

AMENDATORY SECTION (Amending WSR 03-04-099, filed 2/4/03, effective 8/1/03)

**WAC 296-304-01001 Definitions.** "Alarm" - A signal or message from a person or device that indicates that there is a fire, medical emergency, or other situation that requires emergency response or evacuation. At some shipyards, this may be called an "incident" or a "call for service."

"Alarm system" - A system that warns employees at the worksite of danger.

"Anchorage" - A secure point to attach lifelines, lanyards, or deceleration devices.

"Body belt" - A strap with means to both secure it around the waist and to attach it to a lanyard, lifeline, or deceleration device. Body belts may be used only in fall restraint or positioning device systems and may not be used for fall arrest. Body belts must be at least one and five-eighths inches (4.13 cm) wide.

"Body harness" - Straps to secure around an employee so that fall arrest forces are distributed over at least the thighs, shoulders, chest and pelvis with means to attach it to other components of a personal fall arrest system.

"Class II standpipe system" - A one and one-half inch (3.8 cm) hose system which provides a means for the control or extinguishment of incipient stage fires.

(~~"Cold work"~~) "Cold work" - Work that does not involve riveting, welding, burning, or other fire-producing or spark-producing operations.

"Contract employer" - An employer, such as a painter, joiner, carpenter, or scaffolding subcontractor, who performs work under contract to the host employer or to another employer under contract to the host employer at the host employer's worksite. This excludes employers who provide incidental services that do not influence shipyard employment (such as mail delivery or office supply services).

"Competent person" - A person who can recognize and evaluate employee exposure to hazardous substances or to other unsafe conditions and can specify the necessary protection and precautions necessary to ensure the safety of employees as required by these standards.

"Confined space" - A small compartment with limited access such as a double bottom tank, cofferdam, or other small, confined space that can readily create or aggravate a hazardous exposure.

**"Connector"** - A device used to connect parts of a personal fall arrest system or parts of a positioning device system together. It may be:

✍ An independent component of the system (such as a carabiner); or

✍ An integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness or a snaphook spliced or sewn to a lanyard or self-retracting lanyard).

**"Dangerous atmosphere"** - An atmosphere that may expose employees to the risk of death, incapacitation, injury, acute illness, or impairment of ability to self-rescue (i.e., escape unaided from a confined or enclosed space).

**"Deceleration device"** - A mechanism, such as a rope grab, rip stitch lanyard, specially woven lanyard, tearing or deforming lanyard, or automatic self-retracting lifeline/lanyard, that serves to dissipate a substantial amount of energy during a fall arrest, or to limit the energy imposed on an employee during fall arrest.

**"Deceleration distance"** - The additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured from the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, to the location of that attachment point after the employee comes to a full stop.

**"Designated area"** - An area established for hot work after an inspection that is free of fire hazards.

**"Director"** - The director of the department of labor and industries or a designated representative.

**"Drop test"** - A method utilizing gauges to ensure the integrity of an oxygen fuel gas burning system. The method requires that the burning torch is installed to one end of the oxygen and fuel gas lines and then the gauges are attached to the other end of the hoses. The manifold or cylinder supply valve is opened and the system is pressurized. The manifold or cylinder supply valve is then closed and the gauges are watched for at least sixty seconds. Any drop in pressure indicates a leak.

**"Emergency operations"** - Activities performed by fire response organizations that are related to: Rescue, fire suppression, emergency medical care, and special operations or activities that include responding to the scene of an incident and all activities performed at that scene.

**"Employee"** - Any person engaged in ship repairing, ship building, or ship breaking or related employment as defined in these standards.

**"Employer"** - An employer with employees who are employed, in whole or in part, in ship repair, ship building and ship breaking, or related employment as defined in these standards.

**"Enclosed space"** - A space, other than a confined space, that is enclosed by bulkheads and overhead. It includes cargo holds, tanks, quarters, and machinery and boiler spaces.

**"Equivalent"** - Alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the method or item specified in the standard.

**"Fire hazard"** - A condition or material that may start or contribute to the spread of fire.

**"Fire protection"** - Methods of providing fire prevention, response, detection, control, extinguishment, and engineering.

**"Fire response"** - The activity taken by the employer at the time of an emergency incident involving a fire at the worksite, including fire suppression activities carried out by internal or external resources or a combination of both, or total or partial employee evacuation of the area exposed to the fire.

**"Fire response employee"** - A shipyard employee who carries out the duties and responsibilities of shipyard fire fighting in accordance with the fire safety plan.

**"Fire response organization"** - An organized group knowledgeable, trained, and skilled in shipyard fire fighting operations that responds to shipyard fire emergencies, including: Fire brigades, shipyard fire departments, private or contractual fire departments, and municipal fire departments.

**"Fire suppression"** - The activities involved in controlling and extinguishing fires.

**"Fire watch"** - The activity of observing and responding to the fire hazards associated with hot work in shipyard employment and the employees designated to do so.

**"Fixed extinguishing system"** - A permanently installed fire protection system that either extinguishes or controls fire occurring in the space it protects.

**"Flammable liquid"** - Any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up ninety-nine percent or more of the total volume of the mixture.

**"Free fall"** - To fall before a personal fall arrest system begins to apply force to arrest the fall.

**"Free fall distance"** - The vertical displacement of the fall arrest attachment point on the employee's body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before the device operates

and fall arrest forces occur.

**"Gangway"** - A ramp-like or stair-like means to board or leave a vessel including accommodation ladders, gangplanks and brows.

**"Hazardous substance"** - A substance likely to cause injury because it is explosive, flammable, poisonous, corrosive, oxidizing, irritant, or otherwise harmful.

