

**GI Part 9. Fixed Fire Equipment  
Compared With  
29 C.F.R. Subpart L – Fire Protection**

as of January 2013

**Summary:** The significant differences between GI Part 9. Fixed Fire Equipment and 29 C.F.R. Subpart L – Fire Protection are in:

- Employer’s responsibility
- Employee’s responsibility
- Notification
- Requirements
- Gravity, suction, and pressure tanks
- Fire pumps
- Existing fixed fire extinguishing systems
- New fixed fire extinguishing systems
- Automatic sprinkler systems
- Standpipe and hose systems
- Carbon dioxide systems
- Dry chemical systems
- Foam systems
- Halogenated extinguishing systems
- Local fire alarm systems
- Fire detection systems

The below comparison show only those provisions where MIOSHA rules are different than OSHA or where MIOSHA rules are not included in 29 C.F.R.

\*\*\*\*means there is a comparable OSHA rule to this paragraph

MIOSHA	OSHA
<p><b>R 408.10911. Employer’s responsibility.</b>  <b>Rule 911.</b> (1) An employer shall be responsible for a maintenance of the fixed fire equipment system in the area occupied or controlled by him/her.            (2) An employer shall furnish training to an employee before assignment to perform maintenance on a fixed fire equipment system.            (3) An employer shall have the design of the fixed fire equipment system reevaluated whenever the occupancy changes or fire hazards increase.            (4) An employer shall keep a record of the 3 most recent tests and inspections, but in no case shall it cover less than a 12 month period.</p>	<p><b>1910.156 Fire brigades.</b>  <b>1910.156 (d) Fire fighting equipment.</b>            The employer shall maintain and inspect, at least annually, fire fighting equipment to assure the safe operational condition of the equipment. Portable fire extinguishers and respirators shall be inspected at least monthly. Fire fighting equipment that is in damaged or unserviceable condition shall be removed from service and replaced.</p> <p><b>1910.160 Fixed extinguishing systems, generally</b>  <b>1910.160(b) General requirements.</b>  <b>1910.160(b)(10)</b> The employer shall train employees designated to inspect, maintain, operate, or repair fixed extinguishing systems and annually review their training to keep them up-to-date in the functions they are to perform.</p>

MIOSHA	OSHA
<p><b>R 408.10912. Employee's responsibility.</b>  <b>Rule 912.</b> An employee shall not perform maintenance or make inspection on fixed fire equipment unless trained for the type of equipment to be maintained or inspected and has been authorized to do so.</p>	<p><b>No comparable OSHA provision, except for:</b></p> <p><b>1910.160 Fixed extinguishing systems, generally 1910.160(b) General requirements.</b>  <b>1910.160(b)(2)</b> If for any reason a fixed extinguishing system becomes inoperable, the employer shall notify employees and take the necessary temporary precautions to assure their safety until the system is restored to operating order. Any defects or impairments shall be properly corrected by trained personnel.</p> <p><b>1910.160 Fixed extinguishing systems, generally 1910.160(b) General requirements</b>  <b>1910.160(b)(10)</b> The employer shall train employees designated to inspect, maintain, operate, or repair fixed extinguishing systems and annually review their training to keep them up-to-date in the functions they are to perform.</p> <p><b>1910.165 Employee alarm systems.</b>  <b>1910.165(d) Maintenance and testing.</b>  <b>1910.165(d)(5)</b> The employer shall assure that the servicing, maintenance and testing of employee alarms are done by persons trained in the designed operation and functions necessary for reliable and safe operation of the system.</p>
<p><b>R 408.10913. Notification.</b>  <b>Rule 913.</b> Whenever fire equipment is closed or removed from service, the following shall be accomplished:  (a) The plant manager or a designated representative shall be notified.  (b) The balance of the system shall be kept operable.  (c) After alterations or repairs, the system shall be tested and resealed in operable condition where required, and those persons in subdivision (a) advised.</p>	<p><b>No comparable OSHA provision, except for:</b></p> <p><b>1910.160 Fixed extinguishing systems, generally 1910.160(b) General requirements.</b>  <b>1910.160(b)(2)</b> If for any reason a fixed extinguishing system becomes inoperable, the employer shall notify employees and take the necessary temporary precautions to assure their safety until the system is restored to operating order. Any defects or impairments shall be properly corrected by trained personnel.</p>
<p><b>R 408.10914. Requirements.</b>  <b>Rule 914.</b> (1) A fixed fire equipment system, as listed in R 408.10921 and R 408.10941 to R 408.10976 shall be installed for all of the following:  (a) All areas inside a building where flammable liquids are mixed, dispensed or applied, or used for washing or quenching, except either of the following::  (i) A dip tank holding less than 150 gallons, having less than 4 square feet of liquid surface or both.  (ii) As dispensed from an approved safety container of 5 gallons or less.  (b) Other areas where the quantities of flammables are likely to burn rapidly and injure a nearby employee. Such a system shall be classed according to table 1. Other equivalent systems may be used, if such systems meet standards or tests of the department of licensing and regulatory affairs and are installed and maintained in accordance with nationally recognized requirements.  (2) Where a fixed fire equipment system is required or is installed and in use, it shall be installed and maintained as prescribed in R 408.10916 to R 408.10984.</p>	<p><b>No comparable OSHA provision</b></p>

