

NFPA®

1451

**Standard for
a Fire and Emergency
Service Vehicle Operations
Training Program**

2018



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NFPA® 1451

Standard for a

Fire and Emergency Service Vehicle Operations Training Program

2018 Edition

This edition of NFPA 1451, *Standard for a Fire and Emergency Service Vehicle Operations Training Program*, was prepared by the Technical Committee on Fire Service Training. It was issued by the Standards Council on November 10, 2017, with an effective date of November 30, 2017, and supersedes all previous editions.

This edition of NFPA 1451 was approved as an American National Standard on November 30, 2017.

Origin and Development of NFPA 1451

In response to a request by the National Transportation Safety Board (NTSB) in 1991, the Technical Committee on Fire Service Training started work on a new standard for a training program for fire service vehicle operations. The NTSB specifically requested NFPA “. . . emphasize that the safe arrival of the apparatus at the scene of the emergency is the first priority.”

The committee also wanted to produce an NFPA standard to meet the intent of NFPA 1500, *Standard on Fire Department Occupational and Health Program*, where it states in the chapter on Vehicles, Drivers, and Equipment: “Fire department vehicles shall be operated only by members who have successfully completed an approved driver training program.”

An *NFPA Journal* article, “1995 Fire Fighter Fatalities,” added further importance to the subject when it reported that “. . . 23.9 percent of those who died last year, died in motor vehicle accidents.”

The committee’s intent was to create a document outlining a training program that produces drivers who are able to prevent vehicle accidents.

The first edition of NFPA 1451 was issued in 1997. Subsequently, the committee appointed a task group to review the 1997 edition content and make recommendations to the committee concerning its functionality. As a result of that review, a general updating was suggested.

In the 2002 edition, some of the general updating included revisions representing an evolution of knowledge about vehicle operations. The application of the standard was expanded to include private industrial and contract fire departments and industrial fire brigades that respond off site. New terminology included the use of the word “crash” to replace the word “accident.” The term “accident” was perceived by some to mean an unavoidable or chance occurrence beyond the influence of training. Crashes can indeed be avoided and prevented by training.

The numbering of the chapters and the paragraphs of the 2002 edition differed from the previous edition as a result of changes associated with the 2000 edition of the *Manual of Style for NFPA Technical Committee Documents*. The 2007 edition featured mainly editorial changes.

In the 2013 edition, the document scope was expanded to include other emergency vehicles. Also included in this edition was a new section that provides requirements for conducting safe operations at highway incidents and a new subsection that focuses on hazard prevention training, with an accompanying hazard avoidance checklist in Annex B.

The 2018 edition contains editorial and grammatical changes, additional safety requirements, and a new annex. The new annex makes recommendations for the layout, design, and safety of driver training simulators.

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Committee Scope: This Committee shall have primary responsibility for all fire service training techniques, operations, and procedures to develop maximum efficiency and proper utilization of available personnel. Such activities can include training guides for fire prevention, fire suppression, and other missions for which the fire service has responsibility.

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex D. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex D.

Chapter 1 Administration

1.1 Scope.

1.1.1 This standard shall contain the minimum requirements for a fire and emergency service organization (FESO) vehicle operations training program.

1.1.2 This standard shall outline the development of a written FESO vehicle training program, which includes the organizational procedures for training personnel, maintaining vehicles, and identifying equipment deficiencies; design; financing; and other areas.

1.1.3 The knowledge and skills required of safety, training, maintenance, and administrative officers charged with developing and implementing the FESO vehicle operations training program shall also be outlined within this standard.

1.2 Purpose.

1.2.1* The purpose of this standard shall be to specify the minimum requirements for a FESO vehicle operations training program, including procedures for those members that drive or occupy FESO vehicles, respond in private vehicles or unconventional means of transportation, and provide traffic control at the scene of an emergency.

1.2.2* The objective of this standard shall be to help prevent crashes, injuries, and fatalities involving FESO vehicles.

1.3 Application.

1.3.1 These requirements shall apply to organizations providing fire suppression, fire and rescue training, and other emergency services, including public fire brigades and departments, private industrial and contract fire departments, emergency medical vehicles, and industrial fire brigades that respond off site.

1.3.2 This standard shall apply to any FESO vehicle used by any member of the fire department or industrial fire brigade when responding off site.

