

## **MIOSHA-Standards**

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**From:** Lynnae White <whitel@cityofgrandville.com>  
**Sent:** Monday, March 14, 2022 9:39 AM  
**To:** MIOSHA-Standards  
**Subject:** Comments - General Industry Safety Health Standard Part 74. Firefighting.  
**Attachments:** DraftRule Questions.doc

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Hello,

I've attached the document and have highlighted and added notes to the areas where I have a comment or question.

Thank you,  
Lynnae

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DEPARTMENT OF ~~LICENSING AND REGULATORY AFFAIRS~~ **LABOR AND  
ECONOMIC OPPORTUNITY**

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY AND HEALTH STANDARD

Filed with the secretary of state on

These rules take effect immediately upon filing with the secretary of state unless adopted under section 33, 44, or 45a(9) of the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a. Rules adopted under these sections become effective 7 days after filing with the secretary of state.

(By authority conferred on the director of the **Michigan** department of ~~licensing and regulatory affairs~~ **labor and economic opportunity** by sections **14r**, 16, and 21 of the Michigan occupational safety and health act, 1974 PA 154, MCL ~~408.1014r~~, 408.1016, and 408.1021, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, ~~and 2011-4~~, ~~and 2019-3~~, MCL 445.2001, 445.2011, 445.2025, ~~and 445.2030~~, ~~and 125.1998~~)

R 408.17401, R 408.17402, R 408.17403, R 408.17404, R 408.17405, R 408.17411, R 408.17415, R 408.17421, R 408.17422, R 408.17423, R 408.17424, R 408.17426, R 408.17431, R 408.17432, R 408.17433, R 408.17436, R 408.17440, R 408.17443, R 408.17451, R 408.17461, and R 408.17463 of the Michigan Administrative Code are amended, R 408.17430 and R 408.17464 are added, and R 408.17434, R 408.17435, and R 408.17437 are rescinded, as follows:

PART 74. ~~FIRE FIGHTING~~ **FIRE FIGHTING**

R 408.17401 Scope.

Rule 7401. This part prescribes rules for training; for the construction, care, and use of equipment; and for the safeguards to be furnished and maintained as it relates to municipal ~~fire service personnel~~ **firefighters** and equipment. The occupation can be full-time or part-time; for pay or volunteer status.

R 408.17402 Applicability.

Rule 7402. A person who is functioning as a municipal ~~fire fighter~~ **firefighter** and who is exposed to the hazards of an emergency operation shall comply with this part.

R 408.17403- Definitions; A to M.

Rule 7403. (1) "Approved label" means a label or other identifying mark of a nationally recognized testing laboratory, such as ~~underwriters laboratory, inc.~~ **Underwriters Laboratory, Inc.**, or ~~factory mutual research corporation~~ **Factory Mutual Research Corporation**, that maintains a periodic inspection of production of labeled equipment or

materials and by whose labeling compliance with nationally recognized standards or tests to determine suitable usage in a specified manner is indicated.

(2) “Aerial apparatus” means a fire department vehicle ~~which~~**that** is equipped with a power operated extension ladder or elevating platform used for rescue, ventilation, elevated master streams, and gaining access to upper levels and ~~which~~**that** carries ground ladders, tools, and other equipment.

(3) “Control” means the limitation of worker exposure to exhaust emissions to levels not exceeding applicable MIOSHA exposure limits.

(4) “Controlled process” means an arrangement of equipment to control exhaust emissions by means of any of the following:

(a) A point of source capture of exhaust emissions by a mechanical tailpipe exhaust ventilation system.

(b) A general mechanical exhaust ventilation system in a fire apparatus building bay or bays.

(c) A device that is permanently installed directly on the fire apparatus exhaust system.

(5) “Emergency operations” means a fire or nonfire incident, including, but not limited to, rescues, extrications, hazardous material release, and natural disasters, where fire department response can be anticipated and which ~~subject fire personnel~~**subjects firefighters** to personal injury or hazards. Vegetative cover fires are not included in this definition.

(6) “Exhaust emissions” means exhaust by-products of combustion, from internal combustion engines, capable of causing occupational illness or disease to a person.

(7) “Fire apparatus” means mobile ~~fire fighting~~**firefighting** equipment ~~such as~~**including**, but not limited to, a pumper/engine, aerial apparatus, a tanker/tender, or any other similar equipment that has fire suppression or rescue as its primary use. A vehicle not designed, equipped, or utilized for emergency operations is not fire apparatus.

**(8) “Firefighter” means a member of an organized fire department who is responsible for, or is in a capacity that includes responsibility for, the extinguishment of fires, the directing of the extinguishment of fires, the directing or management of emergency response activities, fire safety prevention inspection, plans examination, fire investigation, hazardous materials response, technical rescue response, airport rescue response, airport rescue firefighting, fire service instruction, and the enforcement of the general fire laws of this state and the community where he or she serves.**

~~(8)~~**(9)** “Fire station” means a structure in which fire service equipment is housed and employees may be quartered.

