

Oregon OSHA – Proposed Changes to Division 2/L – Oregon Rules for Firefighters

April 2015

*****New text only in this document.*****

437-002-0182 Oregon Rules for Firefighters.

(1) Scope and Application. These rules apply to public and private employers who engage in structural fire service activities, including emergency first response.

Note: Employers subject to 437-002-0182 must comply with provisions of other applicable Oregon OSHA safety and health rules.

(2) Exceptions. These rules do not apply to the following firefighting activities:

- (a) Private industry fire brigades covered under 1910.156, Division 2/L, Fire Protection.
- (b) Forest and uncultivated wildland firefighting covered under Division 7/N, Wildland Fire Suppression and Prescribed Fire.
- (c) Marine firefighting and rescue covered under CFR title 33, Navigation and Navigable Waters.
- (d) Aircraft firefighting and rescue covered under CFR title 49, Transportation.

Note: Structural fire protection services who engage in activities listed under 437-002-0182(2)(a) through (d), must also comply with the applicable standard for the activity.

(3) Definitions.

Aerial device – An aerial ladder, elevating platform, aerial ladder platform, or water tower that is designed to position personnel, handle materials, provide egress and discharge water.

ANSI – American National Standards Institute.

Apparatus – A mobile piece of firefighting equipment such as pumper, water tender, etc.

Certified – Attested or confirmed in a formal written statement, or someone or something officially recognized as possessing certain qualifications or meeting certain standards.

Confined space – A space that meets all of the following:

Large enough and so configured that an employee can fully enter the space and perform work; and

Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and

Is not designed for continuous occupancy.

Designee – A person who has been officially chosen to do or be something.

DOT – Department of Transportation.

DPSST – Department of Public Safety Standards and Training.

Drill tower – A structure, which may or may not be attached to the station, that is over two stories high and primarily used for non-classroom firefighter training in fire service techniques.

Emergency incident – Any situation where a fire department delivers emergency services, rescue, fire suppression, medical treatment, and other forms of hazard control and mitigation.

Emergency scene – The site where the suppression of a fire or the emergency exists.

Enclosed structure – A structure with a roof or ceiling and at least two walls which may present fire hazards to employees, such as accumulations of smoke, toxic gases and heat, similar to those found in buildings.

Firefighter – A person involved in performing fire department duties and responsibilities, including fire suppression, who may be a career or volunteer member of a fire department and may occupy any position or rank within the fire department.

Fire ground – An emergency scene or location where firefighting or live fire training activities occur.

Fire training – Training received by firefighters to maintain proficiency in performing their assigned duties.

Hazardous material incident – The accidental release of hazardous materials from their containers.

Helmet – An element of the protective ensemble designed to provide minimum protection to the user's head against impact, flying or falling objects, electric shock, penetration, heat, and flame.

Hose tower – A vertical structure where a hose is hung to dry.

IFSTA – International Fire Service Training Association.

IMS – Incident Management System. Also referred to as an Incident Command System (ICS).

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.

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.

Interior structural firefighting – 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.

Live fire training – Any fire set within a structure, tank, pipe, pan, etc., under controlled conditions to facilitate firefighter training under actual fire conditions.

NFPA – National Fire Protection Association.

NIOSH – National Institute of Occupational Safety and Health.

Private Industry Fire Brigades – A group of employees who are required to fight interior structural fires at their place of employment.

Protective ensemble – The clothing and personal protective equipment worn to provide limited protection to the user's head, body, and extremities from thermal, physical, chemical, and health hazards. Protective ensemble elements include firefighting coats and trousers, helmets, hoods, gloves, footwear, eye and face protection devices, and respirators.

Qualified – Certified as being trained to perform a particular job or activity.

Respirators –

Atmosphere-supplying respirator is a respirator that supplies the user with air from a source independent of the ambient atmosphere and includes supplied-air respirators (SARS) and self-contained breathing apparatus (SCBA) units.

Air-purifying respirator is a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Positive pressure demand respirator is a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Pressure-demand respirator is a positive pressure atmosphere-supplying respirator that admits air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Self-Contained Breathing Apparatus SCBA is a self-contained breathing apparatus designed to provide the wearer with a supply of respirable air carried in and generated by the breathing apparatus. This apparatus requires no intake of oxygen from the outside atmosphere and can be designed to be a demand or pressure-demand type respirator.