1.3.3 This document shall not apply to aircraft, watercraft, or law enforcement vehicles.

1.4 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

1.4.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.4.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 414, *Standard for Aircraft Rescue and Fire-Fighting Vehicles*, 2017 edition.

NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.

NFPA 1003, *Standard for Airport Fire Fighter Professional Qualifications*, 2015 edition.

NFPA 1041, *Standard for Fire Service Instructor Professional Qualifications*, 2012 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety, Health, and Wellness Program*, 2018 edition.

NFPA 1521, *Standard for Fire Department Safety Officer Professional Qualifications*, 2015 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2016 edition.

NFPA 1906, *Standard for Wildland Fire Apparatus*, 2016 edition.

NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles*, 2017 edition.

NFPA 1917, *Standard for Automotive Ambulances*, 2016 edition.

2.3 Other Publications.

N 2.3.1 FAMA Publications. Fire Apparatus Manufacturers Association, P.O. Box 397, Lynnfield, MA 01940.

Fire Apparatus Safety Guide, 2017 edition.

2.3.2 U.S. Government Publications. U.S. Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001.

Title 49, Code of Federal Regulations, Part 383, “Commercial Motor Vehicle Safety Act,” 2003.

U.S. General Service Administration KKK-A-1822-F, “Star of Life Ambulance Specifications,” August 2007.

2.3.3 Other Publications.

Merriam-Webster’s Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 600, *Standard on Facility Fire Brigades*, 2015 edition.

NFPA 921, *Guide for Fire and Explosion Investigations*, 2017 edition.

NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.

NFPA 1201, *Standard for Providing Fire and Emergency Services to the Public*, 2015 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety, Health, and Wellness Program*, 2018 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2016 edition.

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster’s Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3 Shall. Indicates a mandatory requirement.

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

3.2.5 Standard. An NFPA Standard, the main text of which contains only mandatory provisions using the word “shall” to indicate requirements and that is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions are not to be considered a part of the requirements of a standard and shall be located in an appendix, annex, footnote, informational note, or other means as permitted in the NFPA Manuals of Style. When used in a generic sense, such as in the phrase

“standards development process” or “standards development activities,” the term “standards” includes all NFPA Standards, including Codes, Standards, Recommended Practices, and Guides.

3.3 General Definitions.

3.3.1 FESO Vehicle. Any vehicle operated by an FESO.

3.3.2 Fire and Emergency Service Organization (FESO). Any public, private, governmental, or military organization that provides emergency response, fire suppression, and related activities, whether for profit or government owned and operated. [1201, 2015]

3.3.3 Fire Apparatus. A vehicle designed to be used under emergency conditions to transport personnel and equipment, and to support the suppression of fires and mitigation of other hazardous situations. [1901, 2016]

3.3.4 Fire Apparatus Driver/Operator. A fire department member who is authorized by the authority having jurisdiction to drive, operate, or both drive and operate fire department vehicles.

3.3.5 Fire Department. An organization providing rescue, fire suppression, and related activities, including any public, governmental, private, industrial, or military organization engaging in this type of activity. [1002, 2017]

3.3.6* Hazard. Any arrangement of materials that presents the potential for harm. [921, 2017]

3.3.7 Industrial Fire Brigade. An organized group of employees within an industrial occupancy who are knowledgeable, trained, and skilled in at least basic fire-fighting operations, and whose full-time occupation might or might not be the provision of fire suppression and related activities for their employer. [600, 2015]

3.3.8 Instructor. An individual deemed qualified by the authority having jurisdiction to deliver training in the operation of fire service vehicles.

3.3.9* Member. A person involved in performing the duties and responsibilities of a FESO, under the auspices of the organization. [1500, 2018]

3.3.10 Member Assistance Program (MAP). A generic term used to describe the various methods used in the FESO for the control of alcohol and other substance abuse, stress, and personal problems that adversely affect member performance. [1500, 2018]

3.3.11 Qualified Person. A person who, by possession of a recognized degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems related to the subject matter, the work, or the project.

3.3.12 Risk. A measure of the probability and severity of adverse effects that result from exposure to a hazard.

3.3.13 Unconventional Means of Transportation. Can include, but are not limited to, bicycles, motorcycles, scooters, skateboards, and rollerblades.

Chapter 4 General Rules and Considerations

4.1 General.

4.1.1 All FESO vehicles shall meet the minimum safety standards outlined in NFPA 414 and NFPA 1901 for fire apparatus; U.S. General Service Administration KKK-A-1822-F, “Star of Life Ambulance Specifications,” and NFPA 1917 for ambulance specifications; and U.S. Department of Transportation (DOT) regulations as applicable on the date of construction.