**"Hose systems"** - Fire protection systems consisting of a water supply, approved fire hose, and a means to control the flow of water at the output end of the hose.

**"Host employer"** - An employer who is in charge of coordinating work or who hires other employers to perform work at a multiemployer workplace.

~~("Hot-work")~~ **"Hot work"** - Riveting, welding, burning or other fire or spark producing operations.

**"Incident management system"** - A system that defines the roles and responsibilities to be assumed by personnel and the operating procedures to be used in the management and direction of emergency operations; the system is also referred to as an "incident command system (ICS)."

**"Incipient stage fire"** - A fire, in the initial or beginning stage, which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.

**"Inerting"** - The displacement of the atmosphere in a permit space by noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible. This procedure produces an IDLH oxygen-deficient atmosphere.

**"Interior structural fire fighting operations"** - The physical activity of fire response, rescue, or both involving a fire beyond the incipient stage inside of buildings, enclosed structures, vessels, and vessel sections.

**"Lanyard"** - A flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

**"Lifeline"** - A component consisting of a flexible line to connect to an anchorage at one end to hang vertically (vertical lifeline), or to connect to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

**"Lower levels"** - Those areas or surfaces to which an employee can fall. Such areas or surfaces include but are not limited to ground levels, floors, ramps, tanks, materials, water, excavations, pits, vessels, structures, or portions thereof.

**"Multiemployer workplace"** - A workplace where there is a

host employer and at least one contract employer.

**"Personal alert safety system (PASS)"** - A device that sounds a loud signal if the wearer becomes immobilized or is motionless for thirty seconds or more.

**"Personal fall arrest system"** - A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, body harness and may include a lanyard, a deceleration device, a lifeline, or a suitable combination.

**"Physical isolation"** - The elimination of a fire hazard by removing the hazard from the work area (at least thirty-five feet for combustibles), by covering or shielding the hazard with a fire-resistant material, or physically preventing the hazard from entering the work area.

**"Physically isolated"** - Positive isolation of the supply from the distribution piping of a fixed extinguishing system. Examples of ways to physically isolate include: Removing a spool piece and installing a blank flange; providing a double block and bleed valve system; or completely disconnecting valves and piping from all cylinders or other pressure vessels containing extinguishing agents.

**"Portable unfired pressure vessel"** - A pressure container or vessel used aboard ship, other than the ship's equipment, containing liquids or gases under pressure. This does not include pressure vessels built to Department of Transportation regulations under 49 CFR Part 78, Subparts C and H.

**"Positioning device system"** - A body belt or body harness system rigged to allow an employee to be supported at an elevated vertical surface, such as a wall or window, and to be able to work with both hands free while leaning.

**"Powder actuated fastening tool"** - A tool or machine that drives a stud, pin, or fastener by means of an explosive charge.

**"Protected space"** - Any space into which a fixed extinguishing system can discharge.

**"Proximity fire fighting"** - Specialized fire fighting operations that require specialized thermal protection and may include the activities of rescue, fire suppression, and property conservation at incidents involving fires producing very high levels of conductive, convective, and radiant heat such as aircraft fires, bulk flammable gas fires, and bulk flammable liquid fires. Proximity fire fighting operations usually are exterior operations but may be combined with structural fire fighting operations. Proximity fire fighting is not entry fire fighting.

**"Qualified instructor"** - A person with specific knowledge, training, and experience in fire response or fire watch activities to cover the material found in WAC 296-304-01019 (2) or (3).

**"Qualified person"** - A person who has successfully demonstrated the ability to solve or resolve problems related to

the subject matter and work by possessing a recognized degree or certificate of professional standing or by extensive knowledge, training, and experience.

**"Related employment"** - Any employment related to or performed in conjunction with ship repairing, ship building or ship breaking work, including, but not limited to, inspecting, testing, and serving as a watchman.

**"Rescue"** - Locating endangered persons at an emergency incident, removing those persons from danger, treating the injured, and transporting the injured to an appropriate health care facility.

**"Restraint (tether) line"** - A line from an anchorage, or between anchorages, to which the employee is secured so as to prevent the employee from walking or falling off an elevated work surface.

Note: A restraint line is not necessarily designed to withstand forces resulting from a fall.

**"Rope grab"** - A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest the fall of an employee. A rope grab usually uses the principle of inertial locking, cam/level locking or both.

**"Shall" or "must"** - Mandatory.

**"Ship breaking"** - Breaking down a vessel's structure to scrap the vessel, including the removal of gear, equipment or any component part of a vessel.

**"Ship building"** - Construction of a vessel, including the installation of machinery and equipment.

**"Ship repairing"** - Repair of a vessel including, but not limited to, alterations, conversions, installations, cleaning, painting, and maintenance.

**"Shipyard fire fighting"** - The activity of rescue, fire suppression, and property conservation involving buildings, enclosed structures, vehicles, vessels, aircraft, or similar properties involved in a fire or emergency situation.

**"Small hose system"** - A system of hoses ranging in diameter from 5/8" (1.6 cm) up to 1 1/2" (3.8 cm) which is for the use of employees and which provides a means for the control and extinguishment of incipient stage fires.

**"Standpipe"** - A fixed fire protection system consisting of piping and hose connections used to supply water to approved hose lines or sprinkler systems. The hose may or may not be connected to the system.

**"Vessel"** - Every watercraft for use as a means of transportation on water, including special purpose floating structures not primarily designed for or used as a means of transportation on water.

