



# Standard Guide for Basic Elements of Shipboard Occupational Health and Safety Program<sup>1</sup>

This standard is issued under the fixed designation F2039; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This guide covers the basic elements of a Shipboard Occupational Health and Safety Program (SOHSP). These elements are applicable to all vessel types including but not limited to tank vessels, dry bulk carriers, passenger vessels, roll-on roll-off vessels, ore bulk oilers, offshore supply vessels, tugboats, towboats, and barges. The elements described are fundamental pieces of a systematic occupational safety and health program and may be used by company line managers, health and safety personnel or consultants who are implementing, improving, or auditing the effectiveness of a shipboard health and safety program.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

### 2.1 ANSI Standards:<sup>2</sup>

[ANSI Z4.1-1986 Minimum Requirements for Sanitation in Places of Employment](#)

[ANSI Z41-1991 Personal Protection – Protective Footwear](#)

[ANSI Z87.1-1989 Practice for Occupational and Educational Eye and Face Protection](#)

[ANSI Z88.2-1992 Respiratory Protection](#)

[ANSI Z89.1-1986 Protective Headwear for Industrial Workers](#)

[ANSI Z244.1-1982 \(R1993\) Safety Requirements for the Lock Out/Tag Out of Energy Sources](#)

[ANSI/ASA S3.18-1979 \(R1993\) Guide for the Evaluation of Human Exposure to Whole Body Vibration](#)

[ANSI/ASA S3.44-1996 Determination of Occupational Noise Exposure and Estimation of Noise-Induced Hearing Impairment](#)

[ANSI/AWS Z49.1-1994 Safety in Welding, Cutting and Allied Processes](#)

### 2.2 Other Documents:

[NFPA 306-1997 Control of Gas Hazards on Vessels<sup>3</sup>](#)

[NFPA 1991-2000: Vapor Protective Suits for Hazardous Chemical Emergencies<sup>3</sup>](#)

[NFPA 1992-2000: Liquid Splash Protective Suits for Hazardous Chemical Emergencies<sup>3</sup>](#)

[IMO A.468\(XII\) Code on Noise Levels Onboard Ships<sup>4</sup>](#)

[IMO A.849 \(20\) Code for Investigation of Marine Casualties and Incidents<sup>4</sup>](#)

[IMO A.864 \(20\) Recommendations for Entering Enclosed Spaces Aboard Ships<sup>4</sup>](#)

[46 CFR 16.210 Pre-Employment Testing Requirements<sup>5</sup>](#)

[U.S. Coast Guard Navigation and Vessel Inspection Circular 2–98 Physical Evaluation Guidelines for Merchant Mariner's Documents and Licenses<sup>5</sup>](#)

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<sup>2</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

<sup>3</sup> Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

<sup>4</sup> Available from International Maritime Organization (IMO), 4, Albert Embankment, London SE1 7SR, United Kingdom, <http://www.imo.org>.

<sup>5</sup> Available from U.S. Government Printing Office, Superintendent of Documents, 732 N. Capitol St., NW, Washington, DC 20401-0001, <http://www.access.gpo.gov>.

some of the elements address activities and commitments that must be completed or made by shore side personnel (for example, executive management commitment and provision of adequate resources). Key to the effectiveness of the program is the implementation of each element within an interconnected system.

#### **4. Basic Elements**

**4.1 Executive Management Commitment and Leadership**—Executive management commitment and leadership is a precondition for an effective SOHSP. Executive management commitment and leadership includes, but is not limited to integrating health and safety into the management structure and fabric of the company, developing a health and safety policy, developing health and safety objectives, providing resources to achieve the objectives, defining stewardship responsibilities and providing authority to carry out those responsibilities, and establishing accountability for safety and health as a part of job performance reviews. Further guidance is provided in [Annex A1](#).