Supplied-air respirator (SAR) or airline respirator is an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Responder – A certified person who has the responsibility to respond to an emergency incident.

Station (Fire station) – Structure to house the fire service apparatus and personnel.

Tailboard – Standing space at rear of a fire apparatus where firefighters stand to access and reload hose and/or equipment.

Training – Instruction with hands-on practice in the operation of equipment, including respiratory protection equipment, that is expected to be used and in the performance of assigned duties.

Warning light – A flashing or rotating light.

(4) Organizational statement.

(a) The employer must develop and implement a written statement or policy that includes basic organizational structure, basic functions of the organization, and type, amount, and frequency of training to be provided.

(b) This statement must be made available for inspection by Oregon OSHA and by fire department employees or their designated representatives.

(5) Personnel.

(a) The employer must annually review and evaluate each employee's physical capabilities through physical ability testing, medical examination, or the employee's demonstrated ability to perform their assigned duties.

(b) Employees who do not meet the levels of physical capabilities needed to perform their assigned duties are not permitted to engage in emergency operations.

(6) Safety Committee.

(a) Fire departments must have a separate safety committee or hold safety meetings according to the requirements of Division 1, 437-001-0765, Safety Committees and Safety Meetings.

(b) When applicable, the representation on the safety committee must include both career and volunteer firefighters.

(7) Incident Management.

(a) The employer must develop and implement written procedures for incident management that meets the requirement of NFPA 1561 (2008): Standard on Emergency Services Incident Management System.

(b) These procedures must apply to all employees involved in emergency operations.

(c) Each employee involved in emergency operations must be familiar with these procedures.

(8) Accountability. The employer must develop and implement written procedures for a personnel accountability system that meets the requirement of NFPA 1561 (2008): Standard on Emergency Services Incident Management System.

(9) Firefighting Training and Education.

(a) The employer must develop and implement a policy for appropriately educating and training all department firefighting classifications (ranks) before they perform assigned duties.

(b) Firefighters must meet the training levels prescribed by NFPA 1403 (2012): Standard on Live Fire Training Evolutions, prior to participating in live fire training or in exterior structural firefighting activities.

(c) Firefighters must be trained according to NFPA 1001 (2013): Standard for Fire Fighter Professional Qualifications, prior to participating in interior structural firefighting activities.

(d) Live fire training must be conducted under the direction of the fire department's training officer or employer authorized representative.

(e) All live fire training must be conducted following the requirements of NFPA 1403 (2012): Standard on Live Fire Training Evolutions, or Mandatory Appendix A (Minimum Requirements for Live Fire Training) of this standard.

(10) General Requirements for Protective Ensembles.

(a) Protective ensembles must protect the user's head, body, and extremities. Protective ensembles consist of the following elements: body protection; head protection; hand protection; foot and leg protection; eye and face protection; and respiratory protection.

Note: Employees must be protected from noise that exceeds the levels in Division 2/G, 1910.95, Occupational Noise Exposure.

(b) The employer must provide employees all protective ensemble elements at no cost to employees. The employer must not allow employee-owned protective ensemble elements that do not comply with the requirements under 437-002-0182(11) through (16) to be used for structural fire fighting. (See Non-mandatory Appendix B, General Information and Recommendations, of this standard)

(c) Employees must wear all appropriate protective ensemble elements that meet the requirements under 437-002-0182(11) through (16) when engaged in interior structural firefighting.

(d) In situations other than interior structural firefighting, employees must wear the appropriate protective ensemble elements for the known hazards of that particular emergency operation.

(11) Body Protection. All structural firefighting coats and trousers must be at least equivalent to the requirements of NFPA 1971 (1991): Standard on Protective Clothing for Structural Fire Fighting. Structural firefighting coats and trousers purchased on or after (*adopted effective date of this rule*) must be at least equivalent to the requirements of NFPA 1971 (2013): Standard on Protective Ensemble for Structural Fire Fighting.

(12) Head Protection.

(a) All structural firefighting helmets must be at least equivalent to the requirements of NFPA 1971 (2000): Standard on Protective Ensemble for Structural Firefighting. Structural firefighting helmets purchased on or after (*adopted effective date of this rule*) must be at least equivalent to the requirements of NFPA 1971 (2013): Standard on Protective Ensemble for Structural Fire Fighting.

