AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-304-01001 Definitions. **"Additional safety measure" -** A component of the tags-plus system that provides an impediment (in addition to the energy-isolating device) to the release of energy or the energization or start-up of the machinery, equipment, or system being serviced. Examples of additional safety measures include, but are not limited to, removing an isolating circuit element; blocking a controlling switch; blocking, blanking, or bleeding lines; removing a valve handle or wiring it in place; opening an extra disconnecting device.

"Affected employee" - An employee who normally operates or uses the machinery, equipment, or system that is going to be serviced under lockout/tags-plus or who is working in the area where servicing is being performed under lockout/tags-plus. An affected employee becomes an authorized employee when the employer assigns the employee to service any machine, equipment, or system under a lockout/tags-plus application.

"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.

"Authorized employee"

(1) An employee who performs one or more of the following lockout/tags-plus responsibilities:

(a) Executes the lockout/tags-plus procedures;

(b) Installs a lock or tags-plus system on machinery, equipment, or systems; or

(c) Services any machine, equipment, or system under lockout/tags-plus application.

(2) An affected employee becomes an authorized employee when the employer assigns the employee to service any machine, equipment, or system under a lockout/tags-plus application.

"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.

"Capable of being locked out" - An energy-isolating device is capable of being locked out if it has a locking mechanism built into it, or it has a hasp or other means of attachment to which, or through which, a lock can be affixed. Other energy-isolating devices are capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy-control capability.

"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" - 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~~)) are not directly related to shipyard employment (such as mail delivery or office supply and food vending 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.

"Dummy load" - A device used in place of an antenna to aid in the testing of a radio transmitter that converts transmitted energy into heat to minimize energy radiating outward or reflecting back to its source during testing.

"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.

"Energy-isolating device" - A mechanical device that, when utilized or activated, physically prevents the release or transmission of energy. Energy-isolating devices include, but are not limited to, manually operated electrical circuit breakers; disconnect switches; line valves; blocks; and any similar device used to block or isolate energy. Control-circuit devices (for example, push buttons, selector switches) are not considered energy isolating devices.

"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 firefighting in accordance with the fire safety plan.

"Fire response organization" - An organized group knowledgeable, trained, and skilled in shipyard firefighting 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 energy" - Any energy source, including mechanical (for example, power transmission apparatus, counterbalances, springs, pressure, gravity), pneumatic, hydraulic, electrical, chemical, and thermal (for example, high or low temperature) energies, that could cause injury to employees.

"Hazardous substance" - A substance likely to cause injury, illness or disease, or otherwise harm an employee because it is explosive, flammable, poisonous, corrosive, oxidizing, ((~~irritant~~)) irritating, or otherwise harmful.

"Health care professional" - A physician or any other health care professional whose legally permitted scope of practice allows the provider to independently provide, or be delegated the responsibility to provide, some or all of the advice or consultation this subpart requires.

"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" - 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 firefighting 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.

"Isolated location" - An area in which employees are working alone or with little assistance from others due to the type, time, or location of their work. Such locations include remote locations or other work areas where employees are not in close proximity to others.

"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.

"Lock" - A device that utilizes a positive means, either a key or combination lock, to hold an energy isolating device in a "safe" position that prevents the release of energy and the start-up or energization of the machinery, equipment, or system to be serviced.

"Lockout" - The placement of a lock on an energy-isolating device in accordance with an established procedure, thereby ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lock is removed.

"Lockout/tags-plus coordinator" - An employee whom the employer designates to coordinate and oversee all lockout and tags-plus applications on vessels or vessel sections and at landside work areas when employees are performing multiple servicing operations on the same machinery, equipment, or systems at the same time, and when employees are servicing multiple machinery, equipment, or systems on the same vessel or vessel section at the same time. The lockout/tags-plus coordinator also maintains the lockout/tags-plus log.

"Lockout/tags-plus materials and hardware" - Locks, chains,

wedges, blanks, key blocks, adapter pins, self-locking fasteners, or other hardware used for isolating, blocking, or securing machinery, equipment, or systems to prevent the release of energy or the start-up or energization of machinery, equipment, or systems to be serviced.

"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.

"Motor vehicle" - Any motor-driven vehicle operated by an employee that is used to transport employees, material, or property. For the purposes of this subpart, motor vehicles include passenger cars, light trucks, vans, motorcycles, all-terrain vehicles, small utility trucks, powered industrial trucks, and other similar vehicles. Motor vehicles do not include boats, or vehicles operated exclusively on a rail or rails.

"Motor vehicle safety equipment" - Systems and devices integral to or installed on a motor vehicle for the purpose of effecting the safe operation of the vehicle, and consisting of such systems or devices as safety belts, airbags, headlights, tail lights, emergency/hazard lights, windshield wipers, defogging or defrosting devices, brakes, horns, mirrors, windshields and other windows, and locks.

"Multiemployer workplace" - A workplace where there is a host employer and at least one contract employer.

"Normal production operations" - The use of machinery or equipment, including, but not limited to, punch presses, bending presses, shears, lathes, keel press rollers, and automated burning machines, to perform a shipyard-employment production process.

"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 toilet" - A nonsewered portable facility for collecting and containing urine and feces. A portable toilet may be either flushable or nonflushable. For purposes of this section, portable toilets do not include privies.

"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 178, 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.

"Potable water" - Water that meets the standards for drinking purposes of the state or local authority having jurisdiction, or water that meets the quality standards prescribed by the U.S. Environmental Protection Agency's National Primary Water Regulations (40 CFR part 141).

"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 firefighting" - Specialized firefighting 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 firefighting operations usually are exterior operations but may be combined with structural firefighting operations. Proximity firefighting is not entry firefighting.

"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.

"Readily accessible/available" - Capable of being reached quickly enough to ensure, for example, that emergency medical services and first-aid intervention are appropriate or that employees can reach sanitation facilities in time to meet their health and personal needs.

"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.

"Sanitation facilities" - Facilities, including supplies, maintained for employee personal and health needs such as potable drinking water, toilet facilities, hand-washing and hand-drying facilities, showers (including quick-drenching or flushing) and changing rooms, eating and drinking areas, first-aid stations, and on-site medical-service areas. Sanitation supplies include soap, waterless cleaning agents, single-use drinking cups, drinking water containers, toilet paper, and towels.

"Serviceable condition" - The state or ability of supplies or goods, or of a tool, machine, vehicle, or other device, to be used or to operate in the manner prescribed by the manufacturer.

"Servicing" - Workplace activities that involve the construction, installation, adjustment, inspection, modification, testing, or repair of machinery, equipment, or systems. Servicing also includes maintaining machines, equipment, or systems when performing these activities would expose the employee to harm from the start-up or energization of the system being serviced, or the release of hazardous energy.

"Sewered toilet" - A fixture maintained for the purpose of urination and defecation that is connected to a sanitary sewer, septic tank, holding tank (bilge), or on-site sewage-disposal treatment facility, and that is flushed with water.

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

"Shield" - To install a covering, protective layer, or other effective measure on or around steam hoses or temporary steam-piping systems, including metal fittings and couplings, to protect employees from contacting hot surfaces or elements.

"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 firefighting" - 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.

"Short bight" - A loop created in a line or rope that is used to tie back or fasten objects such as hoses, wiring, and fittings.

"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.

"Tag" - A prominent warning device that includes a means of attachment that can be securely fastened to an energy-isolating device in accordance with an established procedure to indicate that the energy-isolating device and the equipment being controlled must not be operated until the tag is removed by an authorized employee.

"Tags-plus system" - A system to control hazardous energy that consists of an energy-isolating device with a tag affixed to it, and at least one additional safety measure.

"Verification of isolation" - The means necessary to detect the presence of hazardous energy, which may involve the use of a test instrument (for example, a voltmeter), and, for other than electric shock protection, a visual inspection, or a deliberate attempt to start-up the machinery, equipment, or system.

"Vermin" - Insects, birds, and other animals, such as rodents and feral cats, that may create safety and health hazards for employees.

"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.

"Vessel section" - A subassembly, module, or other component of a vessel being built or repaired.

"Walkway" - Any surface, whether vertical, slanted, or horizontal, on which employees walk, including areas that employees pass through, to perform their job tasks. Walkways include, but are not limited to, access ways, designated walkways, aisles, exits, gangways, ladders, ramps, stairs, steps, passageways, and scaffolding. If an area is, or could be, used to gain access to other locations, it is to be considered a walkway.

"Work area" - A specific area, such as a machine shop, engineering space, or fabrication area, where one or more employees are performing job tasks.

"Working surface" - Any surface where work is occurring, or areas where tools, materials, and equipment are being staged for performing work.

"Worksite" - A general work location where one or more employees are performing work, such as a shipyard, pier, barge, vessel, or vessel section.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-060 General working conditions--Scope and application. All sections of this chapter which include WAC 296-304-060 in the section number apply to general working conditions in shipyard employment, including work on vessels, on vessel

sections, and at landside operations.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-06001 Housekeeping. (1) Good housekeeping conditions shall be maintained at all times. Adequate aisles and passageways shall be maintained in all work areas. All staging platforms, ramps, stairways, walkways, aisles, and passageways on vessels or dry docks shall be kept clear of all tools, materials, and equipment except that which is in use, and all debris such as welding rod tips, bolts, nuts, and similar material. Hose and electric conductors shall be elevated over or placed under the walkway or working surfaces or covered by adequate crossover planks. While a walkway is being used as a working surface, that portion shall be cordoned off to prevent it from being used as a walkway.

