Grade D; and
 - (c) Have a maximum particulate level of 5 mg/m³ air.
- C. Structural Firefighting. Members assigned to structural firefighting operations shall be issued protective clothing such as helmets, hoods, coats, gloves, pants and footwear that meets the applicable requirements of NFPA 1971, Standard on Protective Ensemble for Structural Fire Fighting.
- D. Emergency Medical Services. Members assigned to emergency medical services calls shall wear PPE appropriate to the nature of the call.
- E. Hazardous Material Incidents.
 - (1) Members specifically assigned to mitigate hazardous materials incidents shall be provided and wear PPE appropriate to the nature of the call.

- (2) Vapor Protective garments shall meet the requirements of NFPA 1991, Standard on Vapor Protective Suits for Hazardous Chemical Emergencies.
- (3) Liquid Splash Protective garments shall meet the applicable requirements of NFPA 1992, Standard on Liquid Splash Protective Suits for Hazardous Chemical Emergencies.

F. High Angle Rescue. Members assigned to high angle rescue shall:

- (1) Be provided and wear PPE appropriate to the nature of the call.
- (2) Under fire conditions, wear an NFPA 1971 ensemble (D.1.) and be assigned and use an NFPA 1983 compliant Class III harness and auto-closing carabiner and 1 or 2 person rope that has been rigged for fall protection.
- (3) For non-fire conditions, be provided and wear, in addition to the harness and carabiner, a brimless, UIAA compliant helmet and a pair of supple gloves with reinforced palms that are designed for rope work.

G. Members assigned to under-water and swiftwater rescue/recovery teams shall wear PPE appropriate to the nature of the call. (Appendix VI)

H. Members assigned to full-time wildland firefighting operations shall be issued and wear clothing that meets the applicable requirements of NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting.

I. Members assigned to full-time marine firefighting operations shall be issued and wear equipment appropriate to the nature of the call and the anticipated hazards.

J. Members shall be issued and, when appropriate for the hazard, wear:

- (1) Eye protection meeting the requirements of ANSI Z87.1, Practice for Occupational and Educational Eye and Face Protection.
- (2) Ear protection under conditions meeting the applicable sections of OSHA 1910.95. (Appendix VII)

.09 Emergency Operations Standards.

A. General.

- (1) At emergency fire and rescue incidents, operations shall be conducted in a manner that, taking into account the nature of the incident, the risks to life and property and all other relevant issues, will minimize the risk of injury to or the death of responding and operating members.

- (2) Each AHJ shall ensure that an adequate number of members have been gathered before undertaking an emergency operation.
- (3) Members shall not undertake emergency operations that they are not trained and qualified to perform.
- (4) (a) When an inexperienced member is working at an emergency incident, direct supervision shall be provided by more experienced individuals.
 - (b) This requirement does not reduce the training standards for emergency responders covered by this Consensus Standard.

B. Incident Management System.

- (1) Emergency scene operations shall be conducted pursuant to a written incident management system, designed to meet the general concepts found in the various model systems. (Appendix VIII)
- (2) All members involved in emergency operations shall be trained in the incident management system adopted by the AHJ.
- (3) The incident management system adopted by the AHJ shall be used in drills and simulations that involve hazards similar to those encountered in emergency incidents.
- (4) The incident management system adopted by the AHJ must provide for an incident management plan that begins with the initial size up and concludes with demobilization.

C. Incident Commander

- (1) At every emergency scene one person, the incident commander, shall be in charge of all operations.
- (2) It is the responsibility of the incident commander to establish an organization, consistent with the one adopted by the AHJ, which will manage the mitigation of the incident, with the health and safety of the members as its primary focus.
- (3) During incidents where multiple agencies may have significant responsibilities a unified command may be required.
- (4) Risk Management.

- (a) The incident commander and ancillary commanders shall manage emergency incidents with risk management concepts that ensure the health and safety of all participants.
 - (b) Each AHJ shall create within their established IMS system the following "Standard Principles of Risk" to emergency responders:
 - (i) Emergency operations that present a significant risk to the safety of emergency responders shall be limited to situations where there is a potential to save endangered lives.
 - (ii) Emergency operations that are routinely employed to protect property and the environment shall be recognized as inherent risks to the safety of emergency responders and actions shall be taken to reduce or avoid these risks.
 - (iii) Risk to the safety of emergency responders shall be unacceptable when there is no possibility to save lives, property, or the environment.
- (5) At an emergency scene, the incident commander shall:
- (a) Assume and confirm command, take an effective command position, and be properly identified (vest, flag, etc.);
 - (b) Assume responsibility for personnel accountability;
 - (c) Perform a size up that includes risk assessment;
 - (d) Initiate, maintain and control incident communications;
 - (e) Develop an overall strategic and tactical plan and assign units to operations consistent with the AHJ's incident management system;
 - (f) Review, evaluate and revise the strategical and tactical plan as required; and
 - (g) Continue, transfer and terminate command.
- (6) All command level officers shall have incident command system training augmented with specifics of the AHJ's incident management system. Initial training shall include a minimum of three (3) hours of simulation activities based on potential emergencies within the community.