▲ **4.1.2** The intent of this standard shall be to meet all requirements of NFPA 1500 regarding the training and education of fire department drivers and the operation of fire department vehicles.

▲ **4.1.3** The intent of this standard shall be to meet all of the applicable requirements of NFPA 1002 and NFPA 1003 regarding the training and education of fire apparatus drivers/operators.

4.1.4* The fire apparatus driver/operator shall be subject to periodic medical evaluations, as required by NFPA 1500 and DOT medical requirements if applicable, to determine whether the driver/operator is medically fit to perform the duties of an operator of fire department vehicles.

4.1.5* The FESO shall institute a program of post-crash drug and alcohol testing for the drivers of vehicles involved in crashes.

4.2 Operations Training Program.

4.2.1* The FESO shall adopt an official written risk management plan dealing with FESO vehicles.

4.2.1.1 The FESO vehicle risk management plan shall cover administration, facilities, training, vehicle operations, protective clothing and equipment, operations at emergency incidents, operations at non-emergency incidents, and other related activities.

4.2.1.2* The risk management plan shall include at least the following components:

- (1)* Risk identification
- (2)* Risk evaluation
- (3)* Risk control techniques
- (4)* Risk management monitoring

4.2.2 The FESO shall incorporate the provisions of this standard into the vehicle operations training program.

4.2.3 The FESO shall evaluate the effectiveness of its vehicle operations training program at least once every 3 years.

4.2.4 An audit report of the findings shall be submitted to the chief and to the members of the occupational safety and health committee.

4.2.5* The operations training program shall address all types of FESO vehicles from a broad perspective, including risk determination, design, training, maintenance, and record keeping.

4.3 Coordinated Administrative Policies.

4.3.1 The FESO shall establish and enforce rules, regulations, and standard operating procedures to reach the objectives of this standard.

4.3.2* The FESO shall establish written policies for variations from standard operations.

4.3.3 The FESO shall establish written standard operating procedures for safely driving, riding within, and operating FESO vehicles during an emergency response.

4.3.4 The FESO shall provide members, including junior members, with hazard awareness training that includes unique hazards that can be encountered when responding to alarms in privately owned vehicles or unconventional means of transportation.

4.3.5* The FESO shall develop, implement, and enforce a policy that requires the use of approved personal protective equipment (PPE) including helmets and appropriate clothing when using unconventional means of transportation.

4.3.6 Procedures for emergency response shall emphasize the safe arrival of FESO vehicles and occupants at the destination as the first priority.

4.3.7 The FESO shall establish written standard operating procedures for driving and operating FESO vehicles during a non-emergency response.

4.3.8 The FESO shall establish written standard operating procedures for driving and operating personally owned vehicles addressing emergency response and non-emergency activities.

4.3.9* The FESO shall establish written standard operating procedures for a traffic incident management system (TIMS) to enhance responder safety at roadside emergency scenes.

4.3.10 Members shall be trained to operate specific vehicles or classes of vehicles before being authorized to drive or operate such vehicles.

4.3.10.1 Members shall not be expected to or permitted to drive or operate any vehicles for which they have not received training.

4.3.10.2 Members shall be reauthorized annually for all vehicles they are expected to operate.

4.3.11* The authority having jurisdiction shall ensure that all vehicle drivers/operators possess a valid vehicle operator's license for the vehicle being driven.

4.3.12* Drivers/operators of FESO vehicles shall be required to notify the authority having jurisdiction of any changes that can affect their driving privileges.

Chapter 5 Training and Education

5.1 General.

5.1.1 The FESO shall establish and maintain a driver training and education program with the goal of preventing vehicular crashes, deaths, and injuries to members, employees, and the public.

5.1.2 The FESO shall provide all members with driver training and education commensurate with the duties and functions members are expected to perform, in order to ensure that they are able to perform their assigned duties in a manner that does not pose a hazard to themselves, other members, or the general public.

5.1.3* Members shall be provided with driver training and education appropriate for their duties and responsibilities before being permitted to operate FESO vehicles or apparatus.

5.2 Training Frequency.

5.2.1* Driver training shall be provided for all members as often as necessary to meet the applicable requirements of this chapter but not less than twice each year.

5.2.2 Annual driver training shall include hands-on exercises using the actual FESO vehicles that they are expected to drive.