(2) All working areas on vessels and dry docks shall be ((~~kept reasonably free of debris, and construction material shall be so piled as not to present a hazard to employees.~~)):

(a) Cleared of tools, materials, and equipment that are not necessary to perform the job in progress;

(b) Cleared of debris, including solid and liquid wastes, at the end of each workshift or job, whichever occurs first;

(c) Maintained, so far as practicable, in a dry condition. When a wet process is used, the employer shall maintain drainage and provide false floors, platforms, mats, or other dry standing places. When the employer demonstrates that this procedure is not practicable, the employer shall provide each employee working in the wet process with protective footgear, in accordance with WAC 296-304-09013.

(3) Slippery conditions on walkways or working surfaces shall be eliminated as they occur. If it is not practicable for the employer to remove slippery conditions, the employer either shall:

(a) Restrict employees to designated walkways and working surfaces where the employer has eliminated slippery conditions; or

(b) Provide slip-resistant footwear in accordance with WAC 296-304-09013.

(4) Free access shall be maintained at all times to all exits and to all fire-alarm boxes or fire-extinguishing equipment.

(5) All oils, paints, thinners, solvents waste, rags, or other flammable substances shall be disposed of or kept in fire resistant covered containers when not in use.

NEW SECTION

WAC 296-304-06002 Sanitation. (1) General requirements.

(a) The employer shall provide adequate and readily accessible sanitation facilities.

(b) The employer shall establish and implement a schedule for servicing, cleaning, and supplying each facility to ensure it is maintained in a clean, sanitary, and serviceable condition.

(2) Potable water. The employer shall provide potable water for all employee health and personal needs and ensure that only potable water is used for these purposes.

(a) The employer shall provide potable drinking water in amounts that are adequate to meet the health and personal needs of each employee.

(b) The employer shall dispense drinking water from a fountain, a covered container with single-use drinking cups stored in a sanitary receptacle, or single-use bottles. The employer shall prohibit the use of shared drinking cups, dippers, and water bottles.

(3) Nonpotable water.

(a) The employer may use nonpotable water for other purposes such as firefighting and cleaning outdoor premises so long as it does not contain chemicals, fecal matter, coliform, or other substances at levels that may create a hazard for employees.

(b) The employer shall clearly mark nonpotable water supplies and outlets as "not safe for health or personal use."

(4) Toilets.

(a) General requirements. The employer shall ensure that sewered and portable toilets:

(i) Provide privacy at all times. When a toilet facility contains more than one toilet, each toilet shall occupy a separate compartment with a door and walls or partitions that are sufficiently high to ensure privacy; and

(ii) Are separate for each sex, except as provided in (a)(ii)(B) of this subsection;

(A) The number of toilets provided for each sex shall be based on the maximum number of employees of that sex present at the worksite at any one time during a workshift. A single occupancy toilet room shall be counted as one toilet regardless of the number of toilets it contains; and

(B) The employer does not have to provide separate toilet facilities for each sex when they will not be occupied by more than one employee at a time, can be locked from the inside, and contain at least one toilet.

(iii) The employer shall establish and implement a schedule to ensure that each sewered and portable toilet is maintained in a clean, sanitary, and serviceable condition.

(b) Minimum number of toilets. The employer shall provide at least the following number of toilets for each sex. Portable toilets that meet the requirements in (c) of this subsection may be included in the minimum number of toilets.

Table F-1

Minimum Number of Toilets

Number of employees of each sex	Minimum number of toilets per sex
1 to 15	1
16 to 35	2
36 to 55	3
56 to 80	4
81 to 110	5
111 to 150	6
Over 150	1 additional toilet for each additional 40 employees

Note to Table F-1: When toilets will only be used by men, urinals may be provided instead of toilets, except that the number of toilets in such cases shall not be reduced to less than two-thirds of the minimum specified.

(c) Portable toilets.

(i) The employer shall provide portable toilets, pursuant to paragraph (4)(b) of this section and Table F-1, only when the employer demonstrates that it is not feasible to provide sewered toilets, or when there is a temporary increase in the number of employees for a short duration of time.

(ii) The employer shall ensure that each portable toilet is vented and equipped, as necessary, with lighting.

(d) Exception for normally unattended worksites and mobile work crews. The requirement to provide toilets does not apply to normally unattended worksites and mobile work crews, provided that the employer ensures that employees have immediately available transportation to readily accessible sanitation facilities that are maintained in a clean, sanitary, and serviceable condition and meet the other requirements of this section.

(5) Handwashing facilities.

(a) The employer shall provide handwashing facilities at or adjacent to each toilet facility.

(b) The employer shall ensure that each handwashing facility:

(i) Is equipped with either hot and cold or lukewarm running water and soap, or with waterless skin-cleansing agents that are capable of disinfecting the skin or neutralizing the contaminants to which the employee may be exposed; and

(ii) If the facility uses soap and water, it is supplied with clean, single-use hand towels stored in a sanitary container and a sanitary means for disposing of them, clean individual sections of continuous cloth toweling, or a hand-drying air blower.

(c) The employer shall inform each employee engaged in the application of paints or coatings or in other operations in which hazardous or toxic substances can be ingested or absorbed about the need for removing surface contaminants from their skin's surface by thoroughly washing their hands and face at the end of the workshift and prior to eating, drinking, or smoking.

(6) Showers.

(a) When showers are required by an OSHA standard, the

employer shall provide one shower for each ten, or fraction of ten, employees of each sex who are required to shower during the same workshift.

(b) The employer shall ensure that each shower is equipped with soap, hot and cold water, and clean towels for each employee who uses the shower.

(7) Changing rooms. When an employer provides protective clothing to prevent employee exposure to hazardous or toxic substances, the employer shall provide the following:

(a) Changing rooms that provide privacy for each sex; and

(b) Storage facilities for street clothes, as well as separate storage facilities for protective clothing.

(8) Eating, drinking, and break areas. The employer shall ensure that food, beverages, and tobacco products are not consumed or stored in any area where employees may be exposed to hazardous or toxic substances.

(9) Waste disposal.

(a) The employer shall provide waste receptacles that meet the following requirements:

(i) Each receptacle is constructed of materials that are corrosion resistant, leak-proof, and easily cleaned or disposable;

(ii) Each receptacle is equipped with a solid tight-fitting cover, unless it can be kept in clean, sanitary, and serviceable condition without the use of a cover;

(iii) Receptacles are provided in numbers, sizes, and locations that encourage their use; and

(iv) Each receptacle is emptied as often as necessary to prevent it from overfilling and in a manner that does not create a hazard for employees. Waste receptacles for food shall be emptied at least every day, unless unused.

(b) The employer shall not permit employees to work in the immediate vicinity of uncovered garbage that could endanger their safety and health.

(c) The employer shall ensure that employees working beneath or on the outboard side of a vessel are not contaminated by drainage or waste from overboard discharges.

(10) Vermin control.

(a) To the extent reasonably practicable, the employer shall clean and maintain the workplace in a manner that prevents vermin infestation.

(b) Where vermin are detected, the employer shall implement and maintain an effective vermin-control program.

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

WAC 296-304-06003 Illumination. (1) All means of access and walkways leading to working areas as well as the working areas themselves shall be adequately illuminated.

(a) For landside areas, the employer shall provide illumination that meets the levels set forth in Table F-2.

Table F-2
Minimum Lighting Intensities in Foot-Candles

Lumens (foot-candles)	Area or operation
3	General areas on vessels and vessel sections such as accessways, exits, gangways, stairs, and walkways.
5	General landside areas such as corridors, exits, stairs, and walkways.
5	All assigned work areas on any vessel or vessel section.
5	Landside tunnels, shafts, vaults, pumping stations, and underground work areas.
10	Landside work areas such as machine shops, electrical equipment rooms, carpenter shops, lofts, tool rooms, warehouses, and outdoor work areas.
10	Changing rooms, showers, sewered toilets, and eating, drinking, and break areas.
30	First-aid stations, infirmaries, and offices.

Note to Table F-2: The required illumination levels in this table do not apply to emergency or portable lights.

(b) For vessels and vessel sections, the employer shall provide illumination that meets the levels set forth in the table to (a) of this subsection or meet ANSI/IESNA RP-7-01.

(c) When adequate illumination is not obtainable by permanent lighting sources, temporary lighting may be used as supplementation.

(d) The employer shall ensure that neither matches nor open-flame devices are used for lighting.

(2) Temporary lights shall meet the following requirements:

(a) Temporary lights shall be equipped with guards to prevent accidental contact with the bulb, except that guards are not required when the construction of the reflector is such that the bulb is deeply recessed((~~.~~));

(b) Temporary lights shall be equipped with heavy duty electric cords with connections and insulation maintained in safe condition. Temporary lights shall not be suspended by their electric cords unless cords and lights are designed for this means of suspension. Splices ((~~which~~)) must have insulation ((~~equal to that of the cable are permitted.~~)) with a capacity that exceeds that of the original insulation of the cord; and

(c) Cords shall be kept clear of working spaces and walkways or other locations in which they are readily exposed to damage.

(3) Exposed noncurrent-carrying metal parts of temporary lights furnished by the employer shall be grounded either through a third wire in the cable containing the circuit conductors or through a separate wire which is grounded at the source of the current. Grounding shall be in accordance with the requirements of WAC 296-304-08003(2).