~~(9) “Fire service personnel” means all employees who are engaged in fire suppression, fire inspection, or fire investigation or who are subjected to the hazards of emergency operations.~~

**(10) “Foam containing PFAS” means firefighting foam containing intentionally added perfluoroalkyl or polyfluoroalkyl substance.**

~~(10) “Head protection” means a fire fighter’s helmet and hood.~~

(11) “Ladder pipe” means a large capacity water delivery device attached to an aerial ladder.

(12) “Municipal” means any public entity.

R 408.17404: Definitions; O to V.

Rule 7404. (1) “Operator’s control station” means a work station where the operator of **an** apparatus, such as an aerial ladder or pumper, is stationed.

(2) “Personal alert safety systems” **or (“PASS”)** means a device that is certified as ~~being in compliance~~ **complying** with these rules, that senses movement or lack of movement, and that automatically activates an audible alarm signal, ~~(which can also be manually activated to alert and to assist others in locating a fire fighter~~**firefighter** or emergency services person who is in danger).

**(3) “PFAS” means a perfluoroalkyl or polyfluoroalkyl substance.**

~~(3)~~**(4)** “Platform control station” means a work station where the rider of an elevating platform is stationed.

~~(4) “Positive pressure breathing apparatus” means a self-contained breathing apparatus in which the pressure in the breathing zone is positive in relation to the immediate environment during inhalation and exhalation.~~

**(5) “Physician or other licensed health care professional” or “PLHCP” means an individual whose legally permitted scope of practice based on their license, registration, or certification, allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services.**

~~(5)~~**(6)** “Primary control station” means a work station where the operator of apparatus that has an aerial ladder or platform is stationed.

~~(6)~~**(7)** “Protective ensemble” means multiple elements of clothing and equipment designed to provide a degree of protection for ~~fire service personnel~~**firefighters** from adverse exposures to the inherent risks of structural ~~fire fighting~~**firefighting** operations and other emergency operations.

**(8) “Qualified” means a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.**

~~(7) “Roof ladder” means a ladder equipped with folding hooks. The hooks provide a means of anchoring the ladder to the roof ridge or other roof part.~~

~~(8) “Stay poles” also called tormenters, mean poles attached to the rails of the long extension ladders to aid in the raising and supporting of the ladder.~~

~~(9)~~**(9)** “Structural ~~fire fighting~~**firefighting**” means activities of rescue, fire suppression, and property conservation in buildings, enclosed structures, aircraft, vehicles, vessels, or like properties that are involved in a fire ~~or emergency situation~~.

~~(10)~~**(10)** “Training” means the process of making ~~fire service personnel~~**firefighters** proficient through instruction or hands-on practice, or both, in the operation and care of equipment that is expected to be used and in the performance of assigned duties.

~~(11) “Volunteer” means a person who is permitted to work as, and who is trained as, a member of an organized fire department.~~

R 408.17405 Adopted and referenced standards.

Rule 7405. (1) The following National Fire Protection Association (**NFPA**) standards are adopted by reference in these rules and are available from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts,

02269-910102169-7471, or via the internet at the following website: [www.nfpa.org](http://www.nfpa.org), at a cost as of the time of adoption of these amendments, as stated in these rules::

(a) NFPA 1901: “~~Standard for Automotive Fire Apparatus,~~” 2009 edition. Cost: ~~\$50.50~~ **\$96.60**.

(b) NFPA 1983: “~~Fire Service Life Safety Rope and System Components~~**Standard on Life Safety Rope and Equipment for Emergency Services,**” 1995~~2001~~ edition. Cost: ~~\$27.00~~ **\$68.50**.

(c) NFPA 1971: “~~Protective Ensemble for Structural Fire Fighting~~**Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting,**” 2007 edition. Cost: ~~\$48.50~~ **\$79.50**.

(d) NFPA 1971: “**Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting,**” 2013 edition. Cost: **\$74.00**.

(e) NFPA 1981: “**Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services,**” 1997 edition. Cost: **\$68.50**.

(d)(f) NFPA 1981: “~~Open Circuit Self-contained Breathing Apparatus for Fire Fighter~~**Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services,**” 1997~~2007~~ edition. Cost: ~~\$43.00~~ **\$63.50**.

(g) NFPA 1982: “**Standard on Personal Alert Safety Systems (PASS),**” 1998 edition. Cost: **\$68.50**.

(e)(h) NFPA 1982: “**Standard on Personal Alert Safety Systems (PASS) for Fire Fighters,**” 1998~~2007~~ edition. Cost: ~~\$39.00~~ **\$68.50**.

(i) NFPA 1403: “**Standard on Live Fire Training Evolutions,**” 2018 edition. Cost: **\$57.00**.

(j) NFPA 1931: “**Standard for Manufacturer’s Design of Fire Department Ground Ladders,**” 1994 edition. Cost: **\$31.00**.

(k) NFPA 1932: “**Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders,**” 2015 edition. Cost: **\$49.50**.