AMENDATORY SECTION (Amending WSR 95-04-006, filed 1/18/95, effective 3/10/95)

**WAC 296-304-01005 ((Competent person.)) Fire protection in shipyards.** ((1) Application. This section applies to shipyard employment.

(2) Designation.

(a) One or more competent persons shall be designated by the employer in accordance with the applicable requirements of this section, unless the requirements of WAC 296-304-020 through 296-304-02011, WAC 296-304-030 through 296-304-03009, WAC 296-304-040 through 296-304-04013, and WAC 296-304-080 through 296-304-08011, are always carried out by a marine chemist.

Exception: The employer may designate any person who meets the applicable portions of the criteria set forth in subsection (3) of this section as a competent person who is limited to performing testing to the following situations:

(i) Repair work on small craft in boat yards where only combustible gas indicator tests are required for fuel tank leaks or when using flammable paints below decks;

(ii) Building of wooden vessels where only knowledge of the precautions to be taken when using flammable paints is required;

(iii) The breaking of vessels where there is no fuel oil or other flammable hazard; and

(iv) Tests and inspections performed to comply with WAC 296-304-03007 (2)(h) and 296-304-03009 (1)(e).

(b) The employer shall maintain either a roster of designated competent persons or a statement that a marine chemist will perform the tests or inspections which require a competent person.

(c) The employer shall make the roster of designated persons or the statement available to employees, the employee's representative, or the director upon request.

(d) The roster shall contain, as a minimum, the following:

(i) The employer's name;

(ii) The designated competent person's name(s); and

(iii) The date the employee was trained as a competent person.

(3) Criteria. The employer shall ensure that each designated competent person has the following skills and knowledge:

(a) Ability to understand and carry out written or oral information or instructions left by marine chemist, Coast Guard authorized persons and certified industrial hygienists;

~~(b) Knowledge of WAC 296 304 020 through 296 304 02011, WAC 296 304 030 through 296 304 03009, WAC 296 304 040 through 296 304 04013, and WAC 296 304 080 through 296 304 08011;~~

~~(c) Knowledge of the structure, location, and designation of spaces where work is done;~~

~~(d) Ability to calibrate and use testing equipment including but not limited to, oxygen indicators, combustible gas indicators, carbon monoxide indicators, and carbon dioxide indicators, and to interpret accurately the test results of that equipment;~~

~~(e) Ability to perform all required tests and inspections which are or may be performed by a competent person as set forth in WAC 296 304 020 through 296 304 02011, WAC 296 304 030 through 296 304 03009, WAC 296 304 040 through 296 304 04013, and WAC 296 304 080 through 296 304 08011;~~

~~(f) Ability to inspect, test, and evaluate spaces to determine the need for further testing by a marine chemist or a certified industrial hygienist; and~~

~~(g) Ability to maintain records required by this section.~~

~~(4) Recordkeeping.~~

~~(a) When tests and inspections are performed by a competent person, marine chemist, or certified industrial hygienist as required by any provisions of WAC 296 304 020 through 296 304 02011, WAC 296 304 030 through 296 304 03009, WAC 296 304 040 through 296 304 04013, or WAC 296 304 080 through 296 304 08011, the employer shall ensure that the person performing the test and inspection records the location, time, date, location of inspected spaces, and the operations performed, as well as the test results and any instructions.~~

~~(b) The employer shall ensure that the records are posted in the immediate vicinity of the affected operations while work in the spaces is in progress. The records shall be kept on file for a period of at least three months from the completion date of the specific job for which they were generated.~~

~~(c) The employer shall ensure that the records are available for inspection by the director, and employees and their representatives.))~~ (1) Purpose. The purpose of this section is to require employers to protect all employees from fire hazards in shipyard employment, including employees engaged in fire response activities.

(2) Scope. This section covers employers with employees engaged in shipyard employment aboard vessels and vessel sections, and on land-side operations regardless of geographic location.

(3) Employee participation. The employer must provide ways for employees or employee representatives, or both to participate in developing and periodically reviewing programs and policies adopted to comply with this section.

(4) Multiemployer worksites.

(a) **Host employer responsibilities.** The host employer's responsibilities are to:

(i) Inform all employers at the worksite about the content of the fire safety plan including hazards, controls, fire safety and health rules, and emergency procedures;

(ii) Make sure the safety and health responsibilities for fire protection are assigned as appropriate to other employers at the worksite; and

(iii) If there is more than one host employer, each host employer must communicate relevant information about fire-related hazards to other host employers. When a vessel owner or operator (temporarily) becomes a host shipyard employer by directing the work of ships' crews on repair or modification of the vessel or by hiring other contractors directly, the vessel owner or operator must also comply with these provisions for host employers.

(b) **Contract employer responsibilities.** The contract employer's responsibilities are to:

(i) Make sure that the host employer knows about the fire-related hazards associated with the contract employer's work and what the contract employer is doing to address them; and

(ii) Advise the host employer of any previously unidentified fire-related hazards that the contract employer identifies at the worksite.

## NEW SECTION

**WAC 296-304-01007 Fire safety plan.** (1) **Employer responsibilities.** The employer must develop and implement a written fire safety plan that covers all the actions that employers and employees must take to ensure employee safety in the event of a fire. (See Appendix A to this section for a model fire safety plan.)

(2) **Plan elements.** The employer must include the following information in the fire safety plan:

(a) Identification of the significant fire hazards;

(b) Procedures for recognizing and reporting unsafe conditions;

(c) Alarm procedures;

(d) Procedures for notifying employees of a fire emergency;

(e) Procedures for notifying fire response organizations of a fire emergency;

(f) Procedures for evacuation;

(g) Procedures to account for all employees after an evacuation; and

(h) Names, job titles, or departments for individuals who can be contacted for further information about the plan.