5.2.3 Whenever changes in driving procedures or technology are introduced in the work environment, training and education shall be provided for all affected members.

5.2.4 Whenever new or unfamiliar vehicles are placed into service, training and education relating to those vehicles shall be provided for all affected members before operating the vehicle.

5.2.5 New vehicle training shall identify vehicle limitations, manufacturers' operating recommendations, and any differences between new vehicles and vehicles previously operated by the affected members.

5.3 Basic Training and Education Requirements.

5.3.1* All members shall be trained in and shall exercise the applicable principles of defensive driving techniques under both emergency and non-emergency conditions.

Δ 5.3.2* All members who drive fire service vehicles shall meet the objectives specified in Chapter 4 of NFPA 1002.

Δ 5.3.3* Fire apparatus drivers/operators shall meet the requirements of Chapters 4 through 10 of NFPA 1002 and Section 4.2 of NFPA 1500 prior to being assigned as an FESO apparatus driver/operator.

5.3.4* FESO vehicle drivers/operators shall be familiar with the requirements of 49 CFR 383, "Commercial Motor Vehicle Safety Act," and its relevance to state requirements for obtaining a commercial driver's license (CDL) and to the requirements of the authority having jurisdiction.

5.3.5* FESO vehicle drivers/operators shall be trained to perform the routine tests, inspections, and servicing functions specified in Section 10.2.

5.3.6 Members who are authorized to respond or proceed to the scene of emergencies under non-emergency procedures, but for the purpose of official business, shall be required to complete a training class that shall, at a minimum, state the FESO's procedures, limits, and applicable local, state, and federal regulations regarding non-emergency response to incidents.

5.3.7* The FESO driver training program shall include information on the potential hazards of off-road driving and shall develop written standard operating procedures listing conditions that justify driving on other than paved or hard surface roads.

5.3.8* The FESO driver training program shall include information on the potential hazards of driving unconventional or specialized units and shall develop written standard operating procedures listing conditions that justify responding to the scene of an emergency.

5.3.9 FESOs shall train operators for inclement weather driving conditions, with emphasis on handling of vehicles, particularly where auxiliary braking devices are to be used.

5.3.10 Where applicable, the FESO driver training program shall include information on the potential hazards of retarders, such as engines, transmissions, driveline retarders, antilock braking system (ABS) brakes, vehicle stability system, and traction control systems, and shall develop written standard operating procedures pertaining to the use of such devices.

5.3.11* Where applicable, the FESO driver training program shall include information on the proper use and limitations of the electronics provided.

5.3.12 Where applicable, the FESO driver training program shall include information on the engine regeneration process specific to the vehicle.

Δ 5.3.13 Where applicable, the FESO driver training program shall include instruction on all auxiliary systems installed on the emergency vehicle(s), including, but not limited to, power take off (PTO) equipment, hydraulic pumps, and electric generators.

5.3.14* The training program shall include a review and critique of FESO vehicle crash scenarios, both local and national, to serve as an objective learning experience.

Δ 5.3.15 All personnel authorized to drive or operate fire apparatus shall be trained on the content of the FAMA *Fire Apparatus Safety Guide*.

5.4 Instructor Qualifications.

5.4.1* The authority having jurisdiction shall be responsible for ensuring that only qualified persons are assigned as instructors in the driver training program.

Δ 5.4.2* Fire department training instructors shall, at a minimum, meet the qualifications for Instructor I as specified in NFPA 1041.

5.5 Training Program Safety.

5.5.1 The FESO safety officer shall monitor the driver training program to ensure the enforcement of departmental safety rules.

5.5.2 The FESO safety officer or designee shall review all driver training activities, including the lesson plan and field training area, prior to the exercise.

5.5.3 The FESO safety officer or designee shall monitor the use of all safety equipment during training exercises.

5.5.4 The FESO safety officer or designee shall notify the lead instructor of any situations that could be unsafe.

5.5.5 The FESO safety officer or designee shall have the authority to stop operations immediately where an event or condition poses an imminent threat of crash or injury.

5.5.6 All field exercises shall be conducted under the supervision of a qualified driving instructor meeting the requirements set forth in Section 5.4.

5.5.7 One instructor shall be assigned to each vehicle during the field exercises.

5.5.8* The field exercise training area shall be designed for the maximum safety of all participating personnel, apparatus, and bystanders.