(2) The standards adopted in these rules are available for inspection at the Department of ~~Licensing and Regulatory Affairs~~**Labor and Economic Opportunity**, MIOSHA ~~Regulatory Services~~**Standards and FOIA** Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(3) Copies of the standards adopted in these rules may be obtained from the publisher or may be obtained from the **Michigan** Department of ~~Licensing and Regulatory Affairs~~**Labor and Economic Opportunity**, MIOSHA ~~Regulatory Services~~**Standards and FOIA** Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in these rules plus \$20.00 for shipping and handling.

(4) The ~~following~~ Michigan Occupational Safety and Health Administration (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of ~~Licensing and Regulatory Affairs~~**Labor and Economic Opportunity**, MIOSHA ~~Regulatory Services~~**Standards and FOIA** Section, 530 West Allegan Street, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at the following website: [www.michigan.gov/mioshastandards](http://www.michigan.gov/mioshastandards). For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.

—(a) ~~General Industry Safety and Health Standard Part 2. “Walking Working Surfaces,” R 408.10201 to R 408.10241.~~

~~—(b) General Industry Safety and Health Standard Part 33. “Personal Protective Equipment,” R 408.13301 to R 408.13398.~~

~~—(c) General Industry Safety Standard Part 72. “Automotive Service Operations,” R 408.17201 to R 408.17253.~~

~~—(d) General Industry Safety and Health Standard Part 380 “Occupational Noise Exposure in General Industry,” R 325.60101 to R 325.60128.~~

~~—(e) Occupational Health Standard Part 451. “Respiratory Protection,” R 325.60051 to R 325.60052.~~

~~—(f) Occupational Health Standard Part 472. “Medical Services and First Aid,” R 325.47201.~~

R 408.17411- Duties of employer.

Rule 7411. (1) An employer shall comply with all of the following requirements:

~~—(a) Provide initial and continuing training to an employee commensurate with and specific to the duties and functions that the employee is expected to perform. The training shall be provided before the employee is permitted to perform emergency operations.~~

~~(b)~~**(a)** ~~Assure~~ **Ensure** that prospective ~~fire service personnel~~**firefighters** ~~receive a pre-employment physical conducted by a PLHCP to ensure they are physically fit and~~ have the ability to perform assigned emergency operations.

~~(e)~~**(b)** ~~Assure~~ **Ensure** that job-required equipment and tools are maintained free of recognized defects that could cause an injury.

~~(d)~~**(c)** ~~Develop a basic~~**written** procedure that covers the treatment and transport of injured employees from the emergency scene to a medical facility.

~~—(e) Provide in the workplace first aid supplies/kits appropriate for the hazard history, to minimally comply with the requirements of the Occupational Health Standard Part 472 “Medical Services and First Aid,” as referenced in R 408.17405.~~

~~(f)~~**(d)** Comply with the requirements of this part, review with, and make available a copy of this part for employees.

(2) An employer shall prepare and maintain a ~~statement or~~ written policy ~~which that~~ establishes its basic organizational structure. ~~and which establishes the type, amount, frequency of training to be provided to fire service personnel and maintain training records.~~ The organizational ~~statements~~**structure** and ~~training records shall~~**must** be available for inspection by the director of the department of ~~licensing and regulatory affairs~~**labor and economic opportunity** or his or her authorized representative and by an employee or his or her authorized representative.

R 408.17415- Fire station safety.

Rule 7415. (1) The area within 3 feet of the slide pole on all sides ~~shall~~**must** be maintained free of any obstruction. A floor-to-ceiling wall shall not be construed to be an obstruction.

(2) A cushioned mat, not less than 3 feet in diameter, ~~shall~~**must** be located around the base of the slide pole at all times.

(3) A dormitory and any means of egress from the dormitory, apparatus bay, and aislesways ~~shall~~**must** be equipped with an emergency lighting system ~~which shall~~**that must** be automatically activated in case of power failure. The system may be operated by battery or generator.

(4) Switches and electrical equipment located in the shower or other areas subject to hazards created by moisture ~~shall~~**must** be approved for the location or removed to a nonhazardous area.

(5) All sleeping quarters ~~shall~~**must** be equipped with an operational smoke detection device and an operational carbon monoxide detection device.

(6) **Effective January 1, 2025, All** new construction or significantly remodeled facilities (50% or more area) that house a fire apparatus ~~shall~~**must** install a controlled process exhaust ventilation system that will effectively control exhaust emissions created by the fire apparatus. ~~and will assure that employee exposures to the exhaust emissions do not exceed applicable MIOSHA exposure limits.~~ If a general mechanical exhaust ventilation system is utilized, ~~then~~ a mechanical air supply system ~~shall~~**must** be provided if its absence will result in building negative pressures sufficient to cause back drafting of vents from fuel-fired equipment.

(7) All equipment used for the control of exhaust emissions from fire apparatus ~~shall~~**must** be used, inspected, and maintained in accordance with the manufacturer's recommendations.

#### ~~CONSTRUCTION AND USE OF EQUIPMENT~~

R 408.17421- Fire apparatus generally.