(3) **Reviewing the plan with employees.** The employer must review the plan with each employee at the following times:

(a) Within ninety days of **(effective date of this rule)**, for employees who are currently working;

(b) Upon initial assignment for new employees; and

(c) When the actions the employee must take under the plan change because of a change in duties or a change in the plan.

(4) **Additional employer requirements.** The employer also must:

(a) Keep the plan accessible to employees, employee representatives, and WISHA;

(b) Review and update the plan whenever necessary, but at least annually;

(c) Document that affected employees have been informed about the plan as required by this subsection; and

(d) Ensure any outside fire response organization that the employer expects to respond to fires at the employer's worksite has been given a copy of the current plan.

(5) **Contract employers.** Contract employers in shipyard employment must have a fire safety plan for their employees, and this plan must comply with the host employer's fire safety plan.

## NEW SECTION

**WAC 296-304-01009 Precautions for hot work. (1) General requirements.**

(a) **Designated areas.** The employer may designate areas for hot work in sites such as vessels, vessel sections, fabricating shops, and subassembly areas that are free of fire hazards.

(b) **Nondesignated areas.**

(i) Before authorizing hot work in a nondesignated area, the employer must visually inspect the area where hot work is to be performed, including adjacent spaces, to ensure the area is free of fire hazards, unless a marine chemist's certificate or shipyard competent person's log is used for authorization.

(ii) The employer shall authorize employees to perform hot work only in areas that are free of fire hazards, or that have been controlled by physical isolation, fire watches, or other positive means.

**Note:** The requirements of (b) of this subsection apply to all hot work operations in shipyard employment except those covered by WAC 296-304-02007.

(2) **Specific requirements.**

(a) **Maintaining fire hazard-free conditions.** The employer must keep all hot work areas free of new hazards that may cause

or contribute to the spread of fire. Unexpected energizing and energy release are covered by WAC 296-304-120. Exposure to toxic and hazardous substances is covered in chapter 296-841 WAC, Respiratory hazards; chapter 296-802 WAC, Employee medical and exposure records; and WAC 296-800-170, Employer chemical hazard communication--Introduction.

(b) **Fuel gas and oxygen supply lines and torches.** The employer must make sure that:

(i) No unattended fuel gas and oxygen hose lines or torches are in confined spaces;

(ii) No unattended charged fuel gas and oxygen hose lines or torches are in enclosed spaces for more than fifteen minutes;

(iii) All fuel gas and oxygen hose lines are disconnected at the supply manifold at the end of each shift; and

(iv) All disconnected fuel gas and oxygen hose lines are rolled back to the supply manifold or to open air to disconnect the torch; or extended fuel gas and oxygen hose lines are not reconnected at the supply manifold unless the lines are given a positive means of identification when they were first connected and the lines are tested using a drop test or other positive means to ensure the integrity of fuel gas and oxygen burning system.

#### NEW SECTION

**WAC 296-304-01011 Fire watches.** (1) **Written fire watch policy.** The employer must create and keep current a written policy that specifies the following requirements for employees performing fire watch in the workplace:

(a) The training employees must be given (WAC 296-304-01019(3) contains detailed fire watch training requirements);

(b) The duties employees are to perform;

(c) The equipment employees must be given; and

(d) The personal protective equipment (PPE) that must be made available and worn as required by WAC 296-304-090.

(2) **Posting fire watches.** The employer must post a fire watch if during hot work any of the following conditions are present:

(a) Slag, weld splatter, or sparks might pass through an opening and cause a fire;

(b) Fire-resistant guards or curtains are not used to prevent ignition of combustible materials on or near decks, bulkheads, partitions, or overheads;

(c) Combustible material closer than thirty-five feet (10.7 m) to the hot work in either the horizontal or vertical

direction cannot be removed, protected with flame-proof covers, or otherwise shielded with metal or fire-resistant guards or curtains;

(d) The hot work is carried out on or near insulation, combustible coatings, or sandwich-type construction that cannot be shielded, cut back, or removed, or in a space within a sandwich-type construction that cannot be inerted;

(e) Combustible materials adjacent to the opposite sides of bulkheads, decks, overheads, metal partitions, or sandwich-type construction may be ignited by conduction or radiation;

(f) The hot work is close enough to cause ignition through heat radiation or conduction on the following:

(i) Insulated pipes, bulkheads, decks, partitions, or overheads; or

(ii) Combustible materials and/or coatings;

(g) The work is close enough to unprotected combustible pipe or cable runs to cause ignition; or

(h) A marine chemist, a Coast Guard-authorized person, or a shipyard competent person, as defined in WAC 296-304-020, requires that a fire watch be posted.

**(3) Assigning employees to fire watch duty.**

(a) The employer must not assign other duties to a fire watch while the hot work is in progress.

(b) Employers must ensure that employees assigned to fire watch duty:

(i) Have a clear view of and immediate access to all areas included in the fire watch;

(ii) Are able to communicate with workers exposed to hot work;

(iii) Are authorized to stop work if necessary and restore safe conditions within the hot work area;

(iv) Remain in the hot work area for at least thirty minutes after completion of the hot work, unless the employer or its representative surveys the exposed area and makes a determination that there is no further fire hazard;

(v) Are trained to detect fires that occur in areas exposed to the hot work;

(vi) Attempt to extinguish any incipient stage fires in the hot work area that are within the capability of available equipment and within the fire watch's training qualifications, as defined in WAC 296-304-01019;

(vii) Alert employees of any fire beyond the incipient stage; and

(viii) If unable to extinguish fire in the areas exposed to the hot work, activate the alarm.

