

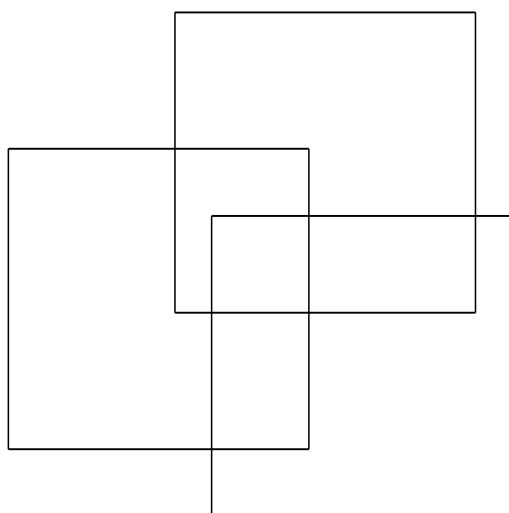


International
Labour
Office

Geneva

Draft guidelines for implementing the occupational safety and health provisions of the Maritime Labour Convention, 2006

**For discussion at the Meeting of Experts on
Maritime Occupational Safety and Health**
(Geneva, 13–17 October 2014)



Sectoral
Activities
Department

International
Labour
Standards
Department

Geneva, 2014

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INTERNATIONAL LABOUR ORGANIZATION

**Sectoral Activities Department
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INTERNATIONAL LABOUR OFFICE, GENEVA

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1. Introduction

1.1. The ILO's work in the maritime sector

1. The International Labour Organization (ILO) recognizes the special needs of seafarers whose working life is at sea and has sought to ensure safe and healthy working conditions in the maritime industry ever since its first maritime labour standard was adopted in 1920. The Organization's work in the maritime sector continues to bring together representatives of governments and shipowners' and seafarers' organizations in order to develop international standards and policies to promote decent working conditions for all seafarers and fair competition for shipowners.
2. Over 40 ILO Conventions have been adopted and numerous other instruments, codes of practice and guidelines have been drafted on occupational safety and health (OSH) since the ILO's creation in 1919. Some of these are sector-specific, such as the ILO code of practice on accident prevention on board ship at sea and in port.¹ Further occupational safety and health provisions are set out in instruments adopted by the International Maritime Organization (IMO).
3. The ILO's Maritime Labour Convention, 2006 (MLC, 2006), was adopted by the 94th (Maritime) Session of the International Labour Conference (ILC) in February 2006. It includes Regulation 4.3 – Health and safety protection and accident prevention – and the related Code (Standard A4.3 and Guideline B4.3), which have the stated purpose: “To ensure that seafarers’ work environment on board ships promotes occupational safety and health”.² In addition, the Convention contains a number of provisions that address safety and health in connection with on-board accommodation (Regulation 3.1) and young seafarers (Regulation 1.1).
4. These guidelines for implementing the occupational safety and health provisions of the MLC, 2006, are intended to provide supplementary practical information to flag States to be reflected in their national laws and other measures to implement Regulation 4.3 and the related Code of the MLC, 2006, as well as other relevant provisions under Regulations 3.1 and 1.1. It must be emphasized that the guidelines are intended as a practical resource to be used by any government which finds them helpful. In all cases, the relevant national laws or regulations, collective bargaining agreements or other measures to implement the MLC, 2006, in the flag State should be viewed as the authoritative statement of the requirements in that State.

1.2. Occupational safety and health

5. Occupational safety and health is generally defined as the science of the anticipation, recognition, evaluation and control of hazards arising in, or from, the workplace that could impair the safety, health and well-being of workers.³ This includes the promotion and

¹ ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996, http://www.ilo.org/safework/info/standards-and-instruments/codes/WCMS_107798/lang--en/index.htm.

² For the full text of Regulations 1.3, 3.1 and 4.3, Standard A4.3 and Guideline B4.3, see Appendix I.

maintenance of the highest degree of physical, mental and social well-being of workers in all occupations. It also takes into account the possible impact on the surrounding communities and the general environment. The central focus of OSH is to assess and manage occupational risks through the application of preventive and protective measures. The topic is complex, covering many different areas of activity and concerning standards that frequently need to be adjusted in line with changes in technology and research regarding potential workplace risks for human health.

6. Concerns about occupational hazards have had an impact on contemporary approaches to promoting effective OSH. The 2009 ILO General Survey on the Occupational Safety and Health Convention, 1981 (No. 155), and Recommendation (No. 164),⁴ explains that these instruments underscore that an ideal goal for effective OSH would be total prevention, implying a constant effort to improve worker protection. The instruments adopted since 1981 strongly emphasize the principle of preventive measures, while personal protective equipment (PPE) is considered a last resort when exposure to risks cannot be prevented, minimized or eliminated.

1.3. Understanding the OSH requirements under the MLC, 2006

7. The MLC, 2006, is generally considered to be the “fourth pillar” of the international regulatory regime for quality shipping, complementing the key instruments of the IMO, namely: the International Convention for the Safety of Life at Sea, 1974, as amended (the “SOLAS Convention”); the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (the “STCW Convention”); and the International Convention for the Prevention of Pollution from Ships, 1973, as amended (the “MARPOL Convention”). When implementing the MLC, 2006, in addition to the existing ILO instruments, all important and relevant IMO instruments (such as the International Safety Management (ISM) Code⁵) should be taken into account. Many countries and industry organizations have also developed comprehensive OSH regulatory systems and technical guidance which incorporate provisions of the IMO instruments. These provide useful examples for national approaches to the management of occupational safety and health on ships.⁶
8. The MLC, 2006, reflects the ILO’s long-standing commitment to the right of all workers, including seafarers, to decent, safe and healthy working and living conditions.

³ ILO: *General Survey concerning the Occupational Safety and Health Convention, 1981 (No. 155), the Occupational Safety and Health Recommendation, 1981 (No. 164), and the Protocol of 2002 to the Occupational Safety and Health Convention, 1981*, Report III (Part 1B), International Labour Conference, 98th Session, Geneva, 2009, (“General Survey on ILO standards on occupational safety and health”), http://www.ilo.org/ilc/ILCSessions/98thSession/ReportssubmittedtotheConference/WCMS_103485/lang--en/index.htm.

⁴ *ibid.*

⁵ International Maritime Organization (IMO): *International Safety Management Code, 2010, (ISM Code)*, <http://www.imo.org/OurWork/HumanElement/SafetyManagement/Pages/ISMCode.aspx>.

⁶ See the list of selected references in Appendix II and the relevant EU Directives in Appendix III.

Box 1
MLC, 2006, Article IV: Seafarers' Employment and Social Rights

1. Every seafarer has the right to a safe and secure workplace that complies with safety standards.
- ...
3. Every seafarer has a right to decent working and living conditions on board ship.
4. Every seafarer has a right to health protection, medical care, welfare measures and other forms of social protection.
5. Each Member shall ensure, within the limits of its jurisdiction, that the seafarers' employment and social rights set out in the preceding paragraphs of this Article are fully implemented in accordance with the requirements of this Convention. ...

9. An ILO handbook ⁷ provides suggestions regarding provisions which could be used by member States to implement the main legal requirements of the MLC, 2006. ⁸ However, in line with the requirements in Regulation 4.3, paragraphs 2 and 3, the guidance takes into account the need for governments, after consultation with the representative shipowners' and seafarers' organizations, to develop the details in guidelines, laws and regulations or other measures to address the particular issues identified in the Code. ⁹ Governments may also find it useful to consider the requirements of the article 22 report form. ¹⁰ Finally, the guidance on flag and port State inspections for compliance with the Convention may also be useful when implementing Regulation 4.3 and Standard A4.3. ¹¹

1.4. Structure of the MLC, 2006

10. The MLC, 2006, comprises three parts: the Articles, the Regulations and the Code. The Articles and Regulations set out the core rights and principles and basic obligations of member States ratifying the Convention. The Code contains details for the implementation of the Regulations. It comprises Part A (mandatory Standards) and Part B (non-mandatory Guidelines), which allow a considerable degree of flexibility in the way member States implement the rights and principles within the Articles and Regulations. The Regulations and the Code are organized under the following Titles:

- Title 1: Minimum requirements for seafarers to work on a ship.
- Title 2: Conditions of employment.

⁷ ILO: *Handbook: Guidance on implementing the Maritime Labour Convention, 2006 – Model National Provisions*, http://www.ilo.org/global/standards/maritime-labour-convention/WCMS_170389/lang--en/index.htm.

⁸ See Appendix IV, Extracts from the ILO model national legal provisions.

⁹ See Appendix V, International instruments and other technical guidance relevant to the implementation of OSH on board ships.

¹⁰ See Appendix VI – Relevant sections of the country report form under article 22.

¹¹ See ILO: *Guidelines for flag State inspections under the Maritime Labour Convention, 2006* (http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_101788.pdf), in particular Chapter 3, and ILO: *Guidelines for port State control officers carrying out inspections under the Maritime Labour Convention, 2006*. (http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@normes/documents/publication/wcms_101787.pdf), in particular Chapter 4.

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- Title 3: Accommodation, recreational facilities, food and catering.
 - Title 4: Health protection, medical care, welfare and social security protection.
 - Title 5: Compliance and enforcement.

- 11.** The explanatory note ¹² to the Regulations and Code of the Maritime Labour Convention is not binding, but provides an explanation of the relationship between the Articles, Regulations and Codes (Standards and Guidelines) of the Convention and the nature of the obligations under each part. This may be particularly useful when considering the implementation of Guideline 4.3.
- 12.** The MLC, 2006, applies to all seafarers. A seafarer is defined as “any person who is employed or engaged or works in any capacity on board a ship to which this Convention applies”. ¹³ This includes those involved in navigating or operating the ship, as well as persons such as hotel and catering staff working on board. The OSH requirements of the MLC, 2006, are set out mainly in Regulation 4.3 and the related Code. However, because seafarers both live and work on board ships, these requirements are also linked to other provisions of the MLC, 2006, such as Regulation 3.1 and the related Code with respect to accommodation and recreational facilities, and Regulation 1.1 and the related Code with respect to minimum age. ¹⁴ Throughout the present guidelines, there are references to, and summaries of, provisions of the MLC, 2006. When implementing the provisions of the MLC, 2006, the precise wording of the Convention should always be consulted.

1.5. Enforcement provisions

- 13.** Enforcement and compliance requirements are set out in both Article V and Title 5 of the Convention. Ships must be inspected by flag States, either by their government inspectors or authorized recognized organizations. Ships of 500 gross tonnage or over which are engaged in international voyages, or voyages between, or from, foreign ports, are required to carry a Maritime Labour Certificate certifying that the working and living conditions of seafarers on the ship, including measures for ongoing compliance to be included in a Declaration of Maritime Labour Compliance (DMLC) attached to the certificate, have been inspected and meet the requirements of national laws or regulations or other measures implementing the Convention. ¹⁵
- 14.** Part I of the DMLC is to be completed by the flag State and contains references to the relevant national requirements. Part II of the DMLC documents the measures the shipowner has put in place to ensure ongoing compliance with flag State requirements, inspections and continuous improvement on the ship.

¹² See Appendix VII.

¹³ MLC, 2006, Article II, para. 1(f).

¹⁴ See Appendix I.

¹⁵ See the list of areas in the MLC, 2006, Appendix A5-I, read together with Standard A5.1.3, para. 1.

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- 15.** The ILO has also developed guidelines for flag State inspections¹⁶ and port State control inspections¹⁷ under the MLC, 2006. Ships visiting foreign ports may be subject to inspection by port State control authorities for compliance with the Convention.
- 16.** Ships from States that have not ratified the MLC, 2006, must not receive more favourable treatment than those from countries that have ratified it.¹⁸

¹⁶ *Guidelines for flag State inspections under the Maritime Labour Convention, 2006*, op. cit.

¹⁷ *Guidelines for port State control officers carrying out inspections under the Maritime Labour Convention, 2006*, op. cit.

¹⁸ MLC, 2006, Article V, para. 7.

2. Understanding OSH principles and their application in the maritime sector

2.1. Definition of hazards and risks

17. This chapter focuses on understanding OSH principles to assess and manage occupational risks through the application of preventive and protective measures.

18. In this context, the difference between a “hazard” and a “risk” should be clearly defined:

- (a) A **hazard** is the potential of a product, process or situation to cause harm or damage to, or have adverse health effects on, someone or something. It can come from a chemical (intrinsic properties), working on a ladder (situation), electricity, a compressed gas cylinder (potential energy), a fire source, a slippery floor, or, in the case of a ship, a constantly moving deck.
- (b) A **risk** is the likelihood that a person will be harmed or experience adverse health effects or that property will be damaged if exposed to a hazard.

19. The relationship between hazards and risks is dependent on the nature of the exposure, including the length of time and intensity, and the effectiveness of protective equipment. The basic process of hazard and risk reduction is the core principle governing OSH. For all areas of human activity, a balance has to be struck between the benefits and the costs of risk-taking. In the case of OSH, this complex balance is influenced by many factors, such as scientific and technological progress, changes in the working environment and economic trends.

2.2. Risk assessment

20. The essential purpose of OSH is to prevent occupational accidents, injuries and diseases by managing occupational hazards and risks. Procedures for hazard identification and risk evaluation have to be conducted to identify what could cause harm to workers and property so that appropriate preventive and protective measures can be developed and implemented. The five-step generic risk assessment method shown below ¹ illustrates the risk management process.

Box 2	
Five-step risk management process	
Step 1.	Identify the hazards
Step 2.	Decide who might be harmed and how
Step 3.	Assess the risks and decide on precautions
Step 4.	Record and implement findings
Step 5.	Review the assessment and update if necessary

¹ United Kingdom Health and Safety Executive: *Five steps to risk assessment*, INDG163 (rev3), revised June 2011, www.hse.gov.uk/pubns/indg163.pdf.

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21. Identified risks should be assessed using a risk matrix to determine the level of risk on the basis of the probability of occurrence and the seriousness of the consequences. The risk assessment process is flexible enough to be adapted to the operations of an entire ship, to specific work units and to available resources and skills. Assessment of occupational risks is a crucial element in selecting effective preventive and protective measures to plan and organize work and to reduce exposure to hazards. Risk assessments should be conducted when working methods, processes or personnel are changed, to ensure that safety procedures are appropriate and are implemented. It is also important to conduct risk assessments after accidents, incidents or near misses to ensure that systems and procedures are improved to prevent future problems.
22. The term “safety culture”² may be defined as the product of the individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organization’s health and safety programmes.³ Involving all members of the work team in the five-step risk assessment process is an integral part of good safety culture, and makes implementation easier and more effective as everyone takes ownership of their unique role in promoting safety. All members of the work team should have adequate experience and skills to participate in the assessment and follow its recommendations to work safely.

2.3. Principles of prevention

23. The ILC adopted at its 91st Session (2003) a global strategy on occupational safety and health designed to promote the implementation of ILO OSH standards.⁴ The strategy emphasized the need for tripartite participation and national action to adopt a preventive approach to OSH, which is key to achieving lasting improvements in safety and health at work. Similarly, the MLC, 2006, endorses the implementation of preventive measures, programmes, inspection and reporting systems for the management of OSH on board ships.⁵ Preventive principles involve combating risk at the source, adapting work to the individual – especially in the design of workplaces – and replacing the dangerous by the non-dangerous or the less dangerous. Prevention should take precedence over protective equipment for seafarers.⁶

² IMO: *Safety Culture*, <http://www.imo.org/OurWork/HumanElement/SafetyCulture/Pages/Default.aspx>.

³ United Kingdom Health and Safety Commission: *Third report: Organizing for safety*, ACSNI Study Group on Human Factors (London, HMSO, 1993).

⁴ ILO: *Global strategy on occupational safety and health*, Conclusions adopted by the International Labour Conference at its 91st Session, Geneva, 2003, http://www.ilo.org/safework/info/policy-documents/WCMS_107535/lang--en/index.htm.

⁵ MLC, 2006, Standard A4.3, para. 1.

⁶ MLC, 2006, Guideline B4.3.1, para. 3. This hierarchy in the implementation of preventive measures is at the core of OSH principles and is included in many regulations and guidelines, among them the ILO *Guidelines on occupational safety and health management systems* (ILO–OSH 2001). Another good example is the European Union’s *Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work*, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01989L0391-20081211&qid=1403702359336>.

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- 24.** Prevention principles are based on collective, rather than individual, preventive methods. The preferred sequence or hierarchy of collective risk control measures is:
- (1) elimination;
 - (2) substitution;
 - (3) isolation or combating of risk at the source;
 - (4) technical or engineering controls; and
 - (5) organizational measures.
- 25.** Technical controls could include automation, closed systems, ventilation, local extraction and encapsulation of the workplace. The choice of working methods and tools also has a major impact on the level of exposure. For example, the use of preheating systems or high-pressure cleaning systems can increase exposure to chemicals. The use of appropriate tools, such as a suitable mop for cleaning, reduces the ergonomic and chemical hazards for cleaning.
- 26.** Organizational measures could include separating a workplace from other workplaces, appropriate maintenance of equipment, provision of special instructions and limiting working time on a job.
- 27.** Individual prevention or use of PPE only protects the person who is using the equipment, assuming the equipment is used appropriately. It may be uncomfortable, unsuitable or even harmful to wear for lengthy periods. For these reasons, PPE should be used only when other measures provide insufficient protection from exposure. The competent authority should consider establishing time limits for carrying out job duties which require the use of PPE for particular tasks. Personal hygiene is also important, for example, washing after handling chemicals.

2.4. OSH management systems

- 28.** OSH management systems provide a method for assessing and improving the prevention of workplace incidents and accidents through the management of occupational hazards and risks. They are frequently based on the principle of the “plan-do-check-act” (PDCA) approach, designed to continuously monitor performance.⁷
- (1) **Plan** involves the setting of an OSH policy, including the allocation of resources, acquisition of skills and organization of the system, and hazard identification and risk assessment.
 - (2) **Do** refers to the actual implementation and operation of the OSH programme.
 - (3) **Check** means measuring both the active and reactive performance of the programme.
 - (4) **Act** closes the cycle with a review of the system for the purposes of continual improvement and priming of the system for the next cycle.

⁷ Also known as a Deming cycle. ILO: *OSH Management System: A tool for continual improvement*, 2011, http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_153930.pdf.