MIOSHA	OSHA																					
<p><b>R 408.10914</b> (3) Except as prescribed in R 408.10971,, a fixed fire equipment system containing an active agent or propellant whose thermal decomposition product of products have a level of vapor toxicity equal to or greater than any of the materials listed in table 2 shall not be used, installed for use or allowed to remain installed for use where an employee would be exposed to the agent or propellant.</p> <p style="text-align: center;"><b>TABLE 1</b></p> <table border="1" data-bbox="107 533 794 1026"> <thead> <tr> <th data-bbox="107 533 261 596">HAZARD</th> <th data-bbox="261 533 794 596">EXTINGUISHER AGENT TYPE AND CONTENTS</th> </tr> </thead> <tbody> <tr> <td data-bbox="107 596 261 690">CLASS A</td> <td data-bbox="261 596 794 690">FIRE FOAM, MULTI-PURPOSE DRY CHEMICAL, HALOGENATED AGENTS, WATER.</td> </tr> <tr> <td data-bbox="107 690 261 810">CLASS B FIRE</td> <td data-bbox="261 690 794 810">CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER, MULTIPURPOSE DRY CHEMICAL, HALOGENATED AGENTS SUCH AS HALON 1301.</td> </tr> <tr> <td data-bbox="107 810 261 930">CLASS C FIRE</td> <td data-bbox="261 810 794 930">CARBON DIOXIDE, DRY CHEMICAL, MULTI-PURPOSE DRY CHEMICAL, WATER MIST, HALOGENATED AGENTS.</td> </tr> <tr> <td data-bbox="107 930 261 1026">CLASS D FIRE</td> <td data-bbox="261 930 794 1026">EXTINGUISHING AGENT LISTED FOR USE ON A SPECIFIC COMBUSTIBLE METAL HAZARD.</td> </tr> </tbody> </table> <p style="text-align: center;"><b>TABLE 2</b></p> <table border="1" data-bbox="97 1146 789 1528"> <tbody> <tr><td data-bbox="97 1146 789 1178">1. Carbon tetrachloride, CCL<sub>4</sub></td></tr> <tr><td data-bbox="97 1178 789 1209">2. Chlorobromomethane, CH<sub>2</sub>Br CL</td></tr> <tr><td data-bbox="97 1209 789 1241">3. Azeotropic chlormethane, CM<sub>7</sub></td></tr> <tr><td data-bbox="97 1241 789 1272">4. Dibromodifluoromethane, CBr<sub>2</sub>F<sub>2</sub></td></tr> <tr><td data-bbox="97 1272 789 1335">5. 1, 2-dibromo-2 chloro-1, 1, 2-trifluoroethane, Cbr F<sub>2</sub>CBrCLf</td></tr> <tr><td data-bbox="97 1335 789 1367">6. 1, 2-dibromo-2, 2-difluoroethane, CH<sub>2</sub>BrCBrF<sub>2</sub></td></tr> <tr><td data-bbox="97 1367 789 1398">7. Methyl bromide, CH<sub>3</sub>Br</td></tr> <tr><td data-bbox="97 1398 789 1430">8. Ethylene dibromide, CH<sub>2</sub>BrCH<sub>2</sub>Br</td></tr> <tr><td data-bbox="97 1430 789 1461">9. Hydrogen bromide, HRr</td></tr> <tr><td data-bbox="97 1461 789 1493">10. Methylene bromide, CH<sub>2</sub>Br<sub>2</sub></td></tr> <tr><td data-bbox="97 1493 789 1528">11. Bromodifluoromethane, CHBrF<sub>2</sub></td></tr> </tbody> </table>	HAZARD	EXTINGUISHER AGENT TYPE AND CONTENTS	CLASS A	FIRE FOAM, MULTI-PURPOSE DRY CHEMICAL, HALOGENATED AGENTS, WATER.	CLASS B FIRE	CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER, MULTIPURPOSE DRY CHEMICAL, HALOGENATED AGENTS SUCH AS HALON 1301.	CLASS C FIRE	CARBON DIOXIDE, DRY CHEMICAL, MULTI-PURPOSE DRY CHEMICAL, WATER MIST, HALOGENATED AGENTS.	CLASS D FIRE	EXTINGUISHING AGENT LISTED FOR USE ON A SPECIFIC COMBUSTIBLE METAL HAZARD.	1. Carbon tetrachloride, CCL <sub>4</sub>	2. Chlorobromomethane, CH <sub>2</sub> Br CL	3. Azeotropic chlormethane, CM <sub>7</sub>	4. Dibromodifluoromethane, CBr <sub>2</sub> F <sub>2</sub>	5. 1, 2-dibromo-2 chloro-1, 1, 2-trifluoroethane, Cbr F <sub>2</sub> CBrCLf	6. 1, 2-dibromo-2, 2-difluoroethane, CH <sub>2</sub> BrCBrF <sub>2</sub>	7. Methyl bromide, CH <sub>3</sub> Br	8. Ethylene dibromide, CH <sub>2</sub> BrCH <sub>2</sub> Br	9. Hydrogen bromide, HRr	10. Methylene bromide, CH <sub>2</sub> Br <sub>2</sub>	11. Bromodifluoromethane, CHBrF <sub>2</sub>	<p><b>No comparable OSHA provisions</b></p> <p><b>No comparable OSHA provision</b></p> <p><b>No comparable OSHA provision</b></p>
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<p><b>R 408.10916. Gravity, suction and pressure tanks.</b></p> <p><b>Rule 916.</b> (1) A gravity or suction water tank shall be maintained at the full water level designed for fire protection purposes.</p> <p>(2) The water and air in a pressure water tank shall be maintained at the designed levels and pressures.</p> <p>(3) The water in a gravity, suction or pressure tank and risers shall be maintained above freezing temperature. Where a heater is used, the water temperature shall not be more than 60 degrees Fahrenheit.</p> <p>(4) A steel water tank shall be inspected not less than every 3 years for deterioration and, when necessary, repairs made.</p>	<p><b>No comparable OSHA provision</b></p>																					

