

## 29 CFR 1915 – Shipyard Employment

*Note: NC State-Specific Standards that are relevant to General Industry are included at the end.*

### OSHA Standards With Special Requirements

These webpages are designed to assist employers in complying with standards that have "**special requirements**". For the purpose of this technical guidance, special requirements include programs, plans, procedures, policies, inspections, certifications, competent persons, qualified persons, training, medical surveillance, exposure monitoring, signs, tags, markings, tests, records and recordkeeping requirements that are applicable in meeting the requirements of OSHA standards by industry. *If a standard or subpart are not listed, it did not have one of these types of special requirements.*

*Note: While all attempts have been made to ensure the accuracy of the content and completeness in the information provided, it may not include all the specific standards that have special requirements that may be required by an OSHA standard. To ensure completeness in meeting each standard's requirement, the specific standard should be referenced.*

To learn more about these special requirements, click on the tabs below.

### Special Requirements

This webpage is to be used in conjunction with the [Which OSHA Standards Apply](#) webpages for [Shipyard Employment Standards](#) (29 CFR Part 1915).

- Subpart A - [General Provisions](#)
- Subpart B - [Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment](#)
- Subpart C - [Surface Preparation and Preservation](#)
- Subpart D - [Welding, Cutting and Heating](#)
- Subpart E - [Scaffolds, Ladders and Other Working Surfaces](#)
- Subpart F - [General Working Conditions](#)
- Subpart G - [Gear and Equipment for Rigging and Materials Handling](#)
- Subpart H - [Tools and Related Equipment](#)
- Subpart I - [Personal Protective Equipment](#)

- Subpart J - [Ship's Machinery and Piping Systems](#)
- Subpart K - [Portable, Unfired Pressure Vessels, Drums and Containers, Other Than Ship's Equipment](#)
- Subpart L - [Electrical Machinery](#)
- Subpart P - [Fire Protection in Shipyard Employment](#)
- Subpart Z - [Toxic and Hazardous Substances](#)
- [Additional Assistance for Shipyard Employment](#)
- [Special Emphasis Programs](#)

## **Subpart A - [General Provisions](#)**

[Subpart A](#) provides the standards related to scope and application, responsibility, definitions, [incorporation by reference](#) (i.e., consensus standards), commercial diving operations, and competent person.

To learn if Subpart A applies to you, go to [Does "Subpart A - General Provisions" Apply to You?](#)

## **Special Requirements**

### **1915.3 – Responsibility**

**Scope:** This [standard](#) provides the responsibility requirements.

**Special Requirements:** Responsibility(ies), competent person, references other standards

[1915.3\(a\)](#) - The *responsibility* for compliance with the regulations of this part is placed upon "employers" as defined in [§ 1915.4 - definitions](#).

[1915.3\(b\)](#) - This part does not apply to owners, operators, agents or masters of vessels unless such persons are acting as "employers." However, this part is not intended to relieve owners, operators, agents or masters of vessels who are not "employers" from *responsibilities* or duties now placed upon them by *law, regulation or custom*.

[1915.3\(c\)](#) - The *responsibilities* placed upon the *competent person* herein shall be deemed to be the *responsibilities* of the employer.

## 1915.6 - Commercial Diving Operations

**Scope:** This [standard](#) provides the requirements for commercial diving operations.

**Special Requirements:** References other standards

Commercial diving operations shall be subject to [subpart T](#) of part 1910, §§ 1910.401-1910.441 of this chapter.

## 1915.7 - Competent Person

**Scope:** This [standard](#) provides the requirements for competent person(s).

**Special Requirements:** Competent person, designated, posted, tests, roster, results, instructions, CIH, records, evaluate, recordkeeping, statement, inspections, marine chemist, references other standards

### [1915.7\(b\)](#) - *Designation.*

- [1915.7\(b\)\(1\)](#) - One or more *competent persons* shall be *designated* by the employer in accordance with the applicable requirements of this section, unless the requirements of [Subpart B](#) - *confined and enclosed spaces and other dangerous atmospheres in shipyard employment*, [Subpart C](#) - *surface preparation and preservation*, [Subpart D](#) - *welding, cutting and heating*, and [Subpart H](#) - *tools and related equipment*, of this part are always carried out by a *Marine Chemist*. Exception: The employer may designate any person who meets the applicable portions of the criteria set forth in [paragraph \(c\)](#) of this section as a *competent person* who is limited to performing *testing* to the following situations: [Reference [paragraph \(b\)\(1\)\(i\) - \(iv\)](#)].
  - [1915.7\(b\)\(1\)\(iv\)](#) - *Tests and inspections* performed to comply with §§ [1915.35\(b\)\(8\)](#) - *painting*, and [1915.36\(a\)\(5\)](#) - *flammable liquids*.
- [1915.7\(b\)\(2\)\(i\)](#) - The employer shall maintain either a *roster of designated competent persons* or a *statement* that a *Marine Chemist* will perform the tests or inspections which require a *competent person*.
- [1915.7\(b\)\(2\)\(ii\)](#) - The employer shall make the *roster of designated persons* or the *statement* available to employees, the employee's representative, the Director or the Assistant Secretary upon request.
- [1915.7\(b\)\(2\)\(iii\)](#) - The *roster* shall contain, as a minimum, the following: [Reference [paragraph \(b\)\(2\)\(iii\)\(A\) - \(C\)](#)].

[1915.7\(c\)](#) - *Criteria.* The employer shall ensure that each *designated competent person* has the following skills and knowledge: [Reference [paragraph \(c\)\(1\) - \(7\)](#)].

1915.7(d) - Recordkeeping. [Reference paragraph (d)(1) - (3)].

- 1915.7(d)(1) - When tests and inspections are performed by a competent person, Marine Chemist, or Certified Industrial Hygienist as required by any provisions of Subpart B - confined and enclosed spaces and other dangerous atmospheres in shipyard employment, Subpart C - surface preparation and preservation, Subpart D - welding, cutting and heating, and Subpart H - tools and related equipment of this part, the employer shall ensure that the person performing the test and inspection records the location, time, date, location of inspected spaces, and the operations performed, as well as the test results and any instructions.
- 1915.7(d)(2) - The employer shall ensure that the records are posted in the immediate vicinity of the affected operations while work in the spaces is in progress. The records shall be kept on file for a period of at least three months from the completion date of the specific job for which they were generated.

## 1915.9 - Compliance Duties Owed to Each Employee

**Scope:** This standard provides the requirements for compliance duties.

**Special Requirements:** PPE, training, training program, compliance duty, affected employee, references other standards

1915.9(a) - *Personal protective equipment*. Standards in this part requiring the employer to provide *personal protective equipment (PPE)*, including respirators and other types of PPE, because of hazards to employees impose a separate *compliance duty* with respect to each employee covered by the requirement. The employer must provide PPE to each employee required to use the PPE, and each failure to provide PPE to an employee may be considered a separate violation.

1915.9(b) - *Training*. Standards in this part requiring *training* on hazards and related matters, such as *standards* requiring that employees receive *training* or that the employer *train* employees, provide *training* to employees, or institute or implement a *training program*, impose a separate *compliance duty* with respect to each employee covered by the requirement. The employer must *train each affected employee* in the manner required by the *standard*, and each failure to *train* an employee may be considered a separate violation.

## Subpart B - Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment

[Subpart B](#) provides the requirements for cleaning and other cold work, hot work, maintenance of safe conditions (i.e., certificates, preventing hazardous materials from entering spaces, alteration of existing conditions, competent person requirements), and warning signs and labels (i.e., posting).

To learn if Subpart B applies to you, go to [Does "Subpart B - Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment" Apply to You?](#)

## Special Requirements

### 1915.12 - Precautions and the Order of Testing Before Entering Confined and Enclosed Spaces and Other Dangerous Atmospheres

**Scope:** This [standard](#) provides the requirements for precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres.

**Special Requirements:** Testing/tested, PEL, inspected, competent person, determined, evaluate, inform, first aid/CPR, hazard information, emergency procedures, safety rules, monitored, warning label, rescue, respirator, PPE, practice drills, certify/certification, training, rescue teams, references other standards

The employer shall ensure that atmospheric testing is performed in the following sequence: oxygen content, flammability, toxicity.

[1915.12\(a\)\(1\)](#) - The employer shall ensure that the following spaces are *visually inspected and tested by a competent person to determine* the atmosphere's oxygen content prior to initial entry into the space by an employee: [Reference [paragraph \(a\)\(1\)\(i\) - \(v\)](#)].

[1915.12\(a\)\(2\)](#) - If the space to be entered contains an oxygen deficient atmosphere, the space shall be *labeled "Not Safe for Workers" or, if oxygen-enriched, "Not Safe for Workers - Not Safe for Hot Work."* If an oxygen-deficient or oxygen-enriched atmosphere is found, ventilation shall be provided at volumes and flow rates sufficient to ensure that the oxygen content is maintained at or above 19.5 percent and below 22.0 percent by volume. The *warning label* may be removed when the oxygen content is equal to or greater than 19.5 and less than 22.0 percent by volume.

[1915.12\(a\)\(3\)](#) - An employee may not enter a space where the oxygen content, by volume, is below 19.5 percent or above 22.0 percent. Exception: An employee may enter for *emergency rescue* or for a short duration for installation of ventilation equipment necessary to start work in the space provided: [Reference [paragraph \(a\)\(3\)\(i\) - \(ii\)](#)].

- [1915.12\(a\)\(3\)\(ii\)](#) - *Respiratory protection and other appropriate personal protective equipment and clothing* are provided in accordance with [Subpart I - personal protective equipment](#), of this part.

[1915.12\(b\)\(1\)](#) - The employer shall ensure that spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases are:

- [1915.12\(b\)\(1\)\(i\)](#) - *Inspected visually by the competent person to determine* the presence of combustible or flammable liquids; and
- [1915.12\(b\)\(1\)\(ii\)](#) - *Tested by a competent person prior to entry by an employee to determine* the concentration of flammable vapors and gases within the space.

[1915.12\(b\)\(2\)](#) - If the concentration of flammable vapors or gases in the space to be entered is equal to or greater than 10 percent of the lower explosive limit, the space shall be *labeled "Not Safe for Workers" and "Not Safe for Hot Work."* Ventilation shall be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapors is maintained below 10 percent of the lower explosive limit. The *warning labels* may be removed when the concentration of flammable vapors is below 10 percent of the lower explosive limit.

[1915.12\(b\)\(3\)](#) - An employee may not enter a space where the concentration of flammable vapors or gases is equal to or greater than 10 percent of the lower explosive limit. Exception: An employee may enter for *emergency rescue* or for a short duration for installation of ventilation equipment necessary to start work in the space, provided: [Reference [paragraph \(b\)\(3\)\(i\) - \(iv\)](#)].

- [1915.12\(b\)\(3\)\(iv\)](#) - *Respiratory protection and other appropriate personal protective equipment and clothing* are provided in accordance with [Subpart I - personal protective equipment](#), of this part.

[1915.12\(c\)\(1\)](#) - The employer shall ensure that spaces or adjacent spaces that contain or have contained liquids, gases, or solids that are toxic, corrosive or irritant are:

- [1915.12\(c\)\(1\)\(i\)](#) - *Inspected visually by the competent person to determine* the presence of toxic, corrosive, or irritant residue contaminants; and
- [1915.12\(c\)\(1\)\(ii\)](#) - *Tested by a competent person prior to initial entry by an employee to determine* the air concentration of toxics, corrosives, or irritants within the space.

[1915.12\(c\)\(2\)](#) - If a space contains an air concentration of a material which exceeds a *part 1915 subpart Z permissible exposure limit (PEL)* or is *IDLH*, the space shall be *labeled "Not Safe for Workers."* Ventilation shall be provided at volumes and flow rates which will ensure that air concentrations are maintained within the *PEL* or, in the case of contaminants for which there is no established *PEL*, below the *IDLH*. The *warning label* may be removed when the concentration of contaminants is maintained within the *PEL* or below *IDLH* level.

[1915.12\(c\)\(3\)](#) - If a space cannot be ventilated to within the *PELs* or is *IDLH*, a *Marine Chemist* or *CIH* must re-test until the space can be certified "*Enter with Restrictions*" or "*Safe for Workers*."

[1915.12\(c\)\(4\)](#) - An employee may not enter a space whose atmosphere exceeds a *PEL* or is *IDLH*. Exception: An employee may enter for *emergency rescue*, or for a short duration for installation of ventilation equipment provided:

- [1915.12\(c\)\(4\)\(i\)](#) - The atmosphere in the space is *monitored* continuously;
- [1915.12\(c\)\(4\)\(ii\)](#) - *Respiratory protection* and other necessary and appropriate *personal protective equipment and clothing* are provided in accordance with [Subpart I](#) - *personal protective equipment* of this part.

[1915.12\(d\)](#) - *Training* of employees entering confined and enclosed spaces or other dangerous atmospheres. [Reference [paragraph \(d\)\(1\) - \(5\)](#)].

[1915.12\(e\)](#) - *Rescue teams*. The employer shall either establish a *shipyard rescue team* or arrange for an outside *rescue team* which will respond promptly to a request for rescue service. [Reference [paragraph \(e\)\(1\) - \(2\)](#)].

[1915.12\(f\)](#) - Exchanging *hazard information* between employers. Each employer whose employees work in confined and enclosed spaces or other dangerous atmospheres shall ensure that all available *information* on the hazards, *safety rules*, and *emergency procedures* concerning those spaces and atmospheres is exchanged with any other employer whose employees may enter the same spaces.

## 1915.13 - Cleaning and Other Cold Work

**Scope:** This [standard](#) provides the requirements for cleaning and other cold work.

**Special Requirements:** Testing, competent person, determine, emergency rescue, PELs, PPE, NRTL, certified, post signs, approved, references other standards

[1915.13\(b\)\(2\)](#) - *Testing* shall be conducted by a *competent person* to determine the concentration of flammable, combustible, toxic, corrosive, or irritant vapors within the space prior to the beginning of cleaning or cold work.

[1915.13\(b\)\(4\)](#) - Testing shall be conducted by the *competent person* as often as necessary during cleaning or cold work to assure that air concentrations are below 10 percent of the lower explosive limit and within the *PELs* and below *IDLH* levels. Factors such as, but not limited to, temperature, volatility of the residues and other existing conditions in and about

the spaces are to be considered in *determining* the frequency of *testing* necessary to assure a safe atmosphere.

[1915.13\(b\)\(6\)](#) - An employee may not enter a confined or enclosed space or other dangerous atmosphere if the concentration of flammable or combustible vapors in work spaces exceeds 10 percent of the lower explosive limit. Exception: An employee may enter for *emergency rescue* or for a short duration for installation of ventilation equipment provided: [Reference [paragraph \(b\)\(6\)\(i\) - \(iv\)](#)].

- [1915.13\(b\)\(6\)\(iv\)](#) - *Respiratory protection, personal protective equipment, and clothing* are provided in accordance with [Subpart I - personal protective equipment](#), of this part.

[1915.13\(b\)\(7\)](#) - A *competent person shall test* ventilation discharge areas and other areas where discharged vapors may collect to determine if vapors discharged from the spaces being ventilated are accumulating in concentrations hazardous to employees.

[1915.13\(b\)\(9\)](#) - Only explosion-proof, self-contained portable lamps, or other electric equipment *approved by a National Recognized Testing Laboratory (NRTL)* for the hazardous location shall be used in spaces described in [paragraph \(a\)](#) of this section until such spaces have been *certified* as "Safe for Workers."

[1915.13\(b\)\(10\)](#) - The employer shall prominently *post signs* that prohibit sources of ignition within or near a space that has contained flammable or combustible liquids or gases in bulk quantities: [Reference [paragraph \(b\)\(10\)\(i\) - \(iii\)](#)].

## 1915.14 - Hot Work

**Scope:** This [standard](#) provides the requirements pertaining to hot work.

**Special Requirements:** Testing/tested, marine chemist, posted, authorized person, certified, certificate, labeled, warning label, competent person

[1915.14\(a\)](#) - Hot work requiring *testing by a Marine Chemist or Coast Guard authorized person*.

- [1915.14\(a\)\(1\)](#) - The employer shall ensure that hot work is not performed in or on any of the following confined and enclosed spaces and other dangerous atmospheres, boundaries of spaces or pipelines until the work area has been *tested and certified by a Marine Chemist or a U.S. Coast Guard authorized person* as "Safe for Hot Work": [Reference [paragraph \(a\)\(1\)\(i\) - \(iv\)](#)].

- [1915.14\(a\)\(2\)](#) - The *certificate issued by the Marine Chemist or Coast Guard authorized person* shall be *posted* in the immediate vicinity of the affected operations while they are in progress and *kept on file* for a period of at least three months from the date of the completion of the operation for which the *certificate* was generated.

[1915.14.\(b\)](#) - Hot work requiring *testing by a competent person*. [Reference [paragraph \(b\)\(1\)-\(v\)](#)].

- [1915.14\(b\)\(2\)](#) - If the concentration of flammable vapors or gases is equal to or greater than 10 percent of the lower explosive limit in the space or an adjacent space where the hot work is to be done, then the space shall be *labeled "Not Safe for Hot Work"* and ventilation shall be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapors or gases is below 10 percent by volume of the lower explosive limit. The *warning label* may be removed when the concentration of flammable vapors and gases are below 10 percent lower explosive limit.

## 1915.15 - Maintenance of Safe Conditions

**Scope:** This [standard](#) provides the requirements for maintenance of safe conditions.

**Special Requirements:** Certified, tested/tests, inspect, certificate, competent person, marine chemist, authorized person, determined, references other standards

[1915.15\(a\)](#) - Preventing hazardous materials from entering. Pipelines that could carry hazardous materials into spaces that have been *certified "Safe for Workers" or "Safe for Hot Work"* shall be disconnected, blanked off, or otherwise blocked by a positive method to prevent hazardous materials from being discharged into the space.

[1915.15\(b\)](#) - Alteration of existing conditions. When a change that could alter conditions within a *tested* confined or enclosed space or other dangerous atmosphere occurs, work in the affected space or area shall be stopped. Work may not be resumed until the affected space or area is *visually inspected and retested* and found to comply with [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part, as applicable.

[1915.15\(c\)](#) - Tests to maintain the conditions of a *Marine Chemist's or Coast Guard authorized person's certificates*. A *competent person* shall *visually inspect and test* each space *certified as "Safe for Workers" or "Safe for Hot Work,"* as often as necessary to ensure that atmospheric conditions within that space are maintained within the conditions established by the *certificate* after the *certificate* has been issued.

[1915.15\(d\)](#) - Change in the conditions of a *Marine Chemist's or Coast Guard authorized person's certificate*. If a *competent person* finds that the atmospheric conditions within a *certified space* fail to meet the applicable requirements of [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part, work in the *certified space* shall be stopped and may not be resumed until the space has been *retested by a Marine Chemist or Coast Guard authorized person* and a new *certificate* issued in accordance with [§ 1915.14\(a\) - hot work](#).

[1915.15\(e\)](#) - Tests to maintain a *competent person's* findings. After a *competent person* has conducted a visual *inspection and tests* required in [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part and *determined* a space to be safe for an employee to enter, he or she shall continue to *test and visually inspect* spaces as often as necessary to ensure that the required atmospheric conditions within the *tested space* are maintained.”

[1915.15\(f\)](#) - Changes in conditions *determined by competent person's* findings. After the *competent person has determined* initially that a space is safe for an employee to enter and he or she finds subsequently that the conditions within the *tested space* fail to meet the requirements of [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part, as applicable, work shall be stopped until the conditions in the *tested space* are corrected to comply with [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), as applicable.

## **1916.15 - Warning Signs and Labels**

**Scope:** This [standard](#) provides the requirements for warning signs and labels.

**Special Requirements:** Signs, label, posted, tested, certified

[1915.16\(a\)](#) - Employee comprehension of *signs and labels*. The Employer shall ensure that each *sign or label posted* to comply with the requirements of this subpart is presented in a manner that can be perceived and understood by all employees.

[1915.16\(b\)](#) - *Posting* of large work areas. A *warning sign or label* required by [paragraph \(a\)](#) of this section need not be *posted* at an individual tank, compartment or work space within a



work area if the entire work area has been *tested and certified*: not safe for workers, not safe for hot work, and if the *sign or label* to this effect is *posted* conspicuously at each means of access to the work area.

## **Subpart B - Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment**

Subpart B provides the requirements for cleaning and other cold work, hot work, maintenance of safe conditions (i.e., certificates, preventing hazardous materials from entering spaces, alteration of existing conditions, competent person requirements), and warning signs and labels (i.e., posting).

To learn if Subpart B applies to you, go to [Does "Subpart B - Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment" Apply to You?](#)

### **Special Requirements**

#### **1915.12 - Precautions and the Order of Testing Before Entering Confined and Enclosed Spaces and Other Dangerous Atmospheres**

**Scope:** This [standard](#) provides the requirements for precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres.

**Special Requirements:** Testing/tested, PEL, inspected, competent person, determined, evaluate, inform, first aid/CPR, hazard information, emergency procedures, safety rules, monitored, warning label, rescue, respirator, PPE, practice drills, certify/certification, training, rescue teams, references other standards

The employer shall ensure that atmospheric testing is performed in the following sequence: oxygen content, flammability, toxicity.

[1915.12\(a\)\(1\)](#) - The employer shall ensure that the following spaces are *visually inspected and tested by a competent person to determine* the atmosphere's oxygen content prior to initial entry into the space by an employee: [Reference [paragraph \(a\)\(1\)\(i\) - \(v\)](#)].

[1915.12\(a\)\(2\)](#) - If the space to be entered contains an oxygen deficient atmosphere, the space shall be *labeled "Not Safe for Workers" or, if oxygen-enriched, "Not Safe for Workers - Not Safe for Hot Work."* If an oxygen-deficient or oxygen-enriched atmosphere is found, ventilation shall be provided at volumes and flow rates sufficient to ensure that the oxygen content is maintained at or above 19.5 percent and below 22.0 percent by volume.

The *warning label* may be removed when the oxygen content is equal to or greater than 19.5 and less than 22.0 percent by volume.

[1915.12\(a\)\(3\)](#) - An employee may not enter a space where the oxygen content, by volume, is below 19.5 percent or above 22.0 percent. Exception: An employee may enter

for *emergency rescue* or for a short duration for installation of ventilation equipment necessary to start work in the space provided: [Reference [paragraph \(a\)\(3\)\(i\) - \(ii\)](#)].

- [1915.12\(a\)\(3\)\(ii\)](#) - *Respiratory protection and other appropriate personal protective equipment and clothing* are provided in accordance with [Subpart I - personal protective equipment](#), of this part.

[1915.12\(b\)\(1\)](#) - The employer shall ensure that spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases are:

- [1915.12\(b\)\(1\)\(i\)](#) - *Inspected visually by the competent person to determine* the presence of combustible or flammable liquids; and
- [1915.12\(b\)\(1\)\(ii\)](#) - *Tested by a competent person prior to entry by an employee to determine* the concentration of flammable vapors and gases within the space.

[1915.12\(b\)\(2\)](#) - If the concentration of flammable vapors or gases in the space to be entered is equal to or greater than 10 percent of the lower explosive limit, the space shall be *labeled "Not Safe for Workers" and "Not Safe for Hot Work."* Ventilation shall be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapors is maintained below 10 percent of the lower explosive limit. The *warning labels* may be removed when the concentration of flammable vapors is below 10 percent of the lower explosive limit.

[1915.12\(b\)\(3\)](#) - An employee may not enter a space where the concentration of flammable vapors or gases is equal to or greater than 10 percent of the lower explosive limit. Exception: An employee may enter for *emergency rescue* or for a short duration for installation of ventilation equipment necessary to start work in the space, provided: [Reference [paragraph \(b\)\(3\)\(i\) - \(iv\)](#)].

- [1915.12\(b\)\(3\)\(iv\)](#) - *Respiratory protection and other appropriate personal protective equipment and clothing* are provided in accordance with [Subpart I - personal protective equipment](#), of this part.

[1915.12\(c\)\(1\)](#) - The employer shall ensure that spaces or adjacent spaces that contain or have contained liquids, gases, or solids that are toxic, corrosive or irritant are:

- [1915.12\(c\)\(1\)\(i\)](#) - *Inspected visually by the competent person to determine* the presence of toxic, corrosive, or irritant residue contaminants; and
- [1915.12\(c\)\(1\)\(ii\)](#) - *Tested by a competent person prior to initial entry by an employee to determine* the air concentration of toxics, corrosives, or irritants within the space.

[1915.12\(c\)\(2\)](#) - If a space contains an air concentration of a material which exceeds a *part 1915 subpart Z permissible exposure limit (PEL)* or is *IDLH*, the space shall be *labeled "Not Safe for Workers."* Ventilation shall be provided at volumes and flow rates which will ensure that air concentrations are maintained within the *PEL* or, in the case of contaminants for which there is no established *PEL*, below the *IDLH*. The *warning label* may be removed when the concentration of contaminants is maintained within the *PEL* or below *IDLH* level.