(b) Structural firefighting helmets must consist of a rigid shell; an energy absorbing system; a retention system; florescent and retroreflective trim; ear covers; and either a faceshield, or goggles, or both.

(c) Use, care, alterations, and maintenance instructions for protective headgear must be supplied for each helmet.

(d) Care, maintenance, and alteration of helmets must conform to the manufacturer's recommendations.

(e) During structural firefighting, helmet accessories designed to provide or maintain protection from health and safety hazards must be worn in the manufacturer's recommended position. (See Non-mandatory Appendix B, General Information and Recommendations, of this standard)

(f) All flame-resistant protective hoods must be at least equivalent to the requirements of NFPA 1971 (1997): Standard on Protective Ensembles for Structural Fire Fighting. Flame-resistant protective hoods purchased on or after (*adopted effective date of this rule*) must be at least equivalent to the requirements of NFPA 1971 (2013): Standard on Protective Ensemble for Structural Fire Fighting.

(g) A flame-resistant protective hood that will not adversely affect the seal of a respirator facepiece must be worn during interior structural firefighting operations to protect the sides of the face and hair.

(13) Hand Protection.

(a) All structural firefighting hand protection must be at least equivalent to the requirements of NFPA 1973 (1988): Standard on Gloves for Structural Fire Fighting. Structural firefighting hand protection purchased on or after (*adopted effective date of this rule*) must be at least equivalent to the requirements of NFPA 1971 (2013): Standard on Protective Ensemble for Structural Fire Fighting.

(b) Hand protection for structural firefighting activities must consist of protective gloves or glove system that will provide protection against cut, puncture, and heat penetration.

(14) Foot and Leg Protection.

(a) All structural firefighting protective footwear must be at least equivalent to the requirements of NFPA 1971 (1997): Standard on Protective Ensembles for Structural Fire Fighting. Structural firefighting protective footwear purchased on or after (*adopted effective date of this rule*) must be at least equivalent to the requirements of NFPA 1971 (2013): Standard on Protective Ensembles for Structural Fire Fighting.

(b) Resoled firefighting footwear must comply with the applicable NFPA standard under 437-002-0182(14)(a).

Note: Employees using chain saws for non-firefighting activities must wear chaps or leg protectors in accordance with Division 2/I, 437-002-0134, Personal Protective Equipment.

(15) Eye and Face Protection.

(a) Face protection must be used where there is a reasonable probability of injury that can be prevented by such protection. When face protection does not protect the eyes from foreign objects, additional protection for the eyes must be used.

(b) The employer must make available eye and face protection devices suitable for the work performed, and employees must use such protection devices as required by 437-002-0182(15)(a).

(c) Protection devices that can be worn over corrective lenses must be available for employees who need them.

(d) Eye and face protection devices worn by firefighters at the fire ground must comply with the following minimum requirements:

(A) They must comply with any of the following consensus standards:

(i) ANSI Z87.1-2003, American National Standard Practice for Occupational and Educational Eye and Face Protection;

(ii) ANSI Z87.1-1989 (R-1998), American National Standard Practice for Occupational and Educational Eye and Face Protection; or

(iii) ANSI Z87.1-1989, American National Standard Practice for Occupational and Educational Eye and Face Protection.

(B) They must be reasonably comfortable when worn under the designated conditions.

(C) They must be durable.

(D) They must be capable of being disinfected.

(E) They must be easy to clean.

(e) Face shields must be an integral part of the firefighting helmet and may be installed in a fixed position or hinged allowing adjustment of the shields. Face shields must accommodate any of the following styles:

(A) Clear transparent

(B) Colored transparent

(f) Goggles must consist of a fully flexible frame, a lens holder or a rigid frame with integral lens or lenses, and a separate cushioned fitting surface on the full periphery of the facial contact area.

(A) Materials used for goggles must be chemical-resistant, nontoxic, nonirritating and slow-burning.

(B) There must be support on the face, such as an adjustable headband of suitable material or other appropriate support to hold the frame comfortably and snugly in front of the eyes.

Note: When NIOSH approved full face respiratory equipment is being used by firefighters, additional eye and face protection is not required.

(16) Respiratory Protection. The employer must develop and implement a respiratory protection program in accordance with Division 2/I, 1910.134, Respiratory Protection.

(17) Criteria for Approved Self-Contained Breathing Apparatus (SCBA).