Rule 7421. (1) ~~Fire~~**A fire** apparatus ~~shall~~**must** be able to stop within 30 feet after application of the brakes at 20 miles per hour.

(2) ~~Fire~~**A fire** apparatus ~~shall~~**must** be equipped with all of the following items:

- (a) Windshield wipers.
- (b) Head, tail, stop, and backup lights and a backup alarm.
- (c) Horn and siren.
- (d) Slip-resistant steps, tailboard, and work platforms.

~~—(e) Seat belts for all seated employees. Seat belts shall be used while the apparatus is in motion.~~

~~—(f) If an employee is allowed by the employer to ride the apparatus in an unseated position while the apparatus is in motion, then the employer shall provide for, and enforce the use of, a safety harness.~~

**(3) Any employee riding on or in a fire apparatus shall be safely secured by a seat belt or safety harness any time the fire apparatus is in motion. No employee may stand or ride on the tail steps, sidesteps, running boards, or other exposed part of a fire apparatus while the fire apparatus is in motion, except for hose loading operations as provided in this subrule. Hose loading operations may be performed on a moving fire apparatus only when all of the following conditions are met:**

**(a) Hose loading operations must be specified in a written procedure that includes the conditions set forth in this subdivision. All employees involved in the hose loading operation must be trained in these procedures.**

**(b) There must be an employee, other than those employees loading the hose, assigned as a safety observer. The safety observer shall have an unobstructed view**

of the hose loading operation and be in visual and voice contact with the fire apparatus driver.

(c) All vehicular traffic must be excluded from the area or be under the direction of a qualified traffic control individuals.

(d) The fire apparatus must be driven at a speed of 5 mph or less.

(e) No employee may stand on the tail step, sidesteps, running boards, or any other location on the fire apparatus while the fire apparatus is in motion unless otherwise allowed by the manufacturer's specifications.

(f) Employees using a travel restraint system or appropriate fall protection may be in the hose bed, but no employee may stand while the fire apparatus is in motion.

(g) Before each hose loading operation, the situation must be evaluated to ensure compliance with the written procedure. If the written procedure cannot be followed, or if there is any question as to the safety of the operation for the specific situation, the hose may not be loaded on a moving fire apparatus.

~~(3)~~(4) ~~New~~Any fire apparatus that is manufactured and purchased after April 17, 2013, the effective date of these rules shall ~~must~~ ~~comply with~~ ~~meet or exceed~~ the requirements of the NFPA 1901: ~~standard for~~ "Standard for Automotive Fire Apparatus," 2009 edition, as adopted in R 408.17405.

~~(4)~~(5) Except on instructions of a designated signalperson, an operator of the fire apparatus shall not move the ~~equipment~~ fire apparatus when his or her vision is obstructed.

~~(5)~~(6) A minimum distance of 10 feet from unprotected energized equipment or high-voltage transmission lines, as distinguished from low voltage secondary lines and series streetlight construction, shall ~~must~~ be maintained when using fire apparatus. The training of ~~fire service personnel~~ firefighters shall ~~must~~ include development of the ability to recognize and identify primary, high-voltage transmission lines and series street lighting construction.

R 408.17422- Fire apparatus tires and rims.

Rule 7422. (1) A thorough visual inspection of the tread and sidewall areas of fire apparatus tires for cuts, cracks, splits, or bruises, including a tread depth measurement, shall ~~must~~ be made at least annually. A record of this inspection shall ~~must~~ be maintained for a minimum of 10 years.

(2) A tire shall ~~must~~ be replaced if 1 of the following occurs:

- (a) The average tread depth is worn to 5/32 of an inch or less.
- (b) The tread depth at any 1 location is 2/32 of an inch, or less.
- (c) A cut or crack exposes the cord fabric.

(3) A replacement tire shall ~~must~~ meet or exceed the standards of the original tire furnished with the apparatus.

(4) Fire apparatus tires and rims shall ~~must~~ be inspected inside at least once every 10 years.

~~(5) All breakdown of fire apparatus tires shall comply with General Industry Safety Standard Part 72 "Automotive Service Operations," as referenced in R 408.17405.~~

R 408.17423- Fire apparatus with elevating platforms.

Rule 7423. (1) When an aerial apparatus platform is elevated, parking brakes ~~shall~~**must** be set and stabilizing jacks or outriggers and safety locks ~~shall~~**must** be used. When needed, ground plates ~~shall~~**must** be used under the jack or outriggers.

(2) An instructional information plate, which is clearly visible to the operator, ~~shall~~**must** be located at the operator's control station. If the aerial is equipped with a platform, then a plate ~~shall~~**must** also be located at the platform control station. The plate ~~shall~~**must** contain all of the following information:

- (a) Rated capacity of the aerial tip or platform.
- (b) Operating controls identified for motion.
- (c) Cautions or restrictions of operation.

(3) An operator shall comply with all of the following provisions:

- (a) Remain at the primary control station when the aerial ladder or platform is occupied.
- (b) Not move the apparatus unless the ladder or platform is in the bed of the apparatus.
- (c) Maintain clearances as required in R 408.17421~~(5)~~**(6)**.