[1915.12\(c\)\(3\)](#) - If a space cannot be ventilated to within the *PELs* or is *IDLH*, a *Marine Chemist or CIH* must re-test until the space can be certified "*Enter with Restrictions*" or "*Safe for Workers.*"

[1915.12\(c\)\(4\)](#) - An employee may not enter a space whose atmosphere exceeds a *PEL* or is *IDLH*. Exception: An employee may enter for *emergency rescue*, or for a short duration for installation of ventilation equipment provided:

- [1915.12\(c\)\(4\)\(i\)](#) - The atmosphere in the space is *monitored* continuously;
- [1915.12\(c\)\(4\)\(ii\)](#) - *Respiratory protection* and other necessary and appropriate *personal protective equipment and clothing* are provided in accordance with [Subpart I](#) - *personal protective equipment* of this part.

[1915.12\(d\)](#) - *Training* of employees entering confined and enclosed spaces or other dangerous atmospheres. [Reference [paragraph \(d\)\(1\) - \(5\)](#)].

[1915.12\(e\)](#) - *Rescue teams*. The employer shall either establish a shipyard *rescue team* or arrange for an outside *rescue team* which will respond promptly to a request for rescue service. [Reference [paragraph \(e\)\(1\) - \(2\)](#)].

[1915.12\(f\)](#) - Exchanging *hazard information* between employers. Each employer whose employees work in confined and enclosed spaces or other dangerous atmospheres shall ensure that all available *information* on the hazards, *safety rules, and emergency procedures* concerning those spaces and atmospheres is exchanged with any other employer whose employees may enter the same spaces.

## **1915.14 - Hot Work**

**Scope:** This [standard](#) provides the requirements pertaining to hot work.

**Special Requirements:** Testing/tested, marine chemist, posted, authorized person, certified, certificate, labeled, warning label, competent person

1915.14(a) - Hot work requiring *testing by a Marine Chemist or Coast Guard authorized person*.

- 1915.14(a)(1) - The employer shall ensure that hot work is not performed in or on any of the following confined and enclosed spaces and other dangerous atmospheres, boundaries of spaces or pipelines until the work area has been *tested and certified by a Marine Chemist or a U.S. Coast Guard authorized person* as "Safe for Hot Work": [Reference paragraph (a)(1)(i) - (iv)].
- 1915.14(a)(2) - The *certificate issued by the Marine Chemist or Coast Guard authorized person* shall be *posted* in the immediate vicinity of the affected operations while they are in progress and *kept on file* for a period of at least three months from the date of the completion of the operation for which the *certificate* was generated.

1915.14.(b) - Hot work requiring *testing by a competent person*. [Reference paragraph (b)(1) - (v)].

- 1915.14(b)(2) - If the concentration of flammable vapors or gases is equal to or greater than 10 percent of the lower explosive limit in the space or an adjacent space where the hot work is to be done, then the space shall be *labeled "Not Safe for Hot Work"* and ventilation shall be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapors or gases is below 10 percent by volume of the lower explosive limit. The *warning label* may be removed when the concentration of flammable vapors and gases are below 10 percent lower explosive limit.

## **1915.15 - Maintenance of Safe Conditions**

**Scope:** This standard provides the requirements for maintenance of safe conditions.

**Special Requirements:** Certified, tested/tests, inspect, certificate, competent person, marine chemist, authorized person, determined, references other standards

1915.15(a) - Preventing hazardous materials from entering. Pipelines that could carry hazardous materials into spaces that have been *certified "Safe for Workers" or "Safe for Hot Work"* shall be disconnected, blanked off, or otherwise blocked by a positive method to prevent hazardous materials from being discharged into the space.

1915.15(b) - Alteration of existing conditions. When a change that could alter conditions within a *tested* confined or enclosed space or other dangerous atmosphere occurs, work in

the affected space or area shall be stopped. Work may not be resumed until the affected space or area is *visually inspected and retested* and found to comply with [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part, as applicable.

[1915.15\(c\)](#) - Tests to maintain the conditions of a *Marine Chemist's or Coast Guard authorized person's certificate*. A competent person shall visually inspect and test each space certified as “Safe for Workers” or “Safe for Hot Work,” as often as necessary to ensure that atmospheric conditions within that space are maintained within the conditions established by the *certificate* after the *certificate* has been issued.

[1915.15\(d\)](#) - Change in the conditions of a *Marine Chemist's or Coast Guard authorized person's certificate*. If a competent person finds that the atmospheric conditions within a *certified space* fail to meet the applicable requirements of [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part, work in the *certified space* shall be stopped and may not be resumed until the space has been *retested by a Marine Chemist or Coast Guard authorized person* and a new *certificate* issued in accordance with [§ 1915.14\(a\) - hot work](#).

[1915.15\(e\)](#) - Tests to maintain a *competent person's findings*. After a *competent person* has conducted a visual *inspection and tests* required in [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part and *determined* a space to be safe for an employee to enter, he or she shall continue to *test and visually inspect* spaces as often as necessary to ensure that the required atmospheric conditions within the *tested space* are maintained.”

[1915.15\(f\)](#) - Changes in conditions *determined by competent person's findings*. After the *competent person has determined* initially that a space is safe for an employee to enter and he or she finds subsequently that the conditions within the *tested space* fail to meet the requirements of [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), of this part, as applicable, work shall be stopped until the conditions in the *tested space* are corrected to comply with [§§ 1915.12 - precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), [1915.13 - cleaning and other cold work](#), and [1915.14 - hot work](#), as applicable.

## 1916.15 - Warning Signs and Labels

**Scope:** This [standard](#) provides the requirements for warning signs and labels.

**Special Requirements:** Signs, label, posted, tested, certified

[1915.16\(a\)](#) - Employee comprehension of *signs and labels*. The Employer shall ensure that each *sign or label posted* to comply with the requirements of this subpart is presented in a manner that can be perceived and understood by all employees.

[1915.16\(b\)](#) - *Posting of large work areas*. A *warning sign or label* required by [paragraph \(a\)](#) of this section need not be *posted* at an individual tank, compartment or work space within a work area if the entire work area has been *tested and certified*: not safe for workers, not safe for hot work, and if the *sign or label* to this effect is *posted* conspicuously at each means of access to the work area.

## Subpart C - [Surface Preparation and Preservation](#)

[Subpart C](#) provides standards for toxic cleaning solvents, chemical paint and preservative removers, mechanical paint removers, painting and flammable liquids.

To learn if Subpart C applies to you, go to [Does "Subpart C - Surface Preparation and Preservation" Apply to You?](#)

### Special Requirements

## 1915.32 - Toxic Cleaning Solvents

**Scope:** This [standard](#) provides the requirements pertaining to toxic cleaning solvents.

**Special Requirements:** Measures, respiratory protection, precautions, references other standards

[1915.32\(a\)](#) - When toxic solvents are used, the employer shall employ one or more of the following *measures* to safeguard the health of employees exposed to these solvents.

[Reference [paragraph \(a\)\(1\) - \(3\)](#)].

- [1915.32\(a\)\(3\)](#) - Employees shall be protected against toxic vapors by suitable *respiratory protective equipment* in accordance with the requirements of [Subpart I - personal protective equipment](#), of this Part and, where necessary, against exposure of skin and eye contact with toxic solvents and their vapors by suitable clothing and equipment.

[1915.32\(b\)](#) - The principles in the threshold limit values to which attention is directed in [§ 1915.4 - definitions](#), will be used by the Department of Labor in enforcement proceedings in defining a safe concentration of air contaminants.

[1915.32\(c\)](#) - When flammable solvents are used, *precautions* shall be taken in accordance with the requirements of [§ 1915.36 - flammable liquids](#).

## **1915.33 - Chemical Paint and Preservative Removers**

**Scope:** This [standard](#) provides the requirements for chemical paint and preservative removers.

**Special Requirements:** PPE, precautions, references other standards

[1915.33\(a\)](#) - Employees shall be protected against skin contact during the handling and application of chemical paint and preservative removers and shall be protected against eye injury by *goggles or face shields* in accordance with the requirements of [Subpart I - personal protective equipment](#), of this part.

[1915.33\(b\)](#) - When using flammable paint and preservative removers, *precautions* shall be taken in accordance with the requirements of [§ 1915.36 - flammable liquids](#).

[1915.33\(c\)](#) - When using chemical paint and preservative removers which contain volatile and toxic solvents, such as benzol, acetone and amyl acetate, the provisions of [§ 1915.32 - toxic and cleaning solvents](#), shall be applicable.

[1915.33\(d\)](#) - When using paint and rust removers containing strong acids or alkalies, employees shall be protected by suitable *face shields* to prevent chemical burns on the face and neck.

[1915.33\(e\)](#) - When steam guns are used, all employees working within range of the blast shall be protected by suitable *face shields*. Metal parts of the steam gun itself shall be insulated to protect the operator against heat burns.

## **1915.34 - Mechanical Paint Removers**

**Scope:** This [standard](#) provides the requirements for mechanical paint removers.

**Special Requirements:** PPE, respiratory protection, signals, references other standards

[1915.34\(a\)](#) - Power tools. [Reference [paragraph \(a\)\(1\) - \(4\)](#)].

- [1915.34\(a\)\(1\)](#) - Employees engaged in the removal of paints, preservatives, rusts, or other coatings by means of power tools shall be protected against eye injury by using goggles or face shields in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.
- [1915.34\(a\)\(3\)](#) - Portable electric tools shall be grounded in accordance with the requirements of [§ 1915.132 - portable electric tools](#).
- [1915.34\(a\)\(4\)](#) - In a confined space, mechanical exhaust ventilation sufficient to keep the dust concentration to a minimum shall be used, or employees shall be protected by *respiratory protective equipment* in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.

[1915.34\(b\)](#) - Flame removal.

- [1915.34\(b\)\(1\)](#) - Hardened preservative coatings shall not be removed by flame in enclosed spaces unless the employees exposed to fumes are protected by *air line respirators* in accordance with the requirements of [Subpart I - personal protective equipment](#) . Employees performing such an operation in the open air, and those exposed to the resulting fumes shall be protected by a fume filter type *respirator* in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.

[1915.34\(c\)\(1\)\(iv\)](#) - Dead man control. A dead man control device shall be provided at the nozzle end of the blasting hose either to provide direct cutoff or to signal the pot tender by means of a *visual and audible signal* to cut off the flow, in the event the blaster loses control of the hose. The pot tender shall be available at all times to respond immediately to the *signal*.

[1915.34\(c\)\(3\)](#) - *Personal protective equipment*. [Reference [paragraph \(c\)\(3\)\(i\) - \(v\)](#)].

## 1915.35 - Painting

**Scope:** This [standard](#) provides the requirements pertaining to paint.

**Special Requirements:** PPE, respirators, tests, determination, precautions, competent person, approved, MSHA, reference other standards

[1915.35\(a\)](#) - Paints mixed with toxic vehicles or solvents.

- [1915.35\(a\)\(1\)](#) - When paints mixed with toxic vehicles or solvents are sprayed, the following conditions shall apply:

- [1915.35\(a\)\(1\)\(i\)](#) - In confined spaces, employees continuously exposed to such spraying shall be protected by *air line respirators* in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.
- [1915.35\(a\)\(1\)\(ii\)](#) - In tanks or compartments, employees continuously exposed to such spraying shall be protected by *air line respirators* in accordance with the requirements of [Subpart I - personal protective equipment](#). Where mechanical ventilation is provided, employees shall be protected by *respirators* in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.
- [1915.35\(a\)\(1\)\(iii\)](#) - In large and well ventilated areas, employees exposed to such spraying shall be protected by *respirators* in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.
- [1915.35\(a\)\(2\)](#) - Where brush application of paints with toxic solvents is done in confined spaces or in other areas where lack of ventilation creates a hazard, employees shall be protected by filter *respirators* in accordance with the requirements of [Subpart I - personal protective equipment](#) of this part.
- [1915.35\(a\)\(3\)](#) - When flammable paints or vehicles are used, *precautions* shall be taken in accordance with the requirements of [§ 1915.36 - flammable liquids](#).

[1915.35\(b\)](#) - *Paints and tank coatings dissolved in highly volatile, toxic and flammable solvents*. Several organic coatings, adhesives and resins are dissolved in highly toxic, flammable and explosive solvents with flash points below 80 °F. Work involving such materials shall be done only when all of the following *special precautions* have been taken: [Reference [paragraph \(b\)\(1\) - \(14\)](#)].

- [1915.35\(b\)\(1\)](#) - Sufficient exhaust ventilation shall be provided to keep the concentration of solvent vapors below ten (10) percent of the lower explosive limit. Frequent *tests* shall be made by a *competent person* to ascertain the concentration.

## 1915.36 - Flammable Liquids

**Scope:** This [standard](#) provides the requirements for flammable liquids.

**Special Requirements:** Precautions, competent person, inspect, tests, fire extinguishing equipment, approved, UL, MSHA/USCG, references other standards

[1915.36\(a\)](#) - In all cases when liquid solvents, paint and preservative removers, paints or vehicles, other than those covered by [§ 1915.35\(b\)](#) - *painting*, are capable of producing a flammable atmosphere under the conditions of use, the following *precautions* shall be taken: [Reference [paragraph \(a\)\(1\) - \(6\)](#)].

- [1915.36\(a\)\(2\)](#) - Ventilation shall be provided in sufficient quantities to keep the concentration of vapors below ten (10) percent of their lower explosive limit. Frequent tests shall be made by a *competent person* to ascertain the concentration.
- [1915.36\(a\)\(4\)](#) - Only explosion proof lights, *approved by the Underwriters' Laboratories* for use in Class I, Group D atmospheres, or approved as permissible by the *Mine Safety and Health Administration or the U.S. Coast Guard*, shall be used.
- [1915.36\(a\)\(5\)](#) - A *competent person* shall *inspect* all power and lighting cables to ensure that the insulation is in excellent condition, free of all cracks and worn spots, that there are no connections within fifty (50) feet of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.
- [1915.36\(a\)\(6\)](#) - Suitable *fire extinguishing equipment* shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.

## Subpart D - [Welding, Cutting and Heating](#)

[Subpart D](#) provides the requirements for welding, cutting and heating.

To learn if Subpart D Applies to you, go to [Does "Subpart D - Welding, Cutting and Heating" Apply to You?](#)

### Special Requirements

#### **1915.51 - Ventilation and Protection in Welding, Cutting and Heating**

**Scope:** This [standard](#) provides the requirements for ventilation and protection in welding, cutting and heating.

**Special Requirements:** Communication, PPE (i.e., respirators, filter lenses, helmets), precautions, references other standards

[1915.51\(c\)](#) - Welding, cutting and heating in confined spaces.

- [1915.51\(c\)\(2\)](#) - The means of access shall be provided to a confined space and ventilation ducts to this space shall be arranged in accordance with [§ 1915.76\(b\)\(1\) and \(2\)](#) - *access to cargo spaces and confined spaces*.
- [1915.51\(c\)\(3\)](#) - When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by *air line respirators* in accordance with the requirements of [§ 1915.154](#) - *respiratory protection*, and an employee on the outside of such a confined space shall be assigned to maintain *communication* with those working within it and to aid them in an emergency.

[1915.51\(d\)](#) - Welding, cutting or heating of metals of toxic significance.

- [1915.51\(d\)\(2\)](#) - Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with local exhaust ventilation in accordance with the requirements of [paragraph \(b\) - mechanical ventilation requirements](#), of this section or employees shall be protected by *air line respirators* in accordance with the requirements of [§ 1915.154](#) - *respiratory protection*: [Reference [paragraph \(d\)\(2\)\(i\) - \(iv\)](#)].

[1915.51\(e\)](#) - Inert-gas metal-arc welding.

- [1915.51\(e\)\(1\)](#) - Since the inert-gas metal-arc welding process involves the production of ultraviolet radiation of intensities of 5 to 30 times that produced during shielded metal-arc welding, the decomposition of chlorinated solvents by ultraviolet rays, and the liberation of toxic fumes and gases, employees shall not be permitted to engage in, or be exposed to the process until the following special *precautions* have been taken: [Reference [paragraph \(e\)\(1\)\(i\) - \(iv\)](#)].
  - [1915.51\(e\)\(1\)\(ii\)](#) - Helpers and other employees in the area not protected from the arc by screening as provided in [§ 1915.56\(e\) - arc welding and cutting](#), shall be protected by *filter lenses* meeting the requirements of [§ 1915.153](#) - *eye and face protection*. When two or more welders are exposed to each other's arc, *filter lens goggles* of a suitable type meeting the requirements of [§ 1915.153](#) - *eye and face protection*, shall be worn under *welding helmets or hand shields* to protect the welder against flashes and radiant energy when either the *helmet* is lifted or the *shield* is removed.

## **1915.53 - Welding, Cutting and Heating in Way of Preservative Coatings**

**Scope:** This [standard](#) provides the requirements for welding, cutting and heating in way of preservative coatings.

**Special Requirements:** Test, determine, competent person, precautions, respiratory protection, references other standards

[1915.53\(b\)](#) - Before welding, cutting or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a *test* shall be made by a *competent person to determine* its flammability. Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.

[1915.53\(c\)](#) - *Precautions* shall be taken to prevent ignition of highly flammable hardened preservative coatings. When coatings are determined to be highly flammable they shall be stripped from the area to be heated to prevent ignition, or, where shipbreaking is involved, the coatings may be burned away under controlled conditions. A 1½ inch or larger fire hose with fog nozzle, which has been uncoiled and placed under pressure, shall be immediately available for instant use in the immediate vicinity, consistent with avoiding freezing of the hose.

[1915.53\(d\)](#) - Protection against toxic preservative coatings.

- [1915.53\(d\)\(1\)](#) - In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application or the employees shall be protected by *air line respirators* meeting the requirements of [§ 1915.154 - respiratory protection](#).
- [1915.53\(d\)\(2\)](#) - In the open air, employees shall be protected by a *filter type respirator* in accordance with the requirements of [§ 1915.154 - respiratory protection](#).

[1915.53\(e\)](#) - Before welding, cutting or heating is commenced in enclosed spaces on metals covered by soft and greasy preservatives, the following *precautions* shall be taken:

- [1915.53\(e\)\(1\)](#) - A *competent person* shall test the atmosphere in the space to ensure that it does not contain explosive vapors, since there is a possibility that some soft and greasy preservatives may have flash points below temperatures which may be expected to occur naturally. If such vapors are *determined* to be present, no hot work shall be commenced until such precautions have been taken as will ensure that the welding, cutting or heating can be performed in safety.
- [1915.53\(e\)\(2\)](#) - The preservative coatings shall be removed for a sufficient distance from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised. Artificial cooling of the metal surrounding the heated area may be used to limit the size of the area required to be cleaned. The prohibition contained in [§ 1915.34\(b\)\(2\) - mechanical paint removers](#), shall apply.

[1915.53\(f\)](#) - Immediately after welding, cutting or heating is commenced in enclosed spaces on metal covered by soft and greasy preservatives, and at frequent intervals thereafter, a *competent person* shall make *tests* to ensure that no flammable vapors are being produced by the coatings. If such vapors are determined to be present, the operation shall be stopped immediately and shall not be resumed until such additional *precautions* have been taken as are necessary to ensure that the operation can be resumed safely.

## **1915.54 - Welding, Cutting and Heating of Hollow Metal Containers and Structures Not Covered by § 1915.12**

**Scope:** This standard provides the requirements for welding, cutting and heating of hollow metal containers and structures not covered by [§ 1915.12](#) - *precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres.*

**Special Requirements:** Tested, competent person, inspect/ed, determined

[1915.54\(a\)](#) - Drums, containers, or hollow structures which have contained flammable substances shall, before welding, cutting, or heating is undertaken on them, either be filled with water or thoroughly cleaned of such substances and ventilated and *tested*.

[1915.54\(c\)](#) - Before welding, cutting, heating or brazing is begun on structural voids such as skegs, bilge keels, fair waters, masts, booms, support stanchions, pipe stanchions or railings, a *competent person shall inspect* the object and, if necessary, *test* it for the presence of flammable liquids or vapors. If flammable liquids or vapors are present, the object shall be made safe.

[1915.54\(d\)](#) - Objects such as those listed in [paragraph \(c\)](#) of this section shall also be *inspected to determine* whether water or other non-flammable liquids are present which, when heated, would build up excessive pressure. If such liquids are *determined* to be present, the object shall be vented, cooled, or otherwise made safe during the application of heat.

## **1915.55 - Gas welding and cutting**

**Scope:** This standard provides the requirements for gas welding and cutting.

**Special Requirements:** Inspected, ICC identification and markings, authorized person, instruct, tagged, sign, name painted, approved

1915.55(c) - Treatment of cylinders.

- 1915.55(c)(2) - No person other than the gas supplier shall attempt to mix gases in a cylinder. No one except the owner of the cylinder or *person authorized* by him shall refill a cylinder. No one shall use a cylinder's contents for purposes other than those intended by the supplier. Only cylinders bearing *Interstate Commerce Commission identification and inspection markings* shall be used.

1915.55(d) - Use of fuel gas. The employer shall thoroughly *instruct* employees in the safe use of fuel gas, as follows: [Reference paragraph (d)(1) - (6)].

- 1915.55(d)(5) - If, when the valve on a fuel gas cylinder is opened, there is found to be a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this action does not stop the leak, the use of the cylinder shall be discontinued, and it shall be properly *tagged* and removed from the vessel. In the event that fuel gas should leak from the cylinder valve rather than from the valve stem and the gas cannot be shut off, the cylinder shall be properly *tagged* and removed from the vessel. If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder need not be removed from the vessel.

1915.55(e) - Fuel gas and oxygen manifolds.

- 1915.55(e)(1) - Fuel gas and oxygen manifolds shall bear the *name* of the substance they contain in letters at least one (1) inch high which shall be either *painted* on the manifold or on a *sign* permanently attached to it.

1915.55(f) - Hose.

- 1915.55(f)(3) - All hose carrying acetylene, oxygen, natural or manufactured fuel gas, or any gas or substance which may ignite or enter into combustion or be in any way harmful to employees, shall be *inspected* at the beginning of each shift. Defective hose shall be removed from service.

1915.55(g) - Torches.

- 1915.55(g)(2) - Torches shall be *inspected* at the beginning of each shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.
- 1915.55(g)(3) - Torches shall be lighted by friction lighters or other *approved* devices, and not by matches or from hot work.

## 1915.56 - Arc Welding and Cutting

**Scope:** This [standard](#) provides the requirements for arc welding and cutting.

**Special Requirements:** Reported, supervisor, instructions/instruct, inspected, checked,

[1915.56\(c\)\(5\)](#) - The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current. Grounding circuits, other than by means of the vessel's structure, shall be *checked* to ensure that the circuit between the ground and the grounded power conductor has resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

[1915.56\(c\)\(6\)](#) - All ground connections shall be *inspected* to ensure that they are mechanically strong and electrically adequate for the required current.

[1915.56\(d\)](#) - *Operating instructions*. Employers shall *instruct* employees in the safe means of arc welding and cutting as follows: [Reference [paragraph \(d\)\(1\) - \(4\)](#)].

- [1915.56\(d\)\(4\)](#) - Any faulty or defective equipment shall be *reported* to the *supervisor*.

## 1915.57 - Uses of Fissionable Material in Ship Repairing and Shipbuilding

**Scope:** This [standard](#) provides the requirements for uses of fissionable material in ship repairing and shipbuilding.

**Special Requirements:** Nuclear Regulatory Commission's Standards, exposure, licensed, competent person, trained, supervision, references other standards

[1915.57\(a\)](#) - In activities involving the use of and *exposure* to sources of ionizing radiation not only on conventionally powered but also on nuclear powered vessels, the applicable provisions of the *Nuclear Regulatory Commission's Standards for Protection Against Radiation (10 CFR Part 20)*, relating to protection against occupational radiation *exposure*, shall apply.

[1915.57\(b\)](#) - Any activity which involves the use of radioactive material, whether or not under *license* from the *Nuclear Regulatory Commission*, shall be performed by *competent persons specially trained* in the proper and safe operation of such equipment. In the case of materials used under *Commission license*, only persons actually *licensed, or competent persons* under direction and supervision of the *licensee*, shall perform such work.

## Subpart E - [Scaffolds, Ladders and Other Working Surfaces](#)

[Subpart E](#) provides the requirements for scaffolds and staging, ladders, guarding deck openings and edges, access to vessels, access to and guarding of dry docks and marine railways, access to cargo spaces and confined spaces, and other working surfaces.

To learn if Subpart E applies to you, go to [Does "Subpart E - Scaffolds, Ladders and Other Working Surfaces" Apply to You?](#)

### Special Requirements

#### 1915.71 - Scaffolds and Staging

**Scope:** This [standard](#) provides the requirements for scaffolds and staging.

**Special Requirements:** Designed, safety factor, supervision, competent person, examined, determining, specifications, safety belts, life lines, references other standards

[1915.71\(b\)\(1\)](#) - All scaffolds and their supports whether of lumber, steel or other material, shall be capable of supporting the load they are *designed* to carry with a *safety factor* of not less than four (4).

[1915.71\(b\)\(7\)](#) - No scaffold shall be erected, moved, dismantled or altered except under the *supervision of competent persons*.

[1915.71\(c\)\(7\)](#) - Minimum dimensions and spacing of members shall be in accordance with [Table E-1 in § 1915.118 - tables](#).

[1915.71\(f\)\(3\)](#) - Manila and wire ropes shall be carefully *examined* before each operation and thereafter as frequently as may be necessary to ensure their safe condition.

[1915.71\(f\)\(11\)\(ii\)](#) - The side rails of ladders in ladder-type platforms shall be equivalent in strength to a beam of clear straight-grained spruce of the dimensions contained in [Table E-2 in § 1915.118 - tables](#).