(a) All compressed air cylinders used with approved SCBAs must meet DOT and NIOSH criteria.

(b) In emergency and lifesaving situations, approved SCBAs may be used with approved cylinders from other approved SCBAs provided that such cylinders are of the same capacity and pressure rating. Once the emergency is over, return SCBAs to their original approved condition.

(c) Approved SCBAs must be provided with at least one indicator that automatically sounds an alarm when the remaining air supply of the SCBA is reduced to within a range of 25 percent of its rated service time.

(18) Personal Alert Safety System (PASS).

(a) Each member involved in rescue, fire suppression, or other hazardous duties, must be provided with and must use a PASS device in the hazardous area when self-contained breathing apparatus is in use.

(b) All PASS devices must be at least equivalent to the requirements of NFPA 1982 (1983): Standard on Personal Alert Safety Systems (PASS). PASS devices purchased on or after (adopted effective date of this rule) must be at least equivalent to the requirements of NFPA 1982 (2013): Standard on Personal Alert Safety Systems (PASS).

(c) Each PASS device must be tested at least monthly and must be maintained according to the manufacturer's instructions.

(19) Breathing Air Compressors and Cylinders.

(a) In addition to the requirements contained in Division 2/I, 1910.134(i), breathing air quality and use, air samples must be taken every six months from the compressor and analyzed by the employer or an independent laboratory for Grade D breathing air.

(b) Air samples must also be taken and analyzed when the system is installed or repaired.

(c) Analysis required by 437-002-0182(19)(a) and (b) must be conducted according to ANSI/CGA Standard G7.1 (2011): Commodity Specification for Air.

(20) Hazardous Material Response Plan.

- (a) Fire departments that expect or plan to respond to hazardous material incidents must develop and implement a written response plan, and comply with additional requirements of Division 2/H, 1910.120(q), Emergency response to hazardous substance releases.
- (b) The written response plan must contain the policies and procedures for:
 - (A) Pre-emergency planning and coordination with outside parties,
 - (B) Personnel roles, lines of authority, training, and communication,
 - (C) Emergency recognition and prevention,
 - (D) Safe distances,
 - (E) Scene security and control,
 - (F) Evacuation procedures,
 - (G) Decontamination,
 - (H) Emergency medical treatment and first aid,
 - (I) Personnel withdrawal procedures,
 - (J) Critique of response and follow-up, and
 - (K) Personal protective equipment and emergency equipment and response procedures.
- (c) The incident commander must be responsible for:
 - (A) Identifying of the hazardous substance and condition,
 - (B) Implementing emergency operations,
 - (C) Ensuring personal protective equipment is worn,
 - (D) Limiting access of hot zone to those with a specific mission assignment,
 - (E) Implementing decontamination procedures,
 - (F) Designating a safety officer,
 - (G) Using appropriately trained personnel, and
 - (H) Providing on-scene medical surveillance for emergency responders.

(21) Fire Apparatus Area.

- (a) Walkways around apparatus must be kept free of obstructions.
- (b) The station's apparatus floors must be kept free of grease, oil, and tripping hazards.
- (c) Exhaust gases from apparatus within buildings must be maintained within the limits of Division 2/Z, 437-002-0382, Oregon Air Contaminant Rules. (See Non-mandatory Appendix B, General Information and Recommendations, of this standard)

(22) Fire Apparatus Design and Construction.

- (a) Employers who have acquired used fire apparatus or used military equipment prior to July 1985 are not required to bring them under a more stringent code than the one in force at the time the apparatus was manufactured. The exceptions to 437-002-0182(22)(a) are:

(A) Seat belts as required by 437-002-0182(23)(e); and

(B) Roll-over protective structures (ROPS) on all open top off-road vehicles as required by 437-002-0182(22)(f).

(b) There must be steps, ladders or railing to allow safe access to and exit from areas on vehicles that employees access.

(c) Vehicle tailboards must not project outboard of the vehicle sides or fenders and must be designed to provide safe footing.

(d) Exhaust systems must be installed and properly maintained, and must be designed to minimize the exposure of exhaust gases by employees.

(e) The loaded gross weight and empty height of the vehicle must be posted in the vehicle such that it can be clearly read by the driver.

(f) Roll-over protective structures (ROPS) must be provided, installed and maintained on all open top off-road vehicles.