(4) Where temporary lighting from sources outside the vessel is the only means of illumination, portable emergency lighting equipment shall be available to provide illumination for safe movement of employees. If natural sunlight provides sufficient illumination, portable or emergency lights are not required.

(5) Employees shall not be permitted to enter dark spaces without a suitable portable light. The use of matches and open flame lights is prohibited. In nongas free spaces, portable lights shall meet the requirements of WAC 296-304-02005 (2)(i).

(6) Temporary lighting stringers or streamers shall be so arranged as to avoid overloading of branch circuits. Each branch circuit shall be equipped with overcurrent protection of capacity not exceeding the rated current carrying capacity of the cord used.

(7) Explosion-proof, self-contained lights. The employer shall provide and ensure that each employee uses only explosion-proof, self-contained temporary and portable lights, approved for hazardous conditions by a nationally recognized testing laboratory (NRTL), in any area that the atmosphere is determined to contain a concentration of flammable vapors that are at or above ten percent of the lower explosive limit (LEL).

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-06005 Utilities. (1) Steam supply and hoses.

(a) Prior to supplying a vessel with steam from a source outside the vessel, the employer shall ascertain from responsible vessel's representatives, having knowledge of the condition of the plant, the safe working pressure of the vessel's steam system. The employer shall install a pressure gauge and a relief valve of proper size and capacity at the point where the temporary steam hose joins the vessel's steam piping system or systems. The relief valve shall be set and capable of relieving at a pressure not exceeding the safe working pressure of the vessel's system in its present condition, and there shall be no means of isolating the relief valve from the system which it protects. The pressure gauge and relief valve shall be located so as to be visible and readily accessible, and each relief valve is to be positioned so it is not likely to cause injury if steam is released.

(b) Steam hose and fittings shall have a safety factor of not less than five, and shall be used in accordance with the manufacturer's specifications.

(c) When steam hose is hung in a bight or bights, the weight shall be relieved by appropriate lines to reduce tension on the hose and its fittings. The hose shall be protected against chafing.

(d) Steam hose shall be protected from damage and hose and temporary piping shall be so shielded where passing through normal work areas as to prevent accidental contact by employees.

(2) Electric power. ((~~(a)~~)) When the vessel is supplied with electric power from a source outside the vessel, the following precautions shall be taken prior to energizing the vessel's circuits:

((~~(i)~~)) (a) If in dry dock, the vessel shall be adequately grounded.

((~~(ii)~~)) (b) The employer shall ascertain from responsible vessel's representatives, having a knowledge of the condition of the vessel's electrical system, that all circuits to be energized are in a safe condition.

((~~(iii)~~)) (c) All circuits to be energized shall be equipped with overcurrent protection of capacity not exceeding the rated current carrying capacity of the cord used.

(3) Infrared electrical heat lamps. ((~~(a)~~)) All infrared electrical heat lamps shall be equipped with guards that surround the lamps with the exception of the face, to minimize accidental contact with the lamps.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-06007 Work in confined or isolated spaces. When any work is performed in a confined space, except as provided in WAC 296-304-04001 (2)(c), or when an employee is working alone in an isolated location, ((~~frequent checks shall be made to ensure the safety of~~)) the employee((~~s~~)) shall be checked, by sight or verbal communication:

(1) Throughout each workshift at regular intervals appropriate to the job assignment to ensure the employee's safety and health; and

(2) At the end of the job assignment or at the end of the workshift, whichever occurs first.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-06009 Work on or in the vicinity of radar and radio. ((~~(1) No employees other than radar or radio repairmen shall be permitted to work on masts, king posts or other aloft~~

~~areas unless the radar and radio are secured or otherwise made incapable of radiation. In either event, the radio and radar shall be appropriately tagged.~~

~~(2) Testing of radar or radio shall not be done until the employer can schedule such tests at a time when no work is in progress aloft or personnel can be cleared from the danger area according to minimum safe distances established for and based on the type, model, and power of the equipment.~~)) (1) The employer shall service each vessel's radar and communication systems in accordance with WAC 296-304-06016, Control of hazardous energy.

(2) The employer shall secure each vessel's radar and communication system so it is incapable of energizing or emitting radiation before any employee begins work:

(a) On or in the vicinity of the system;

(b) On or in the vicinity of a system equipped with a dummy load; or

(c) Aloft, such as on a mast or king post.

(3) When a vessel's radar or communication system is operated, serviced, repaired, or tested, the employer shall ensure that:

(a) There is no other work in progress aloft; and

(b) No employee is closer to the system's antenna or transmitter than the manufacturer's specified safe minimum distance for the type, model, and power of the equipment.

(4) The employer shall ensure that no employee enters an area designated as hazardous by manufacturers' specifications while a radar or communication system is capable of emitting radiation.

(5) The requirements of this section do not apply when a radar or communication system is incapable of emitting radiation at levels that could injure workers in the vicinity of the system, or if the radar or communication system is incapable of energizing in a manner than could injure workers working on or in the vicinity of the system.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-06011 Work in or on lifeboats. (1) Before employees are permitted to work in or on a lifeboat, either stowed or in a suspended position, the employer shall ensure that the boat is secured independently of the releasing gear to prevent the boat from falling due to accidental tripping of the releasing gear and movement of the davits or capsizing of a boat in chocks.

(2) Employees shall not be permitted to remain in boats while the boats are being hoisted ((~~into final stowed position~~)) or lowered, except when the employer demonstrates that it is necessary to conduct operational tests or drills over water, or in the event of an emergency.

(3) Employees shall not be permitted to work on the outboard side of lifeboats stowed on their chocks unless the boats are secured by gripes or otherwise secured to prevent them from

swinging outboard.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-304-06013 ((~~Health and sanitation.~~)) Hazardous materials. "Hazardous material" - A material with one or more of the following characteristics:

- Has a flash point below 140°F, closed cup, or is subject to spontaneous heating;
- Has a threshold limit value below 500 p.p.m. in the case of a gas or vapor, below 500 mg./m.3 for fumes, and below 25 m.p.p.c.f. in case of a dust;
- Has a single dose oral LD50 below 500 mg./kg.;
- Is subject to polymerization with the release of large amounts of energy;
- Is a strong oxidizing or reducing agent;
- Causes first degree burns to skin in short time exposure, or is systematically toxic by skin contact; or
- In the course of normal operations, may produce dusts, gases, fumes, vapors, mists, or smokes that have one or more of the above characteristics.

(1) No chemical product, such as a solvent or preservative; no structural material, such as cadmium or zinc coated steel, or plastic material; and no process material, such as welding filler metal; which is a hazardous material may be used until the employer has ascertained the potential fire, toxic, or reactivity hazards which are likely to be encountered in the handling, application, or utilization of such a material.

(2) In order to ascertain the hazards, as required by subsection (1) of this section, the employer shall obtain the following items of information which are applicable to a specific product or material to be used:

(a) The name, address, and telephone number of the source of the information specified in this section preferably those of the manufacturer of the product or material.

(b) The trade name and synonyms for a mixture of chemicals, a basic structural material, or for a process material; and the chemical name and synonyms, chemical family, and formula for a single chemical.

(c) Chemical names of hazardous ingredients, including, but not limited to, those in mixtures, such as those in: (i) Paints, preservatives, and solvents; (ii) alloys, metallic coatings, filler metals and their coatings or core fluxes; and (iii) other liquids, solids, or gases (e.g., abrasive materials).

(d) An indication of the percentage, by weight or volume, which each ingredient of a mixture bears to the whole mixture, and of the threshold limit value of each ingredient, in appropriate

units.

(e) Physical data about a single chemical or a mixture of chemicals, including boiling point, in degrees Fahrenheit; vapor pressure, in millimeters of mercury; vapor density of gas or vapor (air=1); solubility in water, in percent by weight; specific gravity of material (water=1); percentage volatile, by volume, at 70°F.; evaporation rate for liquids (either butyl acetate or ether may be taken as 1); and appearance and odor.

(f) Fire and explosion hazard data about a single chemical or a mixture of chemicals, including flashpoint, in degrees Fahrenheit; flammable limits, in percent by volume in air; suitable extinguishing media or agents; special firefighting procedures; and unusual fire and explosion hazard information.

(g) Health hazard data, including threshold limit value, in appropriate units, for a single hazardous chemical or for the individual hazardous ingredients of a mixture as appropriate, effects of overexposure; and emergency and first-aid procedures.

(h) Reactivity data, including stability, incompatibility, hazardous decomposition products, and hazardous polymerization.

(i) Procedures to be followed and precautions to be taken in cleaning up and disposing of materials leaked or spilled.

(j) Special protection information, including use of personal protective equipment, such as respirators, eye protection, and protective clothing, and of ventilation, such as local exhaust, general, special, or other types.

(k) Special precautionary information about handling and storing.

(l) Any other general precautionary information.

(3) The pertinent information required by subsection (2) of this section shall be recorded either on United States Department of Labor Form LSB 00S-4, Material Safety Data Sheet, or on an essentially similar form which has been approved by the department of labor and industries. Copies of Form LSB 00S-4 may be obtained at any of the following regional offices of the occupational safety and health administration:

(a) Pacific region. (Arizona, California, Hawaii, and Nevada.)