[1915.71\(h\)\(1\)](#) - Scaffolds of a type for which *specifications* are not contained in this section shall meet the general requirements of [paragraphs \(b\), \(i\), and \(j\)](#) of this section, shall be in accordance with recognized principles of *design* and shall be constructed in accordance with *accepted standards* covering such equipment.

[1915.71\(i\)\(4\)](#) - [Table E-4 in § 1915.118 - tables](#) shall be used as a guide in *determining* safe loads for scaffold planks.

[1915.71\(j\)\(3\)](#) - Rails may be omitted where the structure of the vessel prevents their use. When rails are omitted, employees working more than 5 feet above solid surfaces shall be protected by *safety belts and life lines* meeting the requirements of [§§ 1915.159 - PFAS, and 1915.160 - positioning device systems](#), and employees working over water shall be protected by *buoyant work vests* meeting the requirements of [§ 1915.158\(a\) - lifesaving equipment](#).

[1915.71\(k\)\(1\)](#) - Access from below to staging more than 5 feet above a floor, deck or the ground shall consist of well secured stairways, cleated ramps, fixed or portable ladders meeting the applicable requirements of [§ 1915.72](#) or rigid type non-collapsible trestles with parallel and level rungs.

[1915.71\(k\)\(5\)](#) - Access from above to staging more than 3 feet below the point of access shall consist of a straight, portable ladder meeting the applicable requirements of [§ 1915.72 - ladders](#) or a Jacob's ladder properly secured, meeting the requirements of [§ 1915.74\(d\) - access to vessels](#).

## 1915.72 - Ladders

**Scope:** This [standard](#) provides the requirements

**Special Requirements:** Inspections, references other standards

[1915.72\(a\)\(1\)](#) - The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall be immediately withdrawn from service. *Inspection* of metal ladders shall include checking for corrosion of interiors of open end, hollow rungs.

[1915.72\(a\)\(4\)](#) - Portable metal ladders shall be of strength equivalent to that of wood ladders. Manufactured portable metal ladders provided by the employer shall be in accordance with the provisions of *ANSI Standard A14.2-1972: Safety Requirements for Portable Metal Ladders (incorporated by reference, see [§ 1915.5](#))*.

[1915.72\(a\)\(6\)](#) - Manufactured portable wood ladders provided by the employer shall be in accordance with the provisions of *ANSI Standard A14.1-1975: Safety Requirements for Portable Wood Ladders (incorporated by reference, see [§ 1915.5](#))*.

## 1915.73 - Guarding of Deck Openings and Edges

**Scope:** This [standard](#) provides the requirements guarding of deck openings and edges.

**Special Requirements:** Personal flotation devices, references other standards

[1915.73\(e\)](#) - When employees are working near the unguarded edges of decks of vessels afloat, they shall be protected by *personal flotation devices*, meeting the requirements of [§ 1915.158\(a\)](#) - *lifesaving equipment*.

## **1915.74 - Access to Vessels**

**Scope:** This [standard](#) provides the requirements for vessel access.

**Special Requirements:** Certificated, US Coast Guard, inspected

[1915.74\(a\)\(3\)](#) - Gangways on vessels *inspected and certificated by the U.S. Coast Guard* are deemed to meet the foregoing requirements, except in cases where the vessel's regular gangway is not being used.

## **1915.75 - Access To and Guarding of Dry Docks and Marine Railways**

**Scope:** This [standard](#) provides the requirements for access to and guarding of dry docks and marine railways.

**Special Requirements:** References other standards

[1915.75\(f\)](#) - Access to wing walls from floors of dry docks shall be by ramps, permanent stairways or ladders meeting the applicable requirements of [§ 1915.72](#) - *ladders*.

[1915.75\(g\)](#) - Catwalks on stiles of marine railways shall be no less than 20 inches wide and shall have on at least one side a guardrail and midrail meeting the requirements of [§ 1915.71\(j\)\(1\)](#) and [\(2\)](#) - *scaffolds or staging*.

## **1915.76 - Access to Cargo Spaces and Confined Spaces**

**Scope:** This [standard](#) provides the requirements for access to cargo spaces and confined spaces.

**Special Requirements:** Inform, winchman, crane signalman, references other standards

[1915.76\(a\)\(3\)](#) - Straight ladders of adequate strength and suitably secured against shifting or slipping shall be provided as necessary when fixed ladders in cargo spaces do not meet the requirements of [paragraph \(a\)\(1\)](#) of this section. When conditions are such that a straight ladder cannot be used, a Jacob's ladder meeting the requirements of [§ 1915.74\(d\)](#) - *access to vessels*, may be used.

[1915.76\(a\)\(5\)](#) - Fixed ladders or straight ladders provided for access to cargo spaces shall not be used at the same time that cargo drafts, equipment, materials, scrap or other loads are *entering or leaving the hold*. *Before using these ladders to enter or leave the hold, the employee shall be required to inform the winchman or crane signalman of his intention.*

## **1915.77 - Working Surfaces**

**Scope:** This [standard](#) provides the requirements for working surfaces.

**Special Requirements:** PPE (i.e., Safety belts, lifelines), references other standards

[1915.77\(c\)](#) - When employees are working aloft, or elsewhere at elevations more than 5 feet above a solid surface, either scaffolds or a sloping ladder, meeting the requirements of this subpart, shall be used to afford safe footing, or the employees shall be protected by *safety belts and lifelines* meeting the requirements of [§§ 1915.159 - PFAS](#), and [1915.160](#) - *positioning device system*. Employees visually restricted by *blasting hoods, welding helmets, and burning goggles* shall work from scaffolds, not from ladders, except for the initial and final welding or burning operation to start or complete a job, such as the erection and dismantling of hung scaffolding, or other similar, nonrepetitive jobs of brief duration.

[1915.77\(d\)](#) - For work performed in restricted quarters, such as behind boilers and in between congested machinery units and piping, work platforms at least 20 inches wide meeting the requirements of [§ 1915.71\(i\)\(1\)](#) - *scaffolds or staging*, shall be used. Backrails may be omitted if bulkheading, boilers, machinery units, or piping afford proper protection against falling.

[1915.77\(e\)](#) - When employees are boarding, leaving, or working from small boats or floats, they shall be protected by *personal flotation devices* meeting the requirements of [§ 1915.158\(a\)](#) - *lifesaving equipment*.

## **Subpart F - [General Working Conditions](#)**

[Subpart F](#) provides the requirements for general working conditions in shipyard employment.

To learn if Subpart F applies to you, go to [Does "Subpart F - General Working Conditions" Apply to You?](#)

## Special Requirements

### 1915.81 - Housekeeping

**Scope:** This [standard](#) provides the requirements for housekeeping.

**Special Requirements:** Housekeeping practices, designated walkways, footwear, procedure, demonstrates, references other standards

[1915.81\(a\)\(1\)](#) - The employer shall establish and maintain *good housekeeping practices* to eliminate hazards to employees to the extent practicable.

[1915.81\(a\)\(2\)](#) - The employer shall eliminate slippery conditions, such as snow and ice, on walkways and working surfaces as necessary. If it is not practicable for the employer to remove slippery conditions, the employer either shall:

- [1915.81\(a\)\(2\)\(i\)](#) - Restrict employees to *designated* walkways and working surfaces where the employer has eliminated slippery conditions; or
- [1915.81\(a\)\(2\)\(ii\)](#) - Provide *slip-resistant footwear* in accordance with 29 CFR part 1915, [Subpart I](#) - *personal protective equipment*.

[1915.81\(c\)](#) - Working surfaces. In addition to the requirements in [paragraph \(a\)](#), the employer also shall ensure that each working surface:

- [1915.81\(c\)\(3\)](#) - Is 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 footwear*, in accordance with 29 CFR part 1915, [Subpart I](#) - *personal protective equipment*.

### 1915.82 – Lighting

**Scope:** This [standard](#) provides the requirements for lighting.

**Special Requirements:** Approved, NRTL, references other standards

[1915.82\(a\)\(2\)](#) - For landside areas, the employer shall provide illumination that meets the levels set forth in [Table F-1 to § 1915.82](#).

[1915.82\(b\)](#) - Temporary lights. The employer shall ensure that temporary lights meet the following requirements: [Reference [paragraph \(b\)\(1\) - \(8\)](#)].

- [1915.82\(b\)\(8\)](#) - Exposed, non-current-carrying metal parts of lights are grounded. The employer shall ensure that grounding is provided either through a third wire in the cord containing the circuit conductors or through a separate wire that is grounded at the source of the current. Grounding shall be done in accordance with the requirements of 29 CFR 1910, [Subpart S - electrical](#).

[1915.82\(d\)](#) - 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 10 percent of the lower explosive limit (LEL) as specified in 29 CFR part 1915, [Subpart B - confined and enclosed spaces and other dangerous atmospheres in shipyard employment](#), and [Subpart C - surface preparation and preservation](#).

## 1915.83 - Utilities

**Scope:** This [standard](#) provides the requirements for utilities.

**Special Requirements:** Precautions, qualified person, training, (written, oral) determination, designed, manufacturer specifications,

[1915.83\(a\)\(1\)](#) - The employer shall ensure that the vessel's steam piping system, including hoses, is designed to safely handle the working pressure prior to supplying steam from an outside source. The employer shall obtain a *written or oral determination* from a *responsible* vessel's representative, a contractor, or any other person who is *qualified by training, knowledge, or experience* to make such determination that the working pressure of the vessel's steam piping system is safe.

[1915.83\(b\)](#) - Steam hoses. The employer shall ensure that each steam hose meets the following requirements: [Reference [paragraph \(b\)\(1\) - \(4\)](#)].

- [1915.83\(b\)\(1\)](#) - The steam hose and its fittings are used in accordance with *manufacturer's specifications*;

[1915.83\(c\)](#) - Electric shore power. When a vessel is supplied with electric shore power, the employer shall take the following *precautions* prior to energizing any of the vessel's circuits: [Reference [paragraph \(c\)\(1\) - \(3\)](#)].

- [1915.83\(c\)\(3\)](#) - Ensure that each circuit to be energized is in a safe condition. The employer must obtain a *determination* of the safe condition, either *orally or in writing*, from a *responsible* vessel's representative, a contractor, or any other person who is qualified by training, knowledge, or experience to make such *determination*.

## 1915.84 - Working Alone

**Scope:** This [standard](#) provides the requirements for working alone.

**Special Requirements:** Account, communication, references other standards

[1915.84\(a\)](#) - Except as provided in [§ 1915.51\(c\)\(3\)](#) of this part, whenever an employee is working alone, such as in a confined space or isolated location, the employer shall *account* for each employee: [Reference [paragraph \(a\)\(1\) - \(2\)](#)].

[1915.84\(b\)](#) - The employer shall *account* for each employee by *sight or verbal communication*.

## 1915.85 - Vessel Radar and Communication Systems

**Scope:** This [standard](#) provides the requirements for vessel radar and communication systems.

**Special Requirements:** Communication systems, tested, manufacturer's specifications, designated area, references other standards

[1915.85\(a\)](#) - The employer shall service each *vessel's radar and communication systems* in accordance with [29 CFR 1915.89](#), *Control of Hazardous Energy*.

[1915.85\(b\)](#) - 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: [Reference [paragraph \(b\)\(1\) - \(3\)](#)].

[1915.85\(c\)](#) - When a vessel's radar or communication system is operated, *serviced, repaired, or tested*, the employer shall ensure that: [Reference [paragraph \(c\)\(1\) - \(2\)](#)].

- [1915.85\(c\)\(2\)](#) - 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.

[1915.85\(d\)](#) - 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.

## 1915.86 - Lifeboats

**Scope:** This [standard](#) provides the requirements for lifeboats.

**Special Requirements:** Tests, drills

[1915.86\(b\)](#) - The employer shall not permit any employee to be in a lifeboat while it is being hoisted 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.

## 1915.87 - Medical Services and First Aid

**Scope:** This [standard](#) provides the requirements for medical services and first aid.

**Special Requirements:** Medical services, first aid providers, first aid/CPR, certifications, first aid supplies, demonstrate, steps, determining, training/trained, healthcare professionals, consultation, advice, quick drenching facilities, inspect, basket stretchers, emergency response services, marked location, inspect

[1915.87\(a\)](#) - General requirement. The employer shall ensure that *emergency medical services and first aid* are readily accessible.

[1915.87\(b\)](#) - *Advice and consultation*. The employer shall ensure that *healthcare professionals* are readily available for *advice and consultation* on matters of workplace health.

[1915.87\(c\)](#) - *First aid providers*. [Reference [paragraph \(c\)\(1\) - \(5\)](#)].

- [1915.87\(c\)\(1\)](#) - The employer shall ensure that there is an adequate number of employees *trained as first aid providers* at each worksite during each workshift unless: [Reference [paragraph \(c\)\(1\)\(i\) - \(ii\)](#)].

- [1915.87\(c\)\(4\)](#) - The employer shall ensure that *first aid providers are trained to render first aid, including cardiopulmonary resuscitation (CPR)*.
- [1915.87\(c\)\(5\)](#) - 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.

[1915.87\(d\)](#) - *First aid supplies*. [Reference [paragraph \(d\)\(1\) - \(6\)](#)].

- [1915.87\(d\)\(6\)](#) - The employer shall *inspect first aid supplies* at sufficient intervals to ensure that they are adequate and in a serviceable condition.

[1915.87\(e\)](#) - *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.

[1915.87\(f\)](#) - *Basket stretchers*. [Reference [paragraph \(f\)\(1\) - \(4\)](#)].

- [1915.87\(f\)\(1\)](#) - 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 paragraph.
- [1915.87\(f\)\(3\)](#) - 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.
- [1915.87\(f\)\(4\)](#) - 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.

## 1915.88 - Sanitation

**Scope:** This [standard](#) provides the requirements for sanitation.

**Special Requirements:** Sanitation facilities (i.e., showers, changing facilities), schedule, mark, demonstrates, inform, vermin-control program, protective clothing, references other standards

[1915.88\(a\)\(1\)](#) - The employer shall provide adequate and readily accessible *sanitation facilities*.

[1915.88\(a\)\(2\)](#) - 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.

[1915.88\(c\)\(2\)](#) - The employer shall clearly *mark* non-potable water supplies and outlets as "not safe for health or personal use."

[1915.88\(d\)\(1\)\(iii\)](#) - The employer shall establish and implement a *schedule* to ensure that each sewer and portable toilet is maintained in a clean, sanitary, and serviceable condition.

[1915.88\(d\)\(3\)\(i\)](#) - The employer shall provide portable toilets, pursuant to [paragraph \(d\)\(2\)\(i\)](#) and Table to [paragraph \(d\)\(2\)](#) of this section, only when the employer *demonstrates* that it is not feasible to provide sewer toilets, or when there is a temporary increase in the number of employees for a short duration of time.

[1915.88\(e\)\(3\)](#) - 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 skins surface by thoroughly washing their hands and face at the end of the workshift and prior to eating, drinking, or smoking.

[1915.88\(f\)](#) - Showers.

- [1915.88\(f\)\(1\)](#) - When showers are required by an *OSHA standard*, the employer shall provide one shower for each 10, or fraction of 10, employees of each sex who are required to shower during the same workshift.

[1915.88\(g\)](#) - *Changing rooms*. When an employer provides *protective clothing* to prevent employee exposure to hazardous or toxic substances, the employer shall provide the following: [Reference [paragraph \(g\)\(1\) - \(2\)](#)].

[1915.88\(h\)](#) - *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.

[1915.88\(j\)\(2\)](#) - Where vermin are detected, the employer shall implement and maintain an effective *vermin-control program*.

## **1915.89 - Control of Hazardous Energy (lockout/tags-plus)**

**Scope:** This [standard](#) provides the requirements for lockout/tagout.

**Special Requirements:** Written program, procedures, lockout-tagout plus systems, specifications, information and training, incident investigations, program audits, authorized employee, demonstrate, locks, tags, coordination process, designate, lockout/tags-plus coordinator, verification, log, affected employee, testing, inspects, verify, sign tag, inform, instruct, responsibilities, steps, determine, in writing, employee protection, corrective action, copy, review, report, records, recordkeeping, references other standards

1915.89(b) - *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:

- 1915.89(b)(1) - *Procedures* for lockout/tags-plus systems while servicing machinery, equipment, or systems in accordance with paragraph (c) of this section;
- 1915.89(b)(2) - *Procedures* for protecting employees involved in servicing any machinery, equipment, or system in accordance with paragraphs (d) through (m) of this section;
- 1915.89(b)(3) - *Specifications* for locks and tags-plus hardware in accordance with paragraph (n) of this section;
- 1915.89(b)(4) - *Employee information and training* in accordance with paragraph (o) of this section;
- 1915.89(b)(5) - *Incident investigations* in accordance with paragraph (p) of this section; and
- 1915.89(b)(6) - *Program audits* in accordance with paragraph (q) of this section.

1915.89(c) - *General requirements*.

- 1915.89(c)(1) - The employer shall ensure that, before any *authorized employee* performs servicing when energization or startup, or the release of hazardous energy, may occur, all energy sources are identified and isolated, and the machinery, equipment, or system is rendered inoperative.
- 1915.89(c)(2) - If an *energy-isolating device* is capable of being locked, the employer shall ensure the use of a *lock* to prevent energization or startup, 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 paragraph (c)(6) of this section.
- 1915.89(c)(3) - 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 startup, or the release of hazardous energy, before any servicing is started.
- 1915.89(c)(4) - Each *tags-plus system* shall consist of: [Reference paragraph (c)(4)(i) - (ii)].
- 1915.89(c)(6) - *Full employee protection*.

- [1915.89\(c\)\(6\)\(i\)](#) - 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;
- [1915.89\(c\)\(6\)\(ii\)](#) - 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: [Reference [paragraph \(c\)\(6\)\(ii\)\(A\) - \(B\)](#)].
- [1915.89\(c\)\(7\)](#) - *Lockout/tags-plus coordination* [Reference [paragraph \(c\)\(7\)\(i\) - \(iv\)](#)].
  - [1915.89\(c\)\(7\)\(i\)](#) - The employer shall establish and implement *lockout/tags-plus coordination* when: [Reference [paragraph \(c\)\(7\)\(i\)\(A\) - \(B\)](#)].

[1915.89\(d\)](#) - *Lockout/tags-plus written procedures.*

- [1915.89\(d\)\(1\)](#) - The employer shall establish and implement *written procedures* to prevent energization or startup, or the release of hazardous energy, during the servicing of any machinery, equipment, or system. Each *procedure* shall include: [Reference [paragraph \(d\)\(1\)\(i\) - \(iii\)](#)].
- [1915.89\(d\)\(2\)](#) - 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: [Reference [paragraph \(d\)\(2\)\(i\) - \(viii\)](#)].

[1915.89\(e\)](#) - *Procedures for shutdown and isolation.*

- [1915.89\(e\)\(1\)](#) - Before an *authorized employee* shuts down any machinery, equipment, or system, the employer shall: [Reference [paragraph \(e\)\(1\) - \(4\)](#)].

[1915.89\(f\)](#) - *Procedures for applying lockout/tags-plus systems.* [Reference [paragraph \(f\)\(1\) - \(5\)](#)].

[1915.89\(g\)](#) - *Procedures for verification of deenergization and isolation.*  
[Reference [paragraph \(g\)\(1\) - \(3\)](#)].

[1915.89\(h\)](#) - *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: [Reference [paragraph \(h\)\(1\) - \(5\)](#)].

[1915.89\(i\)](#) - *Procedures for removal of lockout and tags-plus systems.*  
[Reference [paragraph \(i\)\(1\) - \(3\)](#)].

[1915.89\(j\)](#) - *Procedures for startup.* [Reference [paragraph \(j\)\(1\) - \(2\)](#)].

[1915.89\(k\)](#) - *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: [Reference [paragraph \(k\)\(1\) - \(2\)](#)].

[1915.89\(l\)](#) - *Procedures for multi-employer worksites*. [Reference [paragraph \(l\)\(1\) - \(3\)](#)].

[1915.89\(m\)](#) - *Procedures for shift or personnel changes*. [Reference [paragraph \(m\)\(1\) - \(2\)](#)].

[1915.89\(n\)](#) - *Lockout/tags-plus materials and hardware*. [Reference [paragraph \(n\)\(1\) - \(3\)](#)].

[1915.89\(o\)](#) - *Information and training* — [Reference [paragraph \(o\)\(1\) - \(7\)](#)].

[1915.89\(p\)](#) - *Incident investigation*. [Reference [paragraph \(p\)\(1\) - \(7\)](#)].

[1915.89\(q\)](#) - *Program audits*. [Reference [paragraph \(q\)\(1\) - \(6\)](#)].

[1915.89\(r\)](#) - *Recordkeeping*.

- [1915.89\(r\)\(1\)](#) - Table to [paragraph \(r\)\(1\)](#) of this section specifies what *records* the employer must *retain* and how long the employer must *retain* them:
- [1915.89\(r\)\(2\)](#) - The employer shall make all *records* required by this section available to employees, their representatives, and the Assistant Secretary in accordance with the *procedures* and time periods specified in [29 CFR 1910.1020\(e\)\(1\) and \(e\)\(3\)](#) - access to employee exposure and medical records.

## **1915.90 - Safety Color Code for Marking Physical Hazards**

**Scope:** This [standard](#) provides the requirements for safety color code for marking physical hazards.

**Special Requirements:** References other standards (Refer to [1910.144](#) - *safety color code for marking physical hazards*).

The requirements applicable to shipyard employment under this section are identical to the requirements set forth at [29 CFR 1910.144](#) - *safety color code for marking physical hazards* of this chapter.

## **1915.91 - Accident Prevention Signs and Tags**

**Scope:** This [standard](#) provides the requirements for accident prevention signs and tags.

**Special Requirements:** References other standards (Refer to [29 CFR 1910.145](#) - *specifications for accident prevention signs and tags*)

The requirements applicable to shipyard employment under this section are identical to the requirements set forth at [29 CFR 1910.145](#) - *specifications for accident prevention signs and tags* of this chapter.

## **1915.92 - Retention of DOT Markings, Placards, and Labels**

**Scope:** This [standard](#) provides the requirements for retention of DOT markings, placards, and labels.

**Special Requirements:** Mark(ed), label(ed), placard(ed), DOT, retain, references other standards

[1915.92\(a\)](#) - 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.

[1915.92\(b\)](#) - 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.

[1915.92\(c\)](#) - The employer shall *maintain markings, placards, and labels* in a manner that ensures that they are readily visible.

[1915.92\(d\)](#) - For non-bulk 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 [29 CFR 1910.1200](#), *Hazard Communication*.

## **1915.93 - Motor Vehicle Safety Equipment, Operation and Maintenance**

**Scope:** This [standard](#) provides the requirements for motor vehicle safety equipment, operation and maintenance.

**Special Requirements:** Maintenance, inspection, training, measures, safety belt, reflective vests, demonstrate, references other standards

[1915.93\(a\)\(3\)](#) - Only the requirements of [paragraphs \(b\)\(1\) through \(b\)\(3\)](#) apply to powered industrial trucks, as defined in [29 CFR 1910.178 - powered industrial trucks](#).

The *maintenance, inspection, operation, and training* requirements in [29 CFR 1910.178 - powered industrial trucks](#), continue to apply to powered industrial trucks used for shipyard employment.

[1915.93\(b\)](#) - *Motor vehicle safety equipment*. [Reference [paragraph \(b\)\(1\) - \(4\)](#)].

- [1915.93\(b\)\(1\)](#) - The employer shall ensure that each motor vehicle acquired or initially used after August 1, 2011 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.

[1915.93\(c\)](#) - *Motor vehicle maintenance and operation*. [Reference [paragraph \(c\)\(1\) - \(3\)](#)].

- [1915.93\(c\)\(3\)](#) - 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: [Reference [paragraph \(c\)\(3\)\(i\) - \(vii\)](#)].
  - [1915.93\(c\)\(3\)\(vii\)](#) - Other *measures* that the employer can *demonstrate* are as effective in protecting pedestrians and bicyclists as those *measures* specified in [paragraphs \(c\)\(3\)\(i\) through \(c\)\(3\)\(vi\)](#) of this section.

## **1915.94 - Servicing Multi-piece and Single-piece Rim Wheels**

**Scope:** This [standard](#) provides the requirements for motor vehicle safety equipment, operation and maintenance.

**Special Requirements:** Reference other standards (Refer to [29 CFR 1910.177 - Servicing multi-piece and single piece rim wheels](#))

The requirements applicable to shipyard employment under this section are identical to the requirements set forth at [29 CFR 1910.177 - Servicing multi-piece and single piece rim wheels](#), of this chapter.

## **Subpart G - [Gear and Equipment for Rigging and Materials Handling](#)**

[Subpart G](#) provides standards related to gear and equipment used for rigging and materials handling.

To learn if Subpart G applies to you, go to [Does "Subpart G - Gear and Equipment for Rigging and Materials Handling" Apply to You?](#)

## Special Requirements

### 1915.111 - Inspection

**Scope:** This [standard](#) provides the requirements for inspections.

**Special Requirements:** Inspected, reference other standards

[1915.111\(a\)](#) - All gear and equipment provided by the employer for rigging and materials handling shall be *inspected* before each shift and when necessary, at intervals during its use to ensure that it is safe. Defective gear shall be removed and repaired or replaced before further use.