(g) Vehicles with an obstructed view to the rear of the vehicle when backing must be equipped with:

(A) An automatic back-up alarm that must sound when backing and can be heard over the surrounding noise; or

(B) A video camera that provides the driver a full and clear view of the path of travel behind the vehicle.

Note: A spotter who is visible in the driver side mirror and stands to the rear of the vehicle to guide the driver while backing is an acceptable alternative to the requirements of 437-002-0182(22)(g)(A) and (B).

(23) Fire Apparatus Operation.

(a) Employees must be trained in the safe operation of each type of vehicle they are authorized to drive.

(b) The employer must not allow an employee to drive a vehicle on a public highway or road unless they have a valid driver's license.

(c) Any item found that may affect the safe operation of a vehicle must be reported immediately to the officer in charge or other appropriate person.

(d) Employees must not drive or ride in any vehicle known to be unsafe.

(e) Employees being transported by fire department vehicles must ride in designated seat-belted or safety-harnessed positions.

(f) The employer must not allow employees to ride on tailboards, tail steps or running boards.

(g) Vehicles must come to a full stop before employees disembark.

(h) All equipment on a vehicle must be adequately secured when the vehicle is in motion.

(i) When traffic flow is inhibited, vehicles equipped with emergency warning lights must be used to control traffic at emergency scenes. The use of traffic cones, fire department personnel, police, or other traffic control measures must be used as soon as practical.

(24) Fire Apparatus Maintenance and Repair. Each employer must establish written records and procedures whereby apparatus has:

(a) At a minimum, a scheduled monthly maintenance check; or

(b) A maintenance check each time the apparatus is returned to the station following an emergency response, drill, or test drive.

(25) Tires.

(a) No motor vehicle must be operated on any tire that:

(A) Has body ply or belt material exposed through the tread or sidewall;

(B) Has any tread or sidewall separation;

(C) Is flat or has an audible leak; or

(D) Has a cut to the extent that the ply or belt material is exposed.

(b) Any tire on the front wheels of a bus, truck, or truck tractor must have a tread groove pattern depth of at least $\frac{4}{32}$ of an inch when measured at any point on a major tread groove. The measurements must not be made where tie bars, humps, or fillets are located.

(c) Except as provided in 437-002-0182(25)(b), tires must have a tread groove pattern depth of at least $\frac{2}{32}$ of an inch when measured in a major tread groove. The measurement must not be made where tie bars, humps or fillets are located.

(26) Aerial Devices.

(a) Aerial devices used for firefighting must be annually inspected and tested by a person qualified in performing such inspections and tests according to NFPA 1911 (2007): Standard for the Inspection, Maintenance, Testing, and Retirement of In-service Automotive Fire Apparatus.

(b) Where structural defects are found in critical components of an aerial device, the repairs must be tested and certified according to NFPA 1911 (2007): Standard for the Inspection, Maintenance, Testing, and Retirement of In-service Automotive Fire Apparatus, by a registered professional engineer, the manufacturer of the apparatus, or an American Welding Society (AWS) Certified Welding Inspector.

(c) A permanent record of tests and repairs under 437-002-0182(26)(b) must be maintained for each aerial device.

(27) Hose Drying Towers.

(a) Floor openings on hose tower platforms must be equipped with a guardrail meeting the requirements of Division 2/D, 1910.23, Guarding Floor and Wall Openings and Holes.

Note: The toeboard requirements for elevated work platforms in Division 2/D, 1910.23, do not apply to hose drying towers unless hand tools or objects other than hoses are carried onto the platforms.

(b) Fixed ladders must meet the requirements of Division 2/D, 437-002-0027, Fixed Ladders.

(c) Ropes used to hoist hose in the hose towers must have a working load limit that maintains a minimum safety factor of 3:1.

(28) Drill Towers. Permanent fixed ladders on the outside of drill towers and drill buildings are exempt from offset platform landings and ladder cage guards requirements of Division 2/D, 437-002-0027, Fixed Ladders.

(29) Testing, Maintenance and Inspection of Fire Service Equipment.

(a) The employer must inspect and maintain fire service equipment at least annually and perform all tests recommended by the manufacturer at the date of manufacture.

(b) When the manufacturer's recommendations required under 437-002-0182(29)(a) are not available from the manufacturer, the employer must identify and follow the recommendations of an applicable consensus standard or curriculum that is nationally recognized and generally accepted by the fire service industry.