**4.2 Employee Participation**—Employees from all levels including crewmembers, officers, masters, persons-in-charge, and shoreside personnel should be directly involved with the SOHSP. Shipboard and shoreside employees should be involved in developing, implementing, evaluating, and modifying the SOHSP. Employees should also participate in setting health and safety objectives and performance criteria. This involvement might be through employee membership on safety committees that provide input to management for the development of safety and health policy, debate and set health and safety goals, measure and evaluate performance, and recommend modifications to the program based on their evaluation. Shoreside and shipboard employees should work together to achieve safety and health goals. For example, shoreside personnel should participate on vessel safety committees since their decisions affect vessel operations and ultimately the health and safety of vessel personnel. In large companies, individual vessel safety committees might submit recommendations to an overarching safety committee that evaluates the recommendations and sets policy to apply appropriate recommendations to the entire fleet. Further guidance is provided in [Annex A2](#).

**4.3 Hazard Anticipation, Identification, Evaluation and Control**—The core function of any health and safety program is prevention. Health and safety hazards including fire, reactivity, and chemical and physical hazards, need to be anticipated and prevented from occurring. Hazards and unsafe operating procedures need to be identified and addressed so they will not endanger employees or the public and will not damage the vessel, cargo, or third party property. Potential hazards should be systematically anticipated, identified, evaluated, and controlled. Tools such as job hazard analysis, industrial hygiene exposure assessments, and risk assessment/management methodologies enable the evaluation and control of hazards. Further guidance is provided in [Annex A3](#).

**4.4 Training**—Employees should receive training appropriate for their duties and responsibilities so that they may work

safely and not endanger their shipmates or the public. In addition, employees who have specific health and safety responsibilities (generally supervisors with responsibility for the safety of others, but also nonsupervisors who are assigned to safety committees or as crew member representatives) should receive training to enable them to carry out their health and safety program responsibilities. Further guidance is provided in [Annex A4](#).

**4.5 Record Keeping**—Company records sufficient to demonstrate the effectiveness of the health and safety program should be maintained. Data that enables trend or pattern analysis for root causes is particularly desirable. For example, results of audits that evaluate effectiveness of the safety and health management system should be maintained. Records that indicate industrial hygiene exposure assessments have been conducted and appropriate controls have been implemented should be maintained. Current job safety analyses and corresponding standard operating procedures with safe work practices should be documented. Injury and illness data should be maintained to enable the identification of trends and patterns that associate the injury or illness with a common cause, which can be addressed. Training topics, lesson outlines, and attendees should be documented. Where appropriate, such records should permit evaluation of the program on individual vessels as well as across an entire fleet. Further guidance is provided in [Annex A5](#).

**4.6 Contract or Third Party Personnel**—When contract or third party personnel are on board to perform work, vessel personnel should provide information regarding potential hazards on the vessel that may affect the contract or third party personnel. Potential hazards related to the work conducted by contract or third party personnel should be provided to the vessel owner/operator or the master/person-in-charge, or both. Each employer should provide appropriate information regarding vessel and work hazards to their own employees. For example, exchange of information on chemical hazards might be accomplished by exchanging appropriate material safety data sheets (MSDS), then each employer can inform their own employees of the hazards identified in the MSDS. Further guidance is provided in [Annex A6](#).

**4.7 Fatality, Injury, Illness, and Incident Investigation**—Personnel injuries, occupational illnesses, and “near miss” incidents should be promptly investigated. The current incident and other similar occurrences should be analyzed to identify the primary (root) cause and any contributing factors. The investigation report, setting forth primary cause, contributing factors, and corrective measures should be presented to management. Followup action that specifically addresses the report’s recommendations for corrective action should be undertaken and documented. Further guidance is provided in [Annex A7](#).