[1915.111\(b\)](#) - The safe working load of gear as specified in [§§ 1915.112](#) - *ropes, chains, and slings*, and [1915.113](#) - *shackles and hooks*, shall not be exceeded.

### 1915.112 - Ropes, Chains and Slings

**Scope:** This [standard](#) provides the requirements for ropes, chains and slings.

**Special Requirements:** Markings, recommended working loads, proof tested, inspections, qualified supervision, procedures, consulted, references other standards

[1915.112\(a\)](#) - Manila rope and manila-rope slings. Employers must ensure that manila rope and manila-rope slings:

- [1915.112\(a\)\(1\)](#) - Have permanently affixed and legible identification *markings* as prescribed by the manufacturer that indicate the *recommended safe working load* for the type(s) of hitch(es) used, the angle upon which it is based, and the number of legs if more than one;
- [1915.112\(a\)\(2\)](#) - Not be loaded in excess of its *recommended safe working load* as prescribed on the *identification markings* by the manufacturer; and
- [1915.112\(a\)\(3\)](#) - Not be used without affixed and legible identification *markings* as required by [paragraph \(a\)\(1\)](#) of this section.

1915.112(b)(1) - Employers must ensure that wire rope and wire-rope slings:

- 1915.112(b)(1)(i) - Have permanently affixed and legible identification *markings* as prescribed by the manufacturer that indicate the *recommended safe working load* for the type(s) of hitch(es) used, the angle upon which it is based, and the number of legs if more than one;
- 1915.112(b)(1)(ii) - Not be loaded in excess of its *recommended safe working load* as prescribed on the *identification markings* by the manufacturer; and
- 1915.112(b)(1)(iii) - Not be used without affixed and legible *identification markings* as required by paragraph (b)(1)(i) of this section.

1915.112(b)(3) - When U-bolt wire rope clips are used to form eyes, employers must use Table G-1 in § 1915.118 to determine the number and spacing of clips. Employers must apply the U-bolt so that the "U" section is in contact with the dead end of the rope.

1915.112(c)(1) - Employers must ensure that chain and chain slings:

- 1915.112(c)(1)(i) - Have permanently affixed and legible identification *markings* as prescribed by the manufacturer that indicate the *recommended safe working load* for the type(s) of hitch(es) used, the angle upon which it is based, and the number of legs if more than one;
- 1915.112(c)(1)(ii) - Not be loaded in excess of its *recommended safe working load* as prescribed on the *identification markings* by the manufacturer; and
- 1915.112(c)(1)(iii) - Not be used without affixed and legible *identification markings* as required by paragraph (c)(1)(i) of this section.

1915.112(c)(2) - All sling chains, including end fastenings, shall be given a *visual inspection* before being used on the job. A thorough *inspection* of all chains in use shall be made every 3 months. Each chain shall bear an indication of the month in which it was thoroughly *inspected*. The thorough *inspection* shall include *inspection* for wear, defective welds, deformation and increase in length or stretch.

1915.112(c)(3) - Employers must note interlink wear, not accompanied by stretch in excess of 5 percent, and remove the chain from service when maximum allowable wear at any point of link, as indicated in Table G-2 in § 1915.118 - tables, has been reached.

1915.112(c)(5) - All repairs to chains shall be made under *qualified supervision*. Links or portions of the chain found to be defective as described in paragraph (c)(4) of this section shall be replaced by links having proper dimensions and made of material similar to that of the chain. Before repaired chains are returned to service, they shall be *proof tested* to the *proof test load recommended* by the manufacturer.

1915.112(c)(6) - Wrought iron chains in constant use shall be annealed or normalized at intervals not exceeding six months when *recommended* by the manufacturer. The chain

manufacturer shall be *consulted* for recommended *procedures* for annealing or normalizing. Alloy chains shall never be annealed.

## 1915.113 - Shackles and Hooks

**Scope:** This [standard](#) provides the requirements for shackles and hooks.

**Special Requirements:** Markings, recommended safe working loads, prescribed, manufacturer's recommendations, determining, certification records, tests, signatures, inspected

[1915.113\(a\)](#) - Shackles. Employers must ensure that shackles:

- [1915.113\(a\)\(1\)](#) - Have permanently affixed and legible identification *markings* as *prescribed* by the manufacturer that indicate the *recommended safe working load*;
- [1915.113\(a\)\(2\)](#) - Not be loaded in excess of its *recommended safe working load* as prescribed on the *identification markings* by the manufacturer; and
- [1915.113\(a\)\(3\)](#) - Not be used without affixed and legible *identification markings* as required by [paragraph \(a\)\(1\)\(i\)](#) of this section.

[1915.113\(b\)](#) - Hooks.

- [1915.113\(b\)\(1\)](#) - The *manufacturer's recommendations* shall be followed in *determining* the safe working loads of the various sizes and types of specific and identifiable hooks. All hooks for which no applicable *manufacturer's recommendations* are available shall be *tested* to twice the intended safe working load before they are initially put into use. The employer shall maintain and keep readily available a *certification record* which includes the date of such *tests*, the *signature* of the person who performed the *test* and an identifier for the hook which was *tested*.
- [1915.113\(b\)\(3\)](#) - Hooks shall be *inspected* periodically to see that they have not been bent by overloading. Bent or sprung hooks shall not be used.

## 1915.114 - Chain Falls and Pull-Lifts

**Scope:** This [standard](#) provides the requirements for chain falls and pull-lifts.

**Special Requirements:** Marked, capacity, inspected, designed

[1915.114\(a\)](#) - Chain falls and pull-lifts shall be clearly *marked* to show the *capacity* and the *capacity* shall not be exceeded.

[1915.114\(b\)](#) - Chain falls shall be regularly *inspected* to ensure that they are safe, particular attention being given to the lift chain, pinion, sheaves and hooks for distortion and wear. Pull-lifts shall be regularly *inspected* to ensure that they are safe, particular attention being given to the ratchet, pawl, chain and hooks for distortion and wear.

[1915.114\(d\)](#) - Scaffolding shall not be used as a point of attachment for lifting devices such as tackles, chain falls, and pull-lifts unless the scaffolding is specifically *designed* for that purpose.

## **1915.115 - Hoisting and Hauling Equipment**

**Scope:** This [standard](#) provides the requirements for hoisting and hauling equipment.

**Special Requirements:** Tested, certificated, accredited, manufacturer rated safe working loads, posted, operator, references other standards

[1915.115\(a\)\(1\)](#) - Derricks and cranes which are part of, or regularly placed aboard barges, other vessels, or on wingwalls of floating drydocks, and are used to transfer materials or equipment from or to a vessel or drydock, shall be *tested and certificated* in accordance with the *standards* provided in [part 1919 - gear certification](#), of this title by persons *accredited* for the purpose.

[1915.115\(c\)](#) - Mobile crawler or truck cranes used on a vessel.

- [1915.115\(c\)\(1\)](#) - The maximum *manufacturer's rated safe working loads* for the various working radii of the boom and the maximum and minimum radii at which the boom may be safely used with and without outriggers shall be conspicuously *posted* near the controls and shall be visible to the operator. A radius indicator shall be provided.
- [1915.115\(c\)\(2\)](#) - The *posted safe working loads* of mobile crawler or truck cranes under the conditions of use shall not be exceeded.

## **1915.116 - Use of Gear**

**Scope:** This [standard](#) provides the requirements for the use of gear.

**Special Requirements:** Tag lines, special precautions, familiar, assigned, signal code, communications, signalman, hoist operator

[1915.116\(c\)](#) - Plates shall be handled on and off hulls by means of shackles whenever possible. Clips or pads of ample size shall be welded to the plate to receive the shackle pins when there are no holes in the plate. When it is not possible to make holes in or to weld pads to the plate, alligator tongs, grab clamps or screw clamps may be used. In such cases *special precautions* shall be taken to keep employees from under such lifts.

[1915.116\(d\)](#) - *Tag lines* shall be provided on loads likely to swing or to need guidance.

[1915.116\(l\)](#) - An individual who is *familiar with the signal code* in use shall be *assigned* to act as a *signalman* when the hoist operator cannot see the load being handled. *Communications* shall be made by means of clear and distinct visual or auditory *signals* except that verbal *signals* shall not be permitted.

## 1915.117 - Qualifications of Operators

**Scope:** This [standard](#) provides the requirements for the qualifications of operators.

**Special Requirements:** Competent person, familiar, understands, determine, signs, notices, operating instructions, signal code

[1915.117\(a\)](#) - When ship's gear is used to hoist materials aboard, a *competent person* shall *determine* that the gear is properly rigged, that it is in safe condition, and that it will not be overloaded by the size and weight of the lift.

[1915.117\(b\)](#) - Only those employees who *understand the signs, notices, and operating instructions, and are familiar* with the *signal code* in use, shall be permitted to operate a crane, winch, or other power operated hoisting apparatus.

## 1915.120 - Powered Industrial Truck Operator Training

**Scope:** This [standard](#) provides the requirements powered industrial truck operator training.

**Special Requirements:** References other standards

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.178\(l\)](#) of this chapter. [Reference [1910.178](#) - *powered industrial trucks*, special requirements.]

## Subpart H - Tools and Related Equipment

Subpart H provides the standards for portable electric tools, hand tools, abrasive wheels, powder-actuated fastening tools, and internal combustion engines.

To learn if Subpart H applies to you, go to [Does "Subpart H - Tools and Related Equipment" Apply to You?](#)

### Special Requirements

#### 1915.131 - General Precautions

**Scope:** This [standard](#) provides the requirements for

**Special Requirements:** Examined, word (painted), signs, marked

[1915.131\(g\)](#) - Headers, manifolds and widely spaced hose connections on compressed air lines shall bear the word “air” in letters at least 1-inch high, which shall be *painted* either on the manifolds or separate hose connections, or on *signs* permanently attached to the manifolds or connections. Grouped air connections may be *marked* in one location.

[1915.131\(h\)](#) - Before use, compressed air hose shall be *examined*. Visibly damaged and unsafe hose shall not be used.

#### 1915.132 - Portable Electric Tools

**Scope:** This [standard](#) provides the requirements for portable electric tools.

**Special Requirements:** Approved, UL, checked, notify, officer in charge

[1915.132\(a\)](#) - The frames of portable electric tools and appliances, except double insulated tools *approved by Underwriters' Laboratories*, 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.

[1915.132\(b\)](#) - Grounding circuits, other than by means of the structure of the vessel on which the tool is being used, shall be *checked* to ensure that the circuit between the ground and the grounded power conductor has resistance which is low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

[1915.132\(e\)](#) - The employer shall *notify the officer in charge* of the vessel before using electric power tools operated with the vessel's current.

## 1915.134 - Abrasive Wheels

**Scope:** This [standard](#) provides the requirements for abrasive wheels.

**Special Requirements:** Ring tested, inspected, designed, rated speed, eye protection, references other standards

[1915.134\(c\)](#) - Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the *United States of America Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1-1964*. All other portable abrasive wheels used for external grinding shall be provided with safety guards (protection hoods) meeting the requirements of [paragraph \(e\)](#) of this section, except as follows: [Reference [paragraph \(c\)\(1\) - \(2\)](#)].

[1915.134\(f\)](#) - When safety flanges are required, they shall be used only with wheels *designed* to fit the flanges. Only safety flanges of a type and *design* and properly assembled so as to insure that the pieces of the wheel will be retained in case of accidental breakage shall be used.

[1915.134\(g\)](#) - All abrasive wheels shall be closely *inspected and ring tested* before mounting to ensure that they are free from cracks or defects.

[1915.134\(j\)](#) - All employees using abrasive wheels shall be protected by *eye protection equipment* in accordance with the requirements of [Subpart I - personal protective equipment](#), of this part except when adequate eye protection is afforded by *eye shields* which are permanently attached to the bench or floor stand.

## 1915.135 - Powder Actuated Fastening Tools

**Scope:** This [standard](#) provides the requirements for powder actuated fastening tools.

**Special Requirements:** Tested, PPE, instruction/instructed, competent person, operators, determine, notify, supervisor, unauthorized person, references other standards

[1915.135\(b\)](#) - General precautions. [Reference [paragraph \(b\)\(1\) - \(9\)](#)].

- [1915.135\(b\)\(1\)](#) - Powder actuated fastening tools shall be *tested* each day before loading to ensure that the safety devices are in proper working condition. Any tool found not to be in proper working order shall be immediately removed from service until repairs are made.

- [1915.135\(b\)\(9\)](#) - Employees using powder actuated fastening tools shall be protected by personal protective equipment in accordance with the requirements of [Subpart I - personal protective equipment](#), of this part.

[1915.135\(c\)](#) - *Instruction of operators*. Before employees are permitted to use powder actuated tools, they shall have been thoroughly *instructed by a competent person* with respect to the requirements of [paragraph \(b\)](#) of this section and the safe use of such tools as follows: [Reference [paragraph \(c\)\(1\) - \(6\)](#)].

- [1915.135\(c\)\(1\)](#) - Before using a tool, the operator shall *inspect* it to *determine* that it is clean, that all moving parts operate freely and that the barrel is free from obstructions.
- [1915.135\(c\)\(2\)](#) - When a tool develops a defect during use, the *operator* shall immediately cease to use it and shall *notify his supervisor*.

## **1915.136 - Internal Combustion Engines, Other Than Ship's Equipment**

**Scope:** This [standard](#) provides the requirements for internal combustion engines, other than ship's equipment.

**Special Requirements:** Checked, competent person, tests, corrected

[1915.136\(b\)](#) - All exhaust line joints and connections shall be *checked* for tightness immediately upon starting the engine, and any leaks shall be *corrected* at once.

[1915.136\(c\)](#) - When internal combustion engines on vehicles, such as forklifts and mobile cranes, or on portable equipment such as fans, generators, and pumps exhaust into the atmosphere below decks, the *competent person* shall make *tests* of the carbon monoxide content of the atmosphere as frequently as conditions require to ensure that dangerous concentrations do not develop. Employees shall be removed from the compartment involved when the carbon monoxide concentration exceeds 50 parts per million (0.005%). The employer shall use blowers sufficient in size and number and so arranged as to maintain the concentration below this allowable limit before work is resumed.

## **Subpart I - [Personal Protective Equipment](#)**

[Subpart I](#) provides the standards for eye and face protection, respiratory protection, head protection, foot protection, hand and body protection, lifesaving equipment, personal fall arrest systems, and positioning devices.

To learn if Subpart I applies to you, go to [Does "Subpart I - Personal Protective Equipment" Apply to You?](#)

## Special Requirements

### 1915.152 - General Requirements

**Scope:** This [standard](#) provides the general requirements for pertaining to PPE.

**Special Requirements:** Affected employee, PPE, hazard assessment, assess, determine, document, information, communicate, name, verify, training, demonstrate, retrain, references other standards

[1915.152\(a\)](#) - Provision and use of equipment. The employer shall provide and shall ensure that each *affected employee* uses the appropriate *personal protective equipment (PPE)* for the eyes, face, head, extremities, torso, and respiratory system, including *protective clothing, protective shields, protective barriers, personal fall protection equipment, and life saving equipment*, meeting the applicable provisions of this subpart, wherever employees are exposed to work activity hazards that require the use of *PPE*.

[1915.152\(b\)](#) - *Hazard assessment* and equipment. The employer shall *assess* its work activity to *determine* whether there are hazards present, or likely to be present, which necessitate the employee's use of *PPE*. If such hazards are present, or likely to be present, the employer shall:

- [1915.152\(b\)\(1\)](#) - Select the type of *PPE* that will protect the *affected employee* from the hazards identified in the occupational *hazard assessment*;
- [1915.152\(b\)\(2\)](#) - *Communicate* selection decisions to *affected employees*;
- [1915.152\(b\)\(3\)](#) - Select *PPE* that properly fits each *affected employee*; and
- [1915.152\(b\)\(4\)](#) - *Verify* that the required occupational *hazard assessment* has been performed through a *document* that contains the following *information*: occupation, the date(s) of the *hazard assessment*, and the *name* of the person performing the *hazard assessment*.

[1915.152\(e\)](#) - Training

- [1915.152\(e\)\(1\)](#) - The employer shall provide *training* to each employee who is required, by this section, to use *PPE* (exception: *training* in the use of *personal fall arrest systems and positioning device systems training* is covered in [§§ 1915.159 - personal fall arrest systems and 1915.160 - positioning device systems](#)). Each employee shall be trained to understand at least the following:  
[Reference [paragraph \(e\)\(1\)\(i\) - \(v\)](#)].

- [1915.152\(e\)\(2\)](#) - The employer shall ensure that each *affected employee* demonstrates the ability to use *PPE* properly before being allowed to perform work requiring the use of *PPE*.
- [1915.152\(e\)\(3\)](#) - The employer shall *retrain* any employee who does not understand or display the skills required by [paragraph \(e\)\(2\)](#) of this section. Circumstances where *retraining* is required include, but are not limited to, situations where: [Reference [paragraph \(e\)\(3\)\(i\) - \(iii\)](#)].

[1915.152\(f\)](#) - Payment for *protective equipment*. [Reference [paragraph \(f\)\(1\) - \(7\)](#)].

## 1915.153 - Eye and Face Protection

**Scope:** This [standard](#) provides the requirements for eye and face protection.

**Special Requirements:** Affected employee, eye and face protection, demonstrates, references other standards

[1915.153\(a\)\(1\)](#) - The employer shall ensure that each *affected employee* uses appropriate *eye or face protection* where there are exposures to eye or face hazards caused by flying particles, molten metal, liquid chemicals, acid or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

[1915.153\(a\)\(2\)](#) - The employer shall ensure that each *affected employee* uses *eye or face protection* that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g., a clip-on or slide-on side shield) meeting the pertinent requirements of this section are acceptable.

[1915.153\(a\)\(3\)](#) - The employer shall ensure that each *affected employee* who wears prescription lenses while engaged in operations that involve eye hazards wears *eye protection* that incorporates the prescription in its design, unless the employee is protected by *eye protection* that can be worn over prescription lenses without disturbing the proper position of either the *PPE* or the prescription lenses.

[1915.153\(a\)\(4\)](#) - The employer shall ensure that each *affected employee* uses equipment with filter lenses that have a shade number that provides appropriate protection from injurious light radiation. [Table I-1](#) is a listing of appropriate shade numbers for various operations. If filter lenses are used in goggles worn under a helmet which has a lens, the shade number of the lens in the helmet may be reduced so that the shade numbers of the two lenses will equal the value as shown in [Table I-1](#), §1915.153.

[1915.153\(b\)\(1\)](#) - Protective *eye and face protection* devices must comply with any of the following *consensus standards*: [Reference [paragraph \(b\)\(1\)\(i\) - \(iii\)](#)].

[1915.153\(b\)\(2\)](#) - *Eye and face protection* devices that the employer *demonstrates* are at least as effective as protective as *eye and face protection* devices that are constructed in accordance with one of the above *consensus standards* will be deemed to be in compliance with the requirements of this section.

## **1915.154 - Respiratory Protection**

**Scope:** This [standard](#) provides the requirements for respiratory protection.

**Special Requirements:** Respiratory protection, references other standards

*Respiratory protection* for shipyard employment is covered by [29 CFR 1910.134](#). Refer to [29 CFR 1910.134](#) - *respiratory protection* for special requirements.

## **1915.155 - Head Protection**

**Scope:** This [standard](#) provides the requirements for head protection.

**Special Requirements:** Affected employee, head protection, demonstrates, references other standards

[1915.155\(a\)\(1\)](#) - The employer shall ensure that each *affected employee* wears a *protective helmet* when working in areas where there is a potential for injury to the head from falling objects.

[1915.155\(a\)\(2\)](#) - The employer shall ensure that each *affected employee* wears a *protective helmet* designed to reduce electrical shock hazards where there is potential for electric shock or burns due to contact with exposed electrical conductors which could contact the head.

[1915.155\(b\)\(1\)](#) - *Head protection* must comply with any of the following *consensus standards*: [References [paragraph \(b\)\(1\)\(i\) - \(iii\)](#)].

[1915.155\(b\)\(2\)](#) - *Head protection devices* that the employer *demonstrates* are at least as effective as *head protection* devices that are constructed in accordance with one of the above *consensus standards* will be deemed to be in compliance with the requirements of this section.

## 1915.156 - Foot Protection

**Scope:** This [standard](#) provides the requirements

**Special Requirements:** Affected employee, foot protection, demonstrates, reference other standards

[1915.156\(a\)](#) - Use. The employer shall ensure that each *affected employee* wears *protective footwear* when working in areas where there is a danger of foot injuries due to falling or rolling objects or objects piercing the sole.

[1915.156\(b\)\(1\)](#) - *Protective footwear* must comply with any of the following *consensus standards*: [Reference [paragraph \(b\)\(1\)\(i\) - \(iii\)](#)].

[1915.156\(b\)\(2\)](#) - *Protective footwear* that the employer *demonstrates* is at least as effective as *protective footwear* that is constructed in accordance with one of the above *consensus standards* will be deemed to be in compliance with the requirements of this section.

## 1915.157 - Hand and Body Protection

**Scope:** This [standard](#) provides the requirements for hand and body protection.

**Special Requirements:** Hand and body protection, affected employee, gloves and sleeves

[1915.157\(a\)](#) - Use. The employer shall ensure that each *affected employee* uses appropriate *hand protection and other protective clothing* where there is exposure to hazards such as skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, harmful temperature extremes, and sharp objects.

[1915.157\(c\)](#) - Electrical protective devices. The employer shall ensure that each *affected employee* wears *protective electrical insulating gloves and sleeves* or other electrical protective equipment, if that employee is exposed to electrical shock hazards while working on electrical equipment.

## 1915.158 - Lifesaving Equipment

**Scope:** This [standard](#) provides the requirements

**Special Requirements:** Life jackets, personal flotation devices, affected employees, marked, approved, inspected, specifications, ring life buoy, references other standards

1915.158(a)(1) - PFDs (life preservers, life jackets, or work vests) worn by each affected employee must be United States Coast Guard (USCG) approved pursuant to 46 CFR part 160 (Type I, II, III, or V PFD) and marked for use as a work vest, for commercial use, or for use on vessels. USCG approval is pursuant to 46 CFR part 160, Coast Guard Lifesaving Equipment Specifications.

1915.158(a)(2) - Prior to each use, personal flotation devices shall be inspected for dry rot, chemical damage, or other defects which may affect their strength and buoyancy. Defective personal flotation devices shall not be used.

1915.158(b)(1) - When work is being performed on a floating vessel 200 feet (61 m) or more in length, at least three 30-inch (0.76 m) U.S. Coast Guard approved ring life buoys with lines attached shall be located in readily visible and accessible places. Ring life buoys shall be located one forward, one aft, and one at the access to the gangway.

1915.158(b)(2) - On floating vessels under 200 feet (61 m) in length, at least one 30-inch (0.76 m) U.S. Coast Guard approved ring life buoy with line attached shall be located at the gangway.

1915.158(b)(3) - At least one 30-inch (0.76 m) U. S. Coast Guard approved ring life buoy with a line attached shall be located on each staging alongside of a floating vessel on which work is being performed.

## **1915.159 - Personal Fall Arrest Systems**

**Scope:** This standard provides the requirements personal fall arrest systems.

**Special Requirements:** PFAS, designed, qualified person, supervision/direction, inspected, training, tie-off techniques, determines/d, demonstrate, safety factor, rescue

1915.159(a)(5) - Snaphooks shall be sized to be compatible with the member to which they are connected to prevent unintentional disengagement of the snaphook caused by depression of the snaphook keeper by the connected member, or shall be of a locking type that is *designed* and used to prevent disengagement of the snap-hook by contact of the snaphook keeper by the connected member.

1915.159(a)(8) - Anchorages used for attachment of *personal fall arrest equipment* shall be independent of any anchorage being used to support or suspend platforms.

[1915.159\(a\)\(9\)](#) - Anchorages shall be capable of supporting at least 5,000 pounds (22.24 Kn) per employee attached, or shall be *designed*, installed, and used as follows:

- [1915.159\(a\)\(9\)\(i\)](#) - As part of a complete *personal fall arrest system* which maintains a *safety factor* of at least two; and
- [1915.159\(a\)\(9\)\(ii\)](#) - Under the *direction and supervision of a qualified person*.

[1915.159\(b\)\(5\)](#) - Horizontal lifelines shall be designed, installed, and used under the *supervision of a qualified person*, and shall only be used as part of a complete *personal fall arrest system* that maintains a *safety factor* of at least two.

[1915.159\(b\)\(7\)](#) - *Personal fall arrest systems* shall be rigged such that an employee can neither free fall more than 6 feet (1.83 m) nor contact any lower level.

[1915.159\(c\)\(5\)](#) - *Personal fall arrest systems* shall be *inspected* prior to each use for mildew, wear, damage, and other deterioration. Defective components shall be removed from service.

[1915.159\(c\)\(6\)](#) - *Personal fall arrest systems* and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until *inspected and determined by a qualified person* to be undamaged and suitable for reuse.

[1915.159\(c\)\(7\)](#) - The employer shall provide for *prompt rescue* of employees in the event of a fall or shall ensure that employees are able to rescue themselves.

[1915.159\(c\)\(9\)](#) - *Personal fall arrest systems* and components shall be used only for *employee fall protection* and not to hoist materials.