R 408.17424- Aerial apparatus.

Rule 7424. (1) An aerial apparatus that is equipped with a ladder ~~shall~~**must** not have the ladder extended or retracted when an employee is positioned on the ladder **unless otherwise allowed by the manufacturer's specifications.**

(2) While working ~~from~~**in a fixed position from** an aerial apparatus ~~ladder~~, an employee shall be secured with a ~~safety~~**ladder** belt system ~~as referenced in that meets or exceeds the requirements of NFPA 1983: standard on "Fire Service Life Safety Rope and System Components~~**Standard on Life Safety Rope and Equipment for Emergency Services," 19952001** edition, as adopted in R 408.17405.

(3) The tip of the aerial ladder ~~shall~~**must** not be forcefully extended against a solid object or used to support the ladder.

(4) The steps and rungs of an aerial apparatus ~~shall~~**must** have a slip-resistant surface.

(5) Jacks, outriggers, and safety locks ~~shall~~**must** be used as required in R 408.17423(1).

(6) The rated capacity for an aerial apparatus ~~shall~~**must** not be exceeded.

(7) The operator of an aerial ladder shall comply with all of the following provisions:

- (a) Remain at the primary control station when the ladder is occupied.
- (b) Communicate to ~~the~~ occupant of ~~the~~ ladder ~~prior to~~**before** movement.
- (c) Not move the apparatus unless the ladder is in the bed.

(8)The operator of an aerial ladder shall maintain clearances as required in R 408.17421~~(5)~~**(6)**.

(9) The controls for the operation of an aerial apparatus ~~shall~~**must** be of a type that returns to a neutral position when released.

(10) Tools or equipment ~~shall not be~~ mounted or installed on the turntable **must be installed or approved by the manufacturer.**

(11) A 2-way voice communication system ~~shall~~**must** be provided between the employee on the raised portion of the equipment and the operator control station.

(12) Detachable ladder pipes ~~shall~~**must** be operated in the direction the ladder is facing.

(13) Ladder pipes ~~shall~~**must** be secured to the ladder so that the pipe cannot be accidentally dislodged while in operation.

(14) An employer shall follow the manufacturer's instructions and recommendations for the use, testing, and maintenance of aerial apparatus.

R 408.17426 Portable ladders.

Rule 7426.—~~(1) Except as otherwise required by these rules, a portable ladder must be constructed, used, and maintained in compliance with General Industry Safety and Health Standard Part 2. "Walking Working Surfaces," as referenced in R 408.17405.~~

**(1) Effective January 1, 2025, portable ground ladders used in structural firefighting or training for these operations must meet or exceed the requirements of both of the following:**

**(a) NFPA 1931: "Standard for Manufacturer's Design of Fire Department Ground Ladders," 1994 edition.**

**(b) NFPA 1932: "Standard on Use, Maintenance, and Service Testing of In-service Fire Department Ground Ladders," 2015 edition.**

~~(2) The rung spacing must be not less than 12 inches nor more than 16 inches.~~

~~(3) The rungs of a metal ladder must have a slip-resistant surface.~~

~~(4) A roof ladder assembly shall be capable of supporting a direct load of not less than 500 pounds.~~

~~(5) Stay poles or tormenters must be furnished on any wood ladder that extends more than 36 feet. The spikes on stay poles must not project beyond the end of the ladder when nested. The locking pins on stay poles must be securely attached to the ladders.~~

**(6)(2) Portable ladders that are mounted more than 4 feet in height and less than 7 feet in height on a fire apparatus, and that have ends that extend beyond the ladder's mounting surface or compartment must be protected from contact.**

**R 408.17430 Proper use, handling, storage, and containment of firefighting foam concentrate.**

**Rule 7430. (1) An employer must follow the specific, manufacturer provided safety data sheets (SDSs) for all firefighting foam concentrate that employees may be exposed to and follow best practices regarding the proper use, handling, and storage information.**

**(2) An employer must prevent intentionally added PFAS containing foam concentrate or foam solution from entering ground water, surface water, or storm drains, as soon as possible. Manual containment strategies used for spills involving a hazardous liquid should be employed. These include blocking storm drains to prevent the contaminated foam/water solution from entering the wastewater system or the environment. Defensive tactics such as damming, diking, and diverting should be employed to get the foam/water solution to an area suitable for containment until it can be removed in accordance with local, state, and federal regulations. Immediately after the end of a fire or other incident at which an organized fire department uses firefighting foam containing intentionally added PFAS, the fire chief shall report the incident to the Michigan pollution emergency alert system.**

**(3) An employer must dispose of materials contaminated by foam containing PFAS pursuant to the natural resources and environmental protection act, 1994 PA 451, MCL 324.101 to 324.90106.**

(4) An employer must ensure the decontamination of a firefighter's body and equipment as follows:

(a) Post fire response contaminated personal protective equipment (PPE) must be decontaminated as soon as practical. A mild detergent, with a pH of not less than 6 and not greater than 10.5, must be used. The use of chlorine bleach, chlorinated solvents, or solvents is not permitted. Follow manufacturer's recommended cleaning procedures.