MIOSHA	OSHA
<p><b>R 408.10916(5)</b> A wooden water tank shall be inspected not less than every 2 years for deterioration and, when necessary, repairs made.</p>	<p><b>No comparable OSHA provisions</b></p>
<p><b>R 408.10917. Fire pumps.</b>  <b>Rule 917.</b> (1) A fire pump shall be operated not less than once a month as follows:  (a) A steam fire pump operated until water is discharged freely from the relief valve.  (b) A centrifugal pump operated at rated speed.  (c) If power is provided by an internal combustion engine, the engine shall be run for not less than 30 minutes to bring it up to normal operating temperature.  (d) An automatically controlled pump tested manually shall have not less than 1 start each month accomplished by reducing the pressure in the water pressure sensing line or with a larger flow from the entire system.  (2) A fire pump shall be maintained in a room above freezing temperature  (3) A fire pump shall be used for fire protection only.  (4) A fire pump shall be tested to rated capacity not less than once a year.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10919. Existing fixed fire extinguishing systems.</b>  <b>Rule 919.</b> An existing fixed fire extinguishing system installed or that portion modified after August 17, 1974, shall be in compliance with the applicable general industry safety standards that were in effect at the time of installation or modification.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10920. New fixed fire extinguishing systems.</b>  <b>Rule 920.</b> A new fixed fire extinguishing system installed or that portion modified shall meet the applicable rules of this part.</p>	<p><b>No comparable OSHA provision</b></p>
<p style="text-align: center;"><b>AUTOMATIC SPRINKLER SYSTEMS</b></p>	
<p><b>R 408.10921. Installation and maintenance.</b>  <b>Rule 921.</b> An automatic sprinkler system installed or that portion of a system modified after December 31, 1983, shall be installed and maintained as prescribed in N.F.P.A. standard #13-1980, "Installation of Sprinkler Systems", as adopted by reference in R 408.10999(a).</p>	<p><b>No comparable OSHA provision, except for:</b>  <b>1910.159 Automatic sprinkler systems.</b>  <b>1910.159(c) General requirements -</b>  <b>1910.159(c)(2) Maintenance.</b>  The employer shall properly maintain an automatic sprinkler system installed to comply with this section. The employer shall assure that a main drain flow test is performed on each system annually. The inspector's test valve shall be opened at least every two years to assure that the sprinkler system operates properly.</p>