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29. The PDCA approach supports the implementation of OSH management systems in organizations by helping them to adapt to changing circumstances and make continuous safety improvements. PDCA principles can be applied to safety policies, OSH management, assignment of responsibilities, demonstration of skills and competence, and compliance with safety regulations on board ships. ILO documentation ⁸ and other industry guidance ⁹ provide information on detailed risk-assessment procedures.
30. The principles and systems described above apply to all workplaces. Occupational risk-assessment processes are essential to OSH laws, regulations and other guidance whose ultimate objective is to protect the safety and health of workers. To ensure continuous improvement in safety, the competent authority should ensure that shipowners develop OSH management systems and risk-assessment procedures to provide a safe occupational environment for seafarers on ships that fly their flag. ¹⁰

⁸ ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996.

⁹ United Kingdom Maritime and Coastguard Agency: *Code of Safe Working Practices for Merchant Seamen*, consolidated edition, 2010, <http://webarchive.nationalarchives.gov.uk/20121107103953/http://www.dft.gov.uk/mca/coswp2010.pdf>; Maritime New Zealand: *Safety Guidelines: Passenger and non-passenger vessels*, 2007, <http://www.maritimenz.govt.nz/Publications-and-forms/Commercial-operations/Shipping-safety/Health-and-safety/Safety-guidelines-Passenger-non-passenger-vessels.pdf>; Singapore Workplace Safety and Health Council: *Workplace Safety & Health Manual for Marine Industries*, 2009, https://www.wshc.sg/wps/themes/html/upload/cms/file/WSH_Manual_Marine_Industries.pdf; International Association of Classification Societies Ltd: *Recommendation No. 127: A guide to risk assessment in ship operations*, June 2013, <http://www.iacs.org.uk/publications/publications.aspx?pageid'4§ionid'5>.

¹⁰ MLC, 2006, Standard A4.3, para. 2, inter alia, refers to taking into account relevant international instruments dealing with safety and health protection in general and with specific risks.

3. The importance of maritime occupational safety and health

3.1. Maritime occupational safety and health

- 31.** The maritime working environment comprises the physical, ergonomic, chemical, biological, psychological and social elements which could lead to occupational accidents, injuries and diseases. Seafarers face demanding working conditions, isolation, long hours of work, rigid organizational structures and high levels of stress and fatigue. They must also learn to communicate with others in multinational crews.¹ Alcohol and drug abuse, violence and harassment, and infectious diseases such as HIV/AIDS are further potential problems. International labour standards, national laws, codes of practice and other specialized guidance documents provide information on the types of hazards that may be encountered on ships and the relevant preventive and protective measures to help ensure that the working and living environment for seafarers is as safe and healthy as possible.
- 32.** Shipping is perceived to be a relatively dangerous industry. However, there is a lack of statistics in the area of maritime occupational safety and health (MOSH) due to the limited accessibility and reliability of reports of occupational accidents, incidents and diseases in flag States. This is mostly as a result of significant differences in data collection methodologies, poor recording, limited coverage, and limited statistics on the overall seafarer population. Despite the national reporting requirements under ILO occupational safety and health Conventions, comprehensive statistics concerning occupational accidents, injuries and diseases are very difficult to find. Nevertheless, some figures point to a downward trend in the number of fatalities.

3.2. Economic incentives to implement the OSH provisions of the MLC, 2006

- 33.** Seafarers must be physically and mentally healthy to be able to work safely and productively. Furthermore, in view of the shortage of qualified seafarers in some countries, many shipowners recognize the competitive advantage of improving safety on board ships to retain experienced seafarers and to attract young women and men to work in the maritime sector.
- 34.** The interest in the economics of OSH is relatively recent.² The ILO has estimated that every day, 6,300 people die as a result of occupational accidents or work-related diseases – more than 2.3 million deaths per year. The human cost can be devastating to workers' families and their communities, while the economic burden of poor OSH practices is

¹ Studies on the various issues related to the transnational composition of ship crews are available on the Seafarers' International Research Centre website, http://www.sirc.cf.ac.uk/SIRC_free_online_reports.aspx.

² ILO: *Estimating the economic costs of occupational injuries and illnesses in developing countries: Essential Information for decision-makers*, ILO Programme on Safety and Health at Work and the Environment (SafeWork), 2012, http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_207690.pdf.

estimated at 4 per cent of global gross domestic product each year.³ There is significant evidence that, in the long term, the most successful and competitive companies are those with the best safety and health records, with healthy workers.⁴

³ Figures taken from: ILO: *Safety and health at work*, <http://www.ilo.org/global/topics/safety-and-health-at-work/lang--en/index.htm>.

⁴ P. Hamalainen, J. Takala and K.L. Saarela: "Global estimates of occupational accidents", in *Safety Science* (2006, vol. 44), pp. 137–156, http://www.upf.edu/cisal/_pdf/doc15.pdf.

4. The responsibilities of the competent authority of the flag State

4.1. Overview

35. The responsibilities and obligations of each Member under the MOSH provisions of the MLC, 2006, and the related Code, can be summarized as:

- (a) ensuring that seafarers on ships that fly its flag are provided with occupational health protection and live, work and train on board ship in a safe and hygienic environment;¹
- (b) developing and promulgating national guidelines for the management of occupational safety and health on board ships that fly its flag,² after consultation with representative shipowners' and seafarers' organizations;
- (c) adopting laws, regulations and other measures and setting standards for occupational safety and health protection and accident prevention on ships that fly its flag³ which:
 - (i) ensure the adoption, effective implementation and promotion of occupational safety and health policies and programmes;⁴
 - (ii) ensure that the design of workplaces takes into account relevant international instruments on occupational safety and health protection in general and on specific risks, and address all matters relevant to the prevention of occupational accidents, injuries and diseases;⁵
 - (iii) take account of the relevant instruments covering OSH protection;⁶
 - (iv) specify the obligation of shipowners, masters, seafarers and others concerned to comply with the applicable standards and safety and health policies and programmes,⁷ paying special attention to young seafarers;⁸

¹ MLC, 2006, Regulation 4.3, para. 1.

² MLC, 2006, Regulation 4.3, para. 2.

³ MLC, 2006, Regulation 4.3, para. 3.

⁴ MLC, 2006, Standard A4.3, para. 1(a); see Chapter 4.2 – National guidelines on MOSH.

⁵ MLC, 2006, Standard A4.3, para. 1(c); see Chapter 7 – Risks from harmful exposure.

⁶ MLC, 2006, Standard A4.3, para. 2(a); see Chapter 2 – Understanding OSH principles and their application in the maritime sector.

⁷ MLC, 2006, Standard A4.3, para. 2(c).

⁸ MLC, 2006, Standard A4.3, para. 2(b); see Chapter 4.3 – MOSH policies and programmes, and Chapter 10 – Particular categories of personnel.

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- (v) establish a safety committee on board each of their ships on which there are five or more seafarers;⁹ (to emphasize the importance of promoting seafarers' health as well as accident prevention, this document refers to the committee as a safety and health committee);
 - (vi) specify the authority of the seafarers appointed or elected as safety representatives to participate in the work of the ship's safety and health committee;¹⁰
 - (vii) ensure that shipowners conducting risk assessments refer to appropriate statistical information from their ships and statistics provided by the competent authority;¹¹
 - (viii) ensure that national policies, programmes, legal standards and other measures are regularly reviewed in consultation with the shipowners' and seafarers' organizations;¹²
 - (ix) ensure that occupational accidents, injuries and diseases are adequately reported, that comprehensive statistics of such accidents and diseases are kept, analysed and published, and that occupational accidents are investigated;¹³ and
 - (x) ensure that reporting and investigation of occupational safety and health matters are designed to ensure the protection of seafarers' personal data.¹⁴

4.2. National guidelines on MOSH

36. In accordance with Regulation 4.3, paragraph 2, national guidelines for the management of occupational safety and health on board ship must:¹⁵

- (a) be developed and promulgated after consultation with representative shipowners' and seafarers' organizations; and
- (b) take into account applicable codes, guidelines and standards recommended by international organizations, national administrations and maritime industry organizations.

⁹ MLC, 2006, Standard A4.3, para. 2(d); see Chapter 6 – The safety and health committee.

¹⁰ *ibid.*

¹¹ MLC, 2006, Standard A4.3, para. 8; see Chapter 8 – Reporting and investigation of occupational accidents, injuries and diseases.

¹² MLC, 2006, Standard A4.3, para. 3; see Chapter 4.5 – Consultation with shipowners' and seafarers' organizations, and Chapter 4.6 – Periodic review.

¹³ MLC, 2006, Standard A4.3, para. 5; see Chapter 8 – Reporting and investigation of occupational accidents, injuries and diseases.

¹⁴ MLC, 2006, Standard A4.3, para. 6; see Chapter 4.7 – Privacy and protection of seafarers' personal data and fair treatment.

¹⁵ MLC, 2006, Regulation A4.3, para. 2; Guideline B4.3.1, para. 2.

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37. The competent authority could itself develop national guidelines, or delegate the task to other duly recognized organizations, occupational health services or consultancies.

4.3. MOSH policies and programmes

4.3.1. Implementation

38. The MLC, 2006, provides that each Member shall adopt relevant laws and regulations and other measures to effectively implement and promote occupational safety and health policies and programmes.¹⁶ These should include risk evaluation as well as training and instruction of seafarers.¹⁷ Accordingly, on-board programmes for the prevention of occupational accidents, injuries and diseases should be established.¹⁸
39. Existing policies, programmes and laws may need to be supplemented or adapted to satisfy the requirements of the MLC, 2006. Some policies, programmes and legal standards may also overlap with requirements of IMO conventions.
40. Shipowners providing appropriate protective equipment, or other accident prevention safeguards, should require seafarers to use them appropriately and to comply with accident prevention and safety and health protection measures.¹⁹

4.3.2. Content

41. National policies and programmes on MOSH should cover all seafarers on board ships that fly the State's flag and all aspects of seafarers' safety and health on board. Measures to establish a reporting system for accidents, injuries and diseases should also specify who should file reports: for example, the shipowner, medical doctors or other medical personnel.
42. National policies, programmes and other measures should ensure that:
- (a) working, living and training environments on ships are safe and hygienic and conform to national laws and other measures for occupational safety and health protection and accident prevention on board ship;²⁰
 - (b) reasonable precautions are taken on ships to prevent occupational accidents, injuries and diseases, including measures to reduce and prevent the risk of exposure to harmful levels of ambient factors and chemicals and the risk of injury or disease resulting from the use of equipment and machinery on board;²¹

¹⁶ MLC, 2006, Standard A4.3, para. 1(a).

¹⁷ *ibid.*

¹⁸ MLC, 2006, Standard A4.3, para. 1(c); Guideline B4.3.7.

¹⁹ MLC, 2006, Guideline B4.3.4, para. 1.

²⁰ MLC, 2006, Regulation 4.3, para. 1.

²¹ MLC, 2006, Standard A4.3, paras 1(b) and 2(a).

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- (c) on-board OSH policies and programmes provide for continuous improvement in prevention, and take particular concern for the health of young seafarers;²²
 - (d) preventive measures, including engineering and design control, include the substitution of processes and procedures for collective and individual tasks, and use of personal protective equipment;²³
 - (e) a safety and health committee is established on board ships with five or more seafarers, and includes seafarer representatives;²⁴
 - (f) mechanisms for inspecting, reporting and correcting unsafe conditions and for investigating and reporting on-board occupational accidents, injuries and diseases are established and statistics are maintained, analysed and published;²⁵
 - (g) shipowners conduct risk evaluation for OSH management, taking into account relevant statistical data;²⁶
 - (h) seafarers are trained and instructed.²⁷

4.3.3. Promotion

- 43.** Research should be undertaken to identify trends and hazards in order to create a basis for measures to promote OSH protection and prevention of accidents, injuries and diseases.²⁸ Publishing the results of such research and disseminating knowledge of new trends and hazards are ways of promoting national policies and programmes. A further means of promotion would be to publish statistics on occupational accidents, injuries and diseases, as well as good practices and lessons learned.²⁹
- 44.** The shipowners' and seafarers' organizations should also actively promote safety and health initiatives.

4.4. International cooperation

- 45.** Members should cooperate internationally for the purposes of harmonizing action to promote OSH protection and accident prevention.³⁰ In developing programmes to promote

²² MLC, 2006, Standard A4.3, paras 1(c) and 2(b); Guidelines B4.3.7 and B4.3.8.

²³ MLC, 2006, Standard A4.3, para. 1(c).

²⁴ MLC, 2006, Standard A4.3, para. 2(d).

²⁵ MLC, 2006, Standard A4.3, para. 5; Guidelines B4.3.5 and B4.3.6.

²⁶ MLC, 2006, Standard A4.3, paras 1(a) and 8.

²⁷ MLC, 2006, Standard A4.3, para. 1(a); Guidelines B4.3.9 and B4.3.10.

²⁸ MLC, 2006, Guideline B4.3.7.

²⁹ MLC, 2006, Guideline B4.3.5; see Chapter 8 – Reporting and investigation of occupational accidents, injuries and diseases.

³⁰ MLC, 2006, Guideline B4.3.11.

MOSH, relevant ILO codes of practice and the standards of other international organizations should also be consulted.

46. The ILO and the IMO have developed standards to assist member States in promoting safety and health in the maritime sector. Moreover, the member States have cooperated in the drafting of numerous technical standards, guidelines and reports. One example of a universally applicable technical standard initiated by the ILO fostering worldwide cooperation is the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).³¹ The ILO's 2009 General Survey on ILO standards on occupational safety and health³² provides further information.

4.5. Consultation with shipowners' and seafarers' organizations

47. National guidelines for the management of OSH on board ships should be developed only after consultation with representative shipowners' and seafarers' organizations. The consultations should allow shipowners and seafarers and their representatives and other appropriate bodies to play an active role.³³ If such processes or committees are not already in place, they should be established. Tripartite review of policies and legislation ensures that the interests and concerns of shipowners and seafarers are reflected in maritime OSH programmes.
48. Representative shipowners' and seafarers' organizations should also promote the implementation of the national guidelines for the management of OSH on board ships, for example by means of:
- (a) information sessions;
 - (b) on-board safety guidelines;
 - (c) systematic risk evaluation processes;
 - (d) national or local joint OSH protection and accident prevention committees or ad hoc working parties; and
 - (e) on-board safety committees which include seafarers' representatives.

4.6. Periodic review

49. National policies, programmes, legal standards and other measures for the management of OSH should be reviewed regularly, after consultation with shipowners' and seafarers' organizations, in the light of research, development and new technology to facilitate

³¹ United Nations Economic Commission for Europe (UNECE): *Globally harmonized system of classification and labelling of chemicals (GHS)*, http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html.

³² General Survey on ILO standards on occupational safety and health.

³³ MLC, 2006, Guideline B4.3.7, para. 2.

continuous improvement and new means of achieving the goal-based standards³⁴ of the Convention.³⁵

- 50. Given the fast pace of technological progress and new work methods, regulatory systems should be reviewed periodically to ensure that MOSH policies and programmes remain relevant.³⁶
- 51. Any problems identified should be addressed in the review of policies, programmes, legal standards and other measures. New developments and technology should be considered when defining goals and methods of achieving them. This also corresponds to objectives in the ISM Code³⁷ on continuous improvement of systems and skills, which should be an integral part of any policy and programme promoting OSH.

4.7. Privacy and protection of seafarers' personal data and fair treatment

- 52. Under the MLC, 2006, the competent authority must ensure that the reporting and investigation of OSH matters respect the confidentiality of seafarers' personal data – such as medical data – in accordance with national laws, regulations, conditions and practice, and are consistent with the Convention.³⁸ It should also take account the relevant ILO guidance.³⁹
- 53. The competent authority should ensure that seafarers are entitled to protection against coercion and intimidation from any source during or after any maritime investigation. The maritime investigation should not prejudice a seafarer in terms of repatriation, lodgings, subsistence, payment of wages and other benefits, and medical care; these should be provided at no cost to the seafarer by the shipowner, the detaining flag State or an appropriate flag State.⁴⁰

³⁴ A similar concept has been adopted by the IMO: see <http://www.imo.org/OurWork/Safety/SafetyTopics/Pages/Goal-BasedStandards.aspx>.

³⁵ MLC, 2006, Standard A4.3, para. 3; Guideline B4.3.7, para. 1.

³⁶ MLC, 2006, Guidelines B4.3.7 and B4.3.11.

³⁷ ISM Code, section 1.2.2.3.

³⁸ MLC, 2006, Standard A4.3, para. 6.

³⁹ ILO: *Recording and notification of occupational accidents and diseases*, 2006, http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/normative_instrument/wcms_107800.pdf.

⁴⁰ IMO: resolution LEG.3(91), *Adoption of guidelines on fair treatment of seafarers in the event of a maritime accident*, <http://www.imo.org/OurWork/Legal/JointIMOILOWorkingGroupsOnSeafarerIssues/Documents/2711.pdf>; and resolution MSC.255(84), *Adoption of the code of the international standards and recommended practices for a safety investigation into a marine casualty or marine incident* (Casualty Investigation Code), 2008 edition, as amended, Chapters 23 and 24, <http://www.imo.org/OurWork/Safety/Implementation/Casualties/Documents/Res.%20MSC.255%20884%29%20Casualty%20Investigation%20Code.pdf>.

5. The responsibilities of shipowners and seafarers

5.1. Shipowners' responsibilities and obligations

54. Standard A4.3 of the MLC, 2006,¹ provides that national laws and regulations and other measures implementing the health and safety provisions of the MLC, 2006, must “clearly specify the obligation of shipowners ... to comply with the applicable standards and with the ship’s occupational safety and health policy and programme ...”. The ISM Code also provides that shipowners should establish a safety management system and develop good safety management practices.

55. Shipowners typically entrust the master with the responsibility for day-to-day safety and health management while at sea. Shipowners should ensure that the masters have adequate support to perform their duties effectively.

56. Establishing a safety culture with high standards for safety and health on board ship requires planning and organization and the cooperation and support of management and seafarers. Therefore, shipowners should consult with seafarers and their organizations on the drafting and implementation of safety and health policies.