(b) A firefighter's exposed skin, including the neck, face, and hands, must be decontaminated, post fire response and whenever exposed to firefighting foam. Employees must wash exposed skin with a mild soap and rinse thoroughly with water.

(5) An employer must prohibit the use of firefighting foam concentrate containing intentionally added PFAS, by a firefighter, for training purposes.

(6) An employer must prohibit the use of firefighting foam concentrate containing intentionally added PFAS, by a firefighter, for equipment calibration purposes, unless required by law or facility where the calibration takes place has implemented appropriate measures.

## PROTECTIVE EQUIPMENT

R 408.17431- **Personal protective equipment.**

Rule 7431. (1) An employer shall ~~assure~~**ensure** that all emergency service personnel use **personal protective equipment** appropriate for the ~~exposure~~**hazards** involved when performing emergency operations.

(2) **Personal protective equipment** ~~shall~~**must** be provided by the employer at no cost to the employee and ~~shall~~ comply with the requirements of this part.

(3) An employer shall ~~assure~~**ensure** that **personal protective equipment** protects the head, body, and extremities and consists of at least all of the following components:

- (a) Foot and leg protection.
- (b) Hand protection.
- (c) Body protection.
- (d) Face, eye, and head protection.

(4) **Personal protective equipment** that is required by these rules to comply with the requirements of a nationally recognized standard ~~shall~~**must** either bear an approved label of, or be certified in writing by, the manufacturer as being in compliance with the applicable standard.

~~(5) Head protection and eye protection shall be provided for, and used by, persons who ride in cabs or tiller seats that are not enclosed.~~

~~(6)~~**(5)** **Personal protective equipment** that is used by more than 1 employee ~~shall~~**must** be **inspected and cleaned or sanitized before reassignment after each use.**

~~(7) Personal protective equipment shall be inspected by the user after each use.~~

~~(8)~~**(6)** An employer shall implement procedures for **the inspecting** and servicing of **personal protective equipment** according to manufacturer's recommendations, particularly following fires or other emergency usage. The procedures employed for such

servicing, such as product washing or other cleaning, shall comply with the manufacturer's recommendations.

(9)(7) An employer shall implement a procedure for determining whether **personal protective equipment** shall **must** be repaired or replaced. All repairs shall **must** be made in compliance with the manufacturer's recommendations.

(10) Respiratory equipment devices shall be inspected by the user after each use. Malfunctioning or damaged components or units shall be repaired by the manufacturer or a person who is certified by the manufacturer or shall be replaced.

R 408.17432: Protective ~~clothing~~**ensemble** for emergency ~~operations~~**structural firefighting**.

Rule 7432. An employer shall provide ~~both protective coats and protective trousers, or a protective cover~~**a protective ensemble**, to all employees who engage in or are exposed to ~~fire hazards of emergency operations~~**structural firefighting**. The protective coat, trouser, and ~~cover~~**ensemble** shall **must** meet the ~~applicable~~**or exceed the** requirements of NFPA 1971: ~~standard on "Protective Ensemble for Structural Fire Fighting Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting,"~~ 2007 edition, as adopted in R 408.17405. **Effective January 1, 2025, the protective ensemble must meet or exceed the requirements of NFPA 1971: "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting," 2013 edition, as adopted in R 408.17405.**

R 408.17433: Head, ~~e~~Eye, and face protection **for emergency operations**.

Rule 7433. (1) ~~An employer shall do all of the following:~~

—(a) ~~Provide primary head, face, and eye protection appropriate for a given specific hazard to all employees exposed, or potentially exposed, to the specific hazard. An employer shall assess potential emergency operation scenes to determine what hazards requiring head, face, and eye protection are present, or likely to be present, and match the protective device to the particular hazard. An employer shall have and implement written operational procedures specific to the type of hazard to which an employee may be exposed.~~

—(b) ~~Maintain head, face, and eye protection in a location of readiness for immediate response to structural fires or other emergency operations.~~

—(c) ~~Ensure that protective eye and face devices that comply with General Industry Safety Standard Part 33 "Personal Protective Equipment," as referenced in R 408.17405, are used by emergency service personnel when performing operations where the hazards of flying or falling materials that might cause eye and face injuries are present.~~

(2) **While** conducting emergency operations, **if there is a potential exposure to eye and face hazards**, the requirement of face and eye protection shall **must** be met by **1 of the following**:

(a) ~~h~~**H**Helmet face shield, if equipped, and primary eye protection;

(b) ~~o~~**B**Breathing apparatus face piece;

(c) ~~o~~**p**Primary eye protection and secondary means of face protection. ~~An employer shall provide helmets to all employees who engage in or are exposed to the hazards of structural fire fighting. The helmets shall meet the requirements of NFPA 1971~~

