OSHA®
Fact Sheet

Evaluating Shipyard Competent Person Programs

Shipyard employment presents many hazards to workers, including the potential exposure to dangerous atmospheres. This is a particular concern when working in or around confined and/or enclosed spaces aboard vessels. Before work can be permitted in such areas, atmospheric testing is required to determine the oxygen content, flammability, and toxicity of the space. A shipyard competent person (SCP) and/or a NFPA-certified Marine Chemist (CMC) must be employed to determine whether a space is safe for workers and prescribe the appropriate protective measures to be implemented.

This document is intended for use by employers in the shipyard industry to evaluate the adequacy of their shipyard competent person programs. The information in this document may also be useful to other members of the shipyard community, such as subcontractors and inspectors, for evaluating a shipyard's program. Requirements for worker protection from dangerous atmospheres, such as in confined and/or enclosed spaces, are listed in Subparts A, B, and D of 29 CFR Part 1915. Included in these sections are provisions that address the qualifications, training, and duties of employer-designated SCPs and indicate when use of a CMC, Certified Industrial Hygienist (CIH), or Coast Guard authorized person is required.

There are some cases where atmospheric conditions present in the shipyard that cannot be adequately evaluated by a person trained only to the SCP level, but require the expertise of a CMC. In such cases, the CMC and SCP work collaboratively to protect workers from exposures to hazardous atmospheric conditions during shipyard employment work. The requirements outlined in 29 CFR 1915.7 specify that employers must make sure that each designated SCP has the following skills and knowledge:

- Ability to understand and carry out the written or oral information or instructions left by a CMC, CIH, or Coast Guard authorized person.
- Knowledge of the requirements in subparts B, C, D and H of 29 CFR Part 1915, and ability to perform all required tests and inspections set forth in those subparts.
- Familiarity with the structure, location, and designation of spaces (including land-side spaces) where work is done.
- Ability to use, calibrate, and interpret test results of atmospheric testing equipment (e.g., oxygen indicators, combustible gas indicators, carbon dioxide indicators, and carbon monoxide indicators).
- Ability to inspect, test, and evaluate spaces to determine the need for further testing by a CMC or Certified Industrial Hygienist.
- Ability to maintain records of tests, inspections, and operations performed, as well as test results and any instructions.

In some cases, an employer may choose to use a CMC instead of a SCP for the inspection and testing of spaces where OSHA standards require a SCP. In such cases, that employer must maintain a written statement indicating this practice. Where an employer uses both a CMC and a SCP, that employer must maintain a roster of designated SCPs.

Certified Marine Chemists

Marine Chemists are certified through the National Fire Protection Association (NFPA) and are qualified to determine whether work on vessels, which may include hazards covered by NFPA 306: Standard for the Control of Gas Hazards on Vessels, can be performed safely. Training requires at least a Bachelor's degree and extensive shipyard and laboratory experience. Tasks performed by a CMC include:

- Testing for flammable and toxic atmospheres before allowing hot work operations in the following places:
  - In, on, or immediately adjacent to spaces which contain or previously contained combustible or flammable liquids or gases;

  - In, on, or immediately adjacent to fuel tanks that contain or last contained fuel; and
  - On pipelines, heating coils, pump fittings, and other accessories connected to spaces that contain or last contained fuel.
- Retesting spaces designated "Not Safe for Workers" after ventilation has been used to lower unsafe air concentration of toxics, corrosives, or irritants within the permissible exposure limit (PEL) or below the immediately dangerous to life and health (IDLH) level. Retesting must occur until the spaces can be certified as "Enter with Restrictions" or "Safe for Workers."
- Approving the use of non-reactive or "inerting" mediums (such as nitrogen and carbon dioxide) where there is the potential for the combustion of flammable materials, personally supervising the introduction of the inerting medium where a safe condition is to be obtained, and testing the space to confirm the process's effectiveness (NFPA 306, Chapter 5.2.1).

Note: OSHA standards allow for a CIH or Coast Guard authorized person to conduct many of the functions of that of a CMC; however, this is not always the case. See 29 CFR Part 1915, Subpart B for more information on when substitution of a CMC with a CIH or Coast Guard authorized person is acceptable.

Shipyard Competent Persons

Shipyard competent persons are designated by the employer and typically attend a three-day course, which covers the required topics specified in 29 CFR 1915.7, in addition to receiving on-the-job training. While there is no designated minimum time for completing training, SCPs must be able to recognize and evaluate worker exposures to hazardous substances or other unsafe conditions. They also must specify the necessary precautions to be taken to ensure the safety of workers.

Tasks performed by a SCP include:

- Visually inspecting and testing the following spaces to determine the atmosphere's oxygen content prior to worker entry:
  - Spaces that have been sealed;
  - Spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases;
  - Spaces and adjacent spaces that contain or have contained toxic, corrosive, or irritant liquids, gases, or solids;
  - Spaces and adjacent spaces that have been fumigated; and
  - Spaces containing materials or residues of materials that create an oxygen-deficient atmosphere.