57. Shipowners should:

- (a) establish suitable policies and programmes on the safety and health of seafarers which are consistent with international and national laws and regulations, and put in place systems for continuous improvement;
- (b) ensure that the design of the workplace on board takes into account prevention principles and technical progress in the industry, and conforms to relevant international and national laws, regulations, standards or codes of practice;
- (c) set up a safety and health committee as required by the competent authority;
- (d) ensure that the members of the safety and health committee:
 - (i) receive information and have an opportunity to make proposals for safety and health matters;
 - (ii) have access to the mandatory lists and descriptions of events contained in reports of occupational accidents, incidents and diseases on board the ship and all relevant ship reports;
 - (iii) have access to the information on hazards or potential hazards which is known to the shipowner and master, and to all relevant publications by the IMO, ILO and other international organizations;
 - (iv) have reasonable time available to handle their safety duties;

¹ MLC, 2006, Standard A4.3, para. 2(b).

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- (v) are given opportunities during their working hours to acquire the necessary knowledge or training on safety and health issues;
 - (vi) are consulted about the planning and alteration of work on board and the introduction of new technology which may have consequences for safety and health, including the choice of equipment, PPE and technical aids;
 - (vii) are not subjected to dismissal or other prejudicial measures for conducting functions assigned to their role;
 - (viii) obtain the necessary support, resources, skills and competences to conduct thorough marine accident and incident investigations and root cause analyses;²
- (e) ensure the necessary funds are made available for safe and healthy working conditions on board. The shipowner should pay all expenses related to the assignments of the safety and health committee, including reimbursing the expenses and lost wages for members' required participation in OSH courses;
 - (f) provide adequate communication on safety and health matters on ships with fewer than five crew members;
 - (g) ensure that the on-board safety management system contains the necessary guidelines and processes to report and investigate occupational accidents, injuries and, where applicable, diseases;³
 - (h) establish systems to conduct on-board investigations into occupational accidents, injuries and, where applicable, diseases and provide reports to the competent authority;
 - (i) share knowledge from the conclusions of the investigation reports across their fleet of ships to avoid recurrences;
 - (j) provide adequate information, training and instructions to seafarers regarding safety and health hazards and preventive and protective measures related to work processes, which should be presented in an easily understandable form and simple language;
 - (k) ensure that masters and all seafarers are fully aware of their responsibilities on board which could affect safety and health;
 - (l) provide each ship with the necessary equipment, tools, manuals and other information to ensure that all operations are conducted in such a manner as to minimize any adverse effects on seafarers' safety and health to the extent necessary, and provide adequate PPE⁴ and other safeguarding equipment⁵ to their seafarers;⁶

² ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996.

³ ISM Code, section 9.

⁴ UNECE: *Globally harmonized system of classification and labelling of chemicals (GHS)*.

⁵ United States National Institute for Occupational Safety and Health (NIOSH): *Personal Protective Equipment*, <http://www.cdc.gov/niosh/ppe/>.

⁶ MLC, 2006, Guideline B4.3.4.

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- (m) organize and plan all operations, taking into account the size of the crew, the expected period of work and the prevailing conditions on board, so as to prevent risk of accident or injury to seafarers, and to:
 - (i) prevent dangers likely to arise on board ship;
 - (ii) avoid excessively or unnecessarily strenuous work positions and movements;
 - (iii) ensure that materials, products and working methods are used safely and pose no danger in the short or longer term to the safety or health of seafarers;⁷
 - (iv) guarantee a tolerable workload and reasonable hours of work, including reasonable rest periods during working hours,⁸ recognizing fatigue⁹ as a potential hazard;
 - (n) ensure that machinery is used only when it is properly guarded.¹⁰

- 58.** Shipowners should recognize the link between shipboard safety and decent working and living conditions on board, including good management and communication between ship and shore, rest periods, accommodation and nutrition.
- 59.** Shipowners should establish a system to report on and analyse near-miss incidents and should share the knowledge gained throughout the company as appropriate. Shipowners may also encourage seafarers to report all unsafe and unhealthy conditions or operations.¹¹
- 60.** Shipowners should provide accommodation and recreational services, in accordance with Regulation 3.1 and Standard A3.1, which are safe, promote the seafarers' health and well-being, and are inspected to ensure initial and ongoing compliance with minimum standards, including Regulation 4.3 and the associated provisions of the Code of the MLC, 2006.

5.2. The master's duties and responsibilities

- 61.** The ship's master should ensure that:

- (a) the shipowner's safety and health policy and programme is implemented on board ship and clearly communicated to all crew;¹²

⁷ See Chapter 7.

⁸ MLC, 2006, Regulation 2.3.

⁹ MLC, 2006, Guideline B4.3.1, paras 2 and 3.

¹⁰ MLC, 2006, Guideline B4.3.4, para. 2, refers to Articles 7 and 11 of the Guarding of Machinery Convention, 1963 (No. 119), and the corresponding provisions of the Guarding of Machinery Recommendation, 1963 (No. 118).

¹¹ ISM Code, section 9; IMO: *Guidance on near-miss reporting*, MSC-MEPC.7/Circ.7, 10 October 2008, <http://www.imo.org/OurWork/Safety/Implementation/Casualties/Documents/MS%20MEPC.7-circ.7.pdf>.

¹² ISM Code.

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- (b) a culture of safety exists on the ship, including reasonable precautions and continuous safety improvement to prevent occupational accidents, injuries and diseases on board ship;
 - (c) seafarers are encouraged to participate actively and express their views on safe and healthy working conditions and risk evaluations, without fear of dismissal or other prejudicial measures;
 - (d) work is planned, carried out and supervised so as to minimize the possibility of accidents, injuries or diseases;
 - (e) seafarers are assigned only to work to which they are suited by age, state of health and skills,¹³ and no young person under the age of 18 is assigned inappropriate duties;¹⁴
 - (f) appropriate notices and instructions are issued in a clear and easily understood manner, in a language or languages verified to be understood by the entire crew;¹⁵
 - (g) safety equipment, including all emergency and protective equipment, is maintained in good order and stowed properly;
 - (h) all statutory drills and musters are conducted realistically, effectively and conscientiously at the required intervals and comply with any applicable rules and regulations;
 - (i) practice and training is given in emergency procedures and special emergency equipment usage is demonstrated to the crew at regular intervals;
 - (j) operating manuals, vessel plans, national laws and regulations, safety procedures and so on are available to seafarers requiring such information to conduct their work safely;
 - (k) one or more safety and health officers are appointed, and regular meetings of the safety and health committee are held on board a ship on which there are five or more seafarers. If such a committee is not required, information on safety and health should be communicated in other ways;
 - (l) all seafarers on board as well as the shipowner are informed of the membership of the safety and health committee, and its members meet the training requirements and can perform their duties;¹⁶
 - (m) the safety and health committee is informed of notices issued by both the competent authority and the shipowner related to the safety and health of seafarers;

¹³ See Chapter 10 – Particular categories of personnel.

¹⁴ *ibid.*

¹⁵ MLC, 2006, Standard A4.3, para. 7.

¹⁶ See Chapter 6.

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- (n) all accidents or near accidents, injuries and diseases are investigated, recorded and reported in compliance with national laws and regulations and the shipowner's procedures.¹⁷

5.3. Seafarers' responsibilities

62. Seafarers should:

- (a) actively participate in promoting a safety culture and express their views on safe and healthy working conditions and risk evaluations;
- (b) cooperate with the master and the shipowner to implement prescribed safety and health policies and other measures;
- (c) participate in safety and health meetings and do everything possible to maintain both their own safety and health and those of other persons on board;
- (d) properly use the preventive principles and utilize available PPE and clothing when appropriate;¹⁸
- (e) use only machinery that is properly guarded and not render the guards inoperative;¹⁹
- (f) report immediately to their immediate supervisor any situation which could pose a hazard and which they cannot properly handle themselves;
- (g) have the right to remove themselves from dangerous situations or operations when they have good reason to believe that there is an imminent and serious danger to their safety and health. In such circumstances, the competent officer should be informed of the danger immediately;
- (h) communicate effectively regarding potential safety risks, ensure that the instructions they issue are understood by all seafarers, and seek clarification when communications are unclear.

63. Except in an emergency, seafarers, unless duly authorized, should not interfere with, remove or displace any safety device or other equipment and appliances furnished for their protection or the protection of others, or interfere with any method or process adopted to prevent accidents, injuries and diseases.

¹⁷ ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996.

¹⁸ MLC, 2006, Guideline B4.3.4, para. 1.

¹⁹ MLC, 2006, Guideline B4.3.4, para. 2, refers to Articles 7 and 11 of the Guarding of Machinery Convention, 1963 (No. 119), and the corresponding provisions of the Guarding of Machinery Recommendation, 1963 (No. 118).

6. The safety and health committee

6.1. Introduction

- 64.** Standard A4.3, paragraph 2(d), requires the establishment of a safety committee and the appointment or election of safety representatives on board ships on which there are five or more seafarers.¹ This chapter provides information concerning the safety and health committee which, although not found in the MLC, 2006, may be useful in developing national requirements.

6.2. Purpose and objective

- 65.** The purpose and objective of a safety and health committee is to ensure that senior management, other managers, officers, crew and other employees on ships work together to develop and promote safety and health, including mental well-being, and to address problems related to the ship's working environment. This collaborative effort between the shipowner administration and the seafarers should facilitate the implementation of the shipowner's safety and health policy and programme.

6.3. Composition and responsibilities

- 66.** For ships with five or more crew members, the committee should include the master and at least one safety and health officer and representative. The master should chair the committee, unless otherwise decided by the shipowner. The following figures suggest a representative composition based upon the number of crew members:
- (a) for ships with five to 15 crew members: the master, one safety and health officer and one safety and health representative;
 - (b) for ships with 16 to 29 crew members: as above, plus one additional officer and representative, so that the deck, engine, or other departments where most ratings are working are represented;
 - (c) for ships with more than 30 crew members: as above, plus one additional officer and representative from each department where ratings are working.
- 67.** For ships with less than five crew members, the master should ensure that the work on board is performed safely by means of instruction, training and supervision.

¹ A ship's master is a seafarer.

Figure 1. Suggested committee composition for a crew of five to 15

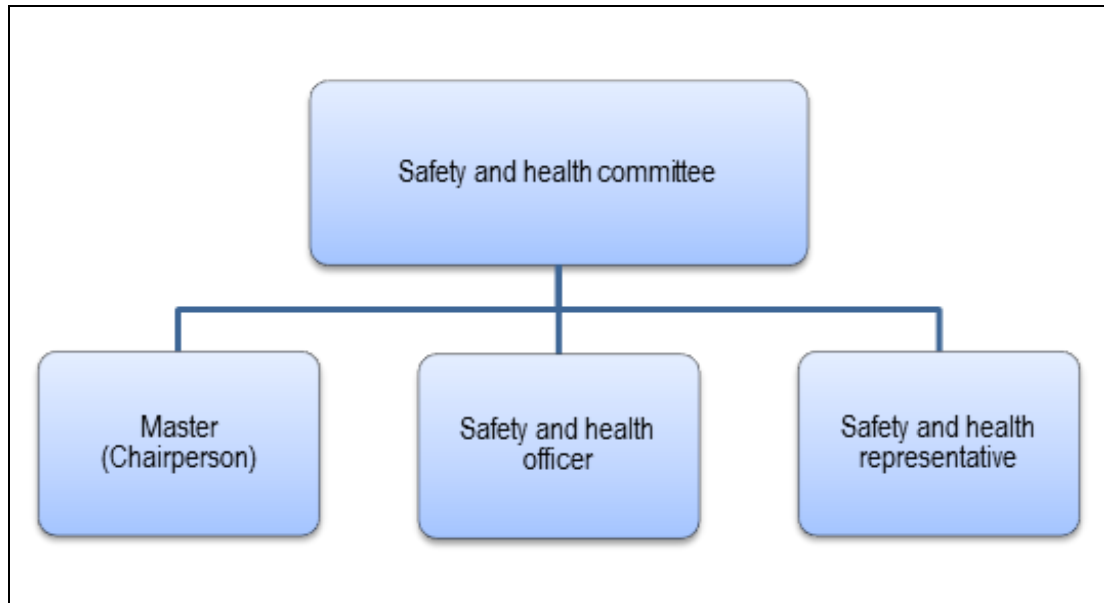
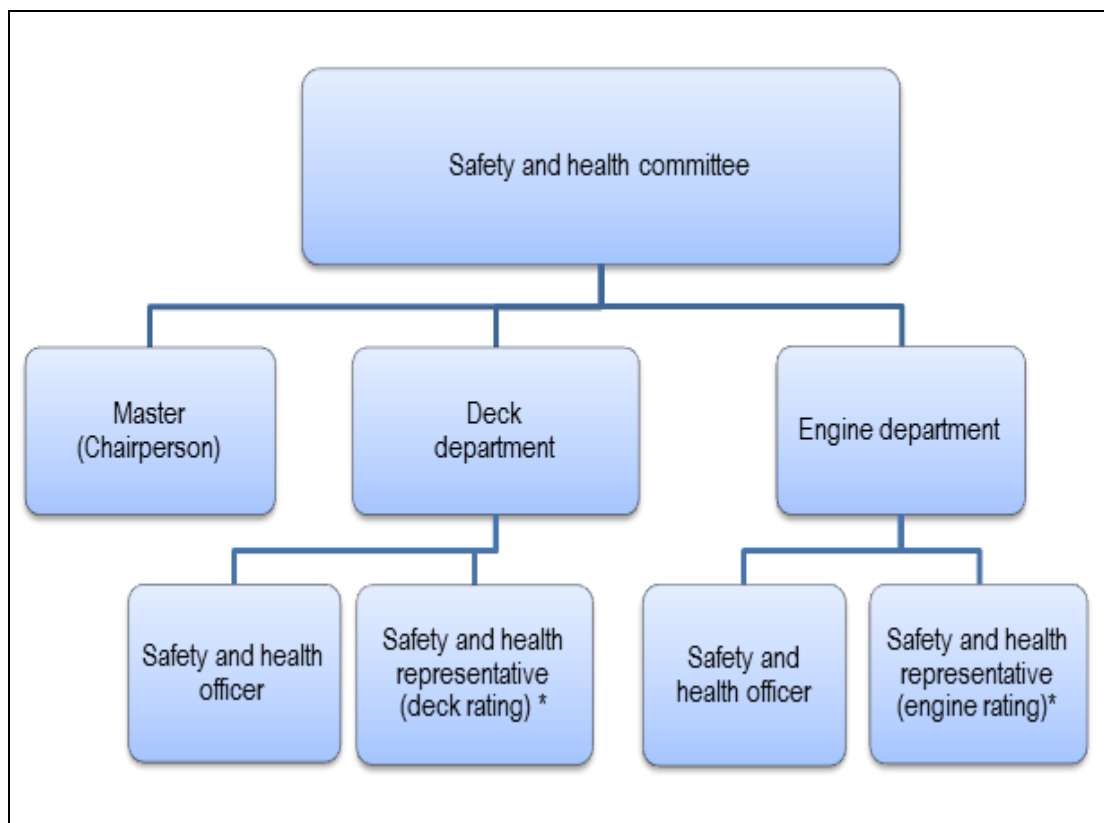
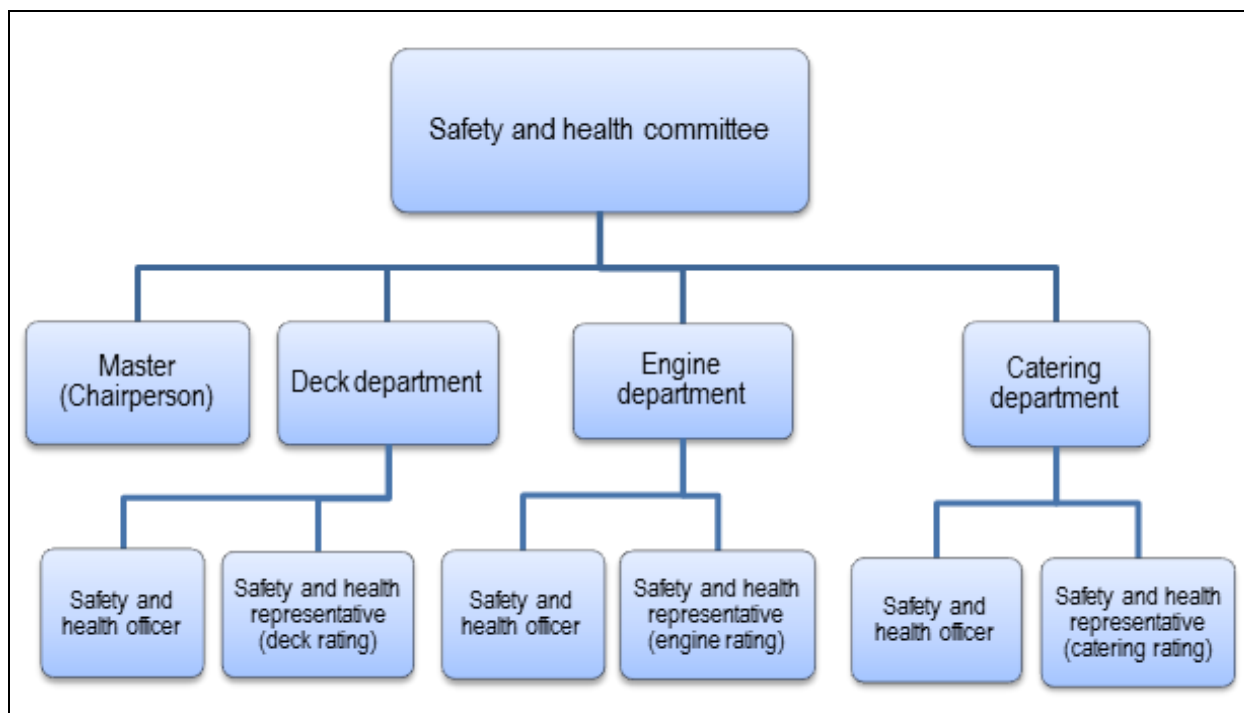


Figure 2. Suggested committee composition for a crew of 16 to 29



* One rating from each department or field of work where most ratings are employed.