~~“Protective Ensemble for Structural Fire Fighting,” 2007 edition, as adopted in R 408.17405.~~

~~–(3) An employer shall provide protective hoods to all employees who engage in or are exposed to fire hazards of emergency operations. The protective hoods shall meet the applicable requirements of NFPA 1971 “Protective Ensemble for Structural Fire Fighting,” 2007 edition, as adopted in R 408.17405.~~

~~R 408.17434. Foot and leg protection. **Rescinded.**~~

~~–Rule 7434. An employer shall provide foot and leg protection to all employees who engage in or are exposed to the hazards of emergency operations. The foot and leg protection shall meet the applicable requirements of NFPA 1971 “Protective Ensemble for Structural Fire Fighting,” 2007 edition, as adopted in R 408.17405.~~

~~R 408.17435. Hand protection. **Rescinded.**~~

~~–Rule 7435. An employer shall provide hand protection to all employees who engage in or are exposed to the hazards of emergency operations. The hand protection shall meet the applicable requirements of NFPA 1971 “Protective Ensemble for Structural Fire Fighting,” 2007 edition, as adopted in R 408.17405.~~

~~R 408.17436. Respirator protection devices.~~

~~Rule 7436. (1) An employer shall have a written respiratory protection program to address the safe use of respirators in dangerous atmospheres that may be encountered in emergency operations, that complies with Occupational Health Standard Part 451 “Respiratory Protection,” as referenced in R 408.17405.~~

~~–(2) An employer shall assure that self-contained breathing apparatus for use by fire service personnel is of the positive pressure type. All **Any self-contained** breathing apparatus **currently in use must meet or exceed the requirements of that is purchased after the effective date of these rules shall comply with NFPA 1981: “Open Circuit Self-Contained Breathing Apparatus for Fire Fighters Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services,”** 1997 edition, as adopted in R 408.17405. **Effective January 1, 2025, any self-contained breathing apparatus currently in use must meet or exceed the requirements of NFPA 1981: “Standard on Open Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services,” 2007 edition, as adopted in R 408.17405.**~~

~~–(3) Subrule (2) of this rule does not prohibit the use of a self-contained breathing apparatus where the apparatus can be switched from a demand mode to a positive pressure mode when an employee is performing emergency operations.~~

~~R 408.17437. Hearing protection. **Rescinded.**~~

~~–Rule 7437. An employer shall comply with Occupational Health Standard Part 380 “Occupational Noise Exposure,” as referenced in R 408.17405.~~

~~R 408.17440 Personal alert safety system (PASS).~~

~~Rule 7440. An employer shall provide and enforce the use of a ~~Personal Alert Safety System (PASS)~~ device to each employee utilizing a self-contained breathing apparatus while engaged in structural ~~fire fighting~~ **firefighting** operations. “PASS” devices shall~~

meet **or exceed** the requirements of NFPA 1982: "**Standard on Personal Alert Safety Systems (PASS) for Fire Fighters**," 1998 edition, as adopted in R 408.17405. **Effective January 1, 2025, PASS devices must meet or exceed the requirements of NFPA 1982: "Standard on Personal Alert Safety Systems (PASS)," 2007 edition, as adopted in R 408.17405.**

## TOOLS

R 408.17443 Air-moving equipment.

Rule 7443. Air-moving equipment exposed to **hazardous levels of flammable gases, flammable vapors, or explosive fumes, combustible dust, or vapors shall** ~~be~~ **must** be powered by an **approved as intrinsically safe explosion proof motor and labeled as such.**

## OPERATIONS

R 408.17451- Management of emergency operations.

Rule 7451. (1) Each fire department shall establish and implement written procedures for emergency operations. The written procedures ~~shall~~ **must** include all of the following:

(a) A requirement that a ~~nationally~~ **recognized incident management system providing structure and coordination to the management of emergency operations** ~~be~~ **is** implemented at each emergency.

(b) A requirement that a personnel accountability system ~~be~~ **is** implemented at each emergency.

(c) ~~A statement that the procedures apply to all employees who are operating at the emergency.~~ **A written assessment of the types of emergency operations the fire department is expected to perform, for example, fire suppression, trench rescue, and rope rescue, and the employees authorized to perform the identified operations.**

~~(d) A requirement for initial training and annual refresher training in emergency operations and the incident management system.~~

~~(e) A requirement that the procedures shall comply with the "two in/two out" rules as found in R 1910.134(g)(4), as adopted in Occupational Health Standard Part 451 "Respiratory Protection," as referenced in R 408.17405.~~

(2) A ~~trained~~ **qualified** employee shall function as the incident commander at each emergency.

## INSPECTIONS

R 408.17461- Inspection of fire apparatus and equipment; record of repair or replacement; lifeline guns and explosive devices; apparatus and equipment involved in

accident; equipment testing.