(c) The employer must ensure that employees assigned to fire watch are physically capable of performing these duties.

NEW SECTION

**WAC 296-304-01013 Fire response. (1) Employer responsibilities.** The employer must:

(a) Decide what type of response will be provided and who will provide it; and

(b) Create, maintain, and update a written policy that:

(i) Describes the internal and outside fire response organizations that the employer will use; and

(ii) Defines what evacuation procedures employees must follow, if the employer chooses to require a total or partial evacuation of the worksite at the time of a fire.

(2) **Required written policy information.**

(a) **Internal fire response.** If an internal fire response is to be used, the employer must include the following information in the employer's written policy:

(i) The basic structure of the fire response organization;

(ii) The number of trained fire response employees;

(iii) The fire response functions that may need to be carried out;

(iv) The minimum number of fire response employees necessary, the number and types of apparatuses, and a description of the fire suppression operations established by written standard operating procedures for each type of fire response at the employer's facility;

(v) The type, amount, and frequency of training that must be given to fire response employees; and

(vi) The procedures for using protective clothing and equipment.

(b) **Outside fire response.** If an outside fire response organization is used, the employer must include the following information in the written policy:

(i) The types of fire suppression incidents to which the fire response organization is expected to respond at the employer's facility or worksite;

(ii) The liaisons between the employer and the outside fire response organizations; and

(iii) A plan for fire response functions that:

(A) Addresses procedures for obtaining assistance from the outside fire response organization;

(B) Familiarizes the outside fire response organization with the layout of the employer's facility or worksite, including access routes to controlled areas, and site-specific operations, occupancies, vessels or vessel sections, and

hazards; and

(C) Sets forth how hose and coupling connection threads are to be made compatible and includes where the adapter couplings are kept; or

(D) States that the employer will not allow the use of incompatible hose connections.

(c) **A combination of internal and outside fire response.** If a combination of internal and outside fire response is to be used, the employer must include the following information, in addition to the requirements in (a) and (b) of this subsection, in the written policy:

(i) The basic organizational structure of the combined fire response;

(ii) The number of combined trained fire responders;

(iii) The fire response functions that may need to be carried out;

(iv) The minimum number of fire response employees necessary, the number and types of apparatuses, and a description of the fire suppression operations established by written standard operating procedures for each particular type of fire response at the worksite; and

(v) The type, amount, and frequency of joint training with outside fire response organizations if given to fire response employees.

(d) **Employee evacuation.** The employer must include the following information in the employer's written policy:

(i) Emergency escape procedures;

(ii) Procedures to be followed by employees who may remain longer at the worksite to perform critical shipyard employment operations during the evacuation;

(iii) Procedures to account for all employees after emergency evacuation is completed;

(iv) The preferred means of reporting fires and other emergencies; and

(v) Names or job titles of the employees or departments to be contacted for further information or explanation of duties.

(e) **Rescue and emergency response.** The employer must include the following information in the employer's written policy:

(i) A description of the emergency rescue procedures; and

(ii) Names or job titles of the employees who are assigned to perform them.

(3) **Medical requirements for shipyard fire response employees.** The employer must ensure that:

(a) All fire response employees receive medical examinations to assure that they are physically and medically fit for the duties they are expected to perform;

(b) Fire response employees, who are required to wear respirators in performing their duties, meet the medical

requirements of WAC 296-304-09007;

(c) Each fire response employee has an annual medical examination; and

(d) The medical records of fire response employees are kept in accordance with chapter 296-802 WAC, Employee medical and exposure records.

(4) **Organization of internal fire response functions.** The employer must:

(a) Organize fire response functions to ensure enough resources to conduct emergency operations safely;

(b) Establish lines of authority and assign responsibilities to ensure that the components of the internal fire response are accomplished;

(c) Set up an incident management system to coordinate and direct fire response functions, including:

(i) Specific fire emergency responsibilities;

(ii) Accountability for all fire response employees participating in an emergency operation; and

(iii) Resources offered by outside organizations; and

(d) Provide the information required in this subsection to the outside fire response organization to be used.

(5) **Personal protective clothing and equipment for fire response employees.**

(a) **General requirements.** The employer must:

(i) Supply to all fire response employees, at no cost, the appropriate personal protective clothing and equipment they may need to perform expected duties; and

(ii) Ensure that fire response employees wear the appropriate personal protective clothing and use the equipment, when necessary, to protect them from hazardous exposures.

(b) **Thermal stability and flame resistance.** The employer must:

(i) Ensure that each fire response employee exposed to the hazards of flame does not wear clothing that could increase the extent of injury that could be sustained; and

(ii) Prohibit wearing clothing made from acetate, nylon, or polyester, either alone or in blends, unless it can be shown that:

(A) The fabric will withstand the flammability hazard that may be encountered; or

(B) The clothing will be worn in such a way to eliminate the flammability hazard that may be encountered.

(c) **Respiratory protection.** The employer must:

(i) Provide self-contained breathing apparatus (SCBA) to all fire response employees involved in an emergency operation in an atmosphere that is immediately dangerous to life or health (IDLH), potentially IDLH, or unknown;

(ii) Provide SCBA to fire response employees performing emergency operations during hazardous chemical emergencies that

will expose them to known hazardous chemicals in vapor form or to unknown chemicals;

(iii) Provide fire response employees who perform or support emergency operations that will expose them to hazardous chemicals in liquid form either:

(A) SCBA; or

(B) Respiratory protective devices certified by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR Part 84 as suitable for the specific chemical environment;

(iv) Ensure that additional outside air supplies used in conjunction with SCBA result in positive pressure systems that are certified by NIOSH under 42 CFR Part 84;

(v) Provide only SCBA that meet the requirements of NFPA 1981-1997 Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire Service (incorporated by reference, see WAC 296-304-01003); and

(vi) Ensure that the respiratory protection program and all respiratory protection equipment comply with chapter 296-842 WAC, Respiratory protection.