Figure 3. Suggested committee composition for a crew of 30 or more



68. The duties and responsibilities of the safety and health committee should include, but are not limited to:

- (a) implementing the shipowner's safety and health policy and programme. The committee should provide seafarers with a forum to influence safety and health matters;²
- (b) planning, managing and coordinating safe and healthy working conditions on board. The committee should take all preventive measures important to the safety and health, including the mental well-being, of seafarers, and provide advice to resolve safety and health problems;
- (c) immediately investigating, identifying and analysing occupational accidents, injuries and diseases;
- (d) implementing measures to prevent any recurrence, after consultation with the shipowner;
- (e) keeping up to date on the safety and health provisions for the protection of seafarers;
- (f) contributing to defining principles for appropriate and necessary training and instructions specific to on-board working conditions;
- (g) continuously inspecting the observance of safety procedures;
- (h) cooperating with the relevant occupational health service;

² ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996.

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- (i) making representations and recommendations on behalf of the crew through the master to the shipowner;
 - (j) discussing and taking appropriate action in respect of any safety and health matter affecting the crew, and evaluating appropriate protective and safety equipment, including lifesaving equipment.

6.4. Safety and health committee meetings

- 69.** Meetings should be held regularly, at a minimum once every quarter. It is recommended that the safety and health committee on board should be consulted prior to contacting the shipowner for assistance in resolving safety and health problems. However, acute safety and health matters should be dealt with promptly. The chairperson should also convene meetings when two or more committee members request a meeting to address a particular issue. The competent authority should define the frequency of meetings appropriate to ensuring continuous safety improvement.
- 70.** Meetings should also be convened after serious accidents or incidents as part of the regular investigation and reporting procedures. It is also recommended that near misses should be treated as opportunities for safety improvement to prevent future accidents or incidents from harming seafarers or causing damage to the ship.
- 71.** To avoid any delays between committee meetings, safety and health representatives and officers should communicate regularly to identify potential or existing safety and health issues and endeavour to resolve them. In so doing, they should cooperate with those responsible for tasks in the respective departments, including catering.
- 72.** Minutes of the meetings should be distributed to the committee members, made available to employees on board and sent to the shipowner. The content of the minutes should be brought to the notice of the competent authority, upon request.

6.5. Seafarer safety and health representative

- 73.** The competent authority should ensure that shipowners make appropriate arrangements to appoint or elect safety and health representatives.³ The ship's master should record the appointment of safety and health representatives in the ship's official logbook or in the minutes of the committee meeting. To ensure sufficient on-board experience, it is recommended that the safety and health representatives should have more than two years of sea service.⁴
- 74.** The number of safety and health representatives elected or appointed should be based on the size of the crew and the need to adequately represent different departments. The competent authority should define the number of safety and health representatives required. When a safety and health representative is appointed, the shipowner should consult with seafarers' organizations. The following ratios are recommended:

³ MLC, 2006, Standard A4.3 para. 2(d).

⁴ United Kingdom Maritime and Coastguard Agency: *Code of Safe Working Practices for Merchant Seamen*, consolidated edition, 2010.

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- (a) for ships with five to 15 crew members: one representative elected or appointed by the ratings;
 - (b) for ships with 16 to 29 crew members: two representatives elected or appointed by the ratings (one from each department or field of work where most ratings are employed);
 - (c) for ships with more than 30 crew members: three representatives elected or appointed by the ratings (one from each department or field of work, such as the deck, engine room and catering departments, with general-purpose ratings being included in the deck department).

75. Safety and health representatives should:

- (a) be elected by or appointed from the ratings and should participate in meetings of the safety and health committee;
- (b) be allowed sufficient time off from their main shipboard duties without loss of pay to be able to fulfil their functions or receive training;
- (c) not be subject to dismissal or other prejudicial measures for conducting functions assigned to the role;
- (d) have access to all relevant information and documentation, including investigation reports, and all parts of the ship;
- (e) take part in the planning of on-board tasks, including applying preventive measures and conducting risk assessments;
- (f) participate in investigating accidents and incidents;
- (g) have the unrestricted right to communicate directly with the relevant competent authorities and seafarers' organizations;
- (h) receive appropriate training and instructions.

6.6. Safety and health officers

76. On every ship, the master should appoint at least one safety and health officer and should record the appointment in the ship's official logbook. The number of safety and health officers appointed will vary according to the size of the crew. The following ratios are recommended:

- (a) for ships with five to 15 crew members: one safety and health officer;
- (b) for ships with 16 to 29 crew members: two safety and health officers (one from each department or field of work);
- (c) for ships with more than 30 crew members: three safety and health officers (one from each department or field of work, such as the deck, engine room and catering departments).

77. Safety and health officers should:

- (a) implement the ship's OSH policies, programmes and management systems;
- (b) conduct or supervise regular risk assessments and the appropriate follow-up measures to ensure continuous improvement of the health and safety of the working environment;
- (c) work closely with the safety and health representatives to promote a safety culture;
- (d) improve the crew's awareness of safety and health;
- (e) encourage individual employees to behave responsibly to promote proactive safe and healthy working conditions on board, including mental well-being;
- (f) check that chemicals are used only in workspaces and by methods providing effective protection against accidents, injuries and diseases;
- (g) check that machinery, protective equipment and other technical aids are designed and used appropriately to prevent or significantly reduce risk;
- (h) identify and investigate any safety and health problems;
- (i) report investigations to the safety and health committee and to the individual involved, where necessary;
- (j) investigate accidents and incidents and make appropriate recommendations to prevent recurrence of such incidents;
- (k) conduct safety and health inspections; and
- (l) monitor and provide on-board safety and health training of seafarers.

6.7. Training for safety and health committee members

78. Members of a safety and health committee should have completed a course on OSH approved by the competent authority.⁵ Committee members should obtain skills to promote health and maintain safety, to cooperate with other crew members while taking into account cultural diversity, and to assist in resolving issues related to minimizing occupational hazards found in the working environment on board.

⁵ There are no specific provisions on training courses for members of the safety committee in the ILO document, *Accident prevention on board ship at sea and port*, or the IMO's STCW Convention. The following sources may provide some guidance: Danish Maritime Authority, Order No. 770 of 29 August 2003, *Order on working environment training course for members of the safety group in merchant vessels*; United Kingdom Maritime and Coastguard Agency, *Code of safe working practices for merchant seamen*; sections of the STCW Code, 2010, Tables A-II/2 and A-III/2; and IMO: Model Course 3.11, *Marine Accident and Incident Investigation*.

79. On completion of the course, participants should be familiar with:

- (a) the safety management system used on board;
- (b) the tasks of the safety and health committee;
- (c) the rights and responsibilities of members of the safety and health committee;
- (d) how to carry out a risk assessment and management;
- (e) how to provide the necessary advice to resolve safety concerns or problems and to encourage adherence to prevention principles;
- (f) how to investigate incidents and make the appropriate recommendations to prevent the recurrence of such incidents;
- (g) how to obtain relevant information on a safe and healthy working environment from the competent authority and the shipowner;
- (h) effective means of communication with a multinational crew;
- (i) supervision of safety tasks assigned to crew and other personnel on board, and passengers where applicable; and
- (j) the responsibilities and commitment required to promote a safe working environment on board.

7. Risks from harmful exposure

7.1. Exposure to harmful levels of ambient factors

- 80.** Occupational health risks to seafarers arise from exposure to hazards or harmful levels of ambient factors and chemicals. In cases where some risks are unavoidable, policies and procedures should be implemented to minimize exposure to hazards that may cause injuries, diseases or death.¹ Harmful exposure may have short-term and long-term adverse health effects.
- 81.** This chapter updates, adapts and supplements the information in the ILO code of practice, *Ambient factors in the workplace*, in the light of the requirements of the MLC, 2006.² The competent authority should ensure that shipowners implement a safety management system which addresses the topics covered in this chapter.³
- 82.** The competent authority should take reasonable precautions, including measures to reduce or prevent the risk of exposure to harmful levels of ambient factors and chemicals.⁴ Ambient factors are traditionally classified as exposure to noise, vibration, lighting, ultraviolet light, non-ionizing radiation and extreme temperatures on board ships, along with the short- and long-term effects on seafarers. Preventive measures to minimize adverse health effects due to harmful exposure to ambient factors should also be taken into consideration in the provision of accommodation and recreational facilities for seafarers.⁵ The competent authority should ensure that shipowners provide appropriate training and instruction to seafarers on all of the abovementioned risks due to such exposure.⁶

7.2. Noise

- 83.** For the purposes of these guidelines, noise may be defined as all sound which can result in hearing impairment, or which can be harmful to health or be otherwise dangerous.⁷
- 84.** Working in areas with excessive noise may cause accidents, injuries and diseases, and may have the following short- and long-term adverse effects on health:

¹ MLC, 2006, Standard A4.3, para. 1(b).

² ILO: *Ambient factors in the workplace: An ILO code of practice*, Geneva, 2001, http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/normative_instrument/wcms_107729.pdf.

³ ISM Code.

⁴ MLC, 2006, Standard A4.3, para. 1(b); Regulation 3.1; Standard A3.1, paras 4(c) and 6(h).

⁵ MLC, 2006, Regulation 3.1; Standard A3.1, para. 1(b).

⁶ MLC, 2006, Standard A4.3, para. 1(a).

⁷ IMO: *Code on noise levels on board ships*, 2014 edition, adopted by IMO Resolution MSC.337(91) under the provisions of Regulation II-1/3-12 of the SOLAS Convention, entry into force on 1 July 2014, <http://www.imo.org/KnowledgeCentre/IndexofIMOResolutions/Documents/MSC%20-%20Maritime%20Safety/337%2891%29.pdf>.

Table 1. Short- and long-term adverse health effects of exposure to excessive noise

Short-term effects	Long-term effects
<ul style="list-style-type: none">■ stress, including increased adrenaline■ reduced quality of sleep■ rapid heartbeat■ contraction of blood vessels	<ul style="list-style-type: none">■ hearing loss■ tinnitus■ physical and mental discomfort■ stress■ heart disease■ cognitive effects

85. Excessive noise may also interfere with communication on board ship, which could increase the risk of accidents.

86. The competent authority should ensure that shipowners are made aware of the adverse health effects of exposure to excessive noise on the hearing, health, safety and comfort of seafarers and that they seek to reduce shipboard noise to protect seafarers.⁸ Measures to be considered should include:

- (a) instruction of seafarers on the dangers to hearing and health of prolonged exposure to high noise levels and on the proper use of equipment and noise protection devices;
- (b) provision of approved hearing protection equipment to seafarers where necessary; and
- (c) assessment of risks and reduction of levels of exposure to noise in all accommodation and recreational and catering facilities, as well as engine rooms and other machinery spaces.

87. The IMO's Code on noise levels on board ships provides international standards for protection against noise.⁹ It recognizes the need to establish mandatory limits on noise levels for machinery spaces, control rooms, workshops, accommodation and other spaces on board ships.

7.3. Vibrations

88. Vibrations are oscillating movements transmitted through solid material. They may affect the whole body due to the movement of the ship or when working near vibrating machinery, or may be focused on the hands and arms when grasping vibrating tools. They may induce the following adverse health effects, either directly, or indirectly through the impact of reflex muscle activity on body structures:

Table 2. Short- and long-term adverse health effects of exposure to excessive vibrations

Short-term effects	Long-term effects
<ul style="list-style-type: none">■ motion sickness■ body instability■ fatigue	<ul style="list-style-type: none">■ vascular, neurological and/or musculoskeletal damage■ poor blood circulation and circulatory pain■ tingling, numbness or loss of dexterity■ carpal tunnel syndrome■ whole-body vibration: low back pain, sciatic pain, or degenerative changes in the spinal column

⁸ MLC, 2006, Guideline B4.3.2, para. 2.

⁹ IMO: *Code on noise levels on board ships*, op. cit.

89. To reduce exposure to vibrations, principles of prevention should be applied, such as:

- (a) taking into account ergonomic design and minimal vibration when purchasing new tools;
- (b) improving auxiliary equipment, such as using seats which effectively reduce whole-body vibrations and handles which reduce hand–arm vibrations;
- (c) maintaining equipment correctly;
- (d) reducing the time spent working at a particular task; and
- (e) using PPE, such as special gloves.

90. The competent authority should ensure that shipowners are made aware of the adverse effects of exposure to excessive vibration on board ships and its effects on the safety, health and comfort of seafarers, and should seek to reduce excessive vibration on ships to protect seafarers by:¹⁰

- (a) instructing seafarers on the dangers to health of prolonged exposure to high levels of vibrations and on the proper use of equipment and noise protection devices;
- (b) assessing risks and reducing levels of exposure to vibration in all accommodation and recreational and catering facilities, as well as engine rooms and other machinery spaces;
- (c) providing seafarers with approved PPE, where necessary.

91. The competent authority should set an exposure action value – a daily limit on exposure to vibration – for whole-body and hand–arm vibration to protect seafarers from adverse health effects.¹¹

7.4. Artificial lighting

92. Excessive or insufficient artificial lighting or the incorrect positioning of lighting may lead to inappropriate working postures that could harm seafarers or damage property. Lighting should be well placed and sufficient for all working areas on board and the type of work conducted.

93. Adverse health effects associated with inadequate lighting include discomfort in the eyes, headaches, neck strains and temporary blurred vision or after-images (such as black spots caused by glare). Such effects may, in turn, contribute to incidents involving injuries to personnel and damage to property.

¹⁰ *ibid.*; MLC, 2006, Guideline B4.3.3, para. 2.

¹¹ European Agency for Safety and Health at Work: *Workplace exposure to vibration in Europe: An expert review*, 2008, https://osha.europa.eu/en/publications/reports/8108322_vibration_exposure.

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94. Adequate lighting levels should be determined by the competent authority, taking into account national and international standards.¹² In the absence of such standards, the competent authority should be guided by the respective IMO guidelines as amended.¹³
95. The competent authority should ensure that shipowners consider appropriate lighting when planning workspaces and implementing measures to minimize exposure to occupational hazards.

7.5. Ultraviolet light

96. The level of risk to harmful exposure to ultraviolet (UV) light depends upon the intensity of the light, the duration of the exposure, the use of protective clothing and the sensitivity of the seafarer.¹⁴ Shipowners should ensure that all seafarers are aware of possible adverse health effects of harmful exposure to natural and UV light. Use of adequate and appropriate skin protection should be encouraged.
97. Adverse health effects due to such an exposure include premature ageing symptoms among young seafarers, actinic keratosis and cancers such as carcinoma or melanoma.
98. The competent authority should ensure that shipowners consider appropriate protection from UV light when planning work schedules and implementing measures to minimize exposure to occupational hazards.

7.6. Non-ionizing radiation

99. Seafarers may be exposed to non-ionizing radiation – a form of electromagnetic radiation that includes radio, microwave and infrared radiation – when working with various types of equipment, such as radar systems or welding equipment.¹⁵ The level of exposure varies depending on the strength of the fields generated from such equipment and the proximity of the work station. There seems to be limited awareness of the adverse health effects of exposure to non-ionizing radiation.
100. Short-term adverse health effects may include headaches, dizziness and sleep disturbance, which may lead to incidents. Long-term exposure may result in infertility or Alzheimer's disease.
101. The competent authority should ensure that shipowners consider appropriate protection from non-ionizing radiation when planning workspaces and implementing measures to minimize exposure to occupational hazards.

¹² MLC, 2006, Regulation 3.1; Standard A3.1, paras 4(e), 6(g) and 8.

¹³ The IMO has issued guidelines through its Sub-Committee on Ship Design and Equipment, for example: MSC/Circ.834, *Guidelines for engine-room layout, design and arrangement*; and MSC/Circ.982, *Guidelines on ergonomic criteria for bridge equipment and layout*.

¹⁴ M. Oldenburg et al.: "Actinic keratosis among seafarers", in *Archives for Dermatological Research* (2013, Vol. 305(9)), pp. 787–796; Oldenburg et al.: "Extrinsic skin ageing symptoms in seafarers subject to high work-related exposure to UV radiation", in *European Journal of Dermatology*, (2013, Vol. 23), pp. 663–670.

¹⁵ ILO: *Ambient factors in the workplace*, op. cit.

7.7. Extreme temperatures

- 102. Hyperthermia occurs when the human body fails to cool down by regulating its own temperature when exposed to high ambient temperatures and humidity for prolonged periods on some geographical trading routes. Such conditions are also present in engineering spaces on board ships. It is important to note that seafarers suffering from secondary illnesses that involve dehydration are more susceptible to hyperthermia.
- 103. Adverse health effects from hyperthermia include profuse sweating, headaches, dizziness, fainting, lethargy, nausea, cramps in major muscles, rapid breathing and pulse, and high body temperatures.
- 104. Hypothermia occurs when the human body's core temperature falls below 35°C, the point at which normal body function is impaired. Loss of life may occur when the deep body temperature falls below 30°C. Seafarers may be exposed to cold water due to immersion in the sea or exposure to cold air while working on cold geographical trading routes.
- 105. Adverse health effects from hypothermia could include loss of muscle control leading to muscle incoordination; confusion and muddle-headedness; trouble following simple instructions; unconsciousness and, ultimately, death.
- 106. The competent authority should ensure that shipowners consider exposure to extreme temperatures when planning work schedules and implementing measures to minimize exposure to occupational hazards.

7.8. Chemicals

- 107. For the purpose of these guidelines, the term “chemicals” refers to chemical substances – elements and their compounds – and chemical materials – compounds of two or more substances. Chemicals may be in solid, liquid or gas/vapour form. They may be absorbed by the skin in liquid or vapour form or through inhalation of vapours from dust or aerosol sprays.
- 108. Chemicals are regarded as dangerous if they are classified and marked with a hazard symbol or statement,¹⁶ if they have a threshold limit value, or on the basis of their physical/chemical or toxicological properties or their use on board.¹⁷
- 109. Work with chemicals should always be planned and carried out on the basis of an individual and an overall assessment of the short-term and long-term occupational health effects. Harmful chemical exposure could occur during handling, storage, transportation, disposal and other work in close proximity with chemicals such as paints, cleaners or oils. There may also be exposure to chemicals transported either as packaged dangerous goods, or transported in bulk as a gas, liquid or solid (dust).¹⁸ In addition, chemicals may also be developed during work processes, for example by fumes and particles in welding or from vehicle exhausts on roll-on/roll-off ships.

¹⁶ UNECE: *Globally harmonized system of classification and labelling of chemicals (GHS)*.

¹⁷ ILO: *Ambient factors in the workplace*, op. cit., Annex, *Occupational exposure limits*, para. 2.1.