10353 Federal Building, 450 Golden Gate Avenue, Box 36017, San Francisco, Calif. 94102.

(b) Region X, OSHA, (Alaska, Washington, Idaho, and Oregon), 1111 3rd Ave. Suite 715, Seattle, Washington 98101.

A completed MSDS form shall be preserved and available for inspection for each hazardous chemical on the worksite.

(4) The employer shall instruct employees who will be exposed to the hazardous materials as to the nature of the hazards and the means of avoiding them.

(5) The employer shall provide all necessary controls, and the employees shall be protected by suitable personal protective equipment against the hazards identified under subsection (1) of this section and those hazards for which specific precautions are required in WAC 296-304-020 through 296-304-04013.

(6) The employer shall provide adequate washing facilities for employees engaged in the application of paints or coatings or in

other operations where contaminants can, by ingestion or absorption, be detrimental to the health of the employees. The employer shall encourage good personal hygiene practices by informing the employees of the need for removing surface contaminants by thorough washing of hands and face prior to eating or smoking.

(7) The employer shall not permit eating or smoking in areas undergoing surface preparation or preservation or where shiprepairing, shipbuilding, or shipbreaking operations produce atmospheric contamination.

(8) The employer shall not permit employees to work in the immediate vicinity of uncovered garbage and shall ensure that employees working beneath or on the outboard side of a vessel are not subject to contamination by drainage or waste from overboard discharges.

(9) Requirements of WAC 296-800-170, Chemical hazard communication program, will apply to shiprepairing, shipbuilding, and shipbreaking when potential hazards of chemicals and communicating information concerning hazards and appropriate protective equipment is applicable to an operation.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-06015 First aid. ((~~(1) Unless a first-aid room and a qualified attendant are close at hand and prepared to render first aid to employees on behalf of the employer, the employer shall furnish a first-aid kit for each vessel on which work is being performed, except that when work is being performed on more than one small vessel at one pier, only one kit shall be required. The kit, when required, shall be kept close to the vessel and at least one employee, close, at hand, shall be qualified to administer first aid to the injured.~~

~~(2) The first-aid kit shall consist of a weatherproof container with individual sealed packages for each type of item. The contents of such kit shall contain a sufficient quantity of at least the following types of items:~~

~~Gauze roller bandages, 1 inch and 2 inch.~~
~~Gauze compress bandages, 4 inch.~~
~~Adhesive bandages, 1 inch.~~
~~Triangular bandage, 40 inch.~~
~~Ammonia inhalants and ampules.~~
~~Antiseptic applicators or swabs.~~
~~Burn dressing.~~
~~Eye dressing.~~
~~Wire or thin board splints.~~
~~Forceps and tourniquet.~~

~~(3) The contents of the first-aid kit shall be checked before being sent out on each job and at least weekly on each job to~~

~~ensure that the expended items are replaced.~~

~~(4) There shall be available for each vessel on which ten or more employees are working one Stokes basket stretcher, or equivalent, permanently equipped with bridles for attaching to the hoisting gear, except that no more than two stretchers are required on each job location. A blanket or other liner suitable for transferring the patient to and from the stretcher shall be provided. Stretchers shall be kept close to the vessels. This section does not apply where ambulance services which are available are known to carry such stretchers.~~)) (1) The employer shall ensure that emergency medical services and first aid are readily accessible.

(2) The employer shall ensure that health care professionals are readily available for advice and consultation on matters of workplace health.

(3) First-aid providers.

(a) The employer shall ensure that there is an adequate number of employees trained as first-aid providers at each worksite during each workshift unless:

(i) There is an on-site clinic or infirmary with first-aid providers during each workshift; or

(ii) The employer can demonstrate that outside first-aid providers (i.e., emergency medical services) can reach the worksite within five minutes of a report of injury or illness. The employer must take appropriate steps to ascertain that emergency medical assistance will be readily available promptly if an injury or illness occurs.

(b) The employer shall ensure that a first-aid provider is able to reach an injured/ill employee within five minutes of a report of a serious injury, illness, or accident such as one involving cardiac arrest, acute breathing problems, uncontrolled bleeding, suffocation, electrocution, or amputation.

(c) The employer shall use the following factors in determining the number and location of employees who must have first-aid training: Size and location of each worksite; the number of employees at each worksite; the hazards present at each worksite; and the distance of each worksite from hospitals, clinics, and rescue squads.

(d) The employer shall ensure that first-aid providers are trained to render first aid, including cardiopulmonary resuscitation (CPR).

(e) The employer shall ensure that each first-aid provider maintains current first aid and CPR certifications, such as issued by the Red Cross, American Heart Association, or other equivalent organization.

(4) First-aid supplies.

(a) The employer shall provide and maintain adequate first-aid supplies that are readily accessible to each worksite. An employer's on-site infirmary or clinic containing first-aid supplies that are readily accessible to each worksite complies with this requirement.

(b) The employer shall ensure that the placement, content, and amount of first-aid supplies are adequate for the size and location

of each worksite, the number of employees at each worksite, the hazards present at each worksite, and the distance of each worksite from hospitals, clinics, and rescue squads.

(c) The employer shall ensure that first-aid supplies are placed in a weatherproof container.

(d) The employer shall maintain first-aid supplies in a dry, sterile, and serviceable condition.

(e) The employer shall replenish first-aid supplies as necessary to ensure that there is an adequate supply when needed.

(f) The employer shall inspect first-aid supplies at sufficient intervals to ensure that they are adequate and in a serviceable condition.

(5) Quick-drenching and flushing facilities. Where the potential exists for an employee to be splashed with a substance that may result in an acute or serious injury, the employer shall provide facilities for quick-drenching or flushing the eyes and body. The employer shall ensure that such a facility is located for immediate emergency use within close proximity to operations where such substances are being used.

(6) Basket stretchers.

(a) The employer shall provide an adequate number of basket stretchers, or the equivalent, readily accessible to where work is being performed on a vessel or vessel section. The employer is not required to provide basket stretchers or the equivalent where emergency response services have basket stretchers or the equivalent that meet the requirements of this subsection (6)(a).

(b) The employer shall ensure each basket stretcher, or the equivalent, is equipped with:

(i) Permanent lifting bridles that enable the basket stretcher, or the equivalent, to be attached to hoisting gear capable of lifting at least five thousand pounds (2,270 kg);

(ii) Restraints that are capable of securely holding the injured/ill employee while the basket stretcher, or the equivalent, is lifted or moved; and

(iii) A blanket or other suitable covering for the injured/ill employee.

(c) The employer shall store basket stretchers, or the equivalent, and related equipment (i.e., restraints, blankets) in a clearly marked location in a manner that prevents damage and protects the equipment from environmental conditions.

(d) The employer shall inspect stretchers, or the equivalent, and related equipment at intervals that ensure the equipment remains in a safe and serviceable condition, but at least once a year.

Appendix A to WAC 296-304-06015 - First-aid kits and automated external defibrillators (nonmandatory)

1. First-aid supplies are required to be adequate and readily accessible under WAC 296-304-06015 (1) and (4). An example of the minimal contents of a generic first-aid kit for workplace settings is described in ANSI/ISEA Z308.1-2009, "Minimum Requirements for Workplace First Aid Kits and Supplies." The contents of the kit listed in this ANSI standard should be adequate for small

worksites. When larger operations or multiple operations are being conducted at the same worksite, employers should determine the need for additional first-aid kits, additional types of first-aid equipment and supplies, and additional quantities and types of supplies and equipment in the first-aid kits.

2. In a similar fashion, employers that have unique or changing first-aid needs at their worksite may need to enhance their first-aid kits. The employer can use the OSHA 300 Log, OSHA 301 Incident Report form, or other reports to identify these unique problems. Consultation from the local fire or rescue department, appropriate health care professional or local emergency room may be helpful to employers in these circumstances. By assessing the specific needs of their worksite, employers can ensure that reasonably anticipated supplies are available. Employers should assess the specific needs of their worksite periodically, and augment first-aid kits appropriately.

3. If it is reasonably anticipated that employees will be exposed to blood or other potentially infectious materials while using first-aid supplies, employers must provide appropriate personal protective equipment (PPE) in compliance with the provisions of chapter 296-823 WAC, bloodborne pathogens. This standard lists appropriate PPE for this type of exposure, such as gloves, gowns, face shields, masks, and eye protection.

4. Employers who provide automated external defibrillators (AEDs) at their workplaces should designate who will use AEDs and train those employees so they know how to correctly use the AEDs. Although a growing number of AEDs are now designed to be used by any person, even without training, training reinforces proper use and promotes the usefulness of AEDs as part of an effective cardiopulmonary resuscitation plan. For AEDs to be effective, employers should:

a. Ensure that AEDs are located so they can be utilized within three to five minutes of a report of an accident or injury;

b. Ensure that employees use AEDs in accordance with manufacturers' specifications; and

c. Inspect, test, and maintain AEDs in accordance with manufacturers' specifications.

NEW SECTION

WAC 296-304-06016 Control of hazardous energy (lockout/tags-plus). Definition: "Tags-plus system" - A system to control hazardous energy that consists of an energy-isolating device with a tag affixed to it, and at least one additional safety measure.

(1) Scope, application, and effective dates.

(a) Scope. This section covers the servicing of machinery, equipment, and systems when the energization or start-up of machinery, equipment, or systems, or the release of hazardous

energy, could endanger an employee.

(b) Application.

(i) This section applies to the servicing of any machinery, equipment, or system that employees use in the course of shipyard employment work and that is conducted:

(A) In any landside facility that performs shipyard employment work; and

(B) On any vessel or vessel section.