MIOSHA	OSHA
<p><b>R 408.10923. Inspection and maintenance of dry systems.</b>  <b>Rule 923.</b> A dry pipe system shall:</p> <ul style="list-style-type: none"> <li>(a) Have the system pressure checked not less than once a week and replenished, when necessary.</li> <li>(b) Have a means of maintaining the temperature of the dry pipe valve above freezing.</li> <li>(c) Have all low drain points drained and free of water during freezing temperatures.</li> <li>(d) Maintain the priming water at the designated level.</li> <li>(e) Give the dry pipe valve a working test, cleaning and resetting not less than once a year.</li> </ul>	<p><b>1910.159 Automatic sprinkler systems</b>  <b>1910.159(c) General requirements</b>  <b>1910.159(c)(2) Maintenance.</b>  The employer shall properly maintain an automatic sprinkler system installed to comply with this section. The employer shall assure that a main drain flow test is performed on each system annually. The inspector's test valve shall be opened at least every two years to assure that the sprinkler system operates properly.</p>
<p><b>R 408.10924. Clearance to sprinkler deflectors.</b>  <b>Rule 924.</b> The following clearances between a ceiling type sprinkler deflector and the top of a stock pile shall be:</p> <ul style="list-style-type: none"> <li>(a) 36 inches where the top of solid piled stock is more than 15 feet high or is more than 12 feet in rack or palletized storage.</li> <li>(b) 18 inches for all other piling.</li> </ul>	<p><b>1910.159 Automatic sprinkler systems</b>  <b>1910.159(c) General requirements</b>  <b>1910.159(c)(10) Sprinkler spacing.</b>  The employer shall assure that sprinklers are spaced to provide a maximum protection area per sprinkler, a minimum of interference to the discharge pattern by building or structural members or building contents and suitable sensitivity to possible fire hazards. The minimum vertical clearance between sprinklers and material below shall be 18 inches (45.7 cm).</p>
<p><b>R 408.10925. Inspection and maintenance.</b>  <b>Rule 925.</b> (1) A sprinkler shall not be painted or coated except by the sprinkler manufacturer. Excepted are petroleum jelly or paper bag coverings, which shall not interfere with the normal functioning of the sprinkler.</p> <ul style="list-style-type: none"> <li>(2) An automatic sprinkler shall be replaced with a new sprinkler after it is installed 50 years or shows evidence of corrosion, leakage, or damage.</li> <li>(3) A sprinkler wrench shall be used for installing and removing a sprinkler.</li> <li>(4) A broken or loose pipe hanger shall be replaced or refastened.</li> </ul> <p>(5)****</p>	<p><b>No comparable OSHA provision</b></p> <p>Equivalent</p>
<p><b>R 408.10926. Supplies.</b>  <b>Rule 926.</b> (1) A stock of extra sprinklers shall be maintained or readily available for each temperature rating and type so that the system can be returned to readiness as soon as possible.</p> <ul style="list-style-type: none"> <li>(2) An automatic sprinkler system of more than 20 sprinklers shall have at least 1 automatic water supply capable of providing design water flow for not less than 30 minutes.</li> </ul>	<p><b>1910.159 Automatic sprinkler systems</b>  <b>1910.159(c) General requirements</b>  <b>1910.159(c)(4) Water supplies.</b>  The employer shall assure that every automatic sprinkler system is provided with at least one automatic water supply capable of providing design water flow for at least 30 minutes. An auxiliary water supply or equivalent protection shall be provided when the automatic water supply is out of service, except for systems of 20 or fewer sprinklers.</p>
<p><b>R 408.10927. Outside open sprinkler equipment.</b>  <b>Rule 927.</b> Outside open sprinkler equipment shall be tested during warm weather not less than once a year.</p>	<p><b>No comparable OSHA provision</b></p>