Note: Examples of a consensus standard or curriculum under 437-002-0182(29)(b) include, but are not limited to, NFPA standards and IFSTA manuals.

(30) Confined spaces.

(a) Employers must comply with Division 2/J, 437-002-0146, Confined Spaces, for their own confined spaces.

(b) Employers must comply with Division 2/J, 437-002-0146, Confined Spaces, when they agree to serve as a designated rescue service provider.

(c) Employers that will respond to emergency calls for rescue from confined spaces must:

(A) Train responders to recognize inherent confined space hazards before assigning or attempting any related duties in confined space rescues.

(i) Provide responders with understanding, knowledge, and skills necessary for safe performance of confined space rescues.

(ii) Practice a confined space rescue operation at least once every year from a real or simulated confined space.

(B) Responders must be certified in writing to Department of Public Safety Standards and Training (DPSST) Firefighter 1 or equivalent.

(C) Use the Incident Management System (IMS) during confined space rescue incidents that meet the requirements of NFPA 1561 (2008): Standard on Emergency Services Incident Management System.

(D) Assess the situation and determine if it qualifies as a confined space incident.

(i) Classify the operation as a rescue or body recovery.

(ii) Assess and control physical hazards related to the incident or rescue.

(iii) Assess atmospheric hazards.

(I) Use calibrated direct-reading instruments to test the atmosphere in confined spaces for oxygen content, flammable gases and vapors, and toxic air contaminants.

(II) When calibrated direct-reading instruments are not available, the Incident Commander must assume the situation is IDLH and ensure that responders who enter are equipped with appropriate respiratory protective equipment that comply with Division 2/I, 1910.134, Respiratory Protection.

(iv) Determine if the space should be ventilated.

(v) Determine the precautions and procedures to follow for safe entry into the space.

(E) Provide the appropriate rescue, emergency, and personal protective equipment for safe entry into and rescue from confined spaces.

(F) Provide necessary equipment to facilitate non-entry retrieval for responders, unless the retrieval equipment would increase the overall risk or would not contribute to the rescue operations.

Note: For the reader's convenience, the following paragraphs are provided from Division 2/I, 1910.134 (g)(3) and (g)(4), Respiratory Protection:

(g)(3) Procedures for IDLH atmospheres.

For all IDLH atmospheres, the employer shall ensure that:

- (i) One employee or, when needed, more than one employee is located outside the IDLH atmosphere;
- (ii) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;
- (iii) The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;
- (iv) The employer or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;
- (v) The employer or designee authorized to do so by the employer, once notified, provides necessary assistance appropriate to the situation;
- (vi) Employee(s) located outside the IDLH atmospheres are equipped with:
 - (A) Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either
 - (B) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or
 - (C) Equivalent means for rescue where retrieval equipment is not required under paragraph (g)(3)(vi)(B).

(g)(4) Procedures for interior structural firefighting.

In addition to the requirements set forth under paragraph (g)(3), in interior structural fires, the employer shall ensure that:

- (i) At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;
- (ii) At least two employees are located outside the IDLH atmosphere; and
- (iii) All employees engaged in interior structural firefighting use SCBAs.

Note 1 to paragraph (g): One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident.

Note 2 to paragraph (g): Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 14-1993, f. 8/27/93, ef. 11/1/93.

OR-OSHA Admin. Order 2-1998, f. 3/11/98, ef. 3/11/98.

OR-OSHA Admin. Order 2-2000, f. 1/28/00, ef. 1/28/00.

OR-OSHA Admin. Order 12-2001, f. 10/26/01, ef. 10/26/01.

OR-OSHA Admin. Order 3-2005, f. 6/10/05, ef. 6/10/05.

OR-OSHA Admin. Order 9-2008, f. 9/19/08, ef. 1/1/09.

OR-OSHA Admin. Order 8-2009, f. 7/9/09, ef. 10/1/09.

OR-OSHA Admin. Order 6-2012, f. 9/28/12, ef. 4/1/13.

OR-OSHA Admin. Order X-2015, f. X/XX/15, ef. X/XX/XX.