[1915.159\(d\)](#) - *Training*. Before using *personal fall arrest equipment*, each affected employee shall be *trained* to understand the application limits of the equipment and proper hook-up, anchoring, and *tie-off techniques*. Affected employees shall also be *trained* so that they can *demonstrate* the proper use, inspection, and storage of their equipment.

## **1915.160 - Positioning Device Systems**

**Scope:** This [standard](#) provides the requirements for positioning devices systems

**Special Requirements:** Positioning device system, drop test, inspected, qualified person, determined, train, tie-off techniques, methods of use

[1915.160\(b\)\(2\)\(i\)](#) - A window cleaner's *positioning system* shall be capable of withstanding without failure a *drop test* consisting of a 6 foot (1.83 m) drop of a 250-pound (113.4 kg) weight. The *system* shall limit the initial arresting force to not more than 2,000 pounds (8.9 Kn), with a duration not to exceed 2 milliseconds. The *system* shall limit any subsequent arresting forces imposed on the falling employee to not more than 1,000 pounds (4.45 Kn);

[1915.160\(b\)\(2\)\(ii\)](#) - All other *positioning device systems* shall be capable of withstanding without failure a *drop test* consisting of a 4 foot (1.22 m) drop of a 250-pound (113.4 kg) weight.

[1915.160\(c\)\(1\)](#) - *Positioning device systems* shall be *inspected* before each use for mildew, wear, damage, and other deterioration. Defective components shall be removed from service.

[1915.160\(c\)\(2\)](#) - A *positioning device system* or component subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection, unless *inspected and determined by a qualified person* to be undamaged and suitable for reuse.

[1915.160\(d\)](#) - *Training*. Before using a *positioning device system*, employees shall be *trained* in the application limits, proper hook-up, anchoring and *tie-off techniques, methods of use, inspection*, and storage of positioning device systems.

## **Subpart J - [Ship's Machinery and Piping Systems](#)**

[Subpart J](#) provides the requirements for ship's boilers, piping systems, propulsion machinery and deck machinery.

To learn if Subpart J applies to you, go to [Does "Subpart J - Ship's Machinery and Piping Systems" Apply to You?](#)

### **Special Requirements**

#### **1915.162 - Ship's Boilers**

**Scope:** This [standard](#) provides the requirements for ship's boilers.

**Special Requirements:** Lock(ed), tag(ged), (warning) sign, determined, references other standards

[1915.162\(a\)\(1\)](#) - The isolation and shutoff valves connecting the dead boiler with the live system or systems shall be secured, blanked, and then *locked or tagged*, in accordance with [§ 1915.89 - control of hazardous energy \(lockout/tags-plus\)](#), indicating that employees are working on the boiler. This *lock or 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 boiler, or until the work on the boiler is completed, in accordance with [§ 1915.89 - control of hazardous energy \(lockout/tags-plus\)](#). When 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, and then *locked or tagged*, in accordance with [§ 1915.89 - control of hazardous energy \(lockout/tags-plus\)](#).

[1915.162\(a\)\(3\)](#) - 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.

## **1915.163 - Ship's Piping System**

**Scope:** This [standard](#) provides the requirements for the ship's piping system.

**Special Requirements:** Lock(ed), tag(ged), determined, visual observation, references other standards

[1915.163\(a\)\(1\)](#) - The isolation and shutoff valves connecting the dead system with the live system or systems shall be secured, blanked, and then *locked or tagged*, in accordance with [§ 1915.89 - control of hazardous energy \(lockout/tags-plus\)](#), indicating that employees are working on the systems. The *lock or tag* shall not be removed or 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, in accordance with [§ 1915.89 - control of hazardous energy \(lockout/tags-plus\)](#). When 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, and then *locked or tagged*, in accordance with [§ 1915.89 - control of hazardous energy \(lockout/tags-plus\)](#).

[1915.163\(a\)\(2\)](#) - Drain connections to the atmosphere on all of the dead interconnecting systems shall be opened for *visual observation* of drainage.

## **1915.164 - Ship's Propulsion Machinery**

**Scope:** This [standard](#) provides the requirements for the ships' propulsion machinery.

**Special Requirements:** Steps, sign posted, warning sign, locked, tagged, check, precautions, testing, references other standards

1915.164(a) - Before work is performed on the main engine, reduction gear, or connecting accessories, the employer shall ensure that the following *steps* are taken:

- 1915.164(a)(1) - 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.
- 1915.164(a)(2) - If the jacking gear is steam driven, the employer shall ensure that the stop valves to the jacking gear are secured, and then *locked or tagged*, in accordance with § 1915.89 - *control of hazardous energy (lockout/tags-plus)*.
- 1915.164(a)(3) - If the jacking gear is electrically driven, the circuit controlling the jacking gear shall be de-energized by tripping the circuit breaker, opening the switch, or removing the fuse, whichever is appropriate, and then *locked or tagged* in accordance with § 1915.89 - *control of hazardous energy (lockout/tags-plus)*.

1915.164(b) - Before the jacking engine is operated, the following *precautions* shall be taken:

- 1915.164(b)(1) - A *check* shall be made to ensure that all employees, equipment, and tools are clear of the engine, reduction gear, and its connecting accessories.
- 1915.164(b)(2) - A *check* shall be made to ensure that all employees, equipment and tools are free of the propeller.

1915.164(c) - 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.

1915.164(d) - 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.

## **1915.165 - Ship's Deck Machinery**

**Scope:** This standard provides the requirements for the ship's deck machinery.

**Special Requirements:** Steps

[1915.165\(a\)](#) - Before work is performed on the anchor windlass or any of its attached accessories, the employer shall ensure that the following *steps* are taken:  
[Reference [paragraph \(a\)\(1\) - \(3\)](#)].

## **Subpart K - Portable, Unfired Pressure Vessels, Drums and Containers, Other Than Ship's Equipment**

[Subpart K](#) provides the standards for portable air receivers, and other unfired pressure vessels, drums and containers.

To learn if Subpart K applies to you, go to [Does "Subpart K - Portable, Unfired Pressure Vessels, Drums and Containers, Other Than Ship's Equipment" Apply to You?](#)

### **Special Requirements**

#### **1915.172 - Portable Air Receivers and Other Unfired Pressure Vessels**

**Scope:** This [standard](#) provides the requirements for portable air receivers and other unfired pressure vessels.

**Special Requirements:** Marked, reported, hydrostatic pressure test, competent person, certification record, examinations/examined, tests, signature, serial number, references other standards

[1915.172\(a\)](#) - Portable, unfired pressure vessels, built after the effective date of this regulation, shall be *marked and reported* indicating that they have been designed and constructed to meet the *standards of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Rules for Construction of Unfired Pressure Vessels, 1963*. They shall be subjected to a *hydrostatic pressure test* of one and one-half times the working pressure of the vessels.

[1915.172\(b\)](#) - Portable, unfired pressure vessels, not built to the *code requirements* of [paragraph \(a\)](#) of this section, and built prior to the effective date of this *regulation*, shall be *examined* quarterly by a *competent person*. They shall be subjected yearly to a *hydrostatic pressure test* of one and one-half times the working pressure of the vessels.

[1915.172\(d\)](#) - A *certification record* of such *examinations and tests* made in compliance with the requirements of [paragraphs \(a\)](#) and [\(b\)](#) of this section shall be maintained. The *certification record* shall include the date of *examinations and tests*, the *signature* of the person who performed the *examinations or tests and the serial number*, or other identifier, of the equipment *examined and tested*.

## 1915.173 - Drums and Containers

**Scope:** This [standard](#) provides the requirements for drums and containers.

**Special Requirements:** Fire extinguishers

[1915.173\(f\)](#) - *Fire extinguishers* adequate in number and suitable for the hazard shall be provided. These *extinguishers* shall be located in the immediate area where pressure vessels, drums and containers containing flammable liquids or gases are stored or in use. Such *extinguishers* shall be ready for use at all times.

## Subpart L - [Electrical Machinery](#)

[Subpart L](#) provides the standard on electrical circuits and distribution boards.

To learn if Subpart L applies to you, go to [Does "Subpart L - Electrical Machinery" Apply to You?](#)

### Special Requirements

## 1915.181 - Electrical Circuits and Distribution Boards

**Scope:** This [standard](#) provides the requirements for electrical circuits and distribution boards.

**Special Requirements:** Testing, checked, locked, tagged, references other standards

[1915.181\(b\)](#) - 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.

[1915.181\(c\)](#) - De-energizing 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 then be *locked out or tagged* in accordance with [§ 1915.89](#) - *control of hazardous energy (lockout/tags-plus)*.

## Subpart P - [Fire Protection in Shipyard Employment](#)

[Subpart P](#) provides the standards for fire protection including fire safety plans, hot work precautions, fire watches, fire response, hazards of fire extinguishing systems, land-side fire protection systems, and training.

To learn if Subpart P applies to you, go to [Does "Subpart P - Fire Protection in Shipyard Employment" Apply to You?](#)

## Special Requirements

### 1915.501 - General Provisions

**Scope:** This [standard](#) provides the requirements for general provisions related to fire protection.

**Special Requirements:** Employee participation, developing, reviewing, programs, policies, inform, fire safety plan, safety and health rules, emergency procedures, responsibilities, communicate, information, controls, advise

[1915.501\(c\)](#) - *Employee participation*. The employer must provide ways for employees or employee representatives, or both to participate in *developing and periodically reviewing programs and policies* adopted to comply with this subpart.

[1915.501\(d\)\(1\)](#) - *Host employer responsibilities*. The *host employer's responsibilities* are to:

- [1915.501\(d\)\(1\)\(i\)](#) - *Inform* all employers at the worksite about the content of the *fire safety plan* including hazards, controls, fire safety and health rules, and emergency procedures;
- [1915.501\(d\)\(1\)\(ii\)](#) - Make sure the *safety and health responsibilities* for fire protection are assigned as appropriate to other employers at the worksite; and
- [1915.501\(d\)\(1\)\(iii\)](#) - If there is more than one host employer, each host employer must *communicate relevant information* about fire-related hazards to other host employers. When a vessel owner or operator (temporarily) becomes a host shipyard employer by directing the work of ships' crews on repair or modification of the vessel or by hiring other contractors directly, the vessel owner or operator must also comply with these provisions for host employers.

[1915.501\(d\)\(2\)](#) - *Contract employer responsibilities*. The contract employer's *responsibilities* are to: [Reference [paragraph \(d\)\(2\)\(i\) - \(ii\)](#)].

- [1915.501\(d\)\(2\)\(ii\)](#) - *Advise* the host employer of any previously unidentified fire-related hazards that the contract employer identifies at the worksite.

## 1915.502 - Fire Safety Plan

**Scope:** This [standard](#) provides the requirements for a fire safety plan.

**Special Requirements:** Written fire safety plan, procedures, elements, responsibilities, respond, develop, information, reviewing, update, document, informed, copy, affected employees, contract employers, fire response organization

[1915.502\(a\)](#) - *Employer responsibilities.* The employer must *develop* and implement a *written fire safety plan* that covers all the actions that employers and employees must take to ensure employee safety in the event of a fire. (See [Appendix A](#) to this subpart for a Model Fire Safety Plan.)

[1915.502\(b\)](#) - *Plan elements.* The employer must include the following information in the *fire safety plan*: [Reference [paragraph \(b\)\(1\) - \(8\)](#)].

[1915.502\(c\)](#) - *Reviewing the plan* with employees. The employer must *review the plan* with each employee at the following times: [Reference [paragraph \(c\)\(1\) - \(3\)](#)].

[1915.502\(d\)](#) - Additional employer requirements. The employer also must:

- [1915.502\(d\)\(1\)](#) - Keep the *plan accessible* to employees, employee representatives, and OSHA;
- [1915.502\(d\)\(2\)](#) - *Review and update the plan* whenever necessary, but at least *annually*;
- [1915.502\(d\)\(3\)](#) - *Document that affected employees* have been *informed* about the *plan* as required by [paragraph \(c\)](#) of this section; and
- [1915.502\(d\)\(4\)](#) - Ensure any outside *fire response organization* that the employer expects to respond to fires at the employer's worksite has been given a *copy of the current plan*.

[1915.502\(e\)](#) - *Contract employers.* Contract employers in shipyard employment must have a *fire safety plan* for their employees, and this *plan* must comply with the host employer's *fire safety plan*.

## 1915.503 - Precautions for Hot Work

**Scope:** This [standard](#) provides the requirements for hot work precautions.

**Special Requirements:** Designated areas, authorizing/authorize, inspect, certificate, competent person's log, fire watches, drop test, identification, references other standards

[1915.503\(a\)\(1\)](#) - *Designated Areas*. The employer may *designate areas* for hot work in sites such as vessels, vessel sections, fabricating shops, and subassembly areas that are free of fire hazards.

[1915.503\(a\)\(2\)](#) - Non-designated Areas.

- [1915.503\(a\)\(2\)\(i\)](#) - Before *authorizing* hot work in a non-designated area, the employer must *visually inspect* the area where hot work is to be performed, including adjacent spaces, to ensure the area is free of fire hazards, unless a *Marine Chemist's certificate or Shipyard Competent Person's log* is used for *authorization*.
- [1915.503\(a\)\(2\)\(ii\)](#) - The employer shall *authorize* employees to perform hot work only in areas that are free of fire hazards, or that have been controlled by physical isolation, fire watches, or other positive means.

[1915.503\(b\)\(1\)](#) - Maintaining fire hazard-free conditions. The employer must keep all hot work areas free of new hazards that may cause or contribute to the spread of fire. Unexpected energizing and energy release are covered by [29 CFR 1915.181](#) - *electrical circuits and distribution boards, Subpart L*. Exposure to toxic and hazardous substances is covered in *29 CFR 1915.1000 through 1915.1450, Subpart Z*.

[1915.503\(b\)\(2\)\(iv\)](#) - All disconnected fuel gas and oxygen hose lines are rolled back to the supply manifold or to open air to disconnect the torch; or extended fuel gas and oxygen hose lines are not reconnected at the supply manifold unless the lines are given a positive means of *identification* when they were first connected and the lines are tested using a *drop test* or other positive means to ensure the integrity of fuel gas and oxygen burning system.

## 1915.504 - Fire Watches

**Scope:** This [standard](#) provides the requirements for fire watches.

**Special Requirements:** Written fire watch policy, training/trained, posting fire watches, marine chemist, Coast Guard-authorized person, competent person, assigning, fire watch duty, communicate, authorized, qualifications, alert, references other standards

[1915.504\(a\)](#) - *Written fire watch policy*. The employer must create and keep current a *written policy* that specifies the following requirements for employees performing fire watch in the workplace:

- [1915.504\(a\)\(1\)](#) - The *training* employees must be given (*§ 1915.508(c)* contains detailed *fire watch training* requirements); [Reference [paragraph \(a\)\(1\) - \(4\)](#)].

[1915.504\(b\)](#) - *Posting fire watches*. The employer must *post* a fire watch if during hot work any of the following conditions are present: [Reference [paragraph \(b\)\(1\) - \(8\)](#)].

- [1915.504\(b\)\(8\)](#) - *A Marine Chemist, a Coast Guard-authorized person, or a shipyard Competent Person, as defined in 29 CFR Part 1915, [Subpart B](#) - confined and enclosed spaces and other dangerous atmospheres in shipyard employment, requires that a fire watch be posted.*

[1915.504\(c\)](#) - *Assigning employees to fire watch duty*.

- [1915.504\(c\)\(1\)](#) - The employer must not *assign* other *duties* to a fire watch while the hot work is in progress.
- [1915.504\(c\)\(2\)](#) - Employers must ensure that employees assigned to *fire watch duty*: [Reference [paragraph \(c\)\(2\)\(i\) - \(viii\)](#)].

## 1915.505 - Fire Response

**Scope:** This [standard](#) provides the requirements for fire response.

**Special Requirements:** Responsibilities, evacuation procedures, protective clothing and equipment procedures, fire response, written policy information, liaisons, fire response organizations, information, fire response plan, organization, written policy, lines of authority, incident management system, procedures, explanation of duties, descriptions, respiratory protection, certified, personal alert safety system, PPE, inspect, respiratory protection program, recommendations, medically fit, medical records, references other standards

[1915.505\(a\)](#) - *Employer responsibilities*. The employer must: [Reference [paragraph \(a\)\(1\) - \(2\)](#)].

[1915.505\(b\)](#) - *Required written policy information*.

- [1915.505\(b\)\(1\)](#) - *Internal fire response*. If an internal *fire response* is to be used, the employer must include the following *information* in the employer's *written policy*: [Reference [paragraph \(b\)\(1\)\(i\) - \(vi\)](#)].
- [1915.505\(b\)\(2\)](#) - *Outside fire response*. If an outside *fire response* organization is used, the employer must include the following *information in the written policy*: [Reference [paragraph \(b\)\(2\)\(i\) - \(iii\)](#)].
- [1915.505\(b\)\(3\)](#) - *A combination of internal and outside fire response*. If a combination of internal and outside *fire response* is to be used, the employer must include the following *information*, in addition to the requirements in [paragraphs \(b\)\(1\) and \(2\)](#) of this section, in the *written policy*: [Reference [paragraph \(b\)\(3\)\(i\) - \(v\)](#)].

- [1915.505\(b\)\(4\)](#) - Employee *evacuation*. The employer must include the following *information* in the employer's *written policy*: [Reference [paragraph \(b\)\(4\)\(i\) - \(v\)](#)].

[1915.505\(c\)](#) - Medical requirements for shipyard *fire response* employees. The employer must ensure that:

- [1915.505\(c\)\(1\)](#) - All *fire response* employees receive *medical examinations* to assure that they are *physically and medically fit* for the duties they are expected to perform;
- [1915.505\(c\)\(2\)](#) - *Fire response* employees, who are required to wear *respirators* in performing their duties, meet the medical requirements of [§ 1915.154](#) - *respiratory protection*;
- [1915.505\(c\)\(3\)](#) - Each *fire response* employee has an annual *medical examination*; and
- [1915.505\(c\)\(4\)](#) - The *medical records* of *fire response* employees are kept in accordance with [§ 1915.1020](#) - *access to employee exposure and medical records*.

[1915.505\(d\)](#) - *Organization* of internal *fire response* functions. The employer must: [Reference [paragraph \(d\)\(1\) - \(4\)](#)].

[1915.505\(e\)](#) - *Personal protective clothing and equipment* for *fire response* employees. [Reference [paragraph \(e\)\(1\) - \(7\)](#)].

- [1915.505\(e\)\(1\)](#) - General requirements. The employer must: [Reference [paragraph \(e\)\(1\)\(i\) - \(ii\)](#)].
- [1915.505\(e\)\(3\)](#) - *Respiratory protection*. The employer must: [Reference [paragraph \(e\)\(3\)\(i\) - \(vi\)](#)].
  - [1915.505\(e\)\(3\)\(iii\)\(B\)](#) - *Respiratory protective devices certified by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR Part 84* as suitable for the specific chemical environment;
  - [1915.505\(e\)\(3\)\(iv\)](#) - Ensure that additional outside air supplies used in conjunction with SCBA result in positive pressure systems that are *certified by NIOSH under 42 CFR Part 84*;
  - [1915.505\(e\)\(3\)\(vi\)](#) - Ensure that the *respiratory protection program* and all *respiratory protection equipment* comply with [§ 1915.154](#) - *respiratory protection*.
- [1915.505\(e\)\(4\)](#) - Interior structural firefighting operations. The employer must:
  - [1915.505\(e\)\(4\)\(i\)](#) - Supply at no cost to all *fire response* employees exposed to the hazards of shipyard *fire response*, a *helmet, gloves, footwear, and protective hoods, and either a protective coat and trousers or a protective coverall*; and
  - [1915.505\(e\)\(4\)\(ii\)](#) - Ensure that this equipment meets the applicable *recommendations* in [NFPA 1971-2000 Standard on Protective](#)

*Ensemble for Structural Fire Fighting (incorporated by reference, see [§ 1915.5](#)).*

- [1915.505\(e\)\(5\)](#) - Proximity firefighting operations. The employer must provide, at no cost, to all *fire response* employees who are exposed to the hazards of proximity firefighting, appropriate *protective proximity clothing* meets the applicable recommendations in [NFPA 1971-2000 Standard on Protective Ensemble for Proximity Fire Fighting \(incorporated by reference, see \[§ 1915.5\]\(#\)\)](#).
- [1915.505\(e\)\(6\)](#) - *Personal Alert Safety System (PASS) devices*. The employer must: [Reference [paragraph \(e\)\(6\)\(i\) - \(ii\)](#)].
- [1915.505\(e\)\(7\)](#) - *Life safety ropes, body harnesses, and hardware*. The employer must ensure that: [Reference [paragraph \(e\)\(7\)\(i\) - \(iii\)](#)].

[1915.505\(f\)\(1\)](#) - *Personal protective equipment*. The employer must *inspect* and maintain *personal protective equipment* used to protect *fire response* employees to ensure that it provides the intended protection.

[1915.505\(f\)\(2\)](#) - *Fire response equipment*. The employer must: [Reference [paragraph \(f\)\(2\)\(i\) - \(iii\)](#)].

## **1915.506 - Hazards of Fixed Extinguishing Systems on Board Vessels and Vessel Sections**

**Scope:** This [standard](#) provides the requirements for hazards of fixed extinguishing systems on board vessels and vessel sections.

**Special Requirements:** Employer responsibilities, trained, evacuation alarms, fire extinguishing systems, measures, testing, authorized employees, system maintenance, trials, references other standards

[1915.506\(a\)](#) - *Employer responsibilities*. The employer must comply with the provisions of this section whenever employees are exposed to *fixed extinguishing systems* that could create a dangerous atmosphere when activated in vessels and vessel sections, regardless of geographic location.

[1915.506\(b\)](#) - Requirements for automatic and manual systems. Before any work is done in a space equipped with *fixed extinguishing systems*, the employer must either: [Reference [paragraph \(b\)\(1\) - \(2\)](#)].

- [1915.506\(b\)\(2\)](#) - Ensure employees are *trained* to recognize:
  - [1915.506\(b\)\(2\)\(i\)](#) - Systems' discharge and evacuation *alarms* and the appropriate escape routes; and

- [1915.506\(b\)\(2\)\(ii\)](#) - Hazards associated with the *extinguishing* systems and agents including the dangers of disturbing system components and equipment such as piping, cables, linkages, detection devices, activation devices, and *alarm* devices.

[1915.506\(c\)](#) - Sea and dock *trials*. During *trials*, the employer must ensure that all systems shall remain operational.

[1915.506\(d\)](#) - Doors and hatches. The employer must: [Reference [paragraph \(d\)\(1\) - \(2\)](#)].

- [1915.506\(d\)\(1\)](#) - Take *protective measures* to ensure that all doors, hatches, scuttles, and other exit openings remain working and accessible for escape in the event the systems are activated; and

[1915.506\(e\)](#) - *Testing the system*.

- [1915.506\(e\)\(1\)](#) - When *testing a fixed extinguishing system* involves a total discharge of extinguishing medium into a space, the employer must evacuate all employees from the space and assure that no employees remain in the space during the discharge. The employer must *retest* the atmosphere in accordance with [§ 1915.12 - Precautions and the order of testing before entering confined and enclosed spaces and other dangerous atmospheres](#), to ensure that the oxygen levels are safe for employees to enter.
- [1915.506\(e\)\(2\)](#) - When *testing a fixed extinguishing system* does not involve a total discharge of the *systems* extinguishing medium, the employer must make sure that the system's extinguishing medium is physically isolated and that all employees not directly involved in the *testing* are evacuated from the protected space.

[1915.506\(f\)](#) - Conducting *system maintenance*. Before conducting maintenance on a *fixed extinguishing system*, the employer must ensure that the system is physically isolated.

[1915.506\(g\)](#) - Using fixed manual *extinguishing systems* for fire protection. If fixed manual *extinguishing systems* are used to provide fire protection for spaces in which the employees are working, the employer must ensure that:

- [1915.506\(g\)\(1\)](#) - Only *authorized employees* are allowed to activate the system;
- [1915.506\(g\)\(2\)](#) - *Authorized employees are trained* to operate and activate the systems; and
- [1915.506\(g\)\(3\)](#) - All employees are evacuated from the protected spaces, and accounted for, before the fixed manual *extinguishing system* is activated.

## 1915.507 - Land-Side Fire Protection Systems

**Scope:** This [standard](#) provides the requirements for land-side fire protection systems.

**Special Requirements:** Employer responsibilities, approved, extinguishing systems, emergency alarms, qualified technician/mechanic, inspect, fire extinguishers, test, notify, signs, post, PPE, fire protection systems, references other standards

[1915.507\(a\)](#) - *Employer responsibilities*. The employer must ensure all fixed and portable *fire protection systems* needed to meet an *OSHA standard* for employee safety or employee protection from fire hazards in land-side facilities, including, but not limited to, buildings, structures, and equipment, meet the requirements of this section.

[1915.507\(b\)](#) - Portable fire extinguishers and hose systems.

- [1915.507\(b\)\(1\)](#) - The employer must select, install, *inspect, maintain, and test* all *portable fire extinguishers* according to [NFPA 10-2002 Standard for Portable Fire Extinguishers](#) (incorporated by reference, see [§ 1915.5](#)).
- [1915.507\(b\)\(2\)](#) - The employer is permitted to use Class II or Class III hose systems, in accordance with [NFPA 10-2002](#) (incorporated by reference, see [§ 1915.5](#)), as portable fire extinguishers if the employer selects, installs, *inspects, maintains, and tests* those systems according to the specific recommendations in [NFPA 14-2003 - Standard for the Installation of Standpipe and Hose Systems](#) (incorporated by reference, see [§ 1915.5](#)).