5.5.8.1 Safety procedures shall be established to address the following:

- (1) Segregation of vehicles on the training course during multiple vehicle use
- (2) Backing practices and standard hand signals
- (3) Control of personnel and vehicles in the driver training area
- (4) Number of supervisory personnel present during training and testing activities
- (5) Pre-trip safety inspections prior to moving vehicles

5.5.8.2 Vehicles not participating in the training session shall be restricted from the training area.

5.5.8.3 All field exercises shall be conducted in an area that is secure.

5.5.8.4 Only those personnel involved in the exercise shall be permitted in the field exercise area, and all other participants and observers shall be restricted to a designated safe area.

5.6* Training Records. Individual driver training records that indicate dates, subjects covered, satisfactory completion, and any certificates achieved shall be maintained.

5.6.1 Individual driver training records shall include a list of vehicles that the driver is qualified to operate.

5.6.2* The individual driver's activity operating each vehicle shall be documented.

Chapter 6 Laws and Liabilities

6.1 General.

6.1.1* FESO vehicle drivers/operators shall have a knowledge of applicable federal, state, provincial, and local regulations governing the operation of FESO vehicles.

6.1.2* FESO vehicle drivers/operators shall become familiar with all applicable U.S. Department of Transportation (DOT) regulations.

6.1.3* The FESO shall maintain a written policy informing all FESO personnel of the permitted limits governing the operation of FESO vehicles.

6.1.4 Members who are under the influence of alcohol or drugs shall not drive or operate FESO vehicles under any circumstances.

6.2 Financial Protection.

6.2.1* The authority having jurisdiction shall have in place financial protection to ensure against potential losses from crashes that can occur during training or actual operations, or both.

6.2.2* All FESO vehicle drivers/operators or their personal representatives shall be informed in writing of the conditions and limitations of their personal and civil liability and to what degree the authority having jurisdiction extends protection for personal liability for crashes involving FESO vehicles.

6.3 Member Assistance Program. A member assistance program shall be available to render assistance and treatment to all FESO vehicle drivers/operators as required in NFPA 1500.

Chapter 7 Emergency Response

7.1 General.

7.1.1* The authority having jurisdiction shall have written policies governing speed and the limitations to be observed during inclement weather and under various road and traffic conditions.

7.1.2 At no time shall driving regulations be less restrictive than state motor vehicle laws.

7.1.3* The driver/operator of an FESO vehicle encountering any of the following situations shall bring the vehicle to a complete stop and shall not proceed until it is confirmed that it is safe to do so:

- (1) Any "stop" signal (i.e., sign, light, or traffic officer)
- (2) Blind intersections
- (3) Intersections where the operator cannot see all lanes of traffic
- (4) Stopped school bus with red flashing warning lights, as required by state law

7.1.4* FESO vehicles shall stop at all unguarded railroad crossings to ensure that a safe crossing can be made even when responding to emergencies.

7.1.4.1 The FESO driver/operator shall obey all railroad crossing signals even when responding to emergencies.

7.1.4.2 FESO vehicles shall not be driven around railroad crossing gates.

7.1.4.3 FESO vehicles shall not be parked on railroad tracks, unless rail traffic has been suspended.

7.1.5* The driver/operator shall maintain a distance in front of the vehicle that is at least equal to the minimum travel distance necessary to stop the vehicle without contacting another object.

7.1.6* FESO vehicles and apparatus following each other in queue shall maintain an adequate distance to avoid rear-end collisions.

7.1.7* Overtaking and passing other vehicles during emergency response shall be accomplished with extreme caution.

7.1.8 While en route to move-ups or to fill an empty station, apparatus shall be operated in a non-emergency mode, and the driver/operator shall obey all traffic laws.

7.1.9* The FESO shall identify the types of responses that will be made in a non-emergency mode.

7.2 Emergency Response Considerations.

7.2.1 The authority having jurisdiction shall establish emergency response procedures to minimize travel times, optimize response safety, and minimize the chances of emergency vehicles meeting at traffic intersections.

7.2.2 When multiple FESO vehicles are responding to an emergency incident from different locations, the vehicle operators shall coordinate their intended response routes to prevent the response vehicles from colliding at road intersections.

7.2.3 In jurisdictions where an automated traffic control system provides a green light and therefore intersection right-of-way to emergency vehicles, both initial and annual retraining shall be provided to all vehicle operators on the system's operating features and limitations.