Mandatory Appendix A Minimum Requirements for Live Fire Training

This is a mandatory appendix as required by 437-002-0182(9)(e). Also see Student Prerequisites in NFPA 1403 (2012): Standard on Live Fire Training Evolutions. The following requirements must be met prior to live fire training:

Training:

Prior to participating in live fire training, trainees must receive training to meet the job performance requirements for Firefighter I in NFPA 1001 (2013): Standard for Fire Fighter Professional Qualifications, related to the following subjects:

- Safety
- Fire behavior
- Portable extinguishers
- Personal protective equipment
- Ladders
- Fire hose, appliances, and streams
- Overhaul
- Water supply
- Ventilation
- Forcible entry
- Building Construction

Note: Participants trained by another department or jurisdiction must provide written certification that they meet Oregon OSHA's requirements for live fire training.

Structures must be prepared for live fire training evolutions by:

- Removing or neutralizing all hazardous storage conditions that would present a safety problem during the live fire training evolution.
- Removing closed containers and highly combustible materials from the structure.
- Venting oil tanks and similar closed vessels that cannot be removed.
- Rendering inert, any hazardous or combustible atmosphere within any tank or vessel.
- Removing or repairing any structural conditions that could present a safety problem during the live fire training evolution.
- Covering all floor openings.
- Repairing or replacing missing treads and rails.
- Removing any dangerous portion of chimneys.
- Repairing or patching holes in walls and ceilings.
- Removing low-density combustible fiberboard and other unconventional combustible interior finished.
- Removing extraordinary weight above the training area.
- Removing debris that creates or contributes to an unsafe condition.
- Disconnecting all utilities.
- Protecting or removing utility services adjacent to the live burn site.

- Removing any toxic weeds, insect hives, or vermin that could present a potential hazard.
- Having a qualified asbestos removal contractor remove all forms of asbestos.
- Removing trees, brush and surrounding vegetation that creates a hazard to participants.

Qualified Safety Officer must:

- Be appointed for all live fire training evolutions and have no other duties that would interfere with safety responsibilities.
- Have the authority to intervene and control any aspect of the operation when a potential or actual danger, accident or unsafe condition exists.
- Be responsible for the prevention of unsafe acts and the elimination of unsafe conditions.
- Provide for safety of all persons on the scene to include students, instructors, visitors and spectators.
- Inspect all participants' protective equipment prior to entry into the live fire evolution.
- Post and use control measures such as ropes, signs and fire line markings to indicate the perimeter of the live fire operations area.
- Directly supervise the ignition of each live training fire.
- The safety officer may assign additional personnel in and around the structure to ensure the safety of personnel.

Training Officer or employer authorized representative must:

- Be qualified to deliver the live fire training.
- Allow the participating student-to-instructor ratio not to be greater than 5:1.
- Coordinate all fire ground activities to ensure correct levels of safety.
- Prior to each specific evolution, determine the number of training attack lines and backup lines that are necessary.
- Ensure that each hose line is capable of delivering at minimum 95 gpm.
- Provide backup lines to ensure protection for personnel on training attack lines.
- Determine the rate and duration of water flow necessary for each evolution to include extinguishing the training fire, backup lines to protect personnel and any water necessary to protect exposed property.
- Meet the criteria for minimum water supply and delivery for live fire training evolutions identified in NFPA 1142 (2012): Standard on Water Supplies for Suburban and Rural Fire Fighting.
- Have separate sources of water supply for attack lines and backup lines to preclude the loss of both sources at the same time.
- Assign, one instructor to each functional crew, one instructor to each backup line, additional personnel to backup lines for mobility and one additional instructor for each additional functional assignment.
- Assess the selected fire room environment for factors that can affect the growth, development and spread of the fire.
- Stop the training exercise immediately when a qualified individual, the safety officer or him/herself determines through an ongoing assessment that the combustible nature of the environment represents a potential hazard.

- Allow a stopped exercise to continue only when actions have been taken to mitigate the hazard.
- Establish a method for fire ground communication among incident command, interior and exterior Divisions or Groups, the safety officer and external request for assistance.
- Designate one qualified person, not a student, to ignite materials so as to control those materials being burned.
- Require the qualified designated ignition person wear necessary protective clothing to include SCBA when igniting any fire.
- Require a charged hose line to accompany the qualified ignition person when igniting any fire.
- Coordinate with the safety officer the decision to ignite each training fire.