MIOSHA	OSHA
<b>STANDPIPE AND HOSE SYSTEMS</b>	
<p><b>R 408.10931. Installation and maintenance.</b>  <b>Rule 931.</b> (1) A standpipe and hose system installed or that portion of a system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standard #14-1980, "Standpipe and Hose Systems", as adopted by reference in R 408.10999(b).  (2) Subrule (1) of this rules does not apply to a class 1 standpipe system.</p>	<p><b>1910.158 Standpipe and hose systems.</b>  <b>1910.158(a) Scope and application</b>  <b>1910.158(a)(1) Scope.</b>  This section applies to all small hose, Class II, and Class III standpipe systems installed to meet the requirements of a particular OSHA standard.  <b>1910.158(a) (2) Exception.</b>  This section does not apply to Class I standpipe systems.</p>
<p><b>R 408.10933. Location.</b>  <b>Rule 933.</b> A standpipe shall be located so as to be unobstructed, readily accessible and so guarded that it is protected against mechanical damage.</p>	<p><b>1910.158 Standpipe and hose systems.</b>  <b>1910.158(b) Protection of standpipes.</b>  The employer shall assure that standpipes are located or otherwise protected against mechanical damage. Damaged standpipes shall be repaired promptly.</p>
<p><b>R 408.10934. Hose and hose connections.</b>  <b>Rule 934.</b> (1) Where a hose outlet is provided for use of employees, the hose length shall not exceed 100 feet of approved 1 1/2-inch lined hose attached to the outlet.</p> <p>(2) Hose and hose outlets shall be within easy reach of a person standing on a floor, unobstructed and conspicuously marked</p> <p>(3)****</p> <p>(4) A shut-off type nozzle shall be provided, except where unlined hose is still approved. Nozzles shall be of an approved type and have a discharge coefficient not exceeding 110 psi (7.5 bars).</p>	<p><b>No comparable OSHA provision</b></p> <p><b>1910.158 Standpipe and hose systems.</b>  <b>1910.158(c) Equipment</b>  <b>1910.158(2) Hose outlets and connections.</b>  <b>1910.158(2)(i)</b> The employer shall assure that hose outlets and connections are located high enough above the floor to avoid being obstructed and to be accessible to employees.</p> <p>Equivalent</p> <p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10937. Inspection of standpipe and hose system; water level; valve; water supply.</b>  <b>Rule 937 (1)****</b></p> <p>(2) A water tank shall be maintained at the water level designed for fire protection purposes and where a pressure tank is used, the air pressure shall be maintained at the designed pressure level, but not less than 75 psi.</p> <p>(3) to (4)****</p>	<p>Equivalent</p> <p><b>No comparable OSHA provision</b></p> <p>Equivalent</p>