[1915.507\(c\)](#) - General requirements for *fixed extinguishing systems*. The employer must: [Reference [paragraph \(c\)\(1\) - \(6\)](#)].

- [1915.507\(c\)\(1\)](#) - Ensure that any *fixed extinguishing system* component or extinguishing agent is *approved by an OSHA Nationally Recognized Testing Laboratory*, meeting the requirements of [29 CFR 1910.7](#), for use on the specific hazards the employer expects it to control or extinguish;
- [1915.507\(c\)\(2\)](#) - *Notify* employees and take the necessary precautions to ensure employees are safe from fire if for any reason a *fire extinguishing system* stops working, until the system is working again;
- [1915.507\(c\)\(3\)](#) - Ensure all repairs to *fire extinguishing systems* and equipment are done by a *qualified technician or mechanic*;
- [1915.507\(c\)\(4\)](#) - Provide and ensure employees use proper *personal protective equipment* when entering discharge areas in which the atmosphere remains hazardous to employee safety or health, or provide safeguards to prevent employees from entering those areas. See [§ 1915.12](#) for additional requirements applicable to safe entry into spaces containing dangerous atmospheres;

- [1915.507\(c\)\(5\)](#) - *Post hazard warning or caution signs* at both the entrance to and inside of areas protected by fixed extinguishing systems that use extinguishing agents in concentrations known to be hazardous to employee safety or health; and
- [1915.507\(c\)\(6\)](#) - *Select, install, inspect, maintain, and test all automatic fire detection systems and emergency alarms* according to [NFPA 72-2002 National Fire Alarm Code](#) (incorporated by reference, see [§ 1915.5](#))

[1915.507\(d\)](#) - *Fixed extinguishing systems*. The employer must select, install, *maintain, inspect, and test all fixed systems* required by OSHA as follows: [Reference [paragraph \(d\)\(1\) - \(5\)](#)].

## 1915.508 - Training

**Scope:** This [standard](#) provides the requirements for training.

**Special Requirements:** Training, alarm signals, fire response, written training policy, written standard operation procedures, training programs, hands-on sessions, duties, responsibilities, designated, qualified instructors, records, demonstrate, inspection, fire watch, fire alarm procedures, communication, designated, alert, fire extinguishers, knowledge, drills, exercises, references other standards

[1915.508\(a\)](#) - The employer must *train* employees in the applicable requirements of this section: [Reference [paragraph \(a\)\(1\) - \(3\)](#)].

[1915.508\(b\)](#) - *Employee training*. The employer must ensure that all employees are *trained* on: [Reference [paragraph \(b\)\(1\) - \(2\)](#)].

[1915.508\(c\)](#) - Additional *training* requirements for employees expected to fight incipient stage fires. The employer must ensure that employees expected to fight incipient stage fires are *trained* on the following: [Reference [paragraph \(c\)\(1\) - \(3\)](#)].

[1915.508\(d\)](#) - Additional *training* requirements for shipyard employees *designated for fire response*. The employer must:

- [1915.508\(d\)\(1\)](#) - Have a *written training policy* stating that *fire response* employees must be *trained* and capable of carrying out their *duties and responsibilities* at all times;
- [1915.508\(d\)\(2\)](#) - Keep *written standard operating procedures* that address anticipated emergency operations and update these *procedures* as necessary;
- [1915.508\(d\)\(3\)](#) - Review *fire response employee training programs and hands-on sessions* before they are used in *fire response training* to make sure that fire

response employees are protected from hazards associated with *fire response training*;

- [1915.508\(d\)\(4\)](#) - Provide *training for fire response* employees that ensures they are capable of carrying out their *duties and responsibilities* under the employer's *standard operating procedures*;
- [1915.508\(d\)\(5\)](#) - Train new *fire response* employees before they engage in emergency operations;
- [1915.508\(d\)\(6\)](#) - At least quarterly, provide *training on the written operating procedures* to *fire response* employees who are expected to fight fires;
- [1915.508\(d\)\(7\)](#) - Use *qualified instructors* to conduct the *training*;
- [1915.508\(d\)\(8\)](#) - Conduct any *training* that involves live *fire response exercises* in accordance with [NFPA 1403-2002 Standard on Live Fire Training Evolutions](#) (incorporated by reference, see [§ 1915.5](#));
- [1915.508\(d\)\(9\)](#) - Conduct semi-annual *drills* according to the employer's *written procedures* for *fire response* employees that cover site-specific operations, occupancies, buildings, vessels and vessel sections, and fire-related hazards; and
- [1915.508\(d\)\(10\)](#) - Prohibit the use of smoke generating devices that create a dangerous atmosphere in *training exercises*.

[1915.508\(e\)](#) - Additional *training* requirements for *fire watch duty*.

- [1915.508\(e\)\(1\)](#) - The employer must ensure that each *fire watch* is trained by an *instructor* with adequate *fire watch knowledge and experience* to cover the items as follows: [Reference [paragraph \(e\)\(1\) - \(3\)](#)].

[1915.508\(f\)](#) - *Records*. The employer must keep *records that demonstrate* that employees have been *trained* as required by [paragraphs \(a\) through \(e\)](#) of this section.

- [1915.508\(f\)\(1\)](#) - The employer must ensure that the *records* include the *employee's name; the trainer's name; the type of training*; and the date(s) on which the *training* took place.
- [1915.508\(f\)\(2\)](#) - The employer must keep each *training record* for one year from the time it was made or until it is replaced with a new *training record*, whichever is shorter, and make it available for *inspection and copying* by OSHA on request.

## **Subpart Z - Toxic and Hazardous Substances**

[Subpart Z](#) provides requirements relating to employee exposures to air contaminants and the following health hazards: asbestos, coal tar pitch volatiles, 13 carcinogens (e.g., 4-Nitrobiphenyl, alpha-Naphthylamine, chloromethyl ether, 3,3'-Dichlorobenzidine (and its salts), bis-Chloromethyl ether, beta-Naphthylamine, Benzidine,

4-Aminodiphenyl, Ethyleneimine, beta-Propiolactone, 2-Acetylaminofluorene, 4-Dimethylaminoazobenzene, and N-Nitrosodimethylamine), vinyl chloride, inorganic arsenic, beryllium, lead, chromium (VI), cadmium, benzene, 1,2-dibromo-3-chloropropane, methylenedianiline, respirable crystalline silica, ethylene oxide, methylene chloride, formaldehyde, bloodborne pathogens, acrylonitrile, hazard communication, and chemical hazards in laboratories. It also provides requirements pertaining to employee medical and exposure records.

To determine if Subpart Z applies to you, go to [Does "Subpart Z - Toxic and Hazardous Substances" Apply to You?](#)

## Special Requirements

### 1915.1000 - Air Contaminants

**Scope:** This [standard](#) provides the requirements for air contaminants.

**Special Requirements:** Exposures, exposure limit, ceiling limit, formula, time weighted average, monitoring, determine

[1915.1000\(a\)\(1\)](#) - Substances with limits preceded by "C"-Ceiling values. An employee's *exposure* to any substance in [Subpart Z](#) - Shipyards, the *exposure limit* of which is preceded by a "C," shall at no time exceed the *exposure limit* given for that substance. If instantaneous *monitoring* is not feasible, then the *ceiling* shall be assessed as a 15-minute *time weighted average exposure* which shall not be exceeded at any time over a working day.

[1915.1000\(a\)\(2\)](#) - Other Substances-8-hour *Time Weighted Averages*. An employee's exposure to any substance in [Subpart Z](#) - Shipyards, the *exposure limit* of which is not preceded by a "C," shall not exceed the 8-hour *Time Weighted Average* given for that substance in any 8-hour work shift of a 40-hour work week.

[1915.1000\(d\)](#) - *Computation formula*. The *computation formula* which shall apply to employee exposure to more than one substance for which 8-hour *time weighted averages* are listed in [Subpart Z](#) of 29 CFR part 1915 in order to *determine* whether an employee is exposed over the *regulatory limit* is as follows: [Reference [paragraph \(d\)\(1\) - \(2\)](#)].

### 1915.1001 - Asbestos

**Scope:** This [standard](#) provides the requirements for asbestos.

**Special Requirements:** Permissible exposure limits, excursion limit, sampling, determined/ation, method, time-weighted average, regulated area, inform, measures, qualified person, exposure assessment, supervisory authority, supervisor/supervise, notification, competent person, course completion, approved, respirators, authorized persons, demarcate, signs, notification, affected employee, monitoring results, receipt, notify, observation, PPE, respirators, duties, respirator program, medical examinations, medical surveillance, monitoring, in writing, posting results, engineering controls, work practices, safety and health procedures, labeled/labels, inform, qualified person, inspection, hygiene facilities, tests, communication, hazard communication program, safety data sheets, trained/training, materials, information, post signs, fitting instructions, procedures, industrial hygienist, duties, self-help smoking cessation program materials (written), training program, medical surveillance program, consultations, written opinion, physician, statement, recordkeeping, objective data, demonstrates, instruct, records, decontamination, references other standards

1915.1001(c) - *Permissible exposure limits (PELS).*

- 1915.1001(c)(1) - *Time-weighted average limit (TWA).* The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour *time-weighted average (TWA)*, as determined by the *method* prescribed in [Appendix A](#) to this section, or by an equivalent *method*.
- 1915.1001(c)(2) - *Excursion limit.* The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a *sampling* period of thirty (30) minutes, as determined by the *method* prescribed in [Appendix A](#) to this section, or by an equivalent *method*.

1915.1001(d) - *Multi-employer worksites.*

- 1915.1001(d)(1) - On multi-employer worksites, an employer performing work requiring the establishment of a *regulated area* shall *inform* other employers on the site of the nature of the employer's work with asbestos and/or PACM, of the existence of and requirements pertaining to *regulated areas*, and the *measures* taken to ensure that employees of such other employers are not exposed to asbestos.
- 1915.1001(d)(4) - All employers of employees working adjacent to *regulated areas* established by another employer on a multi-employer worksite shall take steps on a daily basis to ascertain the integrity of the enclosure and/or the effectiveness of the *control method* relied on by the primary asbestos contractor to assure that asbestos fibers do not migrate to such adjacent areas.

- [1915.1001\(d\)\(5\)](#) - All general contractors on a shipyard project which includes work covered by this standard shall be deemed to exercise general *supervisory authority* over the work covered by this standard, even though the general contractor is not *qualified* to serve as the asbestos "*qualified person*" as defined by [paragraph \(b\)](#) of this section. As *supervisor* of the entire project, the general contractor shall ascertain whether the asbestos contractor is in compliance with this standard, and shall require such contractor to come into compliance with this standard when necessary.

[1915.1001\(e\)](#) - *Regulated areas*. [Reference [paragraph \(e\)\(1\) - \(6\)](#)].

- [1915.1001\(e\)\(2\)](#) - *Demarcation*. The *regulated area* shall be *demarcated* in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they may *demarcate* the *regulated area*. *Signs* shall be provided and displayed pursuant to the requirements of [paragraph \(k\)\(7\)](#) of this section.
- [1915.1001\(e\)\(3\)](#) - *Access*. Access to *regulated areas* shall be limited to *authorized persons* and to persons *authorized by the Act or regulations* issued pursuant thereto.
- [1915.1001\(e\)\(4\)](#) - *Respirators*. All persons entering a *regulated area* where employees are required pursuant to [paragraph \(h\)\(1\)](#) of this section to wear *respirators* shall be supplied with a *respirator* selected in accordance with [paragraph \(h\)\(2\)](#) of this section.
- [1915.1001\(e\)\(6\)](#) - *Qualified persons*. The employer shall ensure that all asbestos work performed within *regulated areas* is *supervised* by a *qualified person*, as defined in [paragraph \(b\)](#) of this section. The *duties of the qualified person* are set out in [paragraph \(o\)](#) of this section.

[1915.1001\(f\)](#) - *Exposure assessments and monitoring*. [Reference [paragraph \(f\)\(1\) - \(6\)](#)].

- [1915.1001\(f\)\(5\)](#) - *Employee notification of monitoring results*. The employer must, as soon as possible but no later than 5 days after the receipt of the *results of any monitoring* performed under this section, *notify each affected employee* of these *results* either individually in *writing* or by *posting the results* in an appropriate location that is accessible to employees.
- [1915.1001\(f\)\(6\)\(ii\)](#) - When *observation of the monitoring* of employee exposure to asbestos requires entry into an area where the use of *protective clothing* or equipment is required, the *observer* shall be provided with and be required to use such *clothing and equipment* and shall comply with all other applicable *safety and health procedures*.

[1915.1001\(g\)](#) - *Methods of compliance*. [Reference [paragraph \(g\)\(1\) - \(12\)](#)].

- [1915.1001\(g\)\(1\)](#) - *Engineering controls and work practices* for all operations covered by this section. The employer shall use the following *engineering controls and work practices* in all operations covered by this section, regardless of the levels of exposure: [Reference [paragraph \(g\)\(1\)\(i\) - \(iii\)](#)].

[1915.1001\(h\)](#) - *Respiratory protection*. [Reference [paragraph \(h\)\(1\) - \(3\)](#)].

- [1915.1001\(h\)\(1\)](#) - General. For employees who use *respirators* required by this section, the employer must provide each employee an appropriate *respirator* that complies with the requirements of this paragraph. *Respirators* must be used in the following circumstances:
- [1915.1001\(h\)\(2\)\(i\)](#) - Employers must select, and provide to employees at no cost, the appropriate respirators specified in [paragraph \(d\)\(3\)\(i\)\(A\)](#) of [29 CFR 1910.134](#) - *respiratory protection*; however, employers must not select or use filtering facepiece respirators for use against asbestos fibers.
- [1915.1001\(h\)\(3\)](#) - *Respirator program*.
  - [1915.1001\(h\)\(3\)\(i\)](#) - When *respiratory protection* is used, the employer shall institute a *respiratory protection program* in accordance with [29 CFR 1910.134\(b\) through \(d\)](#) (except [paragraph \(d\)\(1\)\(iii\)](#)), and [\(f\) through \(m\)](#) which covers each employee required by this section to use a respirator.

[1915.1001\(i\)](#) - *Protective clothing*. [Reference [paragraph \(i\)\(1\) - \(4\)](#)].

- [1915.1001\(i\)\(2\)\(ii\)](#) - Any employer who gives contaminated clothing to another person for laundering shall *inform* such person of the requirement in [paragraph \(i\)\(2\)\(i\)](#) of this section to effectively prevent the release of airborne asbestos in excess of the TWA excursion limit prescribed in [paragraph \(c\)](#) of this section.
- [1915.1001\(i\)\(3\)](#) - The employer shall ensure that contaminated clothing is transported in sealed impermeable bags, or other closed, impermeable containers, and *labeled* in accordance with [paragraph \(k\)](#) of this section.
- [1915.1001\(i\)\(4\)](#) - *Inspection of protective clothing*.
  - [1915.1001\(i\)\(4\)\(i\)](#) - The *qualified person* shall *examine* worksuits worn by employees at least once per workshift for rips or tears that may occur during the performance of work.

[1915.1001\(j\)](#) - *Hygiene facilities and practices for employees*. [Reference [paragraph \(j\)\(1\) - \(4\)](#)].

- [1915.1001\(j\)\(1\)\(i\)](#) - *Decontamination areas*. For all Class I jobs involving over 25 linear or 10 square feet of TSI or surfacing ACM or PACM, the employer shall establish a *decontamination area* that is adjacent and connected to the *regulated area* for the decontamination of such employees. The decontamination area shall consist of an equipment room, shower area, and clean room in series. The employer shall ensure that employees enter and exit the *regulated area* through the *decontamination area*.
  - [1915.1001\(j\)\(1\)\(i\)\(B\)](#) - *Shower area*. Shower facilities shall be provided which comply with [29 CFR 1910.141\(d\)\(3\)](#) - *sanitation*, unless the employer can *demonstrate* that they are not feasible. The showers shall be adjacent both to the equipment room and the clean room, unless the employer can *demonstrate* that this location is not feasible. Where the employer can *demonstrate* that it is not feasible to locate the shower between the equipment room and the clean room, or where the work is performed outdoors, or when the work involving asbestos exposure takes place on board a ship, the employers shall ensure that employees:
  - [1915.1001\(j\)\(1\)\(i\)\(C\)](#) - *Clean change room*. The *clean room* shall be equipped with a locker or appropriate storage container for each employee's use. When the employer can *demonstrate* that it is not feasible to provide a clean change area adjacent to the work area, or where the work is performed outdoors, or when the work takes place aboard a ship, the employer may permit employees engaged in Class I asbestos jobs to clean their protective clothing with a portable HEPA-equipped vacuum before such employees leave the *regulated area*. Following showering, such employees however must then change into street clothing in clean change areas provided by the employer which otherwise meet the requirements of this section.
- [1915.1001\(j\)\(1\)\(ii\)](#) - *Decontamination area entry procedures*. The employer shall ensure that employees: [Reference [paragraph \(j\)\(1\)\(ii\)\(A\) - \(D\)](#)].
- [1915.1001\(j\)\(1\)\(iii\)](#) - *Decontamination area exit procedures*. The employer shall ensure that: [Reference [paragraph \(j\)\(1\)\(iii\)\(A\) - \(E\)](#)].

[1915.1001\(k\)](#) - *Communication of hazards*. [Reference [paragraph \(k\)\(1\) - \(10\)](#)].

- [1915.1001\(k\)\(2\)](#) - *Duties of building/vessel and facility owners*. [Reference [paragraph \(k\)\(2\)\(i\) - \(ii\)](#)].
  - [1915.1001\(k\)\(2\)\(ii\)](#) - Building/vessel and/or facility owners shall *notify* the following persons of the presence, location and quantity of ACM or PACM, at work sites in their buildings/facilities/vessels. *Notification* either shall be in writing or shall consist of a personal *communication* between the owner and the person to whom *notification* must be given or their *authorized representatives*: [Reference [paragraph \(k\)\(2\)\(ii\)\(A\) - \(D\)](#)].

- [1915.1001\(k\)\(3\)](#) - *Duties of employers whose employees perform work subject to this standard in or adjacent to areas containing ACM and PACM. Building/vessel and facility owners whose employees perform such work shall comply with these provisions to the extent applicable. [Reference [paragraph \(k\)\(3\)\(i\) - \(iii\)](#)].*
- [1915.1001\(k\)\(5\)\(ii\)](#) - An employer or owner may *demonstrate* that PACM does not contain more than 1% asbestos by the following: [Reference [paragraph \(k\)\(5\)\(ii\)\(A\) - \(B\)](#)].
  
- [1915.1001\(k\)\(7\)](#) - *Hazard communication.*
  - [1915.1001\(k\)\(7\)\(i\)](#) - *Labels shall be affixed to all products containing asbestos and to all containers containing such products, including waste containers. Where feasible, installed asbestos products shall contain a visible label.*
  - [1915.1001\(k\)\(7\)\(ii\)](#) - *General.* The employer shall include asbestos in the *program* established to comply with the *Hazard Communication Standard (HCS) (§ 1910.1200)*. The employer shall ensure that each employee has access to *labels* on containers of asbestos and *safety data sheets*, and is *trained* in accordance with the provisions of the *HCS* and [paragraph \(k\)\(9\)](#) of this section. The employer shall ensure that at least the following hazards are addressed: Cancer and lung effects.
  - [1915.1001\(k\)\(7\)\(iii\)](#) - *Labels.* [Reference [paragraph \(k\)\(7\)\(iii\)\(A\) - \(B\)](#)].
    - [1915.1001\(k\)\(7\)\(iii\)\(A\)](#) - The employer shall ensure that *labels* of bags or containers of protective clothing and equipment, scrap, waste, and debris containing asbestos fibers bear the following *information*:
  
- [1915.1001\(k\)\(8\)](#) - *Signs.*
  - [1915.1001\(k\)\(8\)\(i\)](#) - *Warning signs that demarcate the regulated area* shall be provided and displayed at each location where a *regulated area* is required to be established by [paragraph \(e\)](#) of this section. *Signs* shall be *posted* at such a distance from such a location that an employee may read the *signs* and take necessary protective steps before entering the area *marked by the signs*. [Reference [paragraph \(k\)\(8\)\(i\) - \(vii\)](#)].
  
- [1915.1001\(k\)\(9\)](#) - *Employee information and training.* [Reference [paragraph \(k\)\(9\)\(i\) - \(viii\)](#)].
  - [1915.1001\(k\)\(9\)\(i\)](#) - The employer shall *train* each employee who is likely to be exposed in excess of a *PEL* and each employee who performs Class I through IV asbestos operations in accordance with the requirements of this section. *Training* shall be provided at no cost to the employee. The employer shall institute a *training program* and ensure employee participation in the *program*.
  
- [1915.1001\(k\)\(10\)](#) - Access to training materials.

- [1915.1001\(k\)\(10\)\(i\)](#) - The employer shall make readily available to *affected employees* without cost, *written materials* relating to the employee *training program*, including a copy of this regulation.
- [1915.1001\(k\)\(10\)\(ii\)](#) - The employer shall provide to the Assistant Secretary and the Director, upon request, all *information and training materials* relating to the employee *information and training program*.
- [1915.1001\(k\)\(10\)\(iii\)](#) - The employer shall *inform* all employees concerning the availability of *self-help smoking cessation program material*. Upon employee request, the employer shall distribute such *material*, consisting of NIH Publication No, 89-1647, or equivalent *self-help material*, which is *approved or published* by a public health organization listed in [appendix J](#) to this section.

[1915.1001\(l\)](#) - *Housekeeping*. [Reference [paragraph \(l\)\(1\) - \(4\)](#)].

[1915.1001\(m\)](#) - *Medical surveillance*. [Reference [paragraph \(m\)\(1\) - \(4\)](#)].

- [1915.1001\(m\)\(1\)\(i\)\(A\)](#) - The employer shall institute a *medical surveillance program* for all employees who for a combined total of 30 or more days per year are engaged in Class I, II and III work or are exposed at or above a *permissible exposure limit*. For purposes of this paragraph, any day in which a worker engages in Class II or Class III operations or a combination thereof on intact material for one hour or less (taking into account the entire time spent on the removal operation, including cleanup) and, while doing so, adheres fully to the *work practices* specified in this standard, shall not be counted.
- [1915.1001\(m\)\(1\)\(ii\)\(B\)](#) - Persons other than such *licensed physicians* who administer the pulmonary function *testing* required by this section shall complete a *training course* in spirometry sponsored by an appropriate academic or professional institution.
- [1915.1001\(m\)\(2\)](#) - *Medical examinations and consultations*. [Reference [paragraph \(m\)\(2\)\(i\) - \(ii\)](#)].
- [1915.1001\(m\)\(3\)](#) - *Information provided to the physician*. The employer shall provide the following *information* to the examining *physician*: [Reference [paragraph \(m\)\(3\)\(i\) - \(v\)](#)].
- [1915.1001\(m\)\(4\)](#) - *Physician's written opinion*. [Reference [paragraph \(m\)\(4\)\(i\) - \(iii\)](#)].

[1915.1001\(n\)](#) - *Recordkeeping*. [Reference [paragraph \(n\)\(1\) - \(8\)](#)].

- [1915.1001\(n\)\(2\)](#) - *Exposure measurements*.
  - [1915.1001\(n\)\(2\)\(iii\)](#) - The employer shall maintain this *record* for at least thirty (30) years, in accordance with [29 CFR 1910.1020](#) - *access to employee exposure and medical records*.
- [1915.1001\(n\)\(3\)\(i\)](#) - The employer shall establish and maintain an accurate *record* for each employee subject to *medical surveillance* by [paragraph](#)

(m) of this section, in accordance with [29 CFR 1910.1020](#) - *access to employee exposure and medical records*.

- [1915.1001\(n\)\(4\)](#) - *Training records*. The employer shall maintain all employee *training records* for one (1) year beyond the last date of employment by that employer.
- [1915.1001\(n\)\(6\)\(i\)](#) - Where the building/vessel owner has *communicated and received information* concerning the identity, location and quantity of ACM and PACM, *written records* of such *notifications* and their content shall be maintained by the owner for the duration of ownership and shall be transferred to successive owners of such buildings/facilities/vessels.
- [1915.1001\(n\)\(7\)\(ii\)](#) - The employer, upon request, shall make any *exposure records* required by [paragraphs \(f\)](#) and [\(n\)](#) of this section available for *examination and copying to affected employees*, former employees, designated representatives, and the Assistant Secretary, in accordance with [29 CFR 1910.1020\(a\) through \(e\) and \(g\) through \(i\)](#).
- [1915.1001\(n\)\(7\)\(iii\)](#) - The employer, upon request, shall make employee *medical records* required by paragraphs (m) and (n) of this section available for examination and copying to the subject employee, anyone having the specific written consent of the subject employee, and the Assistant Secretary, in accordance with [29 CFR 1910.1020](#).
- [1915.1001\(n\)\(8\)](#) - *Transfer of records*. The employer shall comply with the requirements concerning transfer of *records set forth in 29 CFR 1910.1020(h)*.

[1915.1001\(o\)](#) - *Qualified person*. [Reference [paragraph \(o\)\(1\) - \(3\)](#)].