  Workers may safely enter the space when the oxygen content is at or above 19.5 percent and below 22 percent by volume.
- Visually inspecting and testing spaces and adjacent spaces that contain or have contained combustible or flammable liquids to determine whether such materials are present, and, prior to worker entry, what concentration of flammable vapors and gases is present within the space. Workers may safely enter the space when the concentration of flammable vapors is below 10 percent of the lower explosive limit (LEL).
- Visually inspecting and testing spaces and adjacent spaces containing, or that have previously contained, toxics, corrosives, or irritants to determine the presence of toxic, corrosive, or irritant residue contaminants and, prior to worker entry, what air concentration of these contaminants exists within the space. Workers may safely enter the space when the air concentration is within the PEL or below the IDLH level.
- Reporting physical hazards. Any hazards—such as access, electrical, slips, trips, and falls—identified during visual inspection should be reported to the employer or their representative for correction.
- Determining the flammability of surface preservative coatings and prescribing the necessary safety precautions before welding, cutting, or heating of those surfaces may commence. Coatings determined to be highly flammable must be stripped from the area to be heated to prevent them from igniting.
- Testing the atmosphere for explosive vapors in spaces where metals are coated with soft and greasy preservatives before and immediately after welding, cutting, or heating operations and at frequent intervals thereafter.
- Inspecting and, if necessary, testing structural voids such as skegs, bilge keels, fair waters, masts, booms, support stanchions, pipe stanchions, and railings for the presence of flammable liquids or vapors before beginning welding, cutting, heating, brazing, or other hot work.
- Calibrating and maintaining test equipment, as well as retaining corresponding records and documentation.
- Determining if and when a CMC is required to perform further work.

Checklist for Assessing Shipyard Competent Person Programs

Note: Where assessment results indicate inadequacies in the program, it is recommended that a Certified Marine Chemist or a qualified safety and health professional examine the program and suggest methods for improvement.

Training

SCPs have undergone formal training? Company Name: _____ Address: _____ Telephone: _____ Date of Training: _____	Yes	No
Copies of training certificates are available?	Yes	No
SCPs receive refresher training? (Not required unless company policy or local authorities requires refresher training)	Yes	No
Facility personnel have an adequate level of experience to provide guidance and support?	Yes	No
Names of all SCPs and their dates of training are included on a facility roster?	Yes	No

Testing Equipment

Quantity of testing meters is adequate to support the work of the facility? _____	Yes	No
Meters have the ability to test for the following: Oxygen_____? LEL_____? CO____? H_2S _____? VOCs _____? Other _____?	Yes	No
SCPs have the ability to correctly calibrate and operate equipment?	Yes	No
SCPs conduct equipment calibration checks before each day's use?	Yes	No
Fresh air checks are conducted in an area free of contaminants that might affect the reading?	Yes	No
Testing equipment, such as colorimetric detector tubes, is available for contaminants not measured by standard gas meters?	Yes	No
SCPs understand how to conduct a leak check on equipment and what to do if it fails?	Yes	No

General Knowledge

SCPs have knowledge of OSHA Part 1915, Subparts B, C, D, and H (general knowledge of Subpart P requirements is also advisable)?	Yes	No
SCPs know when to call in a Marine Chemist?	Yes	No
SCPs know the local Marine Chemist?	Yes	No
SCPs understand and carry out the instructions of the Marine Chemist?	Yes	No
SCPs post and file the Marine Chemist certificate as required?	Yes	No
SCPs conduct follow up testing as required by a Marine Chemist?	Yes	No
SCPs understand what constitutes a change in conditions that requires a Marine Chemist to be recalled?	Yes	No
SCPs test spaces as often as necessary to ensure that conditions have not changed?	Yes	No
Following atmospheric testing, SCPs place signs or labels on the spaces or at their access points, indicating entry requirements?	Yes	No
Posted signs are written in a manner that can be understood by all workers?	Yes	No
During spray painting operations, SCPs check for flammable and toxic concentrations of paint vapors?	Yes	No
SCPs know what levels of oxygen, flammables, and toxics are safe for entry?	Yes	No
SCPs enter spaces to do a visual inspection and check for physical hazards?	Yes	No
SCPs know when fire watches should be posted, where, and for how long in compliance with 29 CFR 1915.504?	Yes	No

Recordkeeping

All inspection records contain the following information:		
• Vessel name?	Yes	No
• Vessel berth?	Yes	No
• Date?	Yes	No
• Time?	Yes	No
• Spaces checked?	Yes	No
• Reason for inspection (operation: entry, hot work, or both)?	Yes	No
• Meter readings?	Yes	No
• How are spaces described? Safe or Unsafe?	Yes	No
• Instructions: If safe, how to keep it safe? If not safe, how to make safe?	Yes	No
• Physical hazards identified?	Yes	No
Inspection records are maintained for 3 months?	Yes	No
Inspection records are readily available for review?	Yes	No

Workers' Rights

Under federal law, workers are entitled to working conditions that do not pose a risk of serious harm.

For more information on how to assure a safe and healthful workplace, see OSHA's Workers page.

How to Contact OSHA

For questions or to get information or advice, to report an emergency, fatality, inpatient hospitalization, amputation, or loss of an eye, or to file a confidential complaint, contact your nearest OSHA office, visit www.osha.gov or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

For assistance, contact us. We can help. It's confidential.

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: 1-877-889-5627.

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