- (7) Senior command level officers shall have advanced incident management training covering such topics as:
 - (a) Multiple alarm operations,
 - (b) Natural and man-made disasters,
 - (c) High rise firefighting,
 - (d) Confined space,
 - (e) Hazardous materials, and
 - (f) Other target hazards that the AHJ is expected to mitigate.
(Appendix IX)
- (8) On an annual basis all senior command level officers shall complete incident management system continuing education that shall include simulation activities as prescribed by the AHJ.

D. Personnel Accountability.

- (1) All AHJs shall develop a resource and personnel accountability system that meets the general concepts of NFPA 1500, and NFPA 1561.
(Appendix X)
- (2) The resource and personnel accountability system design must include:
 - (a) Activation of the system upon arrival at all emergency incidents;
 - (b) A provision for requirements for a Personnel Accountability Report (PAR) at specified times during an incident, as identified by the AHJ, including each of the following:
 - (i) The time of a change from offensive to defensive operations;
 - (ii) The occurrence of a significant event, such as a building collapse;
 - (iii) The time when a known life hazard is eliminated under .08F(4)(b); and
 - (iv) MAYDAY situations. (See Section E(6) which follows)

- (c) All emergency responders operating at an emergency operation shall participate in the AHJ's personnel accountability system.

E. Health and Safety Officer

- (1) Each AHJ shall appoint a department health and safety officer and assign him or her the responsibility to:
 - (a) Be knowledgeable and ensure compliance with local, state and federal regulations that impact the safety of its members; and
 - (b) Develop safety programs for the prevention of vehicle collisions and personnel injuries and illnesses.
- (2) Each AHJ's incident management system shall include provisions for the designation of a scene safety officer, who is experienced and knowledgeable, at all incidents. (Appendix XI)

F. Emergency Scene Operations

- (1) Emergency operations will require various strategies and tactics based on the specific incident encountered.
 - (a) Local public safety agencies, with a duty to respond to emergency incidents, must provide training and resources to responders commensurate with the duties required at those incidents.
 - (b) A member's training must be based on recognized training standards.
- (2) Personal Protective Equipment (PPE).
 - (a) All emergency responders shall wear and use PPE and respiratory protection suited for the incident.
 - (b) All emergency responders entering an IDLH atmosphere shall be equipped with an activated Personal Alert Safety System (PASS).
- (3) Emergency Rescue - Rapid Intervention Crew (RIC).
 - (a) All AHJs shall:
 - (i) Develop policies and procedures to ensure that a RIC is deployed at all incidents where IDLH atmospheres exist.

- (ii) Ensure that the policies and procedures meet the concepts found within 29 CFR 1910.134, paragraph (g), Use of Respirators.
 - (b) Prior to entering an exterior IDLH atmosphere fire at least one other properly equipped qualified emergency service responder shall be a standby person, ready to rescue the entry firefighter(s) should a Mayday signal be sounded.
 - (c) Prior to entering an interior IDLH atmosphere fire at least two other properly equipped qualified emergency responders shall form a standby team, ready to rescue the entry firefighters should a Mayday signal be sounded.
 - (d) An entry team shall consist of at least two properly equipped qualified emergency responders operating in a buddy system maintaining visual, voice or signal rope communications with each other at all times.
 - (e) The incident commander shall ensure that the standby team personnel are not assigned to other activities that would prevent them from rapidly responding to an emergency or endanger others if they abandon their previous assignment. At least one standby team member shall maintain contact with the entry team by voice, visual, signal rope or radio.
 - (f) Should a standby team deploy itself to rescue or assist the entry team it shall notify other responding units and/or its dispatch center of this action, including the nature of the response.
 - (g) When additional resources have arrived on the scene the incident commander shall assign a RIC.
 - (h) The RIC shall be located to allow rapid deployment as needed with the appropriate resources required for the hazard.
 - (i) In large structures such as warehouses and shopping malls multiple RICs may be required.
- (4) Exception.
- (a) If upon arrival at the scene, personnel find a known life hazard, where immediate action may prevent the loss of life or serious injury, appropriate interior operations will be permitted without a Standby Team or a Rapid Intervention Crew (RIC) in place when

conducted in accordance with the “Standard Principles of Risk” as provided in .08C.4.