(d) **Interior structural firefighting operations.** The employer must:

(i) Supply at no cost to all fire response employees exposed to the hazards of shipyard fire response, a helmet, gloves, footwear, and protective hoods, and either a protective coat and trousers or a protective coverall; and

(ii) Ensure that this equipment meets the applicable recommendations in NFPA 1971-2000 Standard on Protective Ensemble for Structural Fire Fighting (incorporated by reference, see WAC 296-304-01003).

(e) **Proximity fire fighting operations.** The employer must provide, at no cost, to all fire response employees who are exposed to the hazards of proximity fire fighting, appropriate protective proximity clothing that meets the applicable recommendations in NFPA 1976-2000 Standard on Protective Ensemble for Proximity Fire Fighting (incorporated by reference, see WAC 296-304-01003).

(f) **Personal alert safety system (PASS) devices.** The employer must:

(i) Provide each fire response employee involved in fire fighting operations with a PASS device; and

(ii) Ensure that each PASS device meets the recommendations in NFPA 1982-1998 Standard on Personal Alert Safety Systems (PASS) (incorporated by reference, see WAC 296-304-01003).

(g) **Life safety ropes, body harnesses, and hardware.** The employer must ensure that:

(i) All life safety ropes, body harnesses, and hardware used by fire response employees for emergency operations meet the applicable recommendations in NFPA 1983-2001, Standard on

Fire Service Life Safety Rope and System Components (incorporated by reference, see WAC 296-304-01003);

(ii) Fire response employees use only Class I body harnesses to attach to ladders and aerial devices; and

(iii) Fire response employees use only Class II and Class III body harnesses for fall arrest and rappelling operations.

(6) **Equipment maintenance.**

(a) **Personal protective equipment.** The employer must inspect and maintain personal protective equipment used to protect fire response employees to ensure that it provides the intended protection.

(b) **Fire response equipment.** The employer must:

(i) Keep fire response equipment in a state of readiness;

(ii) Standardize all fire hose coupling and connection threads throughout the facility and on vessels and vessel sections by providing the same type of hose coupling and connection threads for hoses of the same or similar diameter; and

(iii) Ensure that either all fire hoses and coupling connection threads are the same within a facility or vessel or vessel section as those used by the outside fire response organization, or supply suitable adapter couplings if such an organization is expected to use the fire response equipment within a facility or vessel or vessel section.

NEW SECTION

**WAC 296-304-01015 Hazards of fixed extinguishing systems on board vessels and vessel sections.** (1) **Employer responsibilities.** The employer must comply with the provisions of this section whenever employees are exposed to fixed extinguishing systems that could create a dangerous atmosphere when activated in vessels and vessel sections, regardless of geographic location.

(2) **Requirements for automatic and manual systems.** Before any work is done in a space equipped with fixed extinguishing systems, the employer must either:

(a) Physically isolate the systems or use other positive means to prevent the systems' discharge; or

(b) Ensure employees are trained to recognize:

(i) Systems' discharge and evacuation alarms and the appropriate escape routes; and

(ii) Hazards associated with the extinguishing systems and agents including the dangers of disturbing system components and equipment such as piping, cables, linkages, detection devices,

activation devices, and alarm devices.

(3) **Sea and dock trials.** During trials, the employer must ensure that all systems shall remain operational.

(4) **Doors and hatches.** The employer must:

(a) Take protective measures to ensure that all doors, hatches, scuttles, and other exit openings remain working and accessible for escape in the event the systems are activated; and

(b) Ensure that all inward opening doors, hatches, scuttles, and other potential barriers to safe exit are removed, locked open, braced, or otherwise secured so that they remain open and accessible for escape if the systems' activation could result in a positive pressure in the protected spaces sufficient to impede escape.

(5) **Testing the system.**

(a) When testing a fixed extinguishing system involves a total discharge of extinguishing medium into a space, the employer must evacuate all employees from the space and assure that no employees remain in the space during the discharge. The employer must retest the atmosphere in accordance with WAC 296-304-02003 to ensure that the oxygen levels are safe for employees to enter.

(b) When testing a fixed extinguishing system does not involve a total discharge of the system's extinguishing medium, the employer must make sure that the system's extinguishing medium is physically isolated and that all employees not directly involved in the testing are evacuated from the protected space.

(6) **Conducting system maintenance.** Before conducting maintenance on a fixed extinguishing system, the employer must ensure that the system is physically isolated.

(7) **Using fixed manual extinguishing systems for fire protection.** If fixed manual extinguishing systems are used to provide fire protection for spaces in which the employees are working, the employer must ensure that:

(a) Only authorized employees are allowed to activate the system;

(b) Authorized employees are trained to operate and activate the systems; and

(c) All employees are evacuated from the protected spaces, and accounted for, before the fixed manual extinguishing system is activated.

NEW SECTION

**WAC 296-304-01017 Land-side fire protection systems.** (1) **Employer responsibilities.** The employer must ensure all fixed and portable fire protection systems needed to meet WISHA standards for employee safety or employee protection from fire hazards in land-side facilities, including, but not limited to, buildings, structures, and equipment, meet the requirements of this section.