MIOSHA	OSHA
<b>CARBON DIOXIDE SYSTEMS</b>	
<p><b>R 408.10941. Installation and maintenance.</b>  <b>Rule 941.</b> A carbon dioxide extinguishing system installed or that portion of the system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standard #12- 1980, "Carbon Dioxide Extinguishing Systems", as adopted by reference in R 408.10999(c).</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10944. Installations prohibited.</b>  <b>Rule 944.</b> A carbon dioxide extinguishing system shall not be installed to control a fire involving:  (a) Chemicals containing their own oxygen supply, such as cellulose nitrate.  (b) Combustible metals or special hazardous materials, such as sodium, potassium, magnesium, titanium and zirconium.  (c) Metal hydrides.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10945. Safeguards.</b>  <b>Rule 945.</b> (1) Where there is a possibility that an employee may be trapped in, or enter into an atmosphere made hazardous by a carbon dioxide discharge, the following safeguards shall be provided:   (a)****   (b) Warning signs.  (c) Employee training.  (d) Self-contained breathing apparatus.  (2) Where an alarm, audible or visual, is provided to indicate system failure, it shall be distinctive from an alarm indicating operation or hazardous conditions and shall operate continuously until manually shut off.  (3) Before an employee enters an area where carbon dioxide has been discharged and may be trapped, the area shall be purged or the employee shall wear approved respiratory equipment.</p>	<p><b>No comparable OSHA provision, except for:</b></p> <p>Equivalent</p> <p><b>1910.160 Fixed extinguishing systems, generally</b>  <b>1910.160(c)</b> Total flooding systems with potential health and safety hazards to employees.  <b>1910.160(c)(3)</b> On all total flooding systems the employer shall provide a pre-discharge employee alarm which complies with 1910.165, and is capable of being perceived above ambient light or noise levels before the system discharges, which will give employees time to safely exit from the discharge area prior to system discharge.</p>
<p><b>R 408.10946. Inspection.</b>  <b>Rule 946.</b> A carbon dioxide extinguishing system shall be inspected by a trained and authorized employee or outside service:  (a) Not less than annually to insure operability.  (b) Not less than semiannually to insure that all high pressure cylinders are at the designed weight. A cylinder showing a net loss in weight of more than 10% shall be refilled or replaced.  (c) Not less than annually to check the accuracy of low pressure system liquid level gauges.  (d) If a container shows a loss of more than 10%, it shall be refilled, unless the minimum gas requirements are still provided.  (e) A tag shall be affixed indicating the date of inspection</p>	<p><b>No comparable OSHA provision</b></p>