¹⁸ IMO: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code); International Maritime Solid Bulk Cargoes Code (IMSBC Code); International Maritime Dangerous Goods Code (IMDG Code).

110. The short- and long-term adverse effects on health of exposure to chemicals may include:

Table 3. Short- and long-term adverse health effects of exposure to chemicals

Short-term effects	Long-term effects
<ul style="list-style-type: none">■ caustic burns to the skin/eyes■ irritation of skin/eyes■ poisoning■ dizziness■ nausea	<ul style="list-style-type: none">■ allergies■ eczema■ cancer■ damage to the brain/central nervous system■ impaired ability to have healthy children■ damage to other organs, such as liver or kidneys■ occupational asthma■ acute bronchitis

111. The competent authority should:

- (a) define when a chemical is hazardous and where to find safety information about chemicals commonly found on board;
- (b) provide important sources of information on:
 - (i) hazard labelling;¹⁹
 - (ii) safety data sheets for all chemicals, to be obtained from the supplier;²⁰
 - (iii) workplace instructions for chemicals to be used on board ships;
 - (iv) threshold limit values; and
 - (v) exposure scenarios advising seafarers on the safe use of chemicals, to be obtained from the supplier. An exposure scenario describes how a substance may be handled to control exposures to both human health and the environment;²¹
- (c) encourage implementation of prevention principles, such as substituting harmful chemicals²² with less dangerous chemicals. Shipowners should also consider processes which use smaller quantities of materials, fewer chemicals, or safer working practices: for example by using mechanical cleaning instead of degreaser, or water-based paint instead of oil-based paint. Other prevention principles, such as

¹⁹ UNECE, op. cit.; European Commission, *REACH: Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals*, 2013, http://ec.europa.eu/enterprise/sectors/chemicals/reach/index_en.htm.

²⁰ *ibid.*

²¹ European Chemicals Agency: *Safety Data Sheets and Exposure Scenarios*, 2011, http://echa.europa.eu/documents/10162/13644/reach_fs_downstream_users_web_en.pdf and *Guidance on information requirements and chemical safety assessment*, 2012, http://echa.europa.eu/documents/10162/13632/information_requirements_esformat_en.pdf.

²² UNECE, op. cit.; European Commission: *REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals*, op. cit.

wholly or partially closed systems (for example, placing the machine for cleaning equipment/tools in the engine room), local extraction, and use of PPE should also be considered;²³

- (d) ensure that chemicals are managed safely on board and included in regular risk assessments;
- (e) take into account any special requirements for chemicals containing carcinogenic substances and materials, for example asbestos or benzene; and
- (f) take into account other adverse health effects arising from exposure in the context of fires, spills and waste generated from chemicals.

7.9. Exposure to other forms of risks

- 112.** The competent authority should take reasonable precautions, including measures to reduce or prevent the risk of harmful levels of exposure, such as poorly designed workspaces, and manual handling of loads, biological hazards, emergency accident response, HIV/AIDS, drugs and alcohol, tobacco smoking, mental occupational health effects, physical and mental health effects of fatigue, and occupational accidents that may cause short-term and long-term injuries or diseases to seafarers.²⁴

7.9.1. Ergonomic hazards

- 113.** Ergonomics is the study and design of workspaces (such as the workstation, cockpit and ship bridge) and their components, work practices and procedures to benefit workers' productivity, health, comfort and safety.
- 114.** Ship design and layout, including engineering, should provide a work environment that fosters effective procedures, safe work patterns and seafarers' health, and should minimize or prevent occupational accidents, injuries and diseases which may degrade human performance or increase potential for error.²⁵
- 115.** A ship as a workplace comprises several specific types of workspaces. On cargo ships, examples include the bridge, engine room, hatches, decks, cleaning areas and cooking areas. On passenger ships, in addition to the technical workspaces related to the ship's engine operations, there are also workspaces used for the on-board hotel and catering services. To ensure that work is carried out safely, certain basic ergonomic requirements should be adhered to in order to prevent seafarers from working for long periods in awkward positions such as on their knees, with arms and shoulders raised or with back and neck bent, or from repeating these postures and movements frequently.

²³ *ibid.*

²⁴ MLC, 2006, Standard A4.3, para. 1(b); Guideline B4.3.1, paras 2, 3 and 4.

²⁵ MLC, 2006, Standard A4.3, para. 1(c). The IMO has addressed this matter through its Sub-Committee on Ship Design and Equipment. See, for example: MSC-MEPC.7/Circ.3: *Framework for IMO consideration of ergonomics and work environment*; MSC/Circ.834: *Guidelines for engine room layout, design and arrangement*; MSC/Circ.982: *Guidelines on ergonomic criteria for bridge equipment and layout*; Resolution MSC.252(83): *Adoption of the revised performance standards for Integrated Navigation Systems (INS)*.

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- 116.** Poor ergonomic layout, design and arrangement of the ship and its equipment may lead to both short- and long-term adverse health effects due to stressful working postures. These effects include, but are not limited to:
- (a) musculoskeletal disorders;
 - (b) soreness, pain, stiffness and fatigue in muscles and joints;
 - (c) tingling in the fingers and changes in sensitivity altering the feeling in fingers, feet and legs;
 - (d) pain, soreness and swelling due to irritation around the tendons;
 - (e) damage such as tennis elbow and inflammation of the tendons, which may last several weeks and may cause a recurrent chronic condition.
- 117.** The competent authority should ensure that the ship's design incorporates the necessary preventive principles and should conduct risk assessments to avoid poor ergonomic design. Testing should include the use of equipment and machinery for long periods of monotonous work, working pace, working in isolation, the design of workspaces, equipment and technical aids, in addition to work methods. Assessments should also evaluate the nature, degree and duration of individual exposure to equipment and machinery used on board, and regular maintenance should be scheduled and carried out.
- 118.** The competent authority should ensure that the shipowner performs a risk assessment of working duties, both while work is performed and also during planning. Risk assessments should include an evaluation of the equipment and other technical aids applied. The shipowner may delegate this responsibility to the master and safety officer, with the active participation of the safety and health committee.
- 119.** Manual handling of loads comprises work processes where goods (such as stores, spare parts, tools and heavy cooking utensils) are lifted, carried, dragged, pushed or pulled.²⁶
- 120.** Work processes involving manual handling of loads may cause injury to joints, muscles and tendons, especially in the back. For instance, lifting goods may lead to injuries if the load is too heavy, unexpected or unaccustomed. To ensure that manual handling can be conducted properly, special requirements for the use of suitable technical equipment to perform work at workplaces on deck, in storerooms, shops, engine room spaces and other working areas on board should be established.²⁷
- 121.** Manual handling of heavy loads could lead to accidents, injuries and diseases, including:
- (a) sprains;
 - (b) fractures;
 - (c) back-ache or pain;
 - (d) lumbago or other acute back complaints;

²⁶ European Agency for Safety and Health at Work: *Hazards and risks associated with manual handling of loads in the workplace*, 2007, <https://osha.europa.eu/en/publications/factsheets/73>.

²⁷ ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996.

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- (e) slipped disc;
 - (f) wear and tear on the back, neck, arms and legs;
 - (g) arthritis;
 - (h) musculoskeletal disorders.

122. In the assessment of manual handling of loads, there are many contributory factors, including:

- (a) the shape and weight of the load;
- (b) the distance of the load from the lifter's body;
- (c) the posture and movements of the lifter and frequency of lifting;
- (d) the risk of an unexpected load;
- (e) the available space;
- (f) the condition of the deck; and
- (g) the distance over which the load is carried.

123. The competent authority should ensure that the shipowner performs a risk assessment of working duties that takes manual handling of loads into account, both while work is performed and during planning.

7.9.2. Biological hazards

124. Work on board ships may lead to seafarers being exposed to biological agents. For the purpose of these guidelines, "biological agents" means micro-organisms which may provoke any infection, allergy or toxicity.²⁸ They may be classified into risk groups according to their level of risk of infection.²⁹ For example, seafarers may be exposed to biological agents when cleaning and maintaining sewage tanks on board ships, due to unhygienic cooking practices, contaminated food or drinking water, unhygienic treatment in the ship's hospital, and the spread of bacteria and viruses such as influenza.

125. The adverse health effects of exposure to biological agents include infectious diseases, allergies and toxicity.

126. The competent authority should ensure that the shipowner takes biological hazards into account when planning work and implementing measures to minimize exposure to occupational hazards. Additional precautions which could be taken include:

- (a) detection, where possible – for example, by testing drinking water;

²⁸ European Union: *Directive 2000/54/EC of the European Parliament and of the Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC).*

²⁹ *ibid.*

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- (b) collection, storage and disposal of waste;
 - (c) special treatment of waste prior to disposal;
 - (d) prohibition of eating and drinking in work areas; and
 - (e) offering vaccinations.³⁰

7.9.3. Emergency and accident response

- 127.** The competent authority should ensure that each shipowner adopts emergency and accident response action plans and conducts the necessary training and drills for ships as part of its overall safety and health policy within the safety management system.³¹ Emergency and accident response plans are an efficient and effective means of minimizing the risks to human life.
- 128.** Emergency and accident response plans should, at a minimum, provide information on the procedures, programmes or activities developed to:³²
- (a) familiarize seafarers with the emergency and accident response system, provisions and plans;
 - (b) provide training for seafarers on the system and plans, in particular to personnel transferred to new assignments;
 - (c) schedule regular drills and exercises to prepare seafarers to handle potential shipboard emergency situations;
 - (d) coordinate the seafarers' and the company's actions effectively, and include and take note of the aid which could be provided by external emergency coordinating authorities; and
 - (e) prepare a workable feedback system.

7.9.4. HIV/AIDS protection and prevention

- 129.** The Human Immunodeficiency Virus (HIV) continues to be a major global public health issue.³³ It weakens the body's natural defences against illness, leaving an affected individual susceptible to infections and some forms of cancer. The most advanced stage of HIV infection is Acquired Immunodeficiency Syndrome (AIDS).

³⁰ Generally, vaccinations should be given prior to embarkation. However, in the event of an outbreak on board, the shipowner should also provide the necessary vaccinations to all seafarers while on board.

³¹ Shipboard emergency preparedness is required under paragraphs 1.2.2.2 and 8 of the ISM Code, as amended, referred to in chapter IX of the SOLAS Convention, as amended. See the *Guidelines for a structure of an integrated system of contingency planning for shipboard emergencies*, adopted by the IMO – Resolution A.852(20), as amended.

³² *ibid.*

³³ World Health Organization (WHO): *HIV/AIDS*, fact sheet No. 360, <http://www.who.int/mediacentre/factsheets/fs360/en/>.

130. The competent authority should ensure that shipowners:³⁴

- (a) provide and support health promotion and behavioural change programmes on HIV and AIDS;
- (b) eliminate prejudice and discrimination against employees living with HIV;
- (c) provide support in confidence for any employees known to be living with HIV;
- (d) provide up-to-date information, materials and advice on HIV and AIDS to all employees, both sea- and shore-based, through induction programmes and ongoing training programmes;
- (e) provide a kit for protection against blood-transmitted diseases in accordance with national specifications for carriage on ships;
- (f) make condoms available to seafarers on all ships; and
- (g) maintain confidentiality concerning the status of any employee who may be living with HIV.

7.9.5. Drug and alcohol abuse and dependency

131. Abuse of and dependency on drugs and alcohol by seafarers while on board can affect work performance, lead to problems of discipline and supervision, and become dangerous to persons and the ship. Small quantities of alcohol may impair judgement and increase the risk of accidents. In the long term, alcohol abuse can lead to ill health and, in extreme cases, death. Drug abuse by seafarers is extremely dangerous. Individuals who abuse drugs are likely to be ineffective workers and pose a serious hazard to themselves and other persons on board, and the ship.

132. Furthermore, the unauthorized possession or presence of drugs on board a ship may have serious legal implications for the shipowner and individuals. The consequences may include fines, imprisonment, or even the death penalty for individuals in some countries, and detention of the ship followed by heavy fines for the master and the shipowner.³⁵

³⁴ The *ILO code of practice on HIV/AIDS and the world of work* provides invaluable practical guidance: see http://www.ilo.org/aids/Publications/WCMS_113783/lang-en/index.htm and *Using the ILO code of practice on HIV/AIDS and the world of work: Guidelines for the transport sector*, http://www.ilo.org/public/english/region/eurpro/moscow/areas/aids/hivaidswork_guidelinestransportsector.pdf. See also: UK National Maritime Occupational Health and Safety Committee: *Guidelines to shipping companies on HIV and AIDS*, http://www.ukchamberofshipping.com/media/filer_public/e9/17/e9173d14-5920-4e15-bd0d-4f94cee16544/12-01-11_hiv_and_aids_guidelines.pdf.

³⁵ *ibid.*

133. The competent authority should ensure that shipowners:³⁶

- (a) prevent drug and alcohol abuse on ships;
- (b) educate seafarers on the harmful effects and consequences of the unauthorized possession and abuse of drugs and of alcohol misuse;
- (c) provide guidance to seafarers on safe and sensible alcohol consumption;
- (d) identify at an early stage seafarers who may be abusing drugs or have an alcohol-related problem;
- (e) eliminate the presence of unauthorized drugs on ships;
- (f) provide confidential advice, support and assistance to any seafarers known to have drug- or alcohol-related problems; and
- (g) provide instructions to seafarers and the shore-based employees responsible for implementing the drug and alcohol policy.

7.9.6. Tobacco smoking

134. The health dangers of smoking have been recognized for many years, and the link between passive smoking and other health disorders has been proven by numerous studies.

135. The competent authority should ensure that shipowners:³⁷

- (a) reduce the risks to non-smokers from tobacco smoke on board ship;
- (b) inform seafarers of the harmful effects of smoking;
- (c) provide support and assistance to any seafarers who express a wish to stop smoking;
- (d) designate non-smoking areas, with signs featuring the international “no smoking” symbol, which may be displayed at any entrance to the ship and in all common areas in which smoking is not permitted;
- (e) designate areas where smoking is permitted, with corresponding signs; and
- (f) review the appropriateness of carrying supplies of cigarettes and other tobacco products on board for sale.

³⁶ ILO: *Drug and alcohol abuse prevention programmes in the maritime industry (a manual for planners)*, http://www.ilo.org/safework/info/publications/WCMS_117734/lang--en/index.htm; United Kingdom National Maritime Occupational Safety and Health Committee: *Guidelines to shipping companies on alcohol misuse*, http://www.ukchamberofshipping.com/media/filer_public/10/d0/10d04ad6-412e-4381-b421-5aca00899447/alcohol_guidelines_2004.pdf, and *Guidelines to shipping companies on drug abuse*, http://www.ukchamberofshipping.com/media/filer_public/7f/8e/7f8eba82-272d-4d25-8990-c15d421eb812/drugs_guidelines_2001.pdf.

³⁷ idem: *Guidelines to shipping companies on workplace smoking policies*, http://www.ukchamberofshipping.com/media/filer_public/23/7a/237ac998-f19b-4ae3-aad7-405e3e43fa05/03-12-12_smoking_guidelines.pdf.

7.9.7. Mental occupational health

- 136.** Working at sea entails a number of potential effects on mental health, such as stress, anxiety, depression and post-traumatic stress disorder (PTSD).³⁸ Short-term effects may negatively influence seafarers' work performance, safety behaviour and well-being. In the long term, they may severely impact seafarers' lives and general ability to work at sea.
- 137.** The potential effects on mental health could be caused by a number of work-related issues, such as:
- (a) working and living in confined spaces;
 - (b) exposure to weather and sea;
 - (c) limited accessibility to the employer (shipowner) from the workplace;
 - (d) conflicts aboard;
 - (e) poor communication and collaboration between ship and shore;
 - (f) social isolation;
 - (g) bullying and harassment;³⁹
 - (h) piracy threats;
 - (i) being involved in or witnessing critical incidents or accidents;
 - (j) excessive workload;
 - (k) not feeling appreciated;
 - (l) not being listened to; and
 - (m) lack of opportunity to learn and develop.
- 138.** The competent authority should ensure that shipowners consider recommendations and initiatives that may reduce negative effects on mental occupational health, such as:
- (a) addressing the mental work environment, including at safety meetings, by identifying issues and producing action plans;
 - (b) being able to identify colleagues requiring help and support and having a constructive dialogue with them;
 - (c) being able to handle conflicts, by identifying signs and using methods to resolve disputes aboard;
 - (d) being able to identify seafarers' development needs and to offer the necessary help, training and support for them to reach their goals;

³⁸ WHO: *International medical guide for ships: Including the ship's medicine chest*, Geneva, 2007.

³⁹ European Community Shipowners' Associations (ECSA): *Workplace Bullying and Harassment*, 2014, <http://www.ecsa.eu/projects/workplace-bullying-harassment>.

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- (e) being able to explain the reasons for and purpose of seafarers' work to give them a sense that work they are engaged in is meaningful and that their contribution is important;
 - (f) delegating tasks to seafarers which make them feel challenged and motivated without becoming overly pressurized, uncomfortable and stressed;
 - (g) acknowledging the contribution of others;
 - (h) creating a clear framework for individual seafarers so that they know what is expected of them, why this is the case, how they should solve the task, and when;
 - (i) giving constructive feedback;
 - (j) having informal talks, showing people that they are not just a number or certificate, but a human being; and
 - (k) having policies and procedures in place for dealing with issues related to the mental working environment.

139. As preventive measures may not completely eliminate the negative effects of an inappropriate mental work environment, it is crucial that action is taken in order to help people cope. Physical and psychological support, conducted by licensed and certified professionals, should be offered promptly.⁴⁰ Dialogue should be established with the shipowner to produce an action plan, and should include a discussion on how to minimize the likelihood of similar incidents in the future.

7.9.8. Fatigue

140. Fatigue is generally described as a state of feeling tired, weary or sleepy resulting from prolonged mental or physical work, extended periods of anxiety, exposure to harsh environments or loss of sleep.⁴¹ The most common causes of fatigue known to seafarers are lack of sleep, poor quality of rest, stress and excessive workload.⁴² Hours of rest are a key issue when considering the working environment. Lack of rest may have consequences for the overall safety and cooperation on board, as well as individuals' well-being, health and general quality of life. Studies and research carried out by various organizations and administrations have shown the increasing human, financial and environmental impact of maritime accidents and frequently cite fatigue as a contributory cause due to lack of sleep.