(ii) This section applies to such servicing conducted on a vessel by any employee including, but not limited to, the ship's officers and crew unless such application is preempted by the regulations of another agency.

(c) When other standards in this chapter require the use of a lock or tag, the employer shall use and supplement them with the procedural and training requirements specified in this section.

(d) Exceptions. This section does not apply to:

(i) Work on cord- and plug-connected machinery, equipment, or system, provided the employer ensures that the machinery, equipment, or system is unplugged and the plug is under the exclusive control of the employee performing the servicing;

(ii) Minor servicing activities performed during normal production operations, including minor tool changes and adjustments, that are routine, repetitive, and integral to the use of the machinery, equipment, or system, provided the employer ensures that the work is performed using measures that provide effective protection from energization, start-up, or the release of hazardous energy.

(2) Lockout/tags-plus program. The employer shall establish and implement a written program and procedures for lockout and tags-plus systems to control hazardous energy during the servicing of any machinery, equipment, or system in shipyard employment. The program shall cover:

(a) Procedures for lockout/tags-plus systems while servicing machinery, equipment, or systems in accordance with subsection (3) of this section;

(b) Procedures for protecting employees involved in servicing any machinery, equipment, or system in accordance with subsections (4) through (13) of this section;

(c) Specifications for locks and tags-plus hardware in accordance with subsection (14) of this section;

(d) Employee information and training in accordance with subsection (15) of this section;

(e) Incident investigations in accordance with subsection (16) of this section; and

(f) Program audits in accordance with subsection (17) of this section.

(3) General requirements.

(a) The employer shall ensure that, before any authorized employee performs servicing when energization or start-up, or the release of hazardous energy, may occur, all energy sources are identified and isolated, and the machinery, equipment, or system is rendered inoperative.

(b) If an energy-isolating device is capable of being locked,

the employer shall ensure the use of a lock to prevent energization or start-up, or the release of hazardous energy, before any servicing is started, unless the employer can demonstrate that the utilization of a tags-plus system will provide full employee protection as set forth in (f) of this subsection.

(c) If an energy-isolating device is not capable of being locked, the employer shall ensure the use of a tags-plus system to prevent energization or start-up, or the release of hazardous energy, before any servicing is started.

(d) Each tags-plus system shall consist of:

(i) At least one energy-isolating device with a tag affixed to it; and

(ii) At least one additional safety measure that, along with the energy isolating device and tag required in (d)(i) of this subsection, will provide the equivalent safety available from the use of a lock.

(e) After the effective date of this section, the employer shall ensure that each energy-isolating device for any machinery, equipment, or system is designed to accept a lock whenever the machinery, equipment, or system is extensively repaired, renovated, modified, or replaced, or whenever new machinery, equipment, or systems are installed. This requirement does not apply when a shipyard employer:

(i) Does not own the machinery, equipment, or system; or

(ii) Builds or services a vessel or vessel section according to customer specifications.

(f) Full employee protection.

(i) When a tag is used on an energy-isolating device that is capable of being locked out, the tag shall be attached at the same location that the lock would have been attached; and

(ii) The employer shall demonstrate that the use of a tags-plus system will provide a level of safety equivalent to that obtained by using a lock. In demonstrating that an equivalent level of safety is achieved, the employer shall:

(A) Demonstrate full compliance with all tags-plus related provisions of this standard; and

(B) Implement such additional safety measures as are necessary to provide the equivalent safety available from the use of a lock.

(g) Lockout/tags-plus coordination.

(i) The employer shall establish and implement lockout/tags-plus coordination when:

(A) Employees on vessels and in vessel sections are servicing multiple machinery, equipment, or systems at the same time; or

(B) Employees on vessels, in vessel sections, and at landside facilities are performing multiple servicing operations on the same machinery, equipment, or system at the same time.

(ii) The coordination process shall include a lockout/tags-plus coordinator and a lockout/tags-plus log. Each log shall be specific to each vessel, vessel section, and landside work area.

(iii) The employer shall designate a lockout/tags-plus coordinator who is responsible for overseeing and approving:

(A) The application of each lockout and tags-plus system;

(B) The verification of hazardous energy isolation before the

servicing of any machinery, equipment, or system begins; and

(C) The removal of each lockout and tags-plus system.

(iv) The employer shall ensure that the lockout/tags-plus coordinator maintains and administers a continuous log of each lockout and tags-plus system. The log shall contain:

(A) Location of machinery, equipment, or system to be serviced;

(B) Type of machinery, equipment, or system to be serviced;

(C) Name of the authorized employee applying the lockout/tags-plus system;

(D) Date that the lockout/tags-plus system is applied;

(E) Name of authorized employee removing the lock or tags-plus system; and

(F) Date that lockout/tags-plus system is removed.

(4) Lockout/tags-plus written procedures.

(a) The employer shall establish and implement written procedures to prevent energization or start-up, or the release of hazardous energy, during the servicing of any machinery, equipment, or system. Each procedure shall include:

(i) A clear and specific outline of the scope and purpose of the lockout/tags-plus procedure;

(ii) The means the employer will use to enforce compliance with the lockout/tags-plus program and procedures; and

(iii) The steps that must be followed for:

(A) Preparing for shutting down and isolating of the machinery, equipment, or system to be serviced, in accordance with subsection (5) of this section;

(B) Applying the lockout/tags-plus system, in accordance with subsection (6) of this section;

(C) Verifying isolation, in accordance with subsection (7) of this section;

(D) Testing the machinery, equipment, or system, in accordance with subsection (8) of this section;

(E) Removing lockout/tags-plus systems, in accordance with subsection (9) of this section;

(F) Starting up the machinery, equipment, or system that is being serviced, in accordance with subsection (10) of this section;

(G) Applying lockout/tags-plus systems in group servicing operations, in accordance with subsection (11) of this section;

(H) Addressing multiemployer worksites involved in servicing any machinery, equipment, or system, in accordance with subsection (12) of this section; and

(I) Addressing shift or personnel changes during servicing operations, in accordance with subsection (13) of this section.

Note to (a) of this subsection: The employer need only develop a single procedure for a group of similar machines, equipment, or systems if the machines, equipment, or systems have the same type and magnitude of energy and the same or similar types of controls, and if a single procedure can satisfactorily address the hazards and the steps to be taken to control these hazards.

(b) The employer's lockout procedures do not have to be in writing for servicing machinery, equipment, or systems, provided that all of the following conditions are met:

(i) There is no potential for hazardous energy to be released (or to reaccumulate) after shutting down, or restoring energy to, the machinery, equipment, or system;

(ii) The machinery, equipment, or system has a single energy source that can be readily identified and isolated;

(iii) The isolation and lock out of that energy source will result in complete deenergization and deactivation of the machinery, equipment, or system, and there is no potential for reaccumulation of energy;

(iv) The energy source is isolated and secured from the machinery, equipment, or system during servicing;

(v) Only one lock is necessary for isolating the energy source;

(vi) The lock is under the exclusive control of the authorized employee performing the servicing;

(vii) The servicing does not create a hazard for any other employee; and

(viii) The employer, in utilizing this exception, has not had any accidents or incidents involving the activation or reenergization of this type of machinery, equipment, or system during servicing.

(5) Procedures for shutdown and isolation.

(a) Before an authorized employee shuts down any machinery, equipment, or system, the employer shall:

(i) Ensure that the authorized employee has knowledge of:

(A) The source, type, and magnitude of the hazards associated with energization or start-up of the machine, equipment, or system;

(B) The hazards associated with the release of hazardous energy; and

(C) The means to control these hazards; and

(ii) Notify each affected employee that the machinery, equipment, or system will be shutdown and deenergized prior to servicing, and that a lockout/tags-plus system will be implemented.

(b) The employer shall ensure that the machinery, equipment, or system is shutdown according to the written procedures the employer established.

(c) The employer shall use an orderly shutdown to prevent exposing any employee to risks associated with hazardous energy.

(d) The employer shall ensure that the authorized employee relieves, disconnects, restrains, or otherwise renders safe all potentially hazardous energy that is connected to the machinery, equipment, or system.

(6) Procedures for applying lockout/tags-plus systems.

(a) The employer shall ensure that only an authorized employee applies a lockout/tags-plus system.

(b) When using lockout systems, the employer shall ensure that the authorized employee affixes each lock in a manner that will hold the energy isolating device in a safe or off position.

(c) When using tags-plus systems, the employer shall ensure that the authorized employee affixes a tag directly to the energy-isolating device that clearly indicates that the removal of the device from a safe or off position is prohibited.

(d) When the tag cannot be affixed directly to the energy-

isolating device the employer shall ensure that the authorized employee locates it as close as safely possible to the device, in a safe and immediately obvious position.

(e) The employer shall ensure that each energy-isolating device that controls energy to the machinery, equipment, or system is effective in isolating the machinery, equipment, or system from all potentially hazardous energy source(s).

(7) Procedures for verification of deenergization and isolation.

(a) Before servicing machinery, equipment, or a system that has a lockout/tags-plus system, the employer shall ensure that the authorized employee, or the primary authorized employee in a group lockout/tags-plus application, verifies that the machinery, equipment, or system is deenergized and all energy sources isolated.

(b) The employer shall ensure that the authorized employee, or the primary authorized employee in a group lockout/tags-plus application, continues verifying deenergization and isolation while servicing the machinery, equipment, or system.