Chapter 8 Crash and Injury Prevention

8.1 General.

8.1.1 Unsafe FESO vehicle conditions shall be corrected immediately by the identifying personnel or shall be reported immediately to personnel having the capability and responsibility of correcting or assessing the condition.

8.1.1.1 The FESO shall have a procedure in place for implementing the corrective action.

8.1.1.2 Documentation shall be established to record the following:

- (1) Date and time that the risk was discovered
- (2) Brief description of the risk found
- (3) Any action taken at the time the risk was discovered
- (4) Date and time that the corrective action was taken

8.1.1.3 Copies of all risk-related correspondence and documentation shall be forwarded to the FESO safety officer.

8.1.2* Whenever possible, FESO vehicles shall not be operated in reverse.

8.1.3 The FESO shall develop written standard operating procedures requiring drivers/operators to discontinue the use of manual brake limiting valves, frequently labeled "wet/dry road switch," and requiring that the valve/switch remain in the "dry road" position, where provided on vehicles.

8.1.4* Helmets and eye protection shall be provided for the use of members riding in cabs or tiller seats that are not enclosed on at least three sides and at the top.

8.1.5 No member shall be allowed to stand on the tail step, side steps, running boards, or any other location on the apparatus while the apparatus is in motion, except when loading hose provided all provisions of 8.1.6 have been met.

8.1.6 Hose-loading procedures shall be specified in written standard operating procedures that include at least the safety conditions stated in 8.1.6.1 and 8.1.6.2.

8.1.6.1 All members involved in the hose-loading procedures shall have been trained in these procedures.

8.1.6.2 Hose-loading operations shall be permitted to be performed on moving fire apparatus only where all of the conditions in 8.1.6.2.1 through 8.1.6.2.3 are met.

8.1.6.2.1 A member, other than those members loading hose, shall be assigned as a safety observer.

8.1.6.2.2 The safety observer shall have an unobstructed view of the hose-loading operation and shall be in visual and voice contact with the apparatus driver/operator.

8.1.6.2.3 Vehicular traffic other than FESO vehicles shall be excluded from the area or shall be under the control of authorized traffic control persons.

8.1.6.3 The FESO apparatus shall be driven only in a forward direction at a speed of 5 mph (8 kph) or less.

8.1.6.4 Members shall be permitted to be in the hose bed but shall not be permitted to stand while the apparatus is in motion.

8.1.6.5 Prior to the beginning of each hose-loading operation, the situation shall be evaluated to ensure compliance with all provisions of the standard operating procedure.

8.1.6.6 Where compliance with the standard operating procedure is not possible, or where there is any question as to the safety of the operation for the specific situation, the hose shall not be loaded onto the moving fire apparatus.

8.1.7* Hearing protection shall be utilized wherever noise levels exceed those specified in NFPA 1500.

8.1.8 Hazard Prevention Training. All personnel assigned to operate FESO vehicles shall be trained in hazards associated with the vehicles they are expected to use. (*See Annex B.*)

8.2 FESO Vehicle Drivers'/Operators' Responsibility.

8.2.1 FESO vehicles shall be operated only by members who have successfully completed an approved driver training program or by student drivers who are under the direct supervision of a qualified driver.

8.2.2* The driver/operator of an FESO vehicle shall be directly responsible for the safe and prudent operation of the vehicle under all conditions.

8.2.3* Where the driver/operator is under the direct supervision of an officer, that officer is responsible for the operation of the vehicle.

8.2.4 During non-emergency travel, drivers/operators of FESO vehicles shall obey all traffic control signals and signs and all the laws and rules of the road in the jurisdiction for the operation of motor vehicles.

8.2.5* During non-emergency travel, emergency warning lights shall not be used.

8.2.5.1 During non-emergency travel, traffic control devices shall not be used.

8.2.6* All FESO vehicle drivers/operators shall adhere to FESO rules, regulations, orders, and standard operating procedures of the authority having jurisdiction, even where operating in a jurisdiction other than their own.

8.2.7 Drivers/operators shall not move FESO vehicles until all persons on the vehicle are seated and secured with seat belts in approved riding positions, other than as specifically allowed in 8.3.3.

8.2.8* Mirror Adjustment. The driver/operator shall be trained in how to adjust the mirrors to provide the optimal field of vision and work with a partner to identify the remaining blind spots.

8.2.9* Burning Embers. Personnel shall be trained to recognize where the air intake opening is located, under what conditions burning embers could be ingested into the engine air