MIOSHA	OSHA
<b>DRY CHEMICAL SYSTEMS</b>	
<p><b>R 408.10951. Installation and maintenance.</b>  <b>Rule 951.</b> A dry chemical extinguishing system installed or that portion of the system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standard #17- 1980, "Dry Chemical Extinguishing Systems", as adopted by reference in R 408.10999(d)</p>	<b>No comparable OSHA provision</b>
<p><b>R 408.10953. Installations prohibited.</b>  <b>Rule 953.</b> A dry chemical extinguishing system shall not be installed to control a deep seated or burrowing fire in ordinary combustibles, or for the items prescribed in (a) and (b) of rule 944.</p>	<b>No comparable OSHA provision</b>
<b>FOAM SYSTEMS</b>	
<p><b>R 408.10961. Installation and maintenance.</b>  <b>Rule 961.</b> (1) A foam system installed or that portion of the system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standards #11-1978, "Foam Extinguishing Systems", #11A- 1981, "High Expansion Foam Systems", and #11B-1977, "Synthetic Foam and Combined Agent Systems", as adopted by reference in R 408.10999(e), (f), and (g).  (2) Foam-water sprinkler systems and foam-water spray systems installed or that portion of the system modified after December 31, 1983, shall be installed and maintained as prescribed in N.F.P.A. standard #16-1980, "Foam-Water Sprinkler Systems and Foam-Water Spray systems", as adopted by reference in R 408.10999(h).</p>	<b>No comparable OSHA provision</b>
<p><b>R 408.10963. Installations prohibited.</b>  <b>Rule 963.</b> A foam system shall not be installed to control a fire involving any of the following:  (a) Chemicals containing their own oxygen supply, such as cellulose nitrate.  (b) Energized unenclosed electrical equipment.  (c) Water reactive metals, such as sodium and potassium.  (d) Water reactive materials, such as triethyl-aluminum and phosphorous pentoxide.</p>	<b>No comparable OSHA provision</b>
<p><b>R 408.10964. Safeguards.</b>  <b>Rule 964.</b> (1) Safeguards for a foam system shall be provided as prescribed in R 408.10945.  (2) Entry into foam shall be made only in an emergency. If emergency entry is necessary, self-contained breathing apparatus shall be worn in conjunction with a life line attended by another employee outside the hazardous area.</p>	<p style="text-align: center;"><b>No comparable OSHA provision, except for:</b></p> <p><b>1910.160 Fixed extinguishing systems, generally</b>  <b>1910.160(b) General requirements.</b>  <b>1910.160(b)(17)</b> The employer shall provide and assure the use of the personal protective equipment needed for immediate rescue of employees trapped in hazardous atmospheres created by an agent discharge.</p>

MIOSHA	OSHA
<p><b>R 408.10965. Inspection and maintenance; foam systems.</b></p> <p><b>Rule 965.</b> (1) A high expansion or synthetic and combined agent foam system shall be inspected by a trained and authorized employee or by an outside service not less than once a year to ensure operability.</p> <p>(2) A foam-water system shall be inspected not less than every 6 months.</p> <p>(3) Strainers shall be inspected and cleaned after each use.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>HALOGENATED EXTINGUISHING SYSTEMS</b></p>	
<p><b>R 408.10971. Installation and maintenance.</b></p> <p><b>Rule 971.</b> (1) A halogenated fire extinguishing system installed or that portion of the system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standard #12A- 1980, (Halogenated Fire Extinguishing Agent Systems – Halon 1301”, as adopted by reference in R 408.10999(i).</p> <p>(2) The plan and installation of the halogenated fire extinguishing system shall be approved by the state fire marshal.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10973. Exceptions to use.</b></p> <p><b>Rule 973.</b> A halogenated fire extinguishing system shall not be used to extinguish fires as listed in rule 944.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10975. Safeguards.</b></p> <p><b>Rule 975.</b> (1) Where there is a possibility that an employee may be trapped in, or may enter into an atmosphere made hazardous by the discharge of a Halon 1301 extinguishing agent, the following safeguards shall be provided:</p> <p>(a)****</p> <p>(b) Warning signs.</p> <p>(c)****</p> <p>(2) Where an alarm, audible or visual, is provided to indicate system failure, it shall be distinctive from an alarm indicating operation or hazardous conditions, and shall operate continuously until manually shut off. (3) Before an employee enters an area where Halon 1301 has been discharged, the area shall be purged of that substance. In an emergency and before purging has been accomplished, an employee may enter the area while wearing approved respiratory equipment.</p> <p>(3)****</p>	<p><b>No comparable OSHA provision, except for:</b></p> <p>Equivalent</p> <p><b>No comparable OSHA provisions</b></p> <p>Equivalent</p> <p><b>1910.160 Fixed extinguishing systems, generally</b></p> <p><b>1910.160(c)</b> Total flooding systems with potential health and safety hazards to employees.</p> <p><b>1910.160(c)(3)</b> On all total flooding systems the employer shall provide a pre-discharge employee alarm which complies with 1910.165, and is capable of being perceived above ambient light or noise levels before the system discharges, which will give employees time to safely exit from the discharge area prior to system discharge.</p> <p>Equivalent</p>