(2) **Portable fire extinguishers and hose systems.**

(a) The employer must select, install, inspect, maintain, and test all portable fire extinguishers according to NFPA 10-1998 Standard for Portable Fire Extinguishers (incorporated by reference, see WAC 296-304-01003).

(b) The employer is permitted to use Class II or Class III hose systems, in accordance with NFPA 10-1998, as portable fire extinguishers if the employer selects, installs, inspects, maintains, and tests those systems according to the specific recommendations in NFPA 14-2000 Standard for the Installation of Standpipe, Private Hydrant, and Hose Systems (incorporated by reference, see WAC 296-304-01003).

(3) **General requirements for fixed extinguishing systems.**

The employer must:

(a) Ensure that any fixed extinguishing system component or extinguishing agent is approved by an OSHA nationally recognized testing laboratory for use on the specific hazards the employer expects it to control or extinguish;

(b) Notify employees and take the necessary precautions to ensure employees are safe from fire if for any reason a fire extinguishing system stops working, until the system is working again;

(c) Ensure all repairs to fire extinguishing systems and equipment are done by a qualified technician or mechanic;

(d) Provide and ensure employees use proper personal protective equipment when entering discharge areas in which the atmosphere remains hazardous to employee safety or health, or provide safeguards to prevent employees from entering those areas. See WAC 296-304-02003 for additional requirements applicable to safe entry into spaces containing dangerous atmospheres;

(e) Post hazard warning or caution signs at both the entrance to and inside of areas protected by fixed extinguishing systems that use extinguishing agents in concentrations known to be hazardous to employee safety or health; and

(f) Select, install, inspect, maintain, and test all automatic fire detection systems and emergency alarms according to NFPA 72-1999 National Fire Alarm Code (incorporated by reference, see WAC 296-304-01003).

(4) **Fixed extinguishing systems.** The employer must select, install, maintain, inspect, and test all fixed systems required by WISHA as follows:

(a) Standpipe and hose systems according to NFPA 14-2000 Standard for the Installation of Standpipe, Private Hydrant, and Hose Systems (incorporated by reference, see WAC 296-304-01003);

(b) Automatic sprinkler systems according to NFPA 25-2002 Standard for the Inspection, Testing, and Maintenance of Water-based Fire Protection Systems, and either NFPA 13-1999 Standard for the Installation of Sprinkler Systems or NFPA 750-2000 Standard on Water Mist Fire Protection Systems (incorporated by reference, see WAC 296-304-01003);

(c) Fixed extinguishing systems that use water or foam as the extinguishing agent according to NFPA 15-2001 Standard for Water Spray Fixed Systems for Fire Protection; NFPA 11-1998 Standard for Low-Expansion Foam; and NFPA 11A-1999 Standard for Medium- and High-Expansion Foam Systems (incorporated by reference, see WAC 296-304-01003);

(d) Fixed extinguishing systems using dry chemical as the extinguishing agent according to NFPA 17-2002 Standard for Dry Chemical Extinguishing Systems (incorporated by reference, see WAC 296-304-01003); and

(e) Fixed extinguishing systems using gas as the extinguishing agent according to NFPA 12-2000 Standard on Carbon Dioxide Extinguishing Systems; NFPA 12A-1997 Standard on Halon 1301 Fire Extinguishing Systems; and NFPA 2001-2000 Standard on Clean Agent Fire Extinguishing Systems (incorporated by reference, see WAC 296-304-01003).

#### NEW SECTION

**WAC 296-304-01019 Training.** (1) The employer must train employees in the applicable requirements of this section:

(a) Within ninety days of **(effective date of this rule)**, for employees currently working;

(b) Upon initial assignment for new employees; and

(c) When necessary to maintain proficiency for employees previously trained.

(2) **Employee training.** The employer must ensure that all employees are trained on:

(a) The emergency alarm signals, including system discharge

alarms and employee evacuation alarms; and

(b) The primary and secondary evacuation routes that employees must use in the event of a fire in the workplace. While all vessels and vessel sections must have a primary evacuation route, a secondary evacuation route is not required when impracticable.

(3) **Additional training requirements for employees expected to fight incipient stage fires.** The employer must ensure that employees expected to fight incipient stage fires are trained on the following:

(a) The general principles of using fire extinguishers or hose lines, the hazards involved with incipient fire fighting, and the procedures used to reduce these hazards;

(b) The hazards associated with fixed and portable fire protection systems that employees may use or to which they may be exposed during discharge of those systems; and

(c) The activation and operation of fixed and portable fire protection systems that the employer expects employees to use in the workplace.

(4) **Additional training requirements for shipyard employees designated for fire response.** The employer must:

(a) Have a written training policy stating that fire response employees must be trained and capable of carrying out their duties and responsibilities at all times;

(b) Keep written standard operating procedures that address anticipated emergency operations and update these procedures as necessary;

(c) Review fire response employee training programs and hands-on sessions before they are used in fire response training to make sure that fire response employees are protected from hazards associated with fire response training;

(d) Provide training for fire response employees that ensures they are capable of carrying out their duties and responsibilities under the employer's standard operating procedures;

(e) Train new fire response employees before they engage in emergency operations;

(f) At least quarterly, provide training on the written operating procedures to fire response employees who are expected to fight fires;

(g) Use qualified instructors to conduct the training;

(h) Conduct any training that involves live fire response exercises in accordance with NFPA 1403-2002 Standard on Live Fire Training Evolutions (incorporated by reference, see WAC 296-304-01003);

(i) Conduct semiannual drills according to the employer's written procedures for fire response employees that cover site-specific operations, occupancies, buildings, vessels and vessel sections, and fire-related hazards; and

(j) Prohibit the use of smoke generating devices that create a dangerous atmosphere in training exercises.