- (b) Once the known life hazard has been eliminated personnel must withdraw until either a standby or RIC has been assembled.
 - (c) Any action taken pursuant to subsection (a) shall be thoroughly investigated by a standard mechanism of the AHJ and a written report submitted to the head of the AHJ.
- (5) Apparatus and Personnel Deployment. Each AHJ shall develop policies and procedures that determine the type, number and staffing of units that are dispatched to specific call types.
- (6) MAYDAY Sounded
- (a) All AHJs shall develop a policy for the rescue of members who may become disabled or trapped at an emergency scene. (Appendix XII)
 - (b) The policy shall include the use of a MAYDAY signal to indicate an emergency condition.
 - (c) The policy must include a sequence of events that will ensure:
 - (i) Notification of all emergency personnel of the Mayday in progress,
 - (ii) Methodology for radio communications and personnel accountability during a Mayday, and
 - (iii) A plan for use of the RIC or other rescue methods.
- (7) Rehabilitation.
- (a) Each AHJ shall adopt policies and procedures that provide for personnel rehabilitation at emergency scene operations.
 - (b) Rehabilitation shall include medical monitoring, provision of suitable refreshments and a rest area (Appendix XIII).
- (8) Critical Incident Stress Management (Appendix XIV). Each AHJ’s members shall have access to:
- (a) A local Peer Support driven Critical Incident Stress Management Team with professional mental health clinical oversight,

- (b) A certified or licensed mental health professional trained or educated in the causation and effects of traumatic stress, or
 - (c) The Maryland Critical Incident Stress Management Team.
- (9) Communications. Each AHJ shall:
- (a) Include, in their IMS standard operating guidelines and/or procedures for radio communications that provide for the use of standard protocols and terminology at all types of incidents in “Plain English”;
 - (b) Ensure that standard operating guidelines and/or procedures are established to support, without difficulty, all incidents, from small, routine incidents to large, unusual incidents, including mutual aid resources;
 - (c) Establish standard terminology to transmit emergency and non-emergency information;
 - (d) Establish a standard method of prioritizing emergency and non-emergency messages to all levels of command within a given emergency incident; and
 - (e) Use their established IMS as standard operating guidelines and or procedures to support emergency operations.

.10 Investigation of Vehicle Collisions and Personnel Injuries.

- A. Each AHJ shall adopt policies and procedures to investigate Departmental vehicle collisions and personnel injuries. (See Appendix XV)
- B. These policies must provide a methodology to determine cause and provide recommendations for prevention of such incidents in the future.

.11 Vehicles.

The AHJ, when purchasing or procuring vehicles, shall consider safety and health in the specification, design, construction, acquisition, operation, maintenance, inspection and repair of vehicles.

.12 Tools and Equipment.

The AHJ, when purchasing or procuring tools and equipment, shall consider safety and health in the specification, design, construction, acquisition, operation, maintenance, inspection and repair of all tools and equipment.

.13 Facility Safety.

The AHJ, when renovating or constructing new facilities, shall ensure that work complies with applicable local, county, state and federal health, safety, building and fire code requirements.

.14 Workplace Violence.

The AHJ shall ensure that procedures are in place to evaluate the potential for workplace violence. If workplace violence is anticipated, action should be taken to minimize its consequences. (Appendix XVI)

.15 Post Incident Analysis and Critiques.

- A. All AHJs shall adopt policies and procedures for the conduct of a post incident analysis and/or critique of significant incidents or those where serious injuries or fatalities have occurred. (Appendix XVII)
- B. Minor incidents may only require a post-incident analysis by the incident commander.
- C. Major incidents may require both a post-incident analysis and a formal critique.

.16 Revisions to the Consensus Standard.

- A. Revisions to this Consensus Standard may be proposed by members of the Maryland Fire Service Safety and Health Work Group, in writing, to the Commissioner of Labor and Industry.
- B. Upon receipt and review of a written proposal to revise the Consensus Standard, the Commissioner of Labor and Industry or his/her designee, shall distribute the proposed changes to members of the Fire Service Safety and Health Work Group.
- C. The Maryland Fire Service Safety and Health Work Group shall meet at least annually to review firefighter health and safety in the State.
- D. The fire safety and health work group shall be made up of 13 sitting members each representing one vote:
 - (1) The Chairman shall be an active member of the Maryland Fire Service selected and appointed by the Secretary of Labor, Licensing and Regulation;
 - (2) Four sitting members shall be appointed by the Metro Chiefs Council;

- (3) Four sitting members shall be appointed by the Maryland State Firemen's Association; and
 - (4) Four sitting members shall be appointed by the Maryland State and District of Columbia Professional Fire Fighters.
- E. As necessary, the Chairman may seek the ex-officio participation of Organizations involved in fire safety issues.