141. Lack of sleep leads to adverse health effects such as:

- (a) poor concentration;
- (b) increased risk of error and slower reaction times, which can mean that incidents are not averted in time;

⁴⁰ A good reference is the system used by the Maritime Piracy Humanitarian Response Programme, although it primarily assists seafarers and their families with the humanitarian aspects of trauma caused by a piracy attack, armed robbery or hostage-taking [it may be extended to include other cases of effects on mental health].

⁴¹ IMO: *Guidelines on Fatigue*, op. cit.

⁴² *ibid.*

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- (c) reduced ability to handle duties safely and to perform tasks optimally; and
 - (d) damaging health effects over a long period of time.

142. The IMO Guidelines on Fatigue⁴³ provide solutions to combat fatigue in order to reduce associated health problems and prevent fatigue-related accidents.

143. The competent authority should assess the risks from fatigue⁴⁴ and take into account the short- and long-term physical and mental health effects on seafarers.⁴⁵

7.9.9. Inherent hazards working on board ships

144. The competent authority should consider establishing national guidelines on:⁴⁶

- (a) appropriate design of structural features of the ship, including means of access and asbestos-related risks;⁴⁷
- (b) correct use of equipment and machinery on board;⁴⁸
- (c) correct use of life-saving and firefighting equipment;⁴⁹
- (d) correct use of special safety measures on and below deck;⁵⁰
- (e) loading and unloading of cargo (including dangerous cargo), equipment and ballast;⁵¹

⁴³ IMO: *Guidelines on Fatigue*, annex to *Guidance on Fatigue Mitigation and Management*, MSC/Circ.1014, <http://www.imo.org/OurWork/HumanElement/VisionPrinciplesGoals/Documents/1014.pdf>.

⁴⁴ MLC, 2006, Regulation 2.3; Standard A2.3, para. 4; Regulation 2.7, para. 1; Standard A2.7, para. 2.

⁴⁵ MLC, 2006, Guideline, B4.3.1, paras 2 and 3.

⁴⁶ MLC, 2006, Guideline B4.3.1, para. 2.

⁴⁷ The competent authority should consider the IMO International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, and the ILO code of practice, *Accident prevention on board ship at sea and in port*, as they cover a wide range of measures designed to improve the safety of shipping, including alternative designs and arrangements.

⁴⁸ *ibid.*

⁴⁹ The competent authority should consider the IMO International Life-Saving Appliance Code (LSA Code) (2010 edition), as amended, and International Code For Fire Safety Systems (FSS Code) (2007 edition), as amended, as they set out the international requirements and standards for the life-saving appliances and for the fire safety systems and equipment that are required by the SOLAS Convention.

⁵⁰ The competent authority should consider the ILO code of practice, *Accident prevention on board ship at sea and in port*.

⁵¹ The competent authority should consider the following, as they set out the requirements for the safe transport, stowage, segregation, loading, unloading and securing of various cargoes: International Maritime Dangerous Goods Code (IMDG Code) (2012 edition); International

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- (f) correct use of equipment for mooring the ship, such as anchors, chains and lines;⁵²
 - (g) correct use of personal protective equipment;⁵³ and
 - (h) work in specific areas that require a permit issued by the master or authorized officer,⁵⁴ such as enclosed spaces, working aloft or over the side, hot work, cold work, maintenance on live electrical systems, critical lifting operations, lifting of personnel, ship-to-ship operations, subsea operations, work designated by the master/chief engineer and any other work where the hazard potential is significant.

Maritime Solid Bulk Cargoes Code (IMSBC Code) and Supplement (2013 edition); Code of Practice for the Safe Loading and Unloading of Bulk Carriers (BLU Code) (2011 edition); Code of Safe Practice for Ships Carrying Timber Deck Cargoes (TDC Code) (2011 edition); International Convention For Safe Containers, 1972 (CSC) (2012 edition); Code of Safe Practice for Cargo Stowage and Securing (CSS Code) (2011 edition), as amended.

⁵² The competent authority should consider the following, as they provide examples of good industry practices on effective mooring: UK Nautical Institute: *Mooring and Anchoring Ships*, Vols. 1–2; Oil Companies International Marine Forum: *Mooring Equipment Guidelines*, 3rd edition, and *Effective Mooring*, 3rd edition; Royal Association of Netherlands Shipowners (KVNR): *Mooring and unmooring*, <http://www.kvnr.nl/cms/streambin.aspx?requestid'B244D152-61B7-43D5-8C4F-3DB8C7D98EF1>; IMO: *Guidelines on minimum training and education for mooring personnel*, http://www.imo.org/blast/blastDataHelper.asp?data_id'12718&filename'11.pdf; UK P&I Club: *Understanding mooring incidents*, http://www.ukpandi.com/fileadmin/uploads/uk-pi/LP%20Documents/LP_Reports/UnderstandingMooringIncidents.pdf; idem: *Risk Focus: Moorings*, <http://www.nauticalplatform.org/docs/files/Risk%20Focus%20%20moorings%20UK%20PI.pdf>; Sea health: *Mooring – Do it safely*, http://www.seahealth.dk/sites/default/files/Guidance_Mooring%20-%20do%20it%20safely_0.pdf; Danish Maritime Authority: *Mooring accidents on board merchant ships 1997–2006*, [http://www.dma.dk/SiteCollectionDocuments/OKE/mooring accident.pdf](http://www.dma.dk/SiteCollectionDocuments/OKE/mooring%20accident.pdf).

⁵³ The competent authority should consider ILO: *Accident prevention on board ship at sea and in port*, op. cit., Chapter 5.4.

⁵⁴ *ibid.*, Chapter 4.

8. Reporting and investigation of occupational accidents, injuries and diseases

8.1. General requirements

145. Standard A4.3, paragraph 5, requires the competent authority to ensure that:

- (a) occupational accidents, injuries and diseases are adequately reported, taking into account the guidance provided by the ILO on the reporting and recording of occupational accidents and diseases;
- (b) comprehensive statistics of such accidents and diseases are kept, analysed and published and, where appropriate, followed up by research into general trends and the hazards identified; and
- (c) occupational accidents are investigated.¹

146. Taken collectively, Regulation 4.3 and the related provisions of the Code, the ILO code of practice on accident prevention on board ship at sea and in port,² and the IMO's Casualty Investigation Code,³ Code for the Implementation of Mandatory IMO Instruments⁴ and ISM Code⁵ require the competent authorities to investigate and report occupational accidents, injuries and diseases.⁶

8.2. Objectives

147. The objectives of reporting, analysis and investigation of occupational accidents, injuries and diseases should be to:⁷

- (a) increase the scope to investigate causes of occupational accidents and diseases effectively, and identify and implement preventive measures;

¹ MLC, 2006, Standard A4.3, para. 5.

² ILO: *Accident prevention on board ship at sea and in port*, second edition, 1996.

³ IMO: Casualty Investigation Code, 2008 edition, as amended.

⁴ IMO: *Code for the Implementation of Mandatory IMO Instruments, 2011* (Resolution A.1054).

⁵ IMO: International Safety Management Code, 2010, <http://www.imo.org/OurWork/HumanElement/SafetyManagement/Pages/ISMCode.aspx>.

⁶ It is important to note that the IMO Casualty Investigation Code, IMO Resolution A.1054 and the ISM Code also highlight and support the importance of reporting and investigating accidents, casualties and incidents.

⁷ MLC, 2006, Guideline B4.3.5; ILO: *Recording and notification of occupational accidents and diseases*, 2006.

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- (b) ensure lessons learned become integral to continuous improvement in the safety and health management systems;
 - (c) assist in identifying regulatory issues as a contributing factor;
 - (d) provide guidance in setting up and reviewing maritime legal, administrative and practical frameworks to record and report occupational accidents, injuries and diseases;
 - (e) promote the introduction, monitoring and validation of uniform procedures and methods to record occupational accidents, injuries and diseases, and to notify them to the competent authority;
 - (f) improve the collection of reliable, comprehensive and easily comparable information and analysis of statistics on occupational accidents, injuries and diseases to support various national activities and to promote international comparability;
 - (g) promote the progressive development of procedures and methods of recording and notification of occupational accidents, injuries and diseases;
 - (h) foster awareness among maritime health-care providers of the potential effects of their work upon the health of seafarers to assist the competent authorities in compiling more comprehensive information on occupational accidents, injuries and diseases; and
 - (i) minimize the potential for recurrence of accidents, injuries and diseases.

8.3. Reporting of occupational accidents, injuries and diseases

148. The competent authority should ensure that shipowners report occupational accidents, injuries and diseases for all seafarers working on board their ships. Some occurrences, especially of diseases, may arise at a much later stage in the life of a seafarer, such as asbestos exposure-related diseases or musculoskeletal diseases.

149. The competent authority should:

- (a) establish reporting systems which define responsibilities based on the nature of occupational accidents, injuries and diseases;
- (b) involve other relevant national authorities, such as national health authorities;
- (c) define timelines for investigations and reporting;
- (d) ensure that shipowners establish policies that include measures to discuss the reports from occupational accidents, injuries and diseases at safety and health committee meetings on board their ships and the steps taken to minimize the possibility of recurrence;⁸

⁸ ILO: *Accident prevention on board ship at sea and in port*, op. cit.

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- (e) ensure that statistics and analyses record the number, nature, causes and effects of occupational accidents, injuries and diseases, and that research into the general trends and the identification of hazards is conducted, where appropriate;⁹ and
 - (f) ensure that, where an accident has resulted in injuries to more than one seafarer, separate injury reports are written for each injured seafarer, in order to maintain confidentiality and ensure adequate follow-up with each person injured.

150. The competent authority should specify the information that should be collected and reported. The report should contain the following information, at a minimum:

- (a) name of ship and IMO number, official number, including the flag of the country of registration;
- (b) type of ship;
- (c) date and time of the accident, injury or disease;
- (d) latitude and longitude or geographical position at which the incident occurred;
- (e) name, rank, date of birth, nationality and gender of the seafarer;
- (f) nature of the injuries sustained or disease contracted;
- (g) outcome, where known – such as death, recovery, expected long-term effects;
- (h) the environmental conditions at the time of the incident – such as lighting (if artificial light was used), weather (if applicable), temperature;
- (i) the location on board where the injury occurred;
- (j) the activities in which the seafarer was engaged at the time of the incident;
- (k) the record of the seafarer's hours of work and rest in the 48 hours prior to the incident;
- (l) details of any other seafarers affected by the incident; and
- (m) a brief description of the events surrounding the incident.

8.4. Investigation of occupational accidents, injuries and diseases

151. The competent authority should establish a Marine Investigation Authority, and should define and categorize the nature and severity of the occupational accidents, injuries and disease to be investigated by the Marine Investigation Authority and/or by the shipowner. Shipowner investigations should actively involve the on-board safety and health committee.

⁹ MLC, 2006, Standard A4.3, para. 5(b).

152. The Marine Investigation Authority or any other authority appointed by the competent authority should:

- (a) be independent of persons, companies and institutions whose interests may conflict with the investigation task;¹⁰
- (b) have practical experience in the subject areas pertaining to normal investigative duties of the Marine Investigation Authority;¹¹
- (c) undertake investigations into the causes and circumstances of all occupational accidents and occupational injuries and diseases resulting in loss of life or serious personal injury, and such other cases as may be specified in national laws or regulations;¹²
- (d) not take a position on the criminal or tort liability aspects of casualties or incidents. Incident or safety investigations should be kept separate from criminal or other parallel investigations which determines liability or apportion blame;¹³
- (e) conduct investigations to ensure the proper, timely and methodical identification not only of immediate causal factors but also underlying conditions that may be present in the systems in which people are working, in the safety culture and in the whole chain of responsibility,¹⁴ with the objective of preventing future marine accidents and incidents; and
- (f) conduct investigations, including collecting and analysing the facts, identifying causal factors and, where necessary, make safety recommendations as necessary and produce an investigation report.¹⁵

153. The Marine Investigation Authority's investigation report should:¹⁶

- (a) summarize the basic facts of the incident and state whether any deaths or injuries resulted from it;
- (b) identify owners, operators (including manning agents), the company holding the document of compliance, and classification society;
- (c) provide, where relevant, the dimensions and engine details of any ship involved, together with a description of the crew, work routines and other matters, such as time served on the ship;

¹⁰ Casualty Investigation Code, op. cit., Part III, Chapter 16.

¹¹ IMO: *Code for the Implementation of Mandatory IMO Instruments, 2011*, op. cit., paras 38 and 39.

¹² MLC, 2006, Guideline B4.3.6, para. 1.

¹³ Casualty Investigation Code, op. cit., Part I, Chapter 1.1, and Part III, Chapter 16.

¹⁴ *ibid.*

¹⁵ Casualty Investigation Code, op. cit., Part I, Chapter 2.11.

¹⁶ *ibid.*, Chapter 2.12.

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- (d) detail the motives and intentions of the crew involved in order to explain the human factors;
 - (e) analyse and comment on the causal factors, including any technical, human, system or organizational factors;
 - (f) discuss the findings of the marine accident and incident investigation, including identification of safety issues and conclusions; and
 - (g) recommend measures to prevent future occupational accidents, incidents and, where applicable, diseases.

154. The facts leading up to the incident should be analysed to identify possible causes and should be reflected accurately in the report. The investigation should focus upon:

- (a) what happened;
- (b) how it happened; and
- (c) why it happened.

155. Without a full investigation into why an incident occurred, there is a great risk that the causal factors may never be identified for the purposes of preventing similar incidents.

156. There are several reasons behind human, technical and organizational errors. Any error should not be perceived as a cause in itself, but rather as an effect of deeper-seated problems in the safety management system and safety culture as a whole. The starting point for an investigation should be to discover why an error occurred and the circumstances surrounding the incident.

157. Consideration should be given to including the following in an investigation: ¹⁷

- (a) working environment, such as work surfaces, layout of machinery, means of access, lighting and work methods;
- (b) incidence of occupational accidents, injuries and diseases in different age groups;
- (c) special physiological or psychological problems created by the shipboard environment;
- (d) problems arising from physical stress on board a ship, in particular due to increased workload;
- (e) problems arising from technical developments and human-machine interfaces and their influence on the composition of crews; and
- (f) problems arising from any human failures.

8.5. Confidentiality of data

158. Confidentiality of data should be maintained as discussed in Chapter 4.7.

¹⁷ MLC, 2006, Guideline B4.3.6, para. 2.

9. Training, familiarization and instruction for all seafarers

9.1. General requirements

- 159.** Regulation 1.3 requires that seafarers not work on a ship unless they are trained or certified as competent or otherwise qualified to perform their duties and have successfully completed training for personal safety on board ship. ¹ Standard A4.3, paragraph 1(a), also requires that the occupational and health policies and programmes include training and instruction of seafarers. ² The IMO's STCW Convention requires that all seafarers receive safety familiarization and basic training or instructions and meet the appropriate standard of competence. ³
- 160.** Adequate training, information and skill certification mechanisms are important measures to ensure safe and healthy working conditions. Training curricula should be reviewed periodically and updated in the light of developments in types and sizes of ships and in their equipment, and changes in manning practices, nationality, language and the organization of work on board ships. ⁴
- 161.** All seafarers should participate in safety familiarization training in accordance with the STCW Code ⁵ before they are assigned to duties on board a ship. Seafarers with particular duties related to safety or the prevention of pollution should be trained and certified on:
- (a) personal survival techniques;
 - (b) fire prevention and firefighting;
 - (c) elementary first aid; and
 - (d) personal safety and social responsibilities.
- 162.** The competent authority and shipowners' and seafarers' organizations should cooperate to provide information and instructions regarding occupational hazards. ⁶ This should include activities to raise awareness of OSH, such as:

¹ MLC, 2006, Regulation 1.3.

² MLC, 2006, Standard A4.3, para. 1(a).

³ International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention), 1978, as amended – Chapter VI: Emergency, occupational safety, medical care and survival functions, <http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-on-Standards-of-Training,-Certification-and-Watchkeeping-for-Seafarers-%28STCW%29.aspx>.

⁴ MLC, 2006, Standard A4.3, para. 1(a); Guideline B4.3.9.

⁵ Code to the STCW Convention, op. cit., Chapter VI: Emergency, occupational safety, security, medical care and survival functions, para. 1.

⁶ MLC, 2006, Standard A4.3, para. 7.

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- (a) using educational audiovisual material, such as films, in vocational training centres for seafarers and, where possible, on board ships;
 - (b) displaying posters on board ships;
 - (c) including in periodicals read by seafarers, articles on the hazards of maritime employment, and on OSH protection and accident prevention measures; and
 - (d) conducting campaigns using various publicity media to instruct seafarers, including campaigns on safe working practices.

163. Such training should also take into account the different nationalities, languages and cultures of seafarers.

9.2. Safety familiarization on board

164. Ship safety familiarization is a requirement under the STCW Convention and Code.⁷ Ensuring that seafarers understand shipowners' safety and health policies is a key aspect of keeping the workplace safe and healthy.

165. The competent authority should consider including the topics on health and risks from harmful exposure as described in Chapter 7 as an integral part of ship safety familiarization programmes.

166. New seafarers on ships may be at a greater risk of injuring themselves at work than the more experienced staff. Safety familiarization programmes should therefore be prioritized for new seafarers, and also seafarers returning after a long absence or changing duties on board who may be unfamiliar with use of equipment, materials or processes. "Toolbox meetings" or safety talks could be a part of safety familiarization training.

167. In order to reduce the risk of occupational accidents, incidents and diseases, safety familiarization programmes should be ongoing. This keeps all seafarers up to date with the relevant processes, especially when the shipowner has made changes to its operations and systems (such as equipment, materials or processes).

9.3. Communication of safety and health information to seafarers

168. Shipowners should effectively communicate information and documents relating to OSH and particular hazards on board ships.⁸

169. Measures may include:

- (a) internal communication of safety and health information between people at the relevant levels and functions of the workplace on board and ashore;

⁷ IMO: STCW Convention, Regulation I/14; STCW Code, sections A-I/14, A-VI/1 and B-I/14.

⁸ MLC, 2006, and International Transport Workers' Federation (ITF): *ILO, Maritime Labour Convention and ITF guidance about the health and safety on board ships*, <http://www.itfseafarers.org/files/seealsodocs/40264/ILO,%20MLC%20and%20ITF%20Guidance%20on%20Health%20and%20Safety.pdf>.