(5) **Additional training requirements for fire watch duty.**

(a) The employer must ensure that each fire watch is trained by an instructor with adequate fire watch knowledge and experience to cover the items as follows:

(i) Before being assigned to fire watch duty;

(ii) Whenever there is a change in operations that presents a new or different hazard;

(iii) Whenever the employer has reason to believe that the fire watch's knowledge, skills, or understanding of the training previously provided is inadequate; and

(iv) Annually.

(b) The employer must ensure that each employee who stands fire watch duty is trained in:

(i) The basics of fire behavior, the different classes of fire and of extinguishing agents, the stages of fire, and methods for extinguishing fires;

(ii) Extinguishing live fire scenarios whenever allowed by local and federal law;

(iii) The recognition of the adverse health effects that may be caused by exposure to fire;

(iv) The physical characteristics of the hot work area;

(v) The hazards associated with fire watch duties;

(vi) The personal protective equipment (PPE) needed to perform fire watch duties safely;

(vii) The use of PPE;

(viii) The selection and use of any fire extinguishers and fire hoses likely to be used by a fire watch in the work area;

(ix) The location and use of barriers;

(x) The means of communication designated by the employer for fire watches;

(xi) When and how to start fire alarm procedures; and

(xii) The employer's evacuation plan.

(c) The employer must ensure that each fire watch is trained to alert others to exit the space whenever:

(i) The fire watch perceives an unsafe condition;

(ii) The fire watch perceives that a worker performing hot work is in danger;

(iii) The employer or a representative of the employer orders an evacuation; or

(iv) An evacuation signal, such as an alarm, is activated.

(6) **Records.** The employer must keep records that demonstrate that employees have been trained as required by subsections (1) through (5) of this section.

(a) The employer must ensure that the records include the employee's name; the trainer's name; the type of training; and the date(s) on which the training took place.

(b) The employer must keep each training record for one

year from the time it was made or until it is replaced with a new training record, whichever is shorter, and make it available for inspection and copying by WISHA on request.

NEW SECTION

**WAC 296-304-01021 Competent person. (1) Application.**

This section applies to shipyard employment.

**(2) Designation.**

(a) One or more competent persons shall be designated by the employer in accordance with the applicable requirements of this section, unless the requirements of WAC 296-304-020 through 296-304-02011, WAC 296-304-030 through 296-304-03009, WAC 296-304-040 through 296-304-04013, and WAC 296-304-080 through 296-304-08011, are always carried out by a marine chemist.

**Exception:** The employer may designate any person who meets the applicable portions of the criteria set forth in subsection (3) of this section as a competent person who is limited to performing testing to the following situations:

- (i) Repair work on small craft in boat yards where only combustible gas indicator tests are required for fuel tank leaks or when using flammable paints below decks;
- (ii) Building of wooden vessels where only knowledge of the precautions to be taken when using flammable paints is required;
- (iii) The breaking of vessels where there is no fuel oil or other flammable hazard; and
- (iv) Tests and inspections performed to comply with WAC 296-304-03007 (2)(h) and 296-304-03009 (1)(e).

(b) The employer shall maintain either a roster of designated competent persons or a statement that a marine chemist will perform the tests or inspections which require a competent person.

(c) The employer shall make the roster of designated persons or the statement available to employees, the employee's representative, or the director upon request.

(d) The roster shall contain, as a minimum, the following:

- (i) The employer's name;
- (ii) The designated competent person's name(s); and
- (iii) The date the employee was trained as a competent person.

(3) **Criteria.** The employer shall ensure that each designated competent person has the following skills and knowledge:

(a) Ability to understand and carry out written or oral information or instructions left by marine chemists, Coast Guard-authorized persons and certified industrial hygienists;

(b) Knowledge of WAC 296-304-020 through 296-304-02011, WAC 296-304-030 through 296-304-03009, WAC 296-304-040 through 296-304-04013, and WAC 296-304-080 through 296-304-08011;

(c) Knowledge of the structure, location, and designation of spaces where work is done;

(d) Ability to calibrate and use testing equipment including, but not limited to, oxygen indicators, combustible

gas indicators, carbon monoxide indicators, and carbon dioxide indicators, and to interpret accurately the test results of that equipment;

(e) Ability to perform all required tests and inspections which are or may be performed by a competent person as set forth in WAC 296-304-020 through 296-304-02011, WAC 296-304-030 through 296-304-03009, WAC 296-304-040 through 296-304-04013, and WAC 296-304-080 through 296-304-08011;

(f) Ability to inspect, test, and evaluate spaces to determine the need for further testing by a marine chemist or a certified industrial hygienist; and

(g) Ability to maintain records required by this section.

(4) **Recordkeeping.**

(a) When tests and inspections are performed by a competent person, marine chemist, or certified industrial hygienist as required by any provisions of WAC 296-304-020 through 296-304-02011, WAC 296-304-030 through 296-304-03009, WAC 296-304-040 through 296-304-04013, or WAC 296-304-080 through 296-304-08011, the employer shall ensure that the person performing the test and inspection records the location, time, date, location of inspected spaces, and the operations performed, as well as the test results and any instructions.

(b) The employer shall ensure that the records are posted in the immediate vicinity of the affected operations while work in the spaces is in progress. The records shall be kept on file for a period of at least three months from the completion date of the specific job for which they were generated.

(c) The employer shall ensure that the records are available for inspection by the director, and employees and their representatives.