- [1915.1001\(o\)\(1\)](#) - *General*. On all shipyard worksites covered by this standard, the employer shall *designate a qualified person*, having the *qualifications and authority* for ensuring worker safety and health required by [Subpart C, General Safety and Health Provisions for Construction \(29 CFR 1926.20 through 1926.32\)](#).
- [1915.1001\(o\)\(2\)](#) - *Required inspections by the qualified person*. [§ 1926.20\(b\)\(2\)](#) - *accident prevention responsibilities, which requires health and safety prevention programs to provide for frequent and regular inspections of the job sites, materials, and equipment to be made by qualified persons*, is incorporated.
- [1915.1001\(o\)\(3\)](#) - *Additional inspections*. In addition, the *qualified person* shall make *frequent and regular inspections* of the job sites, in order to perform the duties set out in [paragraph \(o\)\(3\)\(i\)](#) of this section. For Class I jobs, *on-site inspections* shall be made at least once during each work shift, and at any time at employee request. For Class II, III and IV jobs, *on-site inspections* shall be made at intervals sufficient to assess whether conditions have changed, and at any reasonable time at employee request.
- [1915.1001\(o\)\(4\)](#) - *Training for the competent person*. [Reference [paragraph \(o\)\(4\)\(i\) - \(ii\)](#)].

## **1915.1002 - Coal tar pitch volatiles; Interpretation of term**

**Scope:** This [standard](#) provides the requirements coal tar pitch volatiles. See [1910.1002 - coal tar pitch volatiles; interpretation of term](#).

**Special Requirements:** References other standards

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1002 - coal tar pitch volatiles; interpretation of term](#), of this chapter.

## **1915.1003 - 13 Carcinogens (4-Nitrobiphenyl, etc.)**

**Scope:** This [standard](#) provides the requirements for 13 carcinogens.

**Special Requirements:** References other standards (See [1910.1003 - 13 Carcinogens](#))

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1003 - 13 carcinogens](#), of this chapter.

## **1915.1004 - Alpha-Naphthylamine**

**Scope:** This [standard](#) provides the requirements for alpha-Naphthylamine.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## **1915.1006 - Methyl Chloromethyl Ether**

**Scope:** This [standard](#) provides the requirements for methyl chloromethyl ether.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1007 - 3,5-Dichlorobenzidine (and its salts)

**Scope:** This [standard](#) provides the requirements for 3,5-Dichlorobenzidine (and its salts).

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1008 - Bis-Chloromethyl Ether

**Scope:** This [standard](#) provides the requirements for bis-chloromethyl ether.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1009 - Beta-Naphthylamine

**Scope:** This [standard](#) provides the requirements for beta-Naphthylamine.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1010 - Benzidine

**Scope:** This [standard](#) provides the requirements for benzidine.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1011 - 4-Aminodiphenyl

**Scope:** This [standard](#) provides the requirements for 4-aminodiphenyl.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1012 - Ethyleneimine

**Scope:** This [standard](#) provides the requirements for ethyleneimine.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1013 - Beta-Propiolactone

**Scope:** This [standard](#) provides the requirements for beta-propiolactone.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1014 - 2-Acetylaminofluorene

**Scope:** This [standard](#) provides the requirements for 2-acetylaminofluorene.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1015 - 4-dimethylaminoazobenzene

**Scope:** This [standard](#) provides the requirements for 4-dimethylaminoazobenzene.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1016 - N-Nitrosodimethylamine

**Scope:** This [standard](#) provides the requirements for n-nitrosodimethylamine.

**Special Requirements:** References other standards (Refer to [13 Carcinogens](#))

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1003](#) of this chapter.

## 1915.1017 - Vinyl Chloride

**Scope:** This [standard](#) provides the requirements pertaining to vinyl chloride.

**Special Requirements:** References other standards (Refer to [1910.1017](#) - vinyl chloride.)

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1017](#) of this chapter.

## 1915.1018 - Inorganic Arsenic

**Scope:** This [standard](#) provides the requirements pertaining to inorganic arsenic.

**Special Requirements:** References other standards (Refer to [1910.1018](#) - inorganic arsenic)

**Note:** The requirements applicable to shipyard employment under this section are identical to those set forth at [1910.1018](#) of this chapter.

## 1915.1024 - Beryllium

**Scope:** This [standard](#) provides the requirements for beryllium.

**Special Requirements:** Permissible exposure limit, short term exposure limit, time weighted average, action level, exposure assessment, notification, methods, sampling, observation, monitoring, evaluated, PPE, safety and health procedures, regulated areas, demarcation, engineering controls, work practice controls, methods, written exposure plan, medical removal, written opinion, physician, demonstrates, information, respiratory protection, respiratory protection program, medical surveillance (program), written medical report, housekeeping, training, communication, hazard communication program, records, employer-funded compensation program, warning signs, chemical manufacturers, importers, distributors, safety data sheets, labels, posting, data, job classification, references other standards

[1915.1024\(c\)](#) - *Permissible Exposure Limits (PELs)*. [Reference [paragraph \(c\)\(1\) - \(2\)](#)].

[1915.1024\(d\)](#) - *Exposure assessment*. [Reference [paragraph \(d\)\(1\) - \(7\)](#)].

- [1915.1024\(d\)\(5\)](#) - *Methods of sample analysis*. The employer must ensure that all *air monitoring samples* used to satisfy the *monitoring* requirements of paragraph (d) of this standard are *evaluated* by a laboratory that can measure beryllium to an accuracy of plus or minus 25 percent within a statistical confidence level of 95 percent for airborne concentrations at or above the *action level*.
- [1915.1024\(d\)\(6\)](#) - *Employee notification of assessment results*. [Reference [paragraph \(d\)\(6\)\(i\) - \(ii\)](#)].
- [1915.1024\(d\)\(7\)](#) - *Observation of monitoring*. [Reference [paragraph \(d\)\(7\)\(i\) - \(iii\)](#)].
  - [1915.1024\(d\)\(7\)\(ii\)](#) - When *observation* of monitoring requires entry into an area where the use of *personal protective clothing or equipment* (which may include *respirators*) is required, the employer must provide each *observer* with appropriate *personal protective clothing and equipment* at no cost to the *observer* and must ensure that each *observer* uses such *clothing and equipment*.
  - [1915.1024\(d\)\(7\)\(iii\)](#) - The employer must ensure that each *observer* follows all other applicable *safety and health procedures*.

[1915.1024\(e\)](#) - *Regulated areas*.

- [1915.1024\(e\)\(1\)](#) - *Establishment*. The employer must establish and maintain a *regulated area* wherever employees are, or can reasonably be expected to be, exposed to airborne beryllium at levels above the *TWA PEL or STEL*.

- [1915.1024\(e\)\(2\)](#) - *Demarcation*. The employer must identify each *regulated area* in accordance with [paragraph \(m\)\(2\)](#) of this standard.
- [1915.1024\(e\)\(4\)](#) - *Provision of personal protective clothing and equipment, including respirators*. The employer must provide and ensure that each employee entering a *regulated area* uses: [Reference [paragraph \(e\)\(4\)\(i\) - \(ii\)](#)].

[1915.1024\(f\)](#) - *Methods of compliance*.

- [1915.1024\(f\)\(1\)](#) - *Written exposure control plan*. [Reference [paragraph \(f\)\(1\)\(i\) - \(iii\)](#)].
  - [1915.1024\(f\)\(1\)\(i\)](#) - The employer must establish, implement, and maintain a *written exposure control plan*, which must contain: [Reference [paragraph \(f\)\(1\)\(i\) - \(iii\)](#)].
  - [1915.1024\(f\)\(1\)\(iii\)](#) - The employer must make a *copy of the written exposure control plan* accessible to each employee who is, or can reasonably be expected to be, exposed to airborne beryllium in accordance with OSHA's *Access to Employee Exposure and Medical Records (Records Access) standard [29 CFR 1910.1020(e)]*.
- [1915.1024\(f\)\(2\)](#) - *Engineering and work practice controls*. The employer must use *engineering and work practice controls* to reduce and maintain employee airborne exposure to beryllium to or below the TWA PEL and STEL, unless the employer can *demonstrate* that such controls are not feasible. Wherever the employer *demonstrates* that it is not feasible to reduce airborne exposure to or below the *PELs with engineering and work practice controls*, the employer must implement and maintain *engineering and work practice controls* to reduce airborne exposure to the lowest levels feasible and supplement these controls by using *respiratory protection* in accordance with [paragraph \(g\)](#) of this standard.

[1915.1024\(g\)](#) - *Respiratory protection*. [Reference [paragraph \(g\)\(1\) - \(3\)](#)].

- [1915.1024\(g\)\(2\)](#) - *Respiratory protection program*. Where this standard requires an employer to provide *respiratory protection*, the selection and use of such *respiratory protection* must be in accordance with the *Respiratory Protection standard (29 CFR 1910.134)*.

[1915.1024\(h\)](#) - *Personal protective clothing and equipment*. [Reference [paragraph \(h\)\(1\) - \(3\)](#)].

[1915.1024\(j\)](#) - *Housekeeping*. [Reference [paragraph \(j\)\(1\) - \(5\)](#)].

[1915.1024\(k\)](#) - *Medical surveillance*. [Reference [paragraph \(k\)\(1\) - \(7\)](#)].

- [1915.1024\(k\)\(4\)](#) - *Information provided to the PLHCP*. The employer must ensure that the examining *PLHCP* (and the agreed-upon CBD diagnostic center, if an *evaluation* is required under [paragraph \(k\)\(7\)](#) of this standard) has a *copy* of

this *standard* and must provide the following *information*, if known:

[Reference [paragraph \(k\)\(4\)\(i\) - \(iv\)](#)].

- [1915.1024\(k\)\(5\)](#) - *Licensed physician's written medical report for the employee*. The employer must ensure that the employee receives a *written medical report* from the *licensed physician* within 45 days of the examination (including any follow-up BeLPT required under [paragraph \(k\)\(3\)\(ii\)\(E\)](#) of this standard) and that the *PLHCP* *explains* the *results* of the examination to the employee. The *written medical report* must contain: [Reference [paragraph \(k\)\(5\)\(i\) - \(v\)](#)].
- [1915.1024\(k\)\(6\)](#) - *Licensed physician's written medical opinion for the employer*. [Reference [paragraph \(k\)\(6\)\(i\) - \(vi\)](#)].

[1915.1024\(l\)](#) - *Medical removal*. [Reference [paragraph \(l\)\(1\) - \(4\)](#)].

- [1915.1024\(l\)\(4\)](#) - The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal from a publicly or *employer-funded compensation program*, or receives income from another employer made possible by virtue of the employee's removal.

[1915.1024\(m\)](#) - *Communication of hazards*. [Reference [paragraph \(m\)\(1\) - \(3\)](#)].

- [1915.1024\(m\)\(1\)\(i\)](#) - *Chemical manufacturers, importers, distributors, and employers* must comply with all requirements of the *HCS (29 CFR 1910.1200)* for beryllium.
- [1915.1024\(m\)\(1\)\(ii\)](#) - Employers must include beryllium in the *hazard communication program* established to comply with the *HCS*. Employers must ensure that each employee has access to *labels* on containers of beryllium and to *safety data sheets*, and is *trained* in accordance with the requirements of the *HCS (29 CFR 1910.1200)* and [paragraph \(m\)\(3\)](#) of this standard.
- [1915.1024\(m\)\(2\)](#) - *Warning signs*.
  - [1915.1024\(m\)\(2\)\(i\)](#) - *Posting*. The employer must provide and display *warning signs* at each approach to a *regulated area* so that each employee is able to read and understand the *signs* and take necessary protective steps before entering the area. [Reference [paragraph \(m\)\(2\)\(i\) - \(ii\)](#)].
- [1915.1024\(m\)\(3\)](#) - *Employee information and training*. [Reference [paragraph \(m\)\(3\)\(i\) - \(iv\)](#)].

[1915.1024\(n\)](#) - *Recordkeeping*.

- [1915.1024\(n\)\(1\)](#) - *Air monitoring data*. [Reference [paragraph \(n\)\(1\)\(i\) - \(iii\)](#)].
  - [1915.1024\(n\)\(1\)\(iii\)](#) - The employer must ensure that *exposure records* are maintained and made available in accordance with the *Records Access standard (29 CFR 1910.1020)*.
- [1915.1024\(n\)\(2\)](#) - *Objective data*. [Reference [paragraph \(n\)\(2\)\(i\) - \(iii\)](#)].

- [1915.1024\(n\)\(2\)\(iii\)](#) - The employer must ensure that *objective data* are maintained and made available in accordance with the *Records Access standard (29 CFR 1910.1020)*.
- [1915.1024\(n\)\(3\)\(i\)](#) - The employer must make and maintain a *record* for each employee covered by *medical surveillance* under [paragraph \(k\)](#) of this standard. [Reference [paragraph \(n\)\(3\)\(i\) - \(iii\)](#)].
- [1915.1024\(n\)\(4\)](#) - *Training* [Reference [paragraph \(n\)\(4\)\(i\) - \(ii\)](#)].
- [1915.1024\(n\)\(5\)](#) - *Access to records*. Upon request, the employer must make all *records* maintained as a requirement of this standard available for examination and copying to the Assistant Secretary, the Director, each employee, and each employee's designated representative(s) in accordance the *Records Access standard (29 CFR 1910.1020)*.

## 1915.1025 - Lead

**Scope:** This [standard](#) provides the requirements for lead.

**Special Requirements:** References other standards. (Refer to [1910.1025](#) - lead)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1025](#) of this chapter.

## 1915.1027 - Cadmium

**Scope:** This [standard](#) provides the requirements for cadmium.

**Special Requirements:** References other standards (Refer to [1910.1027](#) - cadmium)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1027](#) of this chapter.

## 1915.1028 - Benzene

**Scope:** This [standard](#) provides the requirements for benzene.

**Special Requirements:** References other standards (Refer to [1910.1028](#) - benzene)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1028](#) of this chapter.

### **1915.1030 - Bloodborne Pathogens**

**Scope:** This [standard](#) provides the requirements for bloodborne pathogens.

**Special Requirements:** References other standards (Refer to [1910.1030](#) - bloodborne pathogens)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1030](#) of this chapter.

### **1915.1044 - 1,2-dibromo-3-chloropropane**

**Scope:** This [standard](#) provides the requirements for 1,2-dibromo-3-chloropropane.

**Special Requirements:** References other standards (Refer to [1910.1044](#) - 1,2-dibromo-3-chloropropane)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1044](#) of this chapter.

### **1915.1045 - Acrylonitrile**

**Scope:** This [standard](#) provides the requirements for acrylonitrile.

**Special Requirements:** References other standards (Refer to [1910.1045](#) - acrylonitrile)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1045](#) of this chapter.

### **1910.1047 - Ethylene Oxide**

**Scope:** This [standard](#) provides the requirements for ethylene oxide.

**Special Requirements:** References other standards (Refer to [1910.1047](#) - ethylene oxide)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1047](#) of this chapter.

## **1915.1048 - Formaldehyde**

**Scope:** This [standard](#) provides the requirements for formaldehyde.

**Special Requirements:** References other standards (Refer to [1910.1048](#) - formaldehyde)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1048](#) of this chapter.

## **1915.1050 - Methylenedianiline**

**Scope:** This [standard](#) provides the requirements for methylenedianiline.

**Special Requirements:** References other standards (Refer to [1910.1050](#) - methylenedianiline)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1050](#) of this chapter.

## **1915.1052 - Methylene Chloride**

**Scope:** This [standard](#) provides the requirements for methylene chloride.

**Special Requirements:** References other standards (Refer to [1910.1052](#) - methylene chloride)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1052](#) of this chapter.

## **1915.1053 - Respirable Crystalline Silica**

**Scope:** This [standard](#) provides the requirements for respirable crystalline silica.

**Special Requirements:** References other standards (Refer to [1910.1053](#) - respirable crystalline silica)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1053](#) of this chapter.

## **1915.1200 - Hazard Communication**

**Scope:** This [standard](#) provides the requirements for hazard communication.

**Special Requirements:** References other standards (Refer to [1910.1200](#) - hazard communication)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1200](#) of this chapter.

## **1915.1450 - Occupational Exposure to Hazardous Chemicals in Laboratories**

**Scope:** This [standard](#) provides the requirements for occupational exposure to hazardous chemicals in laboratories.

**Special Requirements:** References other standards (Refer to [1910.1450](#) - occupational exposure to hazardous chemicals in laboratories)

NOTE: The requirements applicable to shipyard employment under this section are identical to those set forth at [§ 1910.1450](#) of this chapter.

## **[Additional Assistance for Shipyard Employment](#)**

If the employer still has questions regarding the OSHA standards or North Carolina state-specific standards, they can submit an inquiry about safety and health requirements to Ask OSH through the [online form](#) or by phone at 919-707-7876.

Resource information can be found on the [safety and health topics pages](#), [Maritime Safety and Health Resources \(Scan QR Code\)](#) and [Industry Guide 53, OSHA Shipyard Employment](#)

[Standards Requiring Programs, Inspections, Procedures, Records and/or Training](#), provides requirements for standards related to shipyard employment and recordkeeping including applicable state-specific standards.

Example safety and health [programs](#) and [presentations](#) ([pre-recorded webinars](#)) along with [publications](#) are available to assist the employer in meeting standards requirements. Specifically, the brochure on [top ten most frequently cited serious violations](#) can be useful in identifying frequently cited violations by industry. For more information regarding the required state and federal workplace posters, go to the [NCDOL State and Federal workplace posters](#) webpage.

The [NCDOL Library](#) also offers free safety and health videos and related research assistance on consensus standards (i.e., ANSI, NFPA, NEC). The education, training and technical assistance bureau provides [free online safety and health training](#) and [outreach services](#) (i.e., speaker's bureau requests, safety booths) upon request. In addition, the [consultative services bureau](#) provides free confidential on-site employer assistance.

## **[Special Emphasis Programs](#)**

The North Carolina Special Emphasis Programs (SEPs) are part of the NC OSH Division's five year strategic management plan for which its two principal goals are: 1) to reduce the state's workplace fatality rate by at least 2%; and 2) to reduce the state's non-fatal injury and illness rate by at least 5%. For each SEP that applies to a specific industrial sector, similar goals for reducing the fatality rate and/or non-fatal injury and illness rate are applied.

### **Special Emphasis Programs**

#### **What is a Special Emphasis Program?**

From the context of occupational safety and health, a special emphasis program (SEP) is a concerted effort for which the goals are:

- To reduce or eliminate fatalities overall and within specific industry sectors;
- To reduce injury and illness rates in specific business sectors to levels below the national average for those sectors; and
- To reduce or eliminate employee exposure to specific types of hazards.

#### **What SEPs are currently in effect in North Carolina?**

The special emphasis programs in effect in North Carolina are part of the OSH Division five-year strategic management plan. The SEPs currently in effect or added as part of the next

five-year strategic management plan are listed below with links provided to the corresponding safety and health topic page:

- [Amputations Special Emphasis Program](#)
- [Construction Special Emphasis Program](#)
- [Food Manufacturing Special Emphasis Program](#)
- [Health Hazards Special Emphasis Program](#) (see [Lead](#), [Isocyanates](#), [Hexavalent Chromium](#), [Silica](#), [Beryllium](#))
- [Long Term Care Special Emphasis Program](#)
- [Logging and Arboriculture Special Emphasis Program](#)
- *New!* [Struck-By Special Emphasis Program](#)
- [Warehousing and Storage and Related Product Distribution Special Emphasis Program](#)

### **How does the OSH Division conduct a Special Emphasis Program?**

Each of the bureaus in the OSH Division has designated responsibilities within each SEP.

- The East and West Compliance Bureaus conduct [enforcement activity](#) targeted at covered industries to ensure compliance with occupational safety and health rules and regulations towards the goal of reducing or eliminating employee exposure to the focus hazards of that SEP.
- The [Consultative Services Bureau](#) (CSB) conducts on-site visits and audits to assist employers that voluntarily seek help in identifying and eliminating hazards and improving their overall safety and health programs.
- The Education, Training and Technical Assistance (ETTA) Bureau provides [outreach training](#) for each SEP to assist employers to identify and abate hazards in the workplace and to learn the requirements of applicable OSH standards.
- The Planning, Statistics and Information Management (PSIM) Bureau develops targeting schedules for each SEP to better allocate compliance resources and provides the SEP team leaders with updated injury and illness incidence rates to assist them in determining the impact of that focus.

### **What are the various types of emphasis programs?**

- National Emphasis Program ([NEP](#))
  - Apply to all Federal OSHA Regions
  - State Plan States required to implement the same or equally effective emphasis programs
- Local Emphasis Program ([LEP](#))
  - Administered by Federal OSHA

- Designed and implemented at regional office and/or area office level
- Intended to address hazards or industries that pose a particular risk to workers in the office's jurisdiction
- Accompanied by outreach
- Apply only to states under Federal OSHA jurisdiction
- North Carolina Special Emphasis Program ([SEP](#))
  - May be identical to OSHA NEP or LEP
  - Often unique to circumstances in North Carolina (OSHA state plan state)

## North Carolina State-Specific Standards

These webpages are designed to assist employers in complying with standards that have "**special requirements**". For the purpose of this technical guidance, special requirements includes programs, plans, procedures, policies, inspections, certifications, competent persons, qualified persons, training, medical surveillance, exposure monitoring, signs, tags, markings, tests, records and recordkeeping requirements that are applicable in meeting the requirements of OSHA standards by industry. *If a standard or subpart are not listed, it did not have one of these types of special requirements.*

**Note:** *While all attempts have been made to ensure the accuracy of the content and completeness in the information provided, it may not include all the specific standards that have special requirements that may be required by an OSHA standard. To ensure completeness in meeting each standard's requirement, the specific standard should be referenced.*

To learn more about these special requirements, click on the tabs below.

## Special Requirements

This webpage is to be used in conjunction with the [Which OSHA Standards Apply](#) webpages for [North Carolina State-Specific Standards](#).

- [NCGS 95-129\(1\) - General Duty Clause](#)
- [NCGS 95-173 through 95-218 - Hazardous Chemical Right To Know Act](#)
- [13 NCAC 7A .0600 through .0606 - Safety and Health Programs and Committees](#)
- [13 NCAC 07F .0103 - Hazardous Materials](#)
- [13 NCAC 07F .0600 through .0609 - Communication Tower Standards](#)
- [13 NCAC 07G .0101 - Handling of Antineoplastic Agents](#)

- [Additional Assistance on North Carolina State-Specific Standards](#)

## **NCGS 95-129(1) - [General Duty Clause](#)**

The [NCGS 95-129\(1\)](#) - General Duty Clause is used when there isn't a standard for a recognized hazard that can cause death or serious injury or serious physical harm.

To learn if NCGS 95-129(1) applies to you, go to [Does the "General Duty Clause" Apply to You?](#)

### **Special Requirements**

#### **NCGS 95-129(1) - General Duty Clause**

**Scope:** This [standard](#) is used when there isn't a standard for a recognized hazard that can cause death or serious injury or serious physical harm.

**Special Requirements:** Rights and duties, recognized

*Rights and duties* of employers shall include but are not limited to the following provisions: [Reference [NCGS 95-129\(1\) - \(8\)](#)].

- (1) Each employer shall furnish to each of his employees conditions of employment and a place of employment free from *recognized* hazards that are causing or are likely to cause death or serious injury or serious physical harm to his employees;

#### **NCGS 95-173 through 95-218 - [Hazardous Chemical Right To Know Act](#)**

[NCGS 95-173 through 95-218](#) - Hazardous Chemical Right To Know Act provides the standards for the Hazardous Chemicals Right to Know Act applicable in North Carolina.

To learn if NCGS 95-173 through 95-218 applies to you, go to [Does the "Hazardous Chemical Right To Know Act" Apply to You?](#)

### **Special Requirements**

#### **NCGS 95-173 through 95-218 - Hazardous Chemical Right To Know Act**

**Scope:** This [standard](#) provides the standards for the right to know about hazardous chemicals.

**Special Requirements:** Label, list, information, notify, emergency response plan, evacuation procedures, safety data sheet, updated quarterly/annually, fire chief, fire department, inspection, chemical manufacturers and distributors, in writing, written request, contingency plan, testify, prefire plan, request, written notification, inspect, commissioner of labor, complaints, investigations, credentials, administrative hearings, healthcare provider, determines, written statement, posting, confidentiality agreement, references other standards

§ 95-191. *Hazardous Substance List.*

- (a) All employers who manufacture, process, use, store, or produce hazardous chemicals, shall compile and maintain a *Hazardous Substance List* which shall contain all of the following *information* for each hazardous chemical stored in the facility in quantities of 55 gallons or 500 pounds, whichever is greater:  
[Reference [95-191 - paragraph \(a\)\(1\) - \(3\)](#)]
  - (1) The chemical name or the common name used on the *SDS* or *container label*.
- (b) The *Hazardous Substance List* shall be *updated quarterly* if necessary, but not less often than annually; however, if a chemical is deleted from, or added to, the *Hazardous Substance List*, or if the quantity changes sufficiently to cause the chemical to be in a different class as defined in subsection (a) of this section, the employer shall update the *Hazardous Substance List* to reflect those changes as soon as practicable, but in any event within 30 days of such change.
  - (b1) In lieu of the *information* required by subdivisions (a)(1) through (a)(3), employers may substitute the *information* specified in [section 312\(d\)\(2\) of the Superfund Amendments and Reauthorization Act of 1986, P.L. 99-499](#).
- (c) The *Hazardous Substance List* may be prepared for the facility as a whole, or for each area in a facility where hazardous chemicals are stored, at the option of the employer but shall include only chemicals used or stored in North Carolina.