**4.8 Systematic Program Evaluation and Continuous Improvement**—Maintaining an effective health and safety program is an ongoing process. The SOHSP should have systems for detecting, reporting, and correcting nonconformities to the program. Some type of “formalized” evaluation should also be conducted on a periodic basis consistent with other aspects of

the vessel's management plan. The evaluation should determine whether the SOHSP is appropriate for the vessel and its operations, that actual practices are consistent with the programs and procedures in the SOHSP, and that the SOHSP is effective. Comparison of data and records (refer to [Annex A5](#), Record Keeping) to performance objectives and criteria (refer

to [Annex A1](#), Section [A1.3](#), health and safety objectives) can provide important indicators of the effectiveness of the SOHSP. Further guidance is provided in [Annex A8](#).

## 5. Keywords

5.1 health; safety

## ANNEXES

### (Mandatory Information)

#### A1. MANAGEMENT COMMITMENT AND LEADERSHIP

A1.1 Health and safety programs are most effective when they are integrated into the management structure of a company, rather than treated as an “add on” program. Examples of integrated health and safety efforts include:

A1.1.1 Developing Standard Operating Procedures (SOPs), written to the education level of the person who must follow the SOP, that integrate safe work practices and basic operational functions,

A1.1.2 Making design review by qualified health and safety personnel an element of the acquisition procedures, and

A1.1.3 Making consultation with qualified health and safety personnel a part of the process when making changes to operations.

A1.2 Executive management sets the tone for the entire SOHSP through their policy regarding health and safety. Examples of values that can be stated and commitments that can be made in company policy include:

A1.2.1 A statement that the company will make every effort to provide a safe and healthy workplace and that working safely is a condition of employment,

A1.2.2 Statements that convey how important each crew member is to the vessel as a fellow worker and as a company resource:

A1.2.2.1 “The basic safety policy of this company is that no task is so important that an employee must violate a safety rule or put himself or herself at risk of injury or illness in order to get it done.”,

A1.2.3 A written commitment to provide resources necessary to implement the health and safety program could also be included in the policy statement, and

A1.2.4 Management can demonstrate commitment to the safety and health policies through word and action. For example, managers visiting vessels should follow safety rules and standard operating procedures, including use of hearing protection, safety glasses, safety shoes, protective clothing, and so forth.

A1.3 Setting and attaining health and safety objectives demonstrates a company's commitment to improvement of

health and safety performance. Objectives provide a target against which those who are responsible for health and safety may measure their progress. Quantifiable objectives are desirable since often, “What gets measured gets done.” (Refer to [Annex A8](#), Systematic Program Evaluation, for examples of performance measures and an overall program audit.) Health and safety objectives may include:

A1.3.1 Eliminate lost time incidents,

A1.3.2 Report “near miss” incidents or problems, evaluate, and if appropriate, implement changes to prevent a more serious incident or accident in the future,

A1.3.3 Develop and implement a program of evaluations through drills and other means (for example, simulators) to ensure that personnel are competent to carry out their duties,

A1.3.4 Improve the health and safety program by reviewing, considering, and implementing appropriate published industry practices and consensus standards rather than relying on the imposition of new regulatory standards. Examples of consensus standards to consider include, but are not limited to: ANSI Z41-1991, ANSI Z87.1-1989, ANSI Z88.2-1992, ANSI Z89.1-1986, ANSI Z244.1-1982 (R1993), ANSI/ASA S3.18-1979 (R1993), ANSI/ASA S3.44-1996, ANSI/AWS Z49.1-1994, ANSI Z4.1-1986, NFPA 1991-2000, NFPA 1992-2000, NFPA 306-1997, IMO A.864 (20), and IMO A.468(XII).

A1.3.5 Complete periodic comprehensive (or area-specific) hazard review,

A1.3.6 Reduce exposure levels to airborne vapors to acceptable levels through appropriate controls,

A1.3.7 Complete annual respiratory fit testing on schedule,

A1.3.8 Develop and implement acute toxic exposure procedures addressing first aid procedures, obtaining additional emergency medical assistance, and appropriate medical surveillance tests (for example, S-phenylmercapturic acid in urine following a potential benzene overexposure), and

A1.3.9 Develop and implement an occupational health medical surveillance plan.