(c) Each authorized employee in a group lockout/tags-plus application who will be servicing the machinery, equipment, or system must be given the option to verify that the machinery, equipment, or system is deenergized and all energy sources isolated, even when verification is performed by the primary authorized employee.

(8) Procedures for testing. In each situation in which a lockout/tags-plus system must be removed temporarily and the machinery, equipment, or system restarted to test it or to position a component, the employer shall ensure that the authorized employee does the following in sequence:

(a) Clears tools and materials from the work area;

(b) Removes nonessential employees from the work area;

(c) Removes each lockout/tags-plus system in accordance with subsection (9) of this section;

(d) Restarts the machinery, equipment, or system and then proceeds with testing or positioning; and

(e) After completing testing or positioning, deenergizes and shuts down the machinery, equipment, or system and reapplies all lockout/tags-plus systems in accordance with subsections (5) through (7) of this section to continue servicing.

(9) Procedures for removal of lockout and tags-plus systems.

(a) Before removing any lockout/tags-plus system and restoring the machinery, equipment, or system to use, the employer shall ensure that the authorized employee does the following:

(i) Notifies all other authorized and affected employees that the lockout/tags-plus system will be removed;

(ii) Ensures that all employees in the work area have been safely positioned or removed; and

(iii) Inspects the work area to ensure that nonessential items have been removed and machinery, equipment, or system components are operationally intact.

(b) The employer shall ensure that each lock or tags-plus system is removed by the authorized employee who applied it.

(c) When the authorized employee who applied the lockout/tags-plus system is not available to remove it, the employer may direct removal by another authorized employee, provided the employer developed and incorporated into the lockout/tags-plus program the specific procedures and training that address such removal, and demonstrates that the specific procedures used provide a level of employee safety that is at least as effective in protecting employees as removal of the system by the authorized employee who applied it. After meeting these requirements, the employer shall do the following in sequence:

(i) Verify that the authorized employee who applied the lockout/tags-plus system is not in the facility;

(ii) Make all reasonable efforts to contact the authorized employee to inform him/her that the lockout/tags-plus system has been removed; and

(iii) Ensure that the authorized employee who applied the lock or tags-plus system has knowledge of the removal before resuming work on the affected machinery, equipment, or system.

(10) Procedures for start-up.

(a) Before an authorized employee turns on any machinery, equipment, or system after servicing is completed, the employer shall ensure that the authorized employee has knowledge of the source, type, and magnitude of the hazards associated with energization or start-up, and the means to control these hazards.

(b) The employer shall execute an orderly start-up to prevent or minimize any additional or increased hazard(s) to employees. The employer shall perform the following tasks before starting up the machinery, equipment, or system:

(i) Clear tools and materials from the work area;

(ii) Remove any nonessential employees from the work area; and

(iii) Start-up the machinery, equipment, or system according to the detailed procedures the employer established for that machinery, equipment, or system.

(11) Procedures for group lockout/tags-plus. When more than one authorized employee services the same machinery, equipment, or system at the same time, the following procedures shall be implemented:

(a) Primary authorized employee. The employer shall:

(i) Assign responsibility to one primary authorized employee for each group of authorized employees performing servicing on the same machinery, equipment, or system;

(ii) Ensure that the primary authorized employee determines the safe exposure status of each authorized employee in the group with regard to the lockout/tags-plus system;

(iii) Ensure that the primary authorized employee obtains approval from the lockout/tags-plus coordinator to apply and remove the lockout/tags-plus system; and

(iv) Ensure that the primary authorized employee coordinates the servicing operation with the coordinator when required by subsection (3)(g)(i) of this section.

(b) Authorized employees. The employer shall either:

(i) Have each authorized employee apply a personal lockout/tags-plus system; or

(ii) Use a procedure that the employer can demonstrate affords each authorized employee a level of protection equivalent to the protection provided by having each authorized employee apply a personal lockout/tags-plus system. Such procedures shall incorporate a means for each authorized employee to have personal control of, and accountability for, his or her protection such as, but not limited to, having each authorized employee:

(A) Sign a group tag (or a group tag equivalent), attach a personal identification device to a group lockout device, or performs a comparable action before servicing is started; and

(B) Sign off the group tag (or the group tag equivalent), remove the personal identification device, or perform a comparable action when servicing is finished.

(12) Procedures for multiemployer worksites.

(a) The host employer shall establish and implement procedures to protect employees from hazardous energy in multiemployer worksites. The procedures shall specify the responsibilities for host and contract employers.

(b) Host employer responsibilities. The host employer shall carry out the following responsibilities in multiemployer worksites:

(i) Inform each contract employer about the content of the host employer's lockout/tags-plus program and procedures;

(ii) Instruct each contract employer to follow the host employer's lockout/tags-plus program and procedures; and

(iii) Ensure that the lockout/tags-plus coordinator knows about all servicing operations and communicates with each contract employer who performs servicing or works in an area where servicing is being conducted.

(c) Contract employer responsibilities. Each contract employer shall perform the following duties when working in a multiemployer worksite:

(i) Follow the host employer's lockout/tags-plus program and procedures;

(ii) Ensure that the host employer knows about the lockout/tags-plus hazards associated with the contract employer's work and what the contract employer is doing to address these hazards; and

(iii) Inform the host employer of any previously unidentified lockout/tags-plus hazards that the contract employer identifies at the multiemployer worksite.

Note to subsection (12) of this section: The host employer may include provisions in its contract with the contract employer for the contract employer to have more control over the lockout/tags-plus program if such provisions will provide an equivalent level of protection for the host employer's and contract employer's employees as provided by subsection (l) of this section.

(13) Procedures for shift or personnel changes.

(a) The employer shall establish and implement specific procedures for shift or personnel changes to ensure the continuity of lockout/tags-plus protection.

(b) The employer shall establish and implement provisions for the orderly transfer of lockout/tags-plus systems between

authorized employees when they are starting and ending their workshifts, or when personnel changes occur during a workshift, to prevent energization or start-up of the machinery, equipment, or system being serviced or the release of hazardous energy.

(14) Lockout/tags-plus materials and hardware.

(a) The employer shall provide locks and tags-plus system hardware used for isolating, securing, or blocking machinery, equipment, or systems from all hazardous energy sources.

(b) The employer shall ensure that each lock and tag is uniquely identified for the purpose of controlling hazardous energy and is not used for any other purpose.

(c) The employer shall ensure that each lock and tag meets the following requirements:

(i) Durable.

(A) Each lock and tag is capable of withstanding the existing environmental conditions for the maximum period of time that servicing is expected to last;

(B) Each tag is made so that weather conditions, wet or damp conditions, corrosive substances, or other conditions in the work area where the tag is used or stored will not cause it to deteriorate or become illegible;

(ii) Standardized.

(A) Each lock and tag is standardized in at least one of the following areas: Color, shape, or size; and

(B) Each tag is standardized in print and format;

(iii) Substantial.

(A) Each lock is sturdy enough to prevent removal without the use of extra force or unusual techniques, such as bolt cutters or other metal-cutting tools;

(B) Each tag and tag attachment is sturdy enough to prevent inadvertent or accidental removal;

(C) Each tag attachment has the general design and basic safety characteristics of a one-piece, all environment-tolerant nylon tie;

(D) Each tag attachment is nonreusable, attachable by hand, selflocking, and nonreleasable, and has a minimum unlocking strength of fifty pounds;

(iv) Identifiable. Each lock and tag indicates the identity of the authorized employee applying it; and

(v) Each tag warns of hazardous conditions that could arise if the machinery, equipment, or system is energized and includes a legend such as one of the following: "Do Not Start," "Do Not Open," "Do Not Close," "Do Not Energize," or "Do Not Operate."

(15) Information and training.

(a) Initial training. The employer shall train each employee in the applicable requirements of this section no later than the effective date of this section.

(b) General training content. The employer shall train each employee who is, or may be, in an area where lockout/tags-plus systems are being used so they know:

(i) The purpose and function of the employer's lockout/tags-plus program and procedures;

(ii) The unique identity of the locks and tags to be used in

the lockout/tags-plus system, as well as the standardized color, shape or size of these devices;

(iii) The basic components of the tags-plus system: An energy-isolating device with a tag affixed to it and an additional safety measure;

(iv) The prohibition against tampering with or removing any lockout/tags-plus system; and

(v) The prohibition against restarting or reenergizing any machinery, equipment, or system being serviced under a lockout/tags-plus system.

(c) Additional training requirements for affected employees. In addition to training affected employees in the requirements in (b) of this subsection, the employer also shall train each affected employee so he/she knows:

(i) The use of the employer's lockout/tags-plus program and procedures;

(ii) That affected employees are not to apply or remove any lockout/tags-plus system; and

(iii) That affected employees are not to bypass, ignore, or otherwise defeat any lockout/tags-plus system.