The employer or an authorized/designated representative must:

- Be responsible for full compliance with this standard.
- Prepare a preburn plan to be used during the preburn briefing session.
- Have a preburn briefing session with all participants discussing all facets of each evolution, prior to the actual live fire training evolution.
- Conduct a walk-through with all participants, in order to provide knowledge and familiarity with the layout of the structure and to facilitate any necessary evacuation of the structure.
- Identify and evaluate exits from the structure prior to each training burn.
- Make participants aware of exits from the structure prior to each training burn.
- Establish a building evacuation plan to include an evacuation signal that is demonstrated to all participants of the interior live fire training evolutions.
- Designate an area for staging, operations and parking of fire apparatus being used in the evolution and those not being used in the evolution.
- Designate, identify and monitor ingress and egress routes to ensure their availability in the event of an emergency during the evolution.
- Restrict all spectators to a restricted area outside the operation perimeter
- Remove from the operations area all possible sources of ignition, other than those that are under the direct supervision of the person responsible for the start of the training fire.
- Not use pressure-treated wood, rubber, plastic, straw or pesticide treated hay or harmful chemicals.
- Use fuels that have known burning characteristics that are as controllable as possible
- Use only the amount of fuel materials necessary to create the desired fire size
- Limit the fuel load to avoid conditions that could cause an uncontrolled flashover or backdraft.
- Have emergency medical services on site.
- Conduct a search of the space to ensure no unauthorized individuals or objects are present just prior to ignition.
- Permit only one fire within the structure at a time per evolution.
- Allow no fire in any designated exit route or path.
- Allow no person to play the role of a victim inside a structure.
- Cancel or postpone the training session in cases of extreme weather that could cause illness or injury.

- Equip all participants and require the use of all protective equipment necessary for the live fire training evolution.
- Require all personal protective equipment used during the live fire training evolution to meet the requirements of this section.
- Provide for rest and rehabilitation of participants at the scene to include necessary medical evaluations and treatment, food and fluid replenishment and relief from climate conditions.
- Ensure that all equipment is operated by a qualified person.
- Establish and maintain an incident management system (IMS) in accordance with 437-002-0182(7).
- Establish and maintain a personnel accountability system in accordance with 437-002-0182(8).

Non-mandatory Appendix B General Information and Recommendations

This non-mandatory appendix is for the reader's information only.

Protective Ensembles:

- 437-002-0182(10) does not require all firefighters to wear protective ensemble. It is not the intention of these rules to require employers to provide a full ensemble of protective clothing for every firefighter without considering the types of hazardous environments where the firefighter might be exposed. These rules are intended to require adequate protection for those firefighters who might be exposed to smoke, toxic gases, high temperatures, and fires in an advanced state. Therefore, the protective ensemble requirements under 437-002-0182(10) only apply to firefighters who perform structural firefighting activities.
- The protective ensemble requirements do not apply to the protective clothing worn during outside firefighting operations (e.g., brush and forest fires, crash crew operations) or other special firefighting activities. It is important that the protective clothing worn during these types of firefighting operations reflect the hazards that are expected to be encountered by firefighters.
- Many head protective devices are equipped with face shields to protect the eyes and face. These face shields meet the eye and face protection requirements of this rule as long as they meet the requirements of Division 2/I, Personal Protective Equipment and ANSI Z87.1-2003, Occupational Eye and Face Protection.
- It is recommended that protective clothing be thoroughly cleaned or washed every six months or as needed, following the recommendations of the clothing manufacturer and the cleaning requirements of NFPA 1971 (2000): Standard on Protective Ensemble for Structural Firefighting.
- The following recommendations are for fire departments who choose to use protective body armor:
 - The fire department should develop and implement written guidelines for the care, use and maintenance of the protective body armor in conjunction with the manufacturer's recommendations.
 - Protective body armor should meet or exceed National Institute of Justice NIF 0101.06, Threat Level II requirements, July 2008 edition.
 - Body armor should be correctly fitted following the manufacturer's recommendations and should not be used beyond the manufacturer's warranty.

Exhaust gases from Apparatus:

Recommended practices to reduce exposure to apparatus gasoline and diesel exhaust gases:

- For vehicles with particularly high emissions that remain in service, locate them where their emissions are best controlled using natural or local exhaust ventilation.
- Minimize the engine idle time inside the fire station as much as possible, and perform regular shift engine run-ups outside the station.
- Position vehicles or redirect their exhaust emissions to prevent exhaust from blowing towards interior doorways and stairways.