

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

GENERAL INDUSTRY SAFETY STANDARDS

Filed with the Secretary of State on April 19, 2016

These rules become effective immediately upon filing with the Secretary of State unless adopted under sections 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 16 and 21 of 1974 PA 154, **MCL 408.1016 and 408.1021**, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)

R 408.17405, R 408.17411, R 408.17421, R 408.17422, R 408.17423, R 408.17424, R 408.17426, R 408.17432, R 408.17433, R 408.17434, R 408.17435, R 408.17436, R 408.17437, R 408.17440, R 408.17451, R 408.17461, and R 408.17463, of the Michigan Administrative Code are amended, as follows:

PART 74. FIRE FIGHTING

R 408.17405. Adopted and referenced standards.

Rule 7405. (1) The following National Fire Protection Association 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, 02269-9101, or via the internet at web-site: www.nfpa.org, ~~WWW.NEPA.ORG~~, at a cost as of the time of adoption of these amendments, as stated in **these rules**. ~~subdivisions (a) to (e) of this subrule.~~

(a) NFPA 1901: standard for "Automotive Fire Apparatus," 2009 edition. Cost: \$50.50.

(b) NFPA 1983: standard on "Fire Service Life Safety Rope and System Components," 1995 edition. Cost: \$27.00.

(c) NFPA 1971: standard on "Protective Ensemble for Structural Fire Fighting," 2007 edition. Cost: \$48.50.

(d) NFPA 1981: standard on "Open Circuit Self-contained Breathing Apparatus for Fire Fighter," 1997 edition. Cost: \$43.00.

(e) NFPA 1982: standard on "Personal Alert Safety System (PASS) for Fire Fighters," 1998 edition. Cost: \$39.00.

(2) Copies of the standards adopted **in these rules** ~~in subrule (1) of this rule~~ may be obtained from the publisher or may ~~also~~ be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA **Regulatory Services Standards** Section, **630 West Allegan Street**, ~~7150 Harris Drive~~, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost **charged** ~~changed in these rules~~ ~~subrule (1) of this rule~~ plus \$20.00 for shipping and handling.

(3) The following **Michigan** Occupational Safety and Health Administrative standards **are as** ~~as~~ 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, MIOSHA **Regulatory Services Standards** Section, **530 West Allegan Street**, ~~7150 Harris Drive~~, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: 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 Standard Part** ~~industry safety standard part~~ 4 "Portable Ladders," R 408.10401 to R 408.10456.

(b) General **Industry Safety Standard Part** ~~industry safety standard part~~ 33 "Personal Protective Equipment," R 408.13301 to R 408.13398.

(c) General **Industry Safety Standard Part** ~~industry safety standard part~~ 72 "Automotive Service Operations," R 408.17201 to R 408.17253.

(d) Occupational **Health Standard Part** ~~health standard part~~ 380 "**Occupational** Noise Exposure," and ~~Hearing Conservation~~ R 325.60101 to R 325.60128.

(e) Occupational **Health Standard Part** ~~health standard part~~ 451 "Respiratory Protection," R 325.60051 to R 325.60052.

(f) Occupational **Health Standard Part** ~~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) Assure that prospective fire service personnel are physically fit and have the ability to perform assigned emergency operations.

(c) Assure that job-required equipment and tools are maintained free of recognized defects that could cause an injury.

(d) Develop a basic 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** ~~occupational health standard~~-Part 472 "Medical Services and First Aid," as referenced in R 408.17405.

(f) 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 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 statement and training records shall be available for inspection by the director of the department of licensing and regulatory affairs or his or her authorized representative and by an employee or his or her authorized representative.

CONSTRUCTION AND USE OF EQUIPMENT

R 408.17421. Fire apparatus generally.

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

(2) Fire apparatus shall 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) New fire apparatus that is manufactured and purchased after the effective date of these ~~amendatory~~ rules shall ~~meet the applicable~~ **comply with the** requirements of the ~~national fire protection association standard~~ NFPA 1901: standard for "Automotive Fire Apparatus," 4999 **2009** edition, ~~as which is adopted by reference in R 408.17405.~~

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

(5) 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 be maintained when using fire ~~apparatus.~~ ~~apparatus equipped with elevating platforms, aerial ladders, or snorkels.~~ The training of fire service personnel shall 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 be made at least annually. A record of this inspection shall be maintained for a minimum of 10 years.

(2) A tire shall 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 meet or exceed the standards of the original tire furnished with the apparatus.

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

(5) All breakdown of fire apparatus tires shall comply with **General Industry Safety Standard** ~~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 be set and stabilizing jacks or outriggers and safety locks shall be used. When needed, ground plates shall be used under the jack or outriggers.