(d) Additional training requirements for authorized employees. In addition to training authorized employees in the requirements in (b) and (c) of this subsection, the employer also shall train each authorized employee so he/she knows:

(i) The steps necessary for the safe application, use, and removal of lockout/tags-plus systems to prevent energization or start-up or the release of hazardous energy during servicing of machinery, equipment, or systems;

(ii) The type of energy sources and the magnitude of the energy available at the worksite;

(iii) The means and methods necessary for effective isolation and control of hazardous energy;

(iv) The means for determining the safe exposure status of other employees in a group when the authorized employee is working as a group's primary authorized employee;

(v) The requirement for tags to be written so they are legible and understandable to all employees;

(vi) The requirement that tags and their means of attachment be made of materials that will withstand the environmental conditions encountered in the workplace;

(vii) The requirement that tags be securely attached to energy-isolating devices so they cannot be accidentally removed while servicing machinery, equipment, or systems;

(viii) That tags are warning devices, and alone do not provide physical barriers against energization or start-up, or the release of hazardous energy, provided by locks, and energy-isolating devices; and

(ix) That tags must be used in conjunction with an energy-isolating device to prevent energization or start-up or the release of hazardous energy.

(e) Additional training for lockout/tags-plus coordinator. In addition to training lockout/tags-plus coordinators in the requirements in (b), (c), and (d) of this subsection, the employer

shall train each lockout/tags-plus coordinator so he/she knows:

(i) How to identify and isolate any machinery, equipment, or system that is being serviced; and

(ii) How to accurately document lockout/tags-plus systems and maintain the lockout/tags-plus log.

(f) Employee retraining.

(i) The employer shall retrain each employee, as applicable, whenever:

(A) There is a change in his/her job assignment that presents new hazards or requires a greater degree of knowledge about the employer's lockout/tags-plus program or procedures;

(B) There is a change in machinery, equipment, or systems to be serviced that presents a new energy-control hazard;

(C) There is a change in the employer's lockout/tags-plus program or procedures; or

(D) It is necessary to maintain the employee's proficiency.

(ii) The employer also shall retrain each employee, as applicable, whenever an incident investigation or program audit indicates that there are:

(A) Deviations from, or deficiencies in, the employer's lockout/tags-plus program or procedures; or

(B) Inadequacies in an employee's knowledge or use of the lockout/tags-plus program or procedures.

(iii) The employer shall ensure that retraining establishes the required employee knowledge and proficiency in the employer's lockout/tags-plus program and procedures and in any new or revised energy-control procedures.

(g) Upon completion of employee training, the employer shall keep a record that the employee accomplished the training, and that this training is current. The training record shall contain at least the employee's name, date of training, and the subject of the training.

(16) Incident investigation.

(a) The employer shall investigate each incident that resulted in, or could reasonably have resulted in, energization or start-up, or the release of hazardous energy, while servicing machinery, equipment, or systems.

(b) Promptly but not later than twenty-four hours following the incident, the employer shall initiate an incident investigation and notify each employee who was, or could reasonably have been, affected by the incident.

(c) The employer shall ensure that the incident investigation is conducted by at least one employee who has the knowledge of, and experience in, the employer's lockout/tags-plus program and procedures, and in investigating and analyzing incidents involving the release of hazardous energy. The employer may also use additional individuals to participate in investigating the incident.

(d) The employer shall ensure that the individual(s) conducting the investigation prepare(s) a written report of the investigation that includes:

(i) The date and time of the incident;

(ii) The date and time the incident investigation began;

(iii) Location of the incident;

(iv) A description of the incident;

(v) The factors that contributed to the incident;

(vi) A copy of any lockout/tags-plus log that was current at the time of the incident; and

(vii) Any corrective actions that need to be taken as a result of the incident.

(e) The employer shall review the written incident report with each employee whose job tasks are relevant to the incident investigation findings, including contract employees when applicable.

(f) The employer shall ensure that the incident investigation and written report are completed, and all corrective actions implemented, within thirty days following the incident.

(g) If the employer demonstrates that it is infeasible to implement all of the corrective actions within thirty days, the employer shall prepare a written abatement plan that contains an explanation of the circumstances causing the delay, a proposed timetable for the abatement, and a summary of the steps the employer is taking in the interim to protect employees from hazardous energy while servicing machinery, equipment, or systems.

(17) Program audits.

(a) The employer shall conduct an audit of the lockout/tags-plus program and procedures currently in use at least annually to ensure that the procedures and the requirements of this section are being followed and to correct any deficiencies.

(b) The employer shall ensure that the audit is performed by:

(i) An authorized employee other than the one(s) currently using the energy control procedure being reviewed; or

(ii) Individuals other than an authorized employee who are knowledgeable about the employer's lockout/tags-plus program and procedures and the machinery, equipment, or systems being audited.

(c) The employer shall ensure that the audit includes:

(i) A review of the written lockout/tags-plus program and procedures;

(ii) A review of the current lockout/tags-plus log;

(iii) Verification of the accuracy of the lockout/tags-plus log;

(iv) A review of incident reports since the last audit;

(v) A review conducted between the auditor and authorized employees regarding the authorized employees' responsibilities under the lockout systems being audited; and

(vi) A review conducted between the auditor and affected and authorized employees regarding their responsibilities under the tags-plus systems being audited.

(d) The employer shall ensure that, within fifteen days after completion of the audit, the individual(s) who conducted the audit prepare and deliver to the employer a written audit report that includes at least:

(i) The date of the audit;

(ii) The identity of the individual(s) who performed the audit;

(iii) The identity of the procedure and machinery, equipment,

or system that were audited;

(iv) The findings of the program audit and recommendations for correcting deviations or deficiencies identified during the audit;

(v) Any incident investigation reports since the previous audit; and

(vi) Descriptions of corrective actions the employer has taken in response to the findings and recommendations of any incident investigation reports prepared since the previous audit.

(e) The employer shall promptly communicate the findings and recommendations in the written audit report to each employee having a job task that may be affected by such findings and recommendations.

(f) The employer shall correct the deviations or inadequacies in the lockout/tags-plus program within fifteen days after receiving the written audit report.

(18) Recordkeeping.

(a) Table R-1 specifies what records the employer must retain and how long the employer must retain them:

Table R-1
Retention of Records Required by WAC 296-304-06016

The employer must keep the following records	For at least
Current lockout/tags-plus program and procedures	Until replaced by updated program and procedures
Training records	Until replaced by updated records for each type of training
Incident investigation reports	Until the next program audit is completed
Program audit report	12 months after being replaced by the next audit report

(b) The employer shall make all records required by this section available to employees, their representatives, and the director.

(19) Appendices. Nonmandatory Appendix A to this section is a guideline to assist employers and employees in complying with the requirements of this section, and to provide them with other useful information. The information in Appendix A does not add to, or in any way revise, the requirements of this section.

Appendix A to WAC 296-304-06016 (Nonmandatory) - Typical minimal lockout/tags-plus procedures general lockout/tags-plus procedure.

Lockout/tags-plus procedure for (name of company for single procedure or identification of machinery, equipment, or system if multiple procedures used).

Purpose

This procedure establishes the minimum requirements for the lockout/tags-plus application of energy-isolating devices on vessels and vessel sections, and for landside facilities whenever

servicing is done on machinery, equipment, or systems in shipyards. This procedure shall be used to ensure that all potentially hazardous energy sources have been isolated and the machinery, equipment, or system to be serviced has been rendered inoperative through the use of lockout or tags-plus procedures before employees perform any servicing when the energization or start-up of the machinery, equipment, or system, or the release of hazardous energy could cause injury.

Compliance with this program

All employees are required to comply with the restrictions and limitations imposed on them during the use of lockout or tags-plus applications. Authorized employees are required to perform each lockout or tags-plus application in accordance with this procedure. No employee, upon observing that machinery, equipment, or systems are secured using lockout or tags-plus applications, shall attempt to start, open, close, energize, or operate that machinery, equipment, or system.

Procedures for lockout/tags-plus systems

(1) Notify each affected employee that servicing is required on the machinery, equipment, or system, and that it must be isolated and rendered inoperative using a lockout or tags-plus system.

(2) The authorized employee shall refer to shipyard employer's procedures to identify the type and magnitude of the energy source(s) that the machinery, equipment, or system uses, shall understand the hazards of the energy, and shall know the methods to control the energy source(s).

(3) If the machinery, equipment, or system is operating, shut it down in accordance with the written procedures (depress the stop button, open switch, close valve, etc.) established by the employer.

(4) Secure each energy-isolating device(s) through the use of a lockout or tags-plus system (for instance, disconnecting, blanking, and affixing tags) so that the energy source is isolated and the machinery, equipment, or system is rendered inoperative.

(5) Lockout system. Affix a lock to each energy-isolating device(s) with assigned individual lock(s) that will hold the energy isolating device(s) in a safe or off position. Potentially hazardous energy (such as that found in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be controlled by methods such as grounding, repositioning, blocking, bleeding down, etc.

(6) Tags-plus system. Affix a tag to each energy-isolating device and provide at least one additional safety measure that clearly indicates that removal of the device from the safe or off position is prohibited. Potentially hazardous energy (such as that found in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems and air, gas, steam, or water pressure, etc.) must be controlled by methods such as grounding, repositioning, blocking, bleeding down, etc.

(7) Ensure that the machinery, equipment, or system is

relieved, disconnected, restrained, or rendered safe from the release of all potentially hazardous energy by checking that no personnel are exposed, and then verifying the isolation of energy to the machine, equipment, or system by operating the push button or other normal operating control(s), or by testing to make certain it will not operate.

CAUTION: Return operating control(s) to the safe or off position after verifying the isolation of the machinery, equipment, or system.

(8) The machinery, equipment, or system is now secured by a lockout or tags-plus system, and servicing by the authorized person may be performed.