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- (b) active communication with the safety and health committee on issues, ideas and inputs of crew members and their representatives on OSH matters; and
 - (c) notice boards, magazines, articles, circulars, films and awareness-raising campaigns.

10. Particular categories of personnel

10.1. Overview

- 170.** The competent authority should ensure that laws and regulations and other measures are in place to protect particular categories of seafarers. Shipowners should pay special attention to the seafarers' age, experience, fitness for work and other qualifications.¹

10.2. Young seafarers

- 171.** The competent authority must ensure special attention is paid to the working environment of young seafarers² who are still developing physically and psychologically. They do not have the same maturity or experience and awareness of existing and potential risks. They are more vulnerable than older seafarers to some short- and long-term adverse health effects. Seafarers must meet the minimum age requirements³ and comply with provisions on medical examinations and hours of rest, among others.⁴
- 172.** National regulations should define specific measures to eliminate or minimize young seafarers' exposure to occupational hazards during their duties.
- 173.** Regulations should specify restrictions on young seafarers regarding potentially dangerous work that should not be undertaken without appropriate qualification or supervision and instruction, such as the types of work listed in Guideline B4.3.10, paragraph 2.
- 174.** The safety and health committee should be involved in the planning, implementation, monitoring and risk assessment of the safety and health aspects of young seafarers' work on board.
- 175.** Practical measures should also be taken to ensure the safety and health of young seafarers, which may include special training courses, official awareness raising of accident prevention targeted at young persons, information concerning accident prevention and health protection for specific types of work on board, professional instruction and supervision.
- 176.** Education and training of young seafarers both ashore and on board ships should include guidance on the detrimental effects of alcohol and drugs and other potentially harmful substances, and the risks and concerns relating to HIV/AIDS.⁵

¹ MLC, 2006, Standard A4.3, para. 2(b); Guideline B4.3.10, para 3.

² MLC, 2006, Standard A4.3, para. 2(b); Guideline B4.3.10; Protection of Young Seafarers Recommendation (No. 153), 1976 (which has been incorporated into the MLC, 2006).

³ MLC, 2006, Regulation 1.1, Standard A1.1.

⁴ MLC, 2006, Regulation 2.3, Guideline B2.3.

⁵ See Chapter 7.9.

10.3. Pregnant seafarers

- 177.** The competent authority should ensure that shipowners provide sufficient safeguards to pregnant and breastfeeding seafarers.
- 178.** A shipowner or master who is informed or becomes aware that a seafarer is pregnant or breastfeeding should ensure that risk assessments are revised to include an evaluation of her risks of exposure to hazards or harmful levels of ambient factors and chemicals. Other factors that may be considered include: avoiding or limiting long periods of monotonous work, working pace, working in isolation, work methods, and the design of workspaces, equipment and technical aids. The assessment should evaluate the nature, degree and duration of the individual's exposure and whether the risk will adversely affect her. Where necessary, preventive measures should be taken.
- 179.** Where it is not reasonably practicable to protect a pregnant or breastfeeding seafarer fully, risks should be minimized through measures concerning the planning and organization of the work, including, if necessary, a change of working hours, limitation of night work or transfer to other jobs that would not involve any danger to her safety and health.

10.4. Injured or sick seafarers

- 180.** A seafarer who is injured or falls sick during a voyage may still be capable of performing other work duties. Special attention should be paid to familiarizing the seafarer with any new duties and providing instructions. A risk assessment of such work should be carried out and should include any special precautions with regard to the injured or sick seafarer's limitations.

10.5. Temporary service personnel and visitors

- 181.** Additional precautions should be taken when temporary personnel such as technicians or cleaning teams live and/or work on board for limited periods of time. They, as well as any visitors, may not be familiar with safety requirements on board. The master should ensure that they are familiarized with the safety requirements and risk assessment, and receive information specific to the work and personnel involved. Temporary service work should be planned, organized and performed in such a way as to avoid any risk to safety and health. In the event that such risks exist, precautions should be taken to minimize exposure to occupational hazards.

Appendix I

Relevant provisions of the Maritime Labour Convention, 2006

Title 1. Regulation 1.1 – Minimum age

Purpose: To ensure that no under-age persons work on a ship

1. No person below the minimum age shall be employed or engaged or work on a ship.
2. The minimum age at the time of the initial entry into force of this Convention is 16 years.
3. A higher minimum age shall be required in the circumstances set out in the Code.

Standard A1.1 – Minimum age

1. The employment, engagement or work on board a ship of any person under the age of 16 shall be prohibited.
2. Night work of seafarers under the age of 18 shall be prohibited. For the purposes of this Standard, “night” shall be defined in accordance with national law and practice. It shall cover a period of at least nine hours starting no later than midnight and ending no earlier than 5 a.m.
3. An exception to strict compliance with the night work restriction may be made by the competent authority when:
 - (a) the effective training of the seafarers concerned, in accordance with established programmes and schedules, would be impaired; or
 - (b) the specific nature of the duty or a recognized training programme requires that the seafarers covered by the exception perform duties at night and the authority determines, after consultation with the shipowners’ and seafarers’ organizations concerned, that the work will not be detrimental to their health or well-being.
4. The employment, engagement or work of seafarers under the age of 18 shall be prohibited where the work is likely to jeopardize their health or safety. The types of such work shall be determined by national laws or regulations or by the competent authority, after consultation with the shipowners’ and seafarers’ organizations concerned, in accordance with relevant international standards.

Regulation 4.3 – Health and safety protection and accident prevention

Purpose: To ensure that seafarers’ work environment on board ships promotes occupational safety and health

1. Each Member shall ensure that seafarers on ships that fly its flag are provided with occupational health protection and live, work and train on board ship in a safe and hygienic environment.
2. Each Member shall develop and promulgate national guidelines for the management of occupational safety and health on board ships that fly its flag, after consultation with representative shipowners’ and seafarers’ organizations and taking into account applicable codes, guidelines and standards recommended by international organizations, national administrations and maritime industry organizations.
3. Each Member shall adopt laws and regulations and other measures addressing the matters specified in the Code, taking into account relevant international instruments, and set standards for occupational safety and health protection and accident prevention on ships that fly its flag.

Standard A4.3 – Health and safety protection and accident prevention

1. The laws and regulations and other measures to be adopted in accordance with Regulation 4.3, paragraph 3, shall include the following subjects:
 - (a) the adoption and effective implementation and promotion of occupational safety and health policies and programmes on ships that fly the Member's flag, including risk evaluation as well as training and instruction of seafarers;
 - (b) reasonable precautions to prevent occupational accidents, injuries and diseases on board ship, including measures to reduce and prevent the risk of exposure to harmful levels of ambient factors and chemicals as well as the risk of injury or disease that may arise from the use of equipment and machinery on board ships;
 - (c) on-board programmes for the prevention of occupational accidents, injuries and diseases and for continuous improvement in occupational safety and health protection, involving seafarers' representatives and all other persons concerned in their implementation, taking account of preventive measures, including engineering and design control, substitution of processes and procedures for collective and individual tasks, and the use of personal protective equipment; and
 - (d) requirements for inspecting, reporting and correcting unsafe conditions and for investigating and reporting on-board occupational accidents.
2. The provisions referred to in paragraph 1 of this Standard shall:
 - (a) take account of relevant international instruments dealing with occupational safety and health protection in general and with specific risks, and address all matters relevant to the prevention of occupational accidents, injuries and diseases that may be applicable to the work of seafarers and particularly those which are specific to maritime employment;
 - (b) clearly specify the obligation of shipowners, seafarers and others concerned to comply with the applicable standards and with the ship's occupational safety and health policy and programme with special attention being paid to the safety and health of seafarers under the age of 18;
 - (c) specify the duties of the master or a person designated by the master, or both, to take specific responsibility for the implementation of and compliance with the ship's occupational safety and health policy and programme; and
 - (d) specify the authority of the ship's seafarers appointed or elected as safety representatives to participate in meetings of the ship's safety committee. Such a committee shall be established on board a ship on which there are five or more seafarers.
3. The laws and regulations and other measures referred to in Regulation 4.3, paragraph 3, shall be regularly reviewed in consultation with the representatives of the shipowners' and seafarers' organizations and, if necessary, revised to take account of changes in technology and research in order to facilitate continuous improvement in occupational safety and health policies and programmes and to provide a safe occupational environment for seafarers on ships that fly the Member's flag.
4. Compliance with the requirements of applicable international instruments on the acceptable levels of exposure to workplace hazards on board ships and on the development and implementation of ships' occupational safety and health policies and programmes shall be considered as meeting the requirements of this Convention.
5. The competent authority shall ensure that:
 - (a) occupational accidents, injuries and diseases are adequately reported, taking into account the guidance provided by the International Labour Organization with respect to the reporting and recording of occupational accidents and diseases;
 - (b) comprehensive statistics of such accidents and diseases are kept, analysed and published and, where appropriate, followed up by research into general trends and into the hazards identified; and
 - (c) occupational accidents are investigated.

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6. Reporting and investigation of occupational safety and health matters shall be designed to ensure the protection of seafarers' personal data, and shall take account of the guidance provided by the International Labour Organization on this matter.
 7. The competent authority shall cooperate with shipowners' and seafarers' organizations to take measures to bring to the attention of all seafarers information concerning particular hazards on board ships, for instance, by posting official notices containing relevant instructions.
 8. The competent authority shall require that shipowners conducting risk evaluation in relation to management of occupational safety and health refer to appropriate statistical information from their ships and from general statistics provided by the competent authority.

Guideline B4.3 – Health and safety protection and accident prevention

Guideline B4.3.1 – Provisions on occupational accidents, injuries and diseases

1. The provisions required under Standard A4.3 should take into account the ILO code of practice entitled *Accident prevention on board ship at sea and in port*, 1996, and subsequent versions and other related ILO and other international standards and guidelines and codes of practice regarding occupational safety and health protection, including any exposure levels that they may identify.
2. The competent authority should ensure that the national guidelines for the management of occupational safety and health address the following matters, in particular:
 - (a) general and basic provisions;
 - (b) structural features of the ship, including means of access and asbestos-related risks;
 - (c) machinery;
 - (d) the effects of the extremely low or high temperature of any surfaces with which seafarers may be in contact;
 - (e) the effects of noise in the workplace and in shipboard accommodation;
 - (f) the effects of vibration in the workplace and in shipboard accommodation;
 - (g) the effects of ambient factors, other than those referred to in subparagraphs (e) and (f), in the workplace and in shipboard accommodation, including tobacco smoke;
 - (h) special safety measures on and below deck;
 - (i) loading and unloading equipment;
 - (j) fire prevention and fire-fighting;
 - (k) anchors, chains and lines;
 - (l) dangerous cargo and ballast;
 - (m) personal protective equipment for seafarers;
 - (n) work in enclosed spaces;
 - (o) physical and mental effects of fatigue;
 - (p) the effects of drug and alcohol dependency;
 - (q) HIV/AIDS protection and prevention; and
 - (r) emergency and accident response.
3. The assessment of risks and reduction of exposure on the matters referred to in paragraph 2 of this Guideline should take account of the physical occupational health effects, including manual handling of loads, noise and vibration, the chemical and biological occupational health effects, the mental occupational health effects, the physical and mental health effects of fatigue, and occupational accidents. The necessary measures should take due account of the preventive principle according to which, among other things, combating risk at the source, adapting work to the

individual, especially as regards the design of workplaces, and replacing the dangerous by the non-dangerous or the less dangerous, have precedence over personal protective equipment for seafarers.

4. In addition, the competent authority should ensure that the implications for health and safety are taken into account, particularly in the following areas:
 - (a) emergency and accident response;
 - (b) the effects of drug and alcohol dependency; and
 - (c) HIV/AIDS protection and prevention.

Guideline B4.3.2 – Exposure to noise

1. The competent authority, in conjunction with the competent international bodies and with representatives of shipowners' and seafarers' organizations concerned, should review on an ongoing basis the problem of noise on board ships with the objective of improving the protection of seafarers, in so far as practicable, from the adverse effects of exposure to noise.
2. The review referred to in paragraph 1 of this Guideline should take account of the adverse effects of exposure to excessive noise on the hearing, health and comfort of seafarers and the measures to be prescribed or recommended to reduce shipboard noise to protect seafarers. The measures to be considered should include the following:
 - (a) instruction of seafarers in the dangers to hearing and health of prolonged exposure to high noise levels and in the proper use of noise protection devices and equipment;
 - (b) provision of approved hearing protection equipment to seafarers where necessary; and
 - (c) assessment of risk and reduction of exposure levels to noise in all accommodation and recreational and catering facilities, as well as engine rooms and other machinery spaces.

Guideline B4.3.3 – Exposure to vibration

1. The competent authority, in conjunction with the competent international bodies and with representatives of shipowners' and seafarers' organizations concerned, and taking into account, as appropriate, relevant international standards, should review on an ongoing basis the problem of vibration on board ships with the objective of improving the protection of seafarers, in so far as practicable, from the adverse effects of vibration.
2. The review referred to in paragraph 1 of this Guideline should cover the effect of exposure to excessive vibration on the health and comfort of seafarers and the measures to be prescribed or recommended to reduce shipboard vibration to protect seafarers. The measures to be considered should include the following:
 - (a) instruction of seafarers in the dangers to their health of prolonged exposure to vibration;
 - (b) provision of approved personal protective equipment to seafarers where necessary; and
 - (c) assessment of risks and reduction of exposure to vibration in all accommodation and recreational and catering facilities by adopting measures in accordance with the guidance provided by the ILO code of practice entitled *Ambient factors in the workplace*, 2001, and any subsequent revisions, taking account of the difference between exposure in those areas and in the workplace.

Guideline B4.3.4 – Obligations of shipowners

1. Any obligation on the shipowner to provide protective equipment or other accident prevention safeguards should, in general, be accompanied by provisions requiring their use by seafarers and by a requirement for seafarers to comply with the relevant accident prevention and health protection measures.
2. Account should also be taken of Articles 7 and 11 of the *Guarding of Machinery Convention*, 1963 (No. 119), and the corresponding provisions of the *Guarding of Machinery Recommendation*, 1963 (No. 118), under which the obligation to ensure compliance with the requirement that machinery in use is properly guarded, and its use without appropriate guards prevented, rests on the employer,

while there is an obligation on the worker not to use machinery without the guards being in position nor to make inoperative the guards provided.

Guideline B4.3.5 – Reporting and collection of statistics

1. All occupational accidents and occupational injuries and diseases should be reported so that they can be investigated and comprehensive statistics can be kept, analysed and published, taking account of protection of the personal data of the seafarers concerned. Reports should not be limited to fatalities or to accidents involving the ship.
2. The statistics referred to in paragraph 1 of this Guideline should record the numbers, nature, causes and effects of occupational accidents and occupational injuries and diseases, with a clear indication, as applicable, of the department on board a ship, the type of accident and whether at sea or in port.
3. Each Member should have due regard to any international system or model for recording accidents to seafarers which may have been established by the International Labour Organization.

Guideline B4.3.6 – Investigations

1. The competent authority should undertake investigations into the causes and circumstances of all occupational accidents and occupational injuries and diseases resulting in loss of life or serious personal injury, and such other cases as may be specified in national laws or regulations.
2. Consideration should be given to including the following as subjects of investigation:
 - (a) working environment, such as working surfaces, layout of machinery, means of access, lighting and methods of work;
 - (b) incidence in different age groups of occupational accidents and occupational injuries and diseases;
 - (c) special physiological or psychological problems created by the shipboard environment;
 - (d) problems arising from physical stress on board a ship, in particular as a consequence of increased workload;
 - (e) problems arising from and effects of technical developments and their influence on the composition of crews; and
 - (f) problems arising from any human failures.

Guideline B4.3.7 – National protection and prevention programmes

1. In order to provide a sound basis for measures to promote occupational safety and health protection and prevention of accidents, injuries and diseases which are due to particular hazards of maritime employment, research should be undertaken into general trends and into such hazards as are revealed by statistics.
2. The implementation of protection and prevention programmes for the promotion of occupational safety and health should be so organized that the competent authority, shipowners and seafarers or their representatives and other appropriate bodies may play an active role, including through such means as information sessions, on-board guidelines on maximum exposure levels to potentially harmful ambient workplace factors and other hazards or outcomes of a systematic risk evaluation process. In particular, national or local joint occupational safety and health protection and accident prevention committees or ad hoc working parties and on-board committees, on which shipowners' and seafarers' organizations concerned are represented, should be established.
3. Where such activity takes place at company level, the representation of seafarers on any safety committee on board that shipowner's ships should be considered.

Guideline B4.3.8 – Content of protection and prevention programmes

1. Consideration should be given to including the following in the functions of the committees and other bodies referred to in Guideline B4.3.7, paragraph 2:
 - (a) the preparation of national guidelines and policies for occupational safety and health management systems and for accident prevention provisions, rules and manuals;
 - (b) the organization of occupational safety and health protection and accident prevention training and programmes;
 - (c) the organization of publicity on occupational safety and health protection and accident prevention, including films, posters, notices and brochures; and
 - (d) the distribution of literature and information on occupational safety and health protection and accident prevention so that it reaches seafarers on board ships.
2. Relevant provisions or recommendations adopted by the appropriate national authorities or organizations or international organizations should be taken into account by those preparing texts of occupational safety and health protection and accident prevention measures or recommended practices.
3. In formulating occupational safety and health protection and accident prevention programmes, each Member should have due regard to any code of practice concerning the safety and health of seafarers which may have been published by the International Labour Organization.

Guideline B4.3.9 – Instruction in occupational safety and health protection and the prevention of occupational accidents

1. The curriculum for the training referred to in Standard A4.3, paragraph 1(a), should be reviewed periodically and brought up to date in the light of development in types and sizes of ships and in their equipment, as well as changes in manning practices, nationality, language and the organization of work on board ships.
2. There should be continuous occupational safety and health protection and accident prevention publicity. Such publicity might take the following forms:
 - (a) educational audiovisual material, such as films, for use in vocational training centres for seafarers and where possible shown on board ships;
 - (b) display of posters on board ships;
 - (c) inclusion in periodicals read by seafarers of articles on the hazards of maritime employment and on occupational safety and health protection and accident prevention measures; and
 - (d) special campaigns using various publicity media to instruct seafarers, including campaigns on safe working practices.
3. The publicity referred to in paragraph 2 of this Guideline should take account of the different nationalities, languages and cultures of seafarers on board ships.