Rule 7461. (1) All of the following items of the fire apparatus, if so equipped, ~~shall~~**must** be inspected for proper operation and for defects at least once a month:

- (a) Windshield washers and wipers.
- (b) Defroster and heater.
- (c) Head, tail, stop, backup, and flasher lights.
- (d) Backup alarm.
- (e) Horn and siren.
- (f) Slip-resistant steps and platforms.
- (g) Tires, rims, and suspension system.
- (h) Steering mechanism.
- (i) Braking system.
- (j) Operational controls.

(2) Inspection records ~~shall~~**must** be maintained for a minimum period of 24 months for the apparatus.

~~(2)~~(3) Records of repair or replacement ~~shall~~**must** be maintained for the life of the apparatus.

~~(3)~~(4) Lifeline guns and explosive devices ~~shall~~**must** be cleaned and made ready for operation after each use.

~~(4)~~(5) All portable equipment carried on a fire apparatus ~~shall~~**must** be inspected for operation and for defects at least monthly and within 24 hours after any use. Inspection records ~~shall~~**must** be maintained for a minimum period of 24 months for portable equipment.

~~(5)~~(6) All equipment carried on fire apparatus or designated for training ~~shall~~**must** be tested at least annually in accordance with manufacturers' instructions and applicable standards.

~~(6)~~(7) ~~Fire fighting~~**Firefighting** apparatus and equipment found to be defective or in unserviceable condition ~~shall~~**must** be removed from service or repaired or replaced.

R 408.17463- General utility ropes, life safety ropes, harnesses, and ~~hardware~~**auxiliary equipment.**

Rule 7463. (1) **Life safety rope, harnesses, and auxiliary equipment dedicated for the purpose of supporting people during emergency operations or training for these operations**~~All life safety ropes, harnesses, and hardware used by employees shall~~**must be used and meet or exceed** the requirements of NFPA 1983: "Fire Service Life Safety Rope and System Components**Standard on Life Safety Rope and Equipment for Emergency Services,**" 1995~~2001~~ edition, as adopted in R 408.17405.

(2) **General utility ropes must comply with following conditions:**~~During fall arrest or repelling operations, an employee shall ensure that life safety harnesses are used as specified in NFPA 1983 "Fire Service Life Safety Rope and System Components," 1995 edition, as adopted in R 408.17405.~~

(a) **A rope must be inspected after each use for all of the following:**

(i) **Externally for abrasions, cut or broken fibers, decay, burns, lack of strength, softness, variation in size or roundness of the strands, and for mildew or mold.**

(ii) Natural fiber ropes must be inspected internally annually, by separating the strands at 3-foot intervals, for broken fibers, presence of grit, mildew or mold, color change of the fibers, or powdering and short, loose fibers.

(b) A rope that has any of the conditions described in subdivision (a) of this subrule must be replaced or repaired.

(c) Ropes must be stored in a dry location.

~~(3) Natural fiber ropes shall be inspected visually after each use for all the following conditions:~~

~~(a) Externally for abrasions, cut or broken fibers, decay, burns, lack of strength, softness, variation in size or roundness of the strands, and for mildew or mold.~~

~~(b) Internally annually, by separating the strands at 3-foot intervals, for broken fibers, presence of grit, mildew or mold, color change of the fibers, or powdering and short, loose fibers.~~

~~(4) A natural fiber rope that has any of the conditions described in subrule (3)(a) and (b) of this rule shall be replaced or repaired.~~

~~(5) Synthetic rope shall be inspected visually after each use for all of the following conditions:~~

~~(a) Abrasions.~~

~~(b) Cut or broken fibers.~~

~~(c) Burns.~~

~~(d) Melted fibers.~~

~~(e) Variations in the size or roundness of the strands.~~

~~(6) A synthetic rope that has any of the conditions specified in subrule (5) of this rule shall be replaced or returned to the manufacturer for repair.~~

#### **R 408.17464 Training and education program.**

**Rule 7464. (1) Each fire department shall establish and maintain an employee training and education program. The training and education program must include all of the following:**

(a) A written policy that establishes the type, amount, and frequency of training to be provided to firefighters. Training records must be maintained and be made available for inspection by the director of the department of labor and economic opportunity or his or her authorized representative **and by an employee** or his or her authorized representative.

(b) Assurance that the training and education provided under this section are based upon the fire department's written policies or procedures.

(c) Assurance that the training and education required under this section are provided by a qualified person.

(d) Assurance that an **employee** receives initial and continuing training and education commensurate with and specific to the duties and functions that the employee is expected to perform. The training and education must be provided before the **employee** is permitted to perform emergency operations.

(e) Assurance that firefighters receive annual training and education on incident management and personnel accountability systems.

(f) Assurance that firefighters receive and maintain certification in first aid, cardiopulmonary resuscitation, and automated external defibrillator.

**(2) All live fire training must meet or exceed the requirements of the NFPA 1403: “Standard on Live Fire Training Evolutions,” 2018 edition, as adopted in R 408.17405.**

**(3) An employer shall provide additional training in relevant topics to an **employee** under any of the following conditions:**

- (a) An **employee** has been involved in an accident or near miss incident.**
- (b) An **employee** has been observed operating in an unsafe manner.**