Procedures for removal of lockout/tags-plus systems

When servicing is complete and the machinery, equipment, or system is ready to return to normal operating condition, the following steps shall be taken:

(1) Notify each authorized and affected employee(s) that the lockout/tags-plus system will be removed and the machinery, equipment, or system reenergized.

(2) Inspect the work area to ensure that all employees have been safely positioned or removed.

(3) Inspect the machinery, equipment, or system and the immediate area around the machinery, equipment, or system to ensure that nonessential items have been removed and that the machinery, equipment, or system components are operationally intact.

(4) Reconnect the necessary components, remove the lockout/tags-plus material and hardware, and reenergize the machinery, equipment, or system through the established detailed procedures determined by the employer.

(5) Notify all affected employees that servicing is complete and the machinery, equipment, or system is ready for testing or use.

NEW SECTION

WAC 296-304-06017 Retention of DOT markings, placards, and labels. (1) Any employer who receives a package of hazardous material that is required to be marked, labeled, or placarded in accordance with the U.S. Department of Transportation Hazardous Materials Regulations (49 CFR parts 171 through 180) shall retain those markings, labels, and placards on the package until the packaging is sufficiently cleaned of residue and purged of vapors to remove any potential hazards.

(2) Any employer who receives a freight container, rail freight car, motor vehicle, or transport vehicle that is required to be marked or placarded in accordance with the U.S. Department of Transportation Hazardous Materials Regulations shall retain those markings and placards on the freight container, rail freight car, motor vehicle, or transport vehicle until the hazardous materials

are sufficiently removed to prevent any potential hazards.

(3) The employer shall maintain markings, placards, and labels in a manner that ensures that they are readily visible.

(4) For nonbulk packages that will not be reshipped, the requirements of this section are met if a label or other acceptable marking is affixed in accordance with chapter 296-839 WAC, Content and distribution of material safety data sheets (MSDSs) and label information.

(5) For the purposes of this section, the term "hazardous material" and any other terms not defined in this section have the same definition as specified in the U.S. Department of Transportation Hazardous Materials Regulations.

NEW SECTION

WAC 296-304-06018 Motor vehicle safety equipment, operation, and maintenance. (1) Application.

(a) This section applies to any motor vehicle used to transport employees, materials, or property at worksites engaged in shipyard employment. This section does not apply to motor vehicle operation on public streets and highways.

(b) The requirements of this section apply to employer-provided motor vehicles. The requirements of subsections (2)(b) and (d) and (3)(b) of this section also apply to employee-provided motor vehicles.

(c) Only the requirements of subsection (2)(a) through (c) of this section apply to powered industrial trucks, as defined in chapter 296-863 WAC. The maintenance, inspection, operation, and training requirements in chapter 296-863 WAC continue to apply to powered industrial trucks used for shipyard employment.

(2) Motor vehicle safety equipment.

(a) The employer shall ensure that each motor vehicle acquired or initially used after the effective date of this rule is equipped with a safety belt for each employee operating or riding in the motor vehicle. This requirement does not apply to any motor vehicle that was not equipped with safety belts at the time of manufacture.

(b) The employer shall ensure that each employee uses a safety belt, securely and tightly fastened, at all times while operating or riding in a motor vehicle.

(c) The employer shall ensure that vehicle safety equipment is not removed from any employer-provided vehicle. The employer shall replace safety equipment that is removed.

(d) The employer shall ensure that each motor vehicle used to transport an employee has firmly secured seats for each employee being transported and that all employees being transported are using such seats.

(3) Motor vehicle maintenance and operation.

(a) The employer shall ensure that each motor vehicle is maintained in a serviceable and safe operating condition, and removed from service if it is not in such condition.

(b) The employer shall ensure that, before a motor vehicle is operated, any tools and materials being transported are secured if their movements may create a hazard for employees.

(c) The employer shall implement measures to ensure that motor vehicle operators are able to see, and avoid harming, pedestrians and bicyclists at shipyards. Measures that employers may implement to comply with this requirement include:

(i) Establishing dedicated travel lanes for motor vehicles, bicyclists, and pedestrians;

(ii) Installing crosswalks and traffic control devices such as stop signs, mirrors at blind spots, or physical barriers to separate travel lanes;

(iii) Establishing appropriate speed limits for all motor vehicles;

(iv) Establishing "no drive" times to allow for safe movement of pedestrians;

(v) Providing reflective vests or other gear so pedestrians and bicyclists are clearly visible to motor vehicle operators;

(vi) Ensuring that bicycles have reflectors, lights, or other equipment to maximize visibility of the bicyclist; or

(vii) Other measures that the employer can demonstrate are as effective in protecting pedestrians and bicyclists as those measures specified in this section.

Reference: See chapter 296-864 WAC, Split (multipiece) rim and single-piece rim wheels, for requirements relating to servicing multipiece and single-piece rim wheels.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-10001 Ship's boilers. ((~~(1)~~)) Before work is performed in the fire, steam, or water spaces of a boiler where employees may be subject to injury from the direct escape of a high temperature medium, such as steam, or water, oil, or other medium at a high temperature entering from an interconnecting system, the employer shall insure that the following steps are taken:

((~~(a)~~)) (1) The isolation and shutoff valves connecting the dead boiler with the live system or systems shall be secured, blanked, and locked or tagged, in accordance with WAC 296-304-06016, indicating that employees are working in the boiler. This tag shall not be removed nor the valves unblanked until it is determined that this may be done without creating a hazard to the employees working in the boiler, or until the work in the boiler is completed. Where valves are welded instead of bolted at least two isolation and shutoff valves connecting the dead boiler with the live system or systems shall be secured, locked and tagged.

((~~(b)~~)) (2) Drain connections to atmosphere on all of the dead

interconnecting systems shall be opened for visual observation of drainage.

((~~(d)~~)) (3) A warning sign calling attention to the fact that employees are working in the boilers shall be hung in a conspicuous location in the engine room. This sign shall not be removed until it is determined that the work is completed and all employees are out of the boilers.

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

WAC 296-304-10003 Ship's piping systems. Before work is performed on a valve, fitting, or section of piping in a piping system where employees may be subject to injury from the direct escape of steam, or water, oil, or other medium at a high temperature, the employer shall insure that the following steps are taken:

(1) The isolation and shutoff valves connecting the dead system with the live system or systems shall be secured, blanked, and locked or tagged, in accordance with WAC 296-304-06016, indicating that employees are working on the systems. This tag shall not be removed nor the valves unblanked until it is determined that this may be done without creating a hazard to the employees working on the system, or until the work on the system is completed. Where valves are welded instead of bolted at least two isolation and shutoff valves connecting the dead system with the live system or systems shall be secured, locked, and tagged.

(2) Drain connections to the atmosphere on all of the dead interconnecting systems shall be opened for visual observation of drainage.

AMENDATORY SECTION (Amending Order 76-7, filed 3/1/76)

WAC 296-304-10005 Ship's propulsion machinery. (1) Before work is performed on the main engine, reduction gear, or connecting accessories, the employer shall ensure that the following steps are taken:

(a) The jacking gear shall be engaged to prevent the main engine from turning over. A sign shall be posted at the throttle indicating that the jacking gear is engaged. This sign shall not be removed until the jacking gear can be safely disengaged.

(b) If the jacking gear is steam driven, the stop valves to the jacking gear shall be secured, locked, and tagged in accordance with WAC 296-304-06016, indicating that employees are working on

the main engine.

(c) If the jacking gear is electrically driven, the circuit controlling the jacking gear shall be deenergized by tripping the circuit breaker, opening the switch or removing the fuse, whichever is appropriate. The breaker, switch, or fuse location shall be tagged indicating that employees are working on the main engine.

(2) Before the jacking engine is operated, the following precautions shall be taken:

(a) A check shall be made to ensure that all employees, equipment, and tools are clear of the engine, reduction gear, and its connecting accessories.

(b) A check shall be made to ensure that all employees, equipment and tools are free of the propeller.

(3) Before work is started on or in the immediate vicinity of the propeller, a warning sign calling attention to the fact that employees are working in that area shall be hung in a conspicuous location in the engine room. This sign shall not be removed until it is determined that the work is completed and all employees are free of the propeller.

(4) Before the main engine is turned over (e.g., when warming up before departure or testing after an overhaul) a check shall be made to ensure that all employees, equipment, and tools are free of the propeller.

AMENDATORY SECTION (Amending Order 74-25, filed 5/7/74)

WAC 296-304-120 Electrical machinery--Electrical circuits and distribution boards. (1) Before an employee is permitted to work on an electrical circuit, except when the circuit must remain energized for testing and adjusting, the circuit shall be deenergized and checked at the point at which the work is to be done to insure that it is actually deenergized. When testing or adjusting an energized circuit a rubber mat, duck board, or other suitable insulation shall be used underfoot where an insulated deck does not exist.

(2) Deenergizing the circuit shall be accomplished by opening the circuit breaker, opening the switch, or removing the fuse, whichever method is appropriate. The circuit breaker, switch, or fuse location shall be locked out or tagged, in accordance with WAC 296-304-06016, to indicate that an employee is working on the circuit. Such tags shall not be removed nor the circuit energized until it is definitely determined that the work on the circuit has been completed.

(3) When work is performed immediately adjacent to an open-front energized board or in back of an energized board, the board shall be covered or some other equally safe means shall be used to prevent contact with any of the energized parts.

Note: WAC 296-304-120 is applicable only to shipbuilding and ship repairing.