MIOSHA	OSHA
<p><b>R 408.10976. Inspection and maintenance.</b></p> <p><b>Rule 976.</b> (1) A halogenated extinguishing system shall be inspected by a trained and authorized employee or by an outside service not less than once a year to insure operability.</p> <p>(2) Not less than semiannually the following shall be accomplished.</p> <p>(a) The weight and pressure of a refillable container of a halogenated extinguishing agent shall be checked. A container shall be repaired or replaced if the loss in net weight is more than 5% or the loss in pressure is more than 10%.</p> <p>(b) The weight of a non-refillable container shall be checked. A container shall be replaced if the net weight loss is more than 5%.</p> <p>(c) The weight, pressure and date shall be entered on a tag attached to the extinguisher.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>LOCAL FIRE ALARM SYSTEMS</b></p>	
<p><b>R 408.10981. Installation and maintenance.</b></p> <p><b>Rule 981.</b> (1) A local fire alarm system installed or that portion of the system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standard #72A-1979, standard for the "Installation, Maintenance and Use of Local Protective Signaling Systems for Watchmen, Fire Alarm and Supervisory Service", as adopted by reference in R 408.10999(j)</p> <p>(2) Where the protected premises has an emergency power supply, the local fire alarm system shall have a secondary source of power.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10983. Location.</b></p> <p><b>Rule 983.</b> (1) A local fire alarm system shall be mounted in a location where the system will not be activated by vibration or jarring.</p> <p>(2) A manual fire alarm box shall be mounted permanently to a wall or post and protected against physical damage.</p> <p>(3) A manual fire alarm box shall be located so that the maximum distance on each floor to a box will be not more than 200 feet. The box shall be unobstructed, readily accessible, and in the regular path of travel to an exit. The locating of the box shall be identified by a sign or light visible from a distance of not less than 200 feet.</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10984. Maintenance and inspection.</b></p> <p><b>Rule 984.</b> A local fire alarm system shall be tested by a trained and authorized employee or an outside service not less than once a week to insure operability by the activation of not less than 1 box.</p>	<p><b>No comparable OSHA provision</b></p>

MIOSHA	OSHA
<b>FIRE DETECTION SYSTEMS</b>	
<p><b>R 408.10991. Installation.</b>  <b>Rule 991.</b> An automatic fire detection system installed or that portion of the system modified after December 31, 1983, shall be installed, modified, and maintained as prescribed in N.F.P.A. standard #72E-1982, "Automatic Fire Detection Systems", as adopted by reference in R 408.10999(k).</p>	<p><b>No comparable OSHA provision</b></p>
<p><b>R 408.10995. Maintenance.</b>  <b>Rule 995. (1)****</b>    (2) Pneumatic-and Hydraulic-operated detection systems installed after December 31, 1983, shall be a supervised system.</p>	<p>Equivalent</p> <p><b>1910.164 Fire detection systems</b>  <b>1910.164(c) Maintenance and testing.</b>  <b>1910.164(c)(3)</b> The employer shall assure that pneumatic and hydraulic operated detection systems installed after January 1, 1981, are equipped with supervised systems.</p>

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