(2) An instructional information plate, which is clearly visible to the operator, shall be located at the operator's control station. If the aerial is equipped with a platform, then a plate shall also be located at the platform control station. The plate shall 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)**. ~~R 408.17421 (6)~~.

R 408.17424. Aerial apparatus.

Rule 7424. (1) An aerial apparatus that is equipped with a ladder shall not have the ladder extended or retracted when an employee is positioned on the ladder.

(2) While working from an aerial apparatus, an employee shall be secured with a safety belt system as referenced in ~~the national fire protection association standard NFPA 1983: standard on "Fire Service Life Safety Rope and System Components," 1995 edition, as which is adopted by reference~~ in R 408.17405.

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

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

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

(6) The rated capacity for an aerial apparatus shall 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 occupant of ladder prior to 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)**. ~~R 408.17421 (6)~~.

(9) The controls for the operation of an aerial apparatus shall 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.

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

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

(13) Ladder pipes shall 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 shall be constructed, used, and maintained to comply with **General Industry Safety Standard** ~~general industry safety standard~~ Part 4 "Portable Ladders," as referenced in R 408.17405.

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

(3) The rungs of a metal ladder shall 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 tormentors shall be furnished on any wood ladder that extends more than 36 feet. The spikes on stay poles shall not project beyond the end of the ladder when nested. The locking pins on stay poles shall be securely attached to the ladders.

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

R 408.17432. Protective clothing for emergency operations.

Rule 7432. An employer shall provide both protective coats and protective trousers, or a protective coverall to all employees who engage in or are exposed to fire hazards of emergency operations. The protective coat, trouser, and coverall shall meet the applicable requirements of ~~the national fire protection association standard NFPA 1971: standard on "Protective Ensemble for Structural Fire Fighting," 2007 edition, as which is adopted by reference~~ in R 408.17405.

R 408.17433. Head, eye, and face protection.

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** ~~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, the requirement of face and eye protection shall be met by helmet face shield, if equipped, and primary eye protection, or breathing apparatus face piece, or 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 ~~the national fire protection association standard~~ NFPA 1971: ~~standard on~~ "Protective Ensemble for Structural Fire Fighting," 2007 edition, ~~as which is adopted by reference~~ 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 ~~the national fire protection association standard~~ NFPA 1971: ~~standard on~~ "Protective Ensemble for Structural Fire Fighting," 2007 edition, ~~as which is adopted by reference~~ in R 408.17405.

R 408.17434. Foot and leg protection.

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 ~~the national fire protection association standard~~ NFPA 1971: ~~standard on~~ "Protective Ensemble for Structural Fire Fighting," 2007 edition, ~~as which is adopted by reference~~ in R 408.17405.

R 408.17435. Hand protection.

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 ~~the national fire protection association standard~~ NFPA 1971: ~~standard on~~ "Protective Ensemble for Structural Fire Fighting," 2007 edition, ~~as which is adopted by reference~~ 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** ~~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 breathing apparatus that is purchased after the effective date of these rules shall comply with ~~the national fire protection association standard~~ NFPA 1981: ~~standard on~~ "Open Circuit Self-Contained Breathing Apparatus for Fire Fighters," 1997 edition, ~~as which is adopted by reference~~ 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.

Rule 7437. An employer shall comply with **Occupational Health Standard** ~~occupational health standard~~ Part 380 "**Occupational Noise Exposure,** and ~~Hearing Conservation,~~" 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 operations. "PASS" devices shall meet the requirements of ~~the national fire protection association standard~~ NFPA 1982: ~~standard on~~ "Personal Alert Safety System (PASS) for Fire Fighters," 1998 edition, ~~as which is adopted by reference~~ in R 408.17405.

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 include all of the following:

- (a) A requirement that a nationally recognized incident management system be implemented at each emergency.
- (b) A requirement that a personnel accountability system be implemented at each emergency.
- (c) A statement that the procedures apply to all employees who are operating at the emergency.
- (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 which was adopted by reference in the~~ **Occupational Health Standard** ~~occupational health standard~~ Part 451 "Respiratory Protection," as referenced in R 408.17405.

- (2) A trained 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 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.

Inspection records shall be maintained **for a minimum period of 24 months** for the apparatus.

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

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

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

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

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

R 408.17463. General utility ropes, life safety ropes, harnesses, and hardware.

Rule 7463. (1) All life safety ropes, harnesses, and hardware used by employees shall meet the requirements of ~~the national fire protection association standard NFPA 1983: standard on "Fire Service Life Safety Rope and System Components," 1995 edition, as which is adopted by reference in R 408.17405.~~

(2) During fall arrest or repelling operations, an employee shall ensure that life safety harnesses are used as specified in ~~the national fire protection association standard NFPA 1983: standard on "Fire Service Life Safety Rope and System Components," 1995 edition, as which is adopted by reference in R 408.17405.~~

(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.