§ 95-192. *Safety data sheets.*

- (a) *Chemical manufacturers and distributors* shall provide *safety data sheets (SDSs)* to manufacturing and nonmanufacturing purchasers of hazardous chemicals in North Carolina for each hazardous chemical purchased.
- (b) Employers shall *maintain* the most current *SDS* received from *manufacturers or distributors* for each hazardous chemical purchased. If an *SDS* has not been provided by the *manufacturer or distributor* for chemicals on the *Hazardous Substance List* at the time the chemicals are received at the facility, the employer shall *request* one in *writing* from the *manufacturer or distributor* within 30 days after receipt of the chemical. If the employer does not receive an *SDS* within 30 days after his *written request*, he shall *notify the Commissioner of Labor* of the failure by *manufacturer or distributor* to provide the *SDS*.

§ 95-193. *Labels.*

- Existing *labels* on incoming containers of hazardous chemicals shall not be removed or defaced. All containers of hazardous substances must be clearly designated as hazardous.

§ 95-194. *Emergency information.*

- (a) An employer who normally stores at a facility any hazardous chemical in an amount of at least 55 gallons or 500 pounds, whichever is greater, shall provide the *Fire Chief* of the *Fire Department* having jurisdiction over the facility, *in writing*, (i) the name(s) and telephone number(s) of knowledgeable representative(s) of the employer who can be contacted for further *information* or in case of an emergency and (ii) a *copy of the Hazardous Substance List*.
- (b) Each employer shall provide a *copy of the Hazardous Substance List to the Fire Chief*. The employer shall *notify the Fire Chief in writing* of any updates that occur in the previously submitted *Hazardous Substance List* as provided in G.S. 95-191(b).
- (c) The *Fire Chief* or his representative, upon request, shall be permitted on-site *inspections* at reasonable times of the chemicals located at the facility on the *Hazardous Substance List* for the sole purpose of preplanning *Fire Department* activities in the case of an emergency and insuring by *inspection* the usefulness and accuracy of the *Hazardous Substance List and labels*.
- (d) Employers shall provide to the *Fire Chief, upon written request of the Fire Chief, a copy of the SDS* for any chemical on the *Hazardous Substance List*.
- (e) Upon *written request of the Fire Chief*, an employer shall prepare an *emergency response plan* for the facility that includes *facility evacuation procedures*, a *list of emergency equipment* available at the facility, and *copies of other emergency response plans*, such as the *contingency plan* required under rules governing the management of hazardous waste adopted pursuant to [Article 9 of Chapter 130A of the General Statutes](#). A *copy of the emergency response plan* or any *prefire plan or emergency response plan* required under applicable North Carolina or federal *statute or rule or regulation* shall, upon *written request by the Fire Chief*, be given to the *Fire Chief*.
- (f) The *Fire Chief* shall make *information* from the *Hazardous Substance List*, the *emergency response plan*, and *SDSs* available to members of the *Fire Department* having jurisdiction over the facility and to personnel responsible for preplanning emergency response, police, medical or fire activities, but shall not otherwise distribute or disclose (or allow the disclosure of) *information* not available to the public under G.S. 95-208. Such persons receiving such *information* shall not disclose the *information* received and shall use such *information* only for the purpose of preplanning emergency response, police, medical or fire activities.
- (g) Any knowing distribution or disclosure (or permitted disclosure) of any *information* referred to in subsection (f) of this section in any manner except as specifically permitted under that subsection (f) shall be punishable as a Class 1

misdemeanor. Restrictions concerning confidentiality or nondisclosure of information under this Article 18 shall be exemptions from the [Public Records Act contained in Chapter 132 of the General Statutes](#), and such information shall not be disclosed notwithstanding the provisions of [Chapter 132 of the General Statutes](#).

§ 95-195. Complaints, investigations, penalties.

- (a) *Complaints* of violations of this Part shall be *filed in writing* with the Commissioner of Labor. Such complaints received *in writing from any Fire Chief* relating to alleged violations of this Part shall be *investigated* in a timely manner by the *Commissioner of Labor* or his designated representative.
- (b) Duly designated representatives of the *Commissioner of Labor*, upon presentation of appropriate *credentials* to the employer, shall have the right of entry into any facility at reasonable times to *inspect and investigate complaints* within reasonable limits, and in a reasonable manner. Following the investigation, the *Commissioner* shall make appropriate findings. Either the employer or the person complaining of a violation may request an *administrative hearing* pursuant to [Chapter 150B of the General Statutes](#). This request for an administrative hearing shall be submitted to the *Commissioner of Labor* within 14 days following the *Commissioner* making his findings. The *Commissioner* shall within 30 days of receiving the request hold an *administrative hearing* in accordance with [Article 3 of Chapter 150B of the General Statutes](#).
- (c) If the *Commissioner of Labor* finds that the employer violated this Article, the *Commissioner* shall order the employer to comply within 14 days following *receipt of written notification* of the violation. Employers not complying within 14 days following *receipt of written notification* of a violation shall be subject to civil penalties of not more than one thousand dollars (\$1,000) per violation imposed by the *Commissioner of Labor*. There shall be a separate offense for each day the violation continues. The clear proceeds of civil penalties provided for in this section shall be remitted to the Civil Penalty and Forfeiture Fund in accordance with [G.S. 115C-457.2](#).
- (d) Any order by the *Commissioner* under subsection (b) or (c) of this section shall be subject to judicial review as provided under [Article 4 of Chapter 150B of the General Statutes](#).

§ 95-196. Employee rights.

- No employer shall discharge, or cause to be discharged, or otherwise discipline or in any manner discriminate against an employee at the facility because the employee has assisted the *Commissioner of Labor* or his representative or the *Fire Chief* or his representative who may make or is making an *inspection* under [G.S. 95-194\(c\)](#) or [G.S. 95-195\(b\)](#), or has *testified* or *is about to testify* in any proceeding under this Article, or has used the provisions of [G.S. 95-208](#).

§ 95-197. Withholding hazardous substance trade secret *information*. [Reference [95-197, paragraph \(a\) - \(d\)](#)].

§ 95-198. Medical emergency and nonemergency situations.

- (a) Where a treating *health care provider determines* that a medical emergency exists and the specific chemical identity of a hazardous chemical is necessary for emergency or first-aid treatment, the *chemical manufacturer, importer, or employer* shall immediately disclose the specific chemical identity of a hazardous substance trade secret substance to that treating physician or nurse, regardless of the existence of *written statement of need* or a *confidentiality agreement*. The *chemical manufacturer, importer, or employer* may require a *written statement of need* and a *confidentiality agreement* as soon as circumstances permit.
  - The *confidentiality agreement* (i) may restrict the use of the *information* to the health purposes indicated in a *written statement of need*; (ii) may provide for appropriate legal remedies in the event of a breach of the *agreement*, including stipulation of a reasonable pre-estimate of likely damages; and (iii) may not include requirements for the *posting* of a penalty bond. The parties are not precluded from pursuing noncontractual remedies to the extent permitted by law.
- (b) In nonemergency situations, a *chemical manufacturer, importer, or employer* shall, upon request, disclose a specific chemical identity, otherwise permitted to be withheld under this section, to a responsible party, as defined in the standards adopted in Title 13, Subchapter 7F of the [North Carolina Administrative Code \(13 NCAC 7F\)](#), providing medical or other occupational health services to exposed persons if the request is *in writing* and states the medical need for the *information*. The employer may require that the responsible party sign a *confidentiality agreement* prior to release of the *information*. The parties are not precluded from pursuing noncontractual remedies to the extent permitted by law.
- (c) If the *chemical manufacturer, importer or employer* denies a *written request for hazardous substance trade secret release*, or does not provide this *information* within 30 days, the Department of Labor shall initiate the *trade secret claim determination* process under G.S. 95-197.

§ 95-208. *Community information* on hazardous chemicals. [Reference 95-208, [paragraph \(a\) - \(b\)](#)].

§ 95-217. Preemption of *local regulations*. [Reference [95-217](#)].

## **13 NCAC 7A .0600 through .0606 - [Safety and Health Programs and Committees](#)**

[13 NCAC 7A .0600 through .0606](#) - Safety and Health Programs and Committees establishes programs which promote safety and health for all North Carolina employers with a workers' compensation experience rate modifier of 1.5 or above.

To learn if 13 NCAC 7A .0600 through .0606 applies to you, go to [Does "Safety and Health Programs and Committees" Apply to You?](#)

## Special Requirements

### 13 NCAC 07A .0603 - Safety and Health Programs

**Scope:** This [standard](#) provides requirements for safety and health programs.

**Special Requirements:** Safety and health programs, committee, participation, communicated, corrective action, controls, investigated, record, compliance plans, inspected, affected employees, safety committee, checklist (written), investigation, self-audit, safe work practices, marked, enforced, analyze, rules, informed, safety data sheets, statement, written findings, measured, written program, copy, retained, references other standards

(a) All *Safety and Health programs* established under [G.S. 95-251](#) for both fixed locations and non-fixed locations shall meet or exceed the requirements of [G.S. 95-251\(b\)\(1\)-\(9\)](#).

(b) The *written program* shall also include:

- (1) The manner in which managers, supervisors, and employees are responsible for implementing the *program* and how the continued *participation* of management will be established, *measured*, and maintained including specifically what the leadership role of the top employer official at the worksite shall be in regard to the *program*.
- (2) The manner in which the *plan* will be communicated to all *affected employees* so that they are *informed* of work-related hazards and *controls*.
- (3) The manner in which *safe work practices and rules* will be enforced.
- (4) The manner in which workplace accidents will be *investigated and corrective action* implemented. The employer shall keep a *comprehensive record* of accident *investigations*, findings, and corresponding *corrective action taken*.
- (5) The manner in which near-miss incidents will be *investigated*. Special emphasis will be placed on identifying all contributing factors to any near-miss incident. The employer shall keep a *comprehensive record* of each such incident and the findings relating to it, and shall keep a *record* of all corresponding *corrective action* taken.
- (6) The *methods* used to identify, *analyze* and control new or existing hazards, conditions and operations, and the manner in which changes will be incorporated into the *safety program, safety committee checklist, and communicated* to all *affected employees*.

- (7) *Written compliance plans* as required by either the *Mine Safety laws* or *OSHA standards*, whichever is applicable to the employer. *Written compliance plans* shall include, the following *OSHA standards*, when applicable: Excavations, Hazard Communication, Occupational Noise Exposure, Control of Hazardous Energy Sources (Lockout/Tagout), Respiratory Protection, Process Safety Management of Highly Hazardous Chemicals, Bloodborne Pathogens, Life Safety Code, Cotton Dust, and Confined Spaces.
- (8) A *written checklist* of all potential hazards to be *inspected* during the *quarterly inspections* required pursuant to [G.S. 95-252\(c\)\(4\)d](#), if applicable, including, but not limited to, checking for properly *marked* doors (including exit doors and doors not leading to an exit); properly working fire extinguishers; unlisted hazardous substances, improperly located hazardous substances, or hazardous substances for which there are no *material safety data sheets*; doorways or exit pathways that are cluttered; improperly grounded equipment and exposed live wiring and parts; and unguarded machinery. Each item on the aforementioned *written checklist* shall be *checked* during the *quarterly inspections* and a *copy of the list* shall be *retained* by the employer for not less than two years. All conditions or items deemed to be out of compliance shall be immediately abated, unless circumstances beyond the control of the employer requires a longer period of time.
- (9) The employer shall conduct an *annual self-audit* of all required *safety and health programs*. *Written findings and a statement* of remedial actions taken shall be retained for not less than two years. Companies with less than 11 employees that are not required to have *safety and health committees* shall appoint a company safety officer to conduct the *annual self-audit*.
- (10) The purpose and operation of the *Safety and Health Committee* where such *committee* exists.
- (11) The *methods* used to *communicate* requirements of the *program* to other employers or subcontractors and their employees who may be present at the same site.

### **13 NCAC 07A .0604 - Selection of Safety Committees**

**Scope:** This [standard](#) provides the requirements for safety and health committees.

**Special Requirements:** Safety and health committees, determined, certified collective bargaining agent, nomination, ballots, employee meeting, statute, written documentation, processes, retain, collective bargaining process, election process, approved methods, references other standards

(a) An employer may elect to implement any one of the following selection processes as a means of meeting the requirements for selection of representatives to employee *Safety and Health committees* pursuant to [G.S. 95-252\(d\)](#). The employer shall *retain written documentation* outlining any utilized *selection process*. An employer whose employees are represented by a *collective bargaining* representative must utilize either subsection 8, 9, or

10 for *committee* selection purposes. Any non-management employees who choose not to participate in the *collective bargaining process* are still considered to be represented by the *collective bargaining* representative for purposes of this Rule for *committee* selection purposes.

- (1) The employer may devise and implement any means of employee selection so long as: (A) the employee representatives are selected "by and from among the employer's nonmanagement employees" as specified in the *statute*, (B) minimum numbers are met, and (C) the intent of the statute is satisfied.
- (2) The employer may require that all non-management employees serve on a *Safety and Health Committee*. In the instance of a small employer, there may be one committee comprised of all nonmanagement employees which serves the entire organization. In a larger organization, there may be *several committees*, each addressing one or more of the responsibilities of the *safety committee* as outlined in [G.S. 95-252](#), with employees divided among the *committees*.
- (3) The employer may conduct an election at either a *meeting* or through the distribution of *ballots*. The *election process* shall provide for the *nomination* by non-management employees (including self-nominations) of non-management employees in the numbers specified by the employer, but shall not be less than one nor more than the number of non-management members specified by *statute*. The number of non-management employees specified by *statute* receiving the most *nominations* shall serve on the *Safety and Health Committee*.
- (4) The employer may conduct an *employee meeting* at which open nominations are held and secret *ballots* are used to elect employee representatives. The meeting may be for all non-management employees or by working unit.
- (5) The employer may conduct an employee meeting at which non-management employees nominate one peer by *listing* that employee's name on a *ballot*. The *ballots* shall be tallied and the appropriate number of representatives, in the numbers required by *statute*, shall be *determined* by those employees named on the most *ballots*.
- (6) The employer may solicit *nominations* from all non-management employees for employee representatives to serve on the committee, then select representatives by lottery from among those *nominated* to obtain the statutorily appropriate number of employee representatives for the *safety and health committee*.
- (7) The employer may solicit volunteers and nominations from among the non-management employees for a pool of applicants to serve as employee representatives on the *safety committee*. (If no volunteers or nominations are received, the employer shall require that nominations be submitted from a cross section of employee work units within the establishment.) The members of the *applicant pool* shall select from among its ranks the initial employee representatives necessary to meet minimum numbers as specified in the *statute*.
- (8) Employees shall be selected to serve on a *safety and health committee(s)* in accordance with any contract that exists between a *collective bargaining* unit and the employer. Should the contract not otherwise specify selection of a *safety and*

*health committee*, non-management members shall be selected in a manner approved by the *certified collective bargaining agent*.

- (9) Employers having more than one *collective bargaining unit* shall devise and implement a means of employee selection utilizing the provisions of the existing contracts or *methods approved by the certified collective bargaining agents*. *Safety committee* members shall be selected in proportionate numbers to the number of employees represented by the *certified collective bargaining agents*.
- (10) Employers having some non-management employees represented by a *collective bargaining agent or agents* and some not represented shall devise a means that utilizes language in the contract or *methods approved by the certified collective bargaining agent(s)* for selection of bargaining unit representatives, and one or more of the above means for selecting non-management employee members not represented by the bargaining agent(s). *Safety committee* members shall be selected in proportion to the number of employees represented by the *certified collective bargaining agent(s)* and the number of employees not represented.

### **13 NCAC 07A .0605 - Safety and Health Committee Requirements**

**Scope:** This [standard](#) provides the requirements for safety committees.

**Special Requirements:** Safety and health committee, notify(ing), chairperson, general contractor, distribute information, meetings, designate, legislation, references other standards

(a) Multi-Site Employers:

- (1) Employers with 11 or more employees who do not report to a fixed or regular location worksite are required to have a *Safety and Health Committee* to represent those employees. The employer must have a separate *Safety and Health Committee* for each mobile work crew consisting of 11 or more employees.
- (2) Employers with employees who report to a fixed or regular location worksite must have a separate *safety and health committee* for each location with 11 or more employees.
  - (b) Multi-Employer Worksites: (1) At multi-employer fixed or regular location worksites, any employer required to establish a *Safety and Health Committee pursuant to G.S. 95-252* shall *notify the general contractor or equivalent of the requirements of this legislation and of the chairpersons of their committee*. (2) The *general contractor or equivalent* shall *designate a representative to attend the Safety and Health Committee meetings of the notifying employer(s)*. (3) The *notifying employer* shall work with the *general contractor or equivalent* to distribute information as required by [G.S. 95-251\(b\)\(9\)](#).

### **13 NCAC 07A .0606 - Training and Education**

**Scope:** This [standard](#) provides the requirements for training and education.

**Special Requirements:** Safety and health committee, training, affected employees, frequently cited violations, education, committee's duties, accident investigation, recordkeeping, procedures, system, PPE, hazard identification, safety and health programs, work practice, references other standards

(a) All *safety and health committee* members shall receive *training and education* based on the type of business activity in which the employer is involved and the scope of the *committee's duties*. At a minimum, employers shall provide *training* regarding the following: [Reference [paragraph \(a\)\(1\) - \(6\)](#)].

- (2) Principles regarding effective accident and incident *investigations*.
- (3) Employee and employer rights and responsibilities under the *Safety and Health Programs and Committees Act (G.S. 95-250 et al.)* and the *Mine Safety laws or OSHANC*.
- (4) *Recordkeeping* requirements of the *North Carolina Workers' Compensation Act (G.S. 97-1 et seq.)* and the *Mine Safety laws or OSHANC*. (5) The most common causes of on-the-job accidents.
- (6) The most *frequently cited violations* of either the *Mine Safety laws or OSHANC*.

(b) There shall also be established for employees whether or not a *safety and health committee* is required:

- (1) A *system for training and education* of all employees in occupational safety and health hazards at the worksite. The *system* shall contain specific requirements that new employees not be allowed to begin work, except when participating in *carefully supervised on-the-job training*, until thoroughly *trained* in the safe use of all applicable equipment and substances, and *procedures* relating to their workplace environment.
- (2) A *system of training and education* for any existing employee given a new work assignment.
- (3) A *system of training and education* for all *affected employees* when a new substance, process, *procedure* or piece of equipment is introduced into the workplace and presents a new hazard to safety or health.
- (4) A *system of training and education* for all *affected employees* when any new *personal protective equipment* or different *work practice* is used on existing hazards.
- (5) *Training* to comply with all applicable *OSHA employee training* requirements, including, but not limited within General Industry to Means of Egress; Powered Platforms, Manlifts, and Vehicle- Mounted Work Platforms; Occupational Health and Environmental Control; Hazardous Materials; Personal Protective Equipment; General Environmental Controls; Medical and First Aid; Fire Protection; Materials Handling and Storage; Machinery and Machine Guarding; Welding, Cutting and

Brazing; Special Industries; Electrical; Commercial Diving Operations; Toxic and Hazardous Substances, and Occupational Exposure to Hazardous Chemicals in Laboratories; including, but not limited within the Construction Industry to General Safety and Health Provisions; Occupational Health and Environmental Controls; Personal Protective and Life Saving Equipment; Fire Protection and Prevention; Signs, Signals, and Barricades; Tools - Hand and Power; Welding and Cutting; Electrical; Ladders and Scaffolding; Cranes, Derricks, Hoists, Elevators and Conveyors; Motor Vehicles, Mechanized Equipment, and Marine Operations; Excavations; Concrete and Masonry Construction; Underground Construction, Caissons, Cofferdams and Compressed Air; Demolitions; Blasting and Use of Explosives; Power Transmission Distribution; Stairways and Ladders; including, but not limited within Agriculture to Roll-Over Protective Structures, and Safety for Agricultural Equipment; and including, but not limited to the Process Safety Management Standard, the Confined Spaces Standard, Hazard Communication Standard, and the Bloodborne Pathogens Standard.

(c) The required *safety and health training* shall be provided by someone trained to recognize, evaluate and control safety and health hazards. The *training* may be provided on-site or off-site.

### **13 NCAC 07F .0103 - [Hazardous Materials](#)**

13 NCAC 07F .0103 - [Hazardous Materials](#) adds a new level of training to the standard on hazardous waste operations and emergency response for individuals who respond to hydrocarbon fuel leaks; "first responder operations plus level".

To learn if 13 NCAC 07F .0103 applies to you, go to [Does "Hazardous Materials" Apply to You?](#)

## **Special Requirements**

### **13 NCAC 07F .0103 - Hazardous Materials**

**Scope:** This [standard](#) applies to hazardous waste operations and emergency response for individuals who respond to hydrocarbon fuel leaks.

**Special Requirements:** First responders, training, certify, demonstrates competency, risk assessment techniques, decontamination procedures, PPE, references other standards

Subpart H - Hazardous Materials, [29 CFR 1910.120](#), *Hazardous waste operations and emergency response*, [1910.120\(q\)\(6\)](#) is amended by adding a new level of *training*:

"(vi) *First responder* operations plus level. *First responders* at operations plus level are individuals who respond to hydrocarbon fuel tank leaks where the leaking tanks contain a hydrocarbon fuel which is used to propel the vehicle on which the tank is located. Only those vehicles designed for highway use or those used for industrial, agricultural or construction purposes are covered. *First responders* at the operations plus level shall have received at least *training* equal to first responder operations level and, in addition, shall receive *training* or have had sufficient experience to objectively *demonstrate competency* in the following areas and the employer shall so *certify*:

- (a) Know how to select and use proper specialized *personal protective equipment* provided to the first responder at operations plus level;
- (b) *Understand* basic hazardous materials terms as they pertain to hydrocarbon fuels;
- (c) Understand hazard and *risk assessment techniques* that pertain to gasoline, diesel fuel, propane and other hydrocarbon fuels;
- (d) Be able to perform control, containment, or confinement operations for gasoline, diesel fuel, propane and other hydrocarbon fuels within the capabilities of the available resources and *personal protective equipment*; and
- (e) *Understand* and know how to implement *decontamination procedures* for hydrocarbon fuels."

### 13 NCAC 07F .0501 through .0502 - [Maritime](#)

13 NCAC 07F [.0501](#) through [.0502](#) - Maritime states that the provisions of [1915](#) - Shipyard Employment and [1917](#) - Marine Terminals apply to public sector employees in North Carolina.

To learn if 13 NCAC 07F .0501 through .0502 - Maritime applies to you, go to [Does "Maritime" Apply to You?](#)

## Special Requirements

### 13 NCAC 07F .0501 through .0502 - Maritime

**Scope:** These standards, [.0501](#) through [.0502](#), apply to 1915 - Shipyard Employment and 1917 - Marine Terminals standards.

**Special Requirements:** References other standards

[13 NCAC 07F .0501 SHIPYARD EMPLOYMENT](#) (a) The provisions for the *Occupational Safety and Health Standards for Shipyard Employment, Title 29 of the Code of Federal Regulations Part 1915* promulgated as of October 4, 2021, and exclusive of subsequent

amendments, are incorporated by reference. (b) The provisions of [29 CFR 1915](#) shall apply only to public sector employees of local governments or of the State of North Carolina.

[13 NCAC 07F .0502 MARINE TERMINALS](#) (a) The provisions of the *Occupational Safety and Health Regulations for Marine Terminals, Title 29 of the Code of Federal Regulations Part 1917*, promulgated as of March 25, 2016, and exclusive of subsequent amendments are incorporated by reference. (b) The provisions of [29 CFR 1917](#) shall apply only to public sector employees of local governments or of the State of North Carolina.

### **Additional Assistance on North Carolina State-Specific Standards**

If the employer still has questions regarding the OSHA standards or North Carolina state-specific standards, they can submit an inquiry about safety and health requirements to Ask OSH through the [online form](#) or by phone at 919-707-7876.

Resource information can be found on the [safety and health topics pages](#). In addition, the webpages for [Which OSHA Standards Apply](#) and [OSHA Standards With Special Requirements](#) can assist the employer with applicable OSHA standards and special requirements.

Example safety and health [programs](#) ([table](#) of standards requiring programs, plans and procedures in general industry; [table](#) of standards requiring inspections in general industry; [table](#) of standards requiring programs, plans and procedures in construction; [table](#) of standards requiring inspections in construction) and [presentations](#) ([table](#) of standards requiring training in general industry; [table](#) of standards requiring training in construction); [pre-recorded webinars](#); along with [publications](#) are available to assist the employer in meeting standards requirements. Specifically, the brochure on [top ten most frequently cited serious violations](#) can be useful in identifying frequently cited violations by industry. For more information regarding the required state and federal workplace posters, go to the [NCDOL State and Federal workplace posters](#) webpage.

The [NCDOL Library](#) also offers free safety and health videos and related research assistance on consensus standards (i.e., ANSI, NFPA, NEC). The education, training and technical assistance bureau provides [free online safety and health training](#) and [outreach services](#) (i.e., speaker's bureau requests, safety booths) upon request. In addition, the [consultative services bureau](#) provides free confidential on-site employer assistance.