Guideline B4.3.10 – Safety and health education of young seafarers

1. Safety and health regulations should refer to any general provisions on medical examinations before and during employment and on the prevention of accidents and the protection of health in employment, which may be applicable to the work of seafarers. Such regulations should specify measures which will minimize occupational dangers to young seafarers in the course of their duties.
2. Except where a young seafarer is recognized as fully qualified in a pertinent skill by the competent authority, the regulations should specify restrictions on young seafarers undertaking, without appropriate supervision and instruction, certain types of work presenting special risk of accident or of detrimental effect on their health or physical development, or requiring a particular degree of maturity, experience or skill. In determining the types of work to be restricted by the regulations, the competent authority might consider in particular work involving:

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- (a) the lifting, moving or carrying of heavy loads or objects;
 - (b) entry into boilers, tanks and cofferdams;
 - (c) exposure to harmful noise and vibration levels;
 - (d) operating hoisting and other power machinery and tools, or acting as signallers to operators of such equipment;
 - (e) handling mooring or tow lines or anchoring equipment;
 - (f) rigging;
 - (g) work aloft or on deck in heavy weather;
 - (h) nightwatch duties;
 - (i) servicing of electrical equipment;
 - (j) exposure to potentially harmful materials, or harmful physical agents such as dangerous or toxic substances and ionizing radiations;
 - (k) the cleaning of catering machinery; and
 - (l) the handling or taking charge of ships' boats.
 3. Practical measures should be taken by the competent authority or through the appropriate machinery to bring to the attention of young seafarers information concerning the prevention of accidents and the protection of their health on board ships. Such measures could include adequate instruction in courses, official accident prevention publicity intended for young persons and professional instruction and supervision of young seafarers.
 4. Education and training of young seafarers both ashore and on board ships should include guidance on the detrimental effects on their health and well-being of the abuse of alcohol and drugs and other potentially harmful substances, and the risk and concerns relating to HIV/AIDS and of other health risk related activities.

Guideline B4.3.11 – International cooperation

1. Members, with the assistance as appropriate of intergovernmental and other international organizations, should endeavour, in cooperation with each other, to achieve the greatest possible uniformity of action for the promotion of occupational safety and health protection and prevention of accidents.
2. In developing programmes for promoting occupational safety and health protection and prevention of accidents under Standard A4.3, each Member should have due regard to relevant codes of practice published by the International Labour Organization and the appropriate standards of international organizations.
3. Members should have regard to the need for international cooperation in the continuous promotion of activity related to occupational safety and health protection and prevention of occupational accidents. Such cooperation might take the form of:
 - (a) bilateral or multilateral arrangements for uniformity in occupational safety and health protection and accident prevention standards and safeguards;
 - (b) exchange of information on particular hazards affecting seafarers and on means of promoting occupational safety and health protection and preventing accidents;
 - (c) assistance in testing of equipment and inspection according to the national regulations of the flag State;
 - (d) collaboration in the preparation and dissemination of occupational safety and health protection and accident prevention provisions, rules or manuals;
 - (e) collaboration in the production and use of training aids; and
 - (f) joint facilities for, or mutual assistance in, the training of seafarers in occupational safety and health protection, accident prevention and safe working practices.

Appendix II

Selected references

The following websites provide additional information and examples of laws, regulations and programmes on maritime occupational safety and health.

Intergovernmental sources

European Maritime Safety Agency (EMSA): <http://www.emsa.europa.eu/>
United Nations Economic Commission for Europe (UNECE): Transport of Dangerous Goods: <http://www.unece.org/trans/danger/danger.html>
UNECE: Globally Harmonized System of Classification and Labelling of Chemicals (GHS): http://www.unece.org/trans/danger/publi/ghs/ghs_rev04/04files_e.html
International Maritime Organization (IMO): <http://www.imo.org>
International Organization for Standardization (ISO): <http://www.iso.org>
European Committee for Standardization (CEN): <http://www.cen.eu>

Governmental sources

The Bahamas Maritime Authority: <http://www.bahamasmaritime.com/>
Cyprus Department of Merchant Shipping:
http://www.mcw.gov.cy/mcw/dms/dms.nsf/index_en/index_en?OpenDocument
Norwegian Maritime Authority: <http://www.sjofartsdir.no/en/>
Singapore Workplace Safety and Health Council: <https://www.wshc.sg>
Panama Maritime Authority: <http://www.segumar.com/>
Danish Maritime Authority: <http://www.dma.dk/Legislation/Sider/Acts.aspx>
Australian Seafarers Safety, Rehabilitation and Compensation Authority (Seacare):
<http://www.seacare.gov.au/home/legislation>
Transport Canada, Marine Safety: <http://www.tc.gc.ca/eng/marinesafety/menu.htm>
Maritime New Zealand laws and regulations:
<http://www.maritimenz.govt.nz/About-us/Legislation-and-regulations.asp>
United Kingdom Maritime and Coastguard Agency: <http://www.dft.gov.uk/mca/mcga07-home.htm>

Non-governmental and industrial bodies

American Conference of Governmental Industrial Hygienists (ACGIH):
<http://www.acgih.org/home.htm>
Association of Singapore Marine Industries (ASMI): <http://www.asmi.com/index.cfm?GPID=3>
American Bureau of Shipping (ABS): <http://www.eagle.org/eagleExternalPortalWEB/>
International Seafarers' Welfare and Assistance Network (ISWAN):
<http://www.seafarerswelfare.org>
International Union of Marine Insurance (IUMI): <http://www.iumi.com/>
International Association of Classification Societies (IACS): <http://www.iacs.org.uk/>
International Chamber of Shipping (ICS): <http://ics-shipping.org>
Seafarers International Research Centre (SIRC): <http://www.sirc.cf.ac.uk/Home.aspx>
Marine Accident Investigators' International Forum (MAIIF): <http://www.maiif.org>

Appendix III

Relevant EU directives

Council Directive 83/477/EEC on the protection of workers from the risks related to exposure to asbestos at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01983L0477-0070628&qid=1403697757274>

Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01989L0391-20081211&qid=1403702359336>

Council Directive 89/655/EEC concerning the minimum safety and health requirements for the use of work equipment by workers at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01989L0655-20091023&qid=1403698071001>

Council Directive 89/656/EEC on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01989L0656-20070627&qid=1403698442476>

Council Directive 89/686/EEC on the approximation of the laws of the Member States relating to personal protective equipment

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01989L0686-20130101&qid=1403698312949>

Council Directive 90/269/EEC on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01990L0269-20070627&qid=1403698535716>

Council Directive 91/383/EEC supplementing the measures to encourage improvements in the safety and health at work of workers with a fixed-duration employment relationship or a temporary employment relationship

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01991L0383-20070628&qid=1403698637031>

Council Directive 92/29/EEC on the minimum safety and health requirements for improved medical treatment on board vessels

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01992L0029-20081211&qid=1403698810133>

Council Directive 92/57/EEC on the implementation of minimum safety and health requirements at temporary or mobile constructions sites

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01992L0057-20070627&qid=1403698903462>

Council Directive 92/58/EEC on the minimum requirements for the provision of safety and/or health signs at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01992L0058-20140325&qid=1403698994540>

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding

<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:01992L0085-20140325&qid=1403699085624>

Council Directive 93/103/EC concerning the minimum safety and health requirements for work on board fishing vessels

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01993L0103-20070627&qid=1403699216660>

Council Directive 94/33/EC on the protection of young people at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01994L0033-20070628&qid=1403699580236>

Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01998L0024-20070628&qid=1403699766668>

European Parliament and Council Directive 1999/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01999L0092-20070627&qid=1403699843159>

European Parliament and Council Directive 2000/54/EC on the protection of workers from risks related to exposure to biological agents at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32000L0054&qid=1403699962894>

Commission Directive 2001/58/EC laying down the detailed arrangements for the system of specific information relating to dangerous preparations in implementation of Article 14 of European Parliament and Council Directive 1999/45/EC and relating to dangerous substances in implementation of Article 27 of Council Directive 67/548/EEC (safety data sheets)

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0058&qid=1403700097636>

European Parliament and Council Directive 2002/44/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration)

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02002L0044-20081211&qid=1403700384983>

European Parliament and Council Directive 2003/10/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise)

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02003L0010-20081211&qid=1403700517258>

European Parliament and Council Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work

<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02004L0037-20140325&qid=1403702149454>

European Parliament and Council Directive 2006/25/EC on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation)

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006L0025-20140101&qid=1403702220249>

Appendix IV

Extracts from the ILO model national legal provisions

*Edited extracts from the ILO handbook*¹

Introduction

This handbook contains a model for legal provisions that implement the Maritime Labour Convention, 2006 (MLC, 2006). This model closely follows the provisions of the Convention. It is not a proposal for a national law (although with some adjustments it could be used as such), but, rather, it is intended as an aid, in whole or in part, for national legislators and legislative counsel in drafting the necessary legal texts to implement the MLC, 2006.

It should be noted that Article IV, paragraph 5, of the MLC, 2006, provides that:

5. Each Member shall ensure, within the limits of its jurisdiction, that the seafarers' employment and social rights set out in the preceding paragraphs of this Article are fully implemented in accordance with the requirements of this Convention. Unless specified otherwise in the Convention, **such implementation may be achieved through national laws or regulations, through applicable collective bargaining agreements or through other measures or in practice.**

The present model has been prepared to provide guidance on the drafting of national provisions implementing the MLC, 2006, which **might** be included in legislation. It would be up to each country to decide whether a particular provision should be contained in a law (such as an Act of Parliament or Congress) or in a regulation or other subsidiary legislation, such as orders or marine notices. Or, a country may decide – in cases where the MLC, 2006, does not specifically require legislation – that certain matters could be dealt with better through other legal measures such as collective bargaining agreements or perhaps, where an MLC, 2006, provision essentially relates to action to be taken by the governments themselves, through administrative instructions. In some cases, a country might decide that no further legal measures need to be devised because, for example, a seafarer's right under the Convention is already adequately covered by the general law applied by the courts. **The model provisions cover all subjects in the MLC, 2006, but this is only for the sake of completeness in implementing that Convention: it should not be understood as necessarily recommending that a single law or legislation is the most appropriate way of dealing with a particular subject, especially as in each country the situation will differ depending on its legal system and other factors.** Account will also need to be taken of the legal terminology used, which again differs from country to country, as well as of the status of international agreements (treaties or conventions), such as the MLC, 2006, under the Constitution of the country concerned.

In addition, in some cases a country may already have significant legislation in place, for example, under a general shipping law, addressing a range of maritime labour standards, including matters such as minimum age, social security and occupational safety and health, and enforcement of international maritime conventions through ship inspection and certification, perhaps because of ratification of earlier conventions adopted by the International Labour Organization (ILO) or other maritime conventions adopted by the International Maritime Organization (IMO). In that case there may only need to be minor adjustments to update provisions or fill gaps. In other cases there may be

¹ ILO: *Handbook: Guidance on implementing the Maritime Labour Convention, 2006 – Model national provisions*, Geneva, 2012, http://www.ilo.org/global/standards/maritime-labour-convention/monitoring-implementation-tools/WCMS_170389/lang--en/index.htm. The extracts have been edited for the purposes of these guidelines.

countries with little, or even no, legislation in place. In that case a single law or other instrument may be a preferable approach. In every case a national legislative review (gap analysis) should be undertaken to ascertain the most appropriate approach. Reference should also be made to the ILO form² for drawing up reports to be made pursuant to article 22 of the ILO Constitution, which indicates the documentation that would be expected by the ILO supervisory system after ratification.

...

How to use the model provisions

The following provides on one page a commentary explaining the purpose of the proposed text on each issue and noting particular points to be considered. It then sets out model provisions that could be adapted by legislative drafters to fit the national circumstances. The **footnotes** are not intended for adoption in national law, but are there only to indicate the specific requirements in the MLC, 2006, that are addressed by the provisions. The information in the footnotes will, however, also be useful for administrations when developing their national Declaration of Maritime Labour Compliance, Part I (DMLC, Part I: see MLC, 2006, Appendix A5-II), which is to be carried on board the ships that are in the category that must be certified. It would also be useful for governments when completing the article 22 report to the ILO.

Text in the model provisions that is in **bold type** is taken from the mandatory Regulations and Code, Part A (Standards) of the Convention. Text in ordinary type indicates text that is not in the Convention but is suggested as obviously necessary or useful to enable the Convention to be properly implemented. Text in *italics* is taken from the Code, Part B, the Guidelines to the MLC, 2006, which must be given due consideration when drafting the national provisions implementing the mandatory provisions of the Convention. Text located between square brackets [...] indicates changes or additions that need to be made to address particular national terminology, situations or determinations (for example to decide the period to be considered as “night” in the context of seafarers under 18) or the name of a competent authority or ministry. Text that may not be applicable to a particular country because of its national situation, for example, has also been placed inside square brackets [].

...

Title 4: Health protection, medical care, welfare and social security protection

Regulation 4.3 – Code Standard A4.3 and Guideline B4.3

Commentary

Health and safety protection and accident prevention

Purpose: To ensure that seafarers’ work environment on board ships promotes occupational safety and health

The MLC, 2006, contains a significant number of technical details and guidance in Standard A4.3 and Guideline B4.3 directed to flag State obligations regarding what is usually called marine or maritime occupational safety and health. These provisions are also linked to those under Section 3.1 of these model provisions. The MLC, 2006, specifies the areas in which occupational safety and health policies and programmes are to be adopted, effectively implemented and promoted on ships and which are also to be the subject of legal standards covering occupational safety and health protection and accident prevention. Such policies and programmes and legal standards may

² See http://www.ilo.org/global/standards/maritime-labour-convention/WCMS_145296/lang--en/index.htm.

already exist for ships in the country concerned or that country may have global policies and programmes covering these subjects, which will need to be supplemented or adapted so as also to cover conditions on board ship. These model provisions seek to provide the necessary legislative basis for adopting and/or completing as well as updating – in the light of a rapidly evolving technology – the required policies, programmes and standards for ships. The model provisions do not seek to cover the technical details that would need to be developed, based on international and industry guidance and tripartite consultation. For countries that do not yet have the necessary policies and programmes in place, the model provisions suggest using a subsidiary instrument (Schedule V) to set out a national occupational safety and health policy and programme for ships, which follows the detailed provisions set out under Regulation 4.3 and Standard A4.3 and would be developed and implemented by the competent authority after consultation with the shipowners' and seafarers' organizations.

It is noted that a number of matters may also overlap to some extent with requirements under the IMO's ISM Code and may already be partly implemented. The Convention requires that legal implementation of the requirements take the form of laws and regulations and other measures. This requires that the form adopted must be considered mandatory in the national legal system, but may comprise a mix of forms to address modern approaches to regulation. The main requirements that must be addressed are:

- working, living and training environments on ships must be safe and hygienic and conform to national laws and other measures for occupational safety and health protection and accident prevention on board ship;
- reasonable precautions are to be taken on ships to prevent occupational accidents, injuries and diseases, including risk of exposure to harmful levels of ambient factors and chemicals as well as the risk of injury or disease that may result from the use of equipment and machinery on the ship;
- ships must have an occupational safety and health policy and programme that both prevents occupational accidents, injuries and diseases and provides for continuous improvement in prevention, with a particular concern for the safety and health of seafarers under the age of 18 (see Section 1.1 of these model provisions);
- ships with five or more seafarers must have a ship safety committee, which includes participation of the seafarer safety representatives;
- occupational accidents, injuries and diseases must be reported;
- shipowners are required to conduct risk evaluation for occupational safety and health management, taking into account relevant statistical data.

Section 4.3: Health and safety protection and accident prevention

1. **Seafarers must be provided with occupational health protection consistent with their right to live, work and train on board ship in a safe and hygienic environment.**⁴⁶⁷
2. After consultation with the seafarers' and shipowners' organizations, **the competent authority shall** – in accordance with the national occupational safety and health policy referred to in paragraph 3 below and keeping in mind the requirements of this Section 4.3 – **set and maintain standards for occupational safety and health protection and accident prevention** to be observed on board ships.⁴⁶⁸
3. **The competent authority shall, after consultation with the seafarers' and shipowners' organizations, adopt and keep under continuous review guidelines for the management of seafarer occupational safety and health on board.** These guidelines shall be based on the basic national occupational safety and health policy and programme for ships [which is set out in

⁴⁶⁷ Regulation 4.3, para. 1.

⁴⁶⁸ Regulation 4.3, para. 3.

Schedule V below.]⁴⁶⁹ *Relevant provisions or recommendations adopted by the appropriate national authorities or organizations or international organizations should be taken into account by those preparing texts of occupational safety and health protection and accident prevention measures or recommended practices.*⁴⁷⁰ *In formulating occupational safety and health protection and accident prevention programmes, the competent authority should have due regard to any code of practice concerning the safety and health of seafarers which may have been published by the International Labour Organization.*⁴⁷¹

4. The guidelines under paragraph 3 shall take account of Guidelines B4.3.2 to B4.3.10 of the Convention as well as the ILO code of practice entitled *Accident prevention on board ship at sea and in port, 1996*, and subsequent versions and other related ILO and other international standards and guidelines and codes of practice regarding occupational safety and health protection, including any exposure levels that they may identify.⁴⁷² The guidelines shall give priority to the following matters, in particular:⁴⁷³
- (a) *structural features of the ship, including means of access and asbestos-related risks;*⁴⁷⁴
 - (b) ***machinery;***⁴⁷⁵
 - (c) *the effects of the extremely low or high temperature of any surfaces with which seafarers may be in contact;*⁴⁷⁶
 - (d) ***the effects of noise in the workplace and in shipboard accommodation;***⁴⁷⁷
 - (e) ***the effects of vibration in the workplace and in shipboard accommodation;***⁴⁷⁸
 - (f) ***the effects of ambient factors, other than those referred to in subparagraphs (d) and (e), in the workplace and in shipboard accommodation, including tobacco smoke;***⁴⁷⁹
 - (g) *special safety measures on and below deck;*⁴⁸⁰
 - (h) *loading and unloading equipment;*⁴⁸¹
 - (i) *fire prevention and fire-fighting;*⁴⁸²
 - (j) *anchors, chains and lines;*⁴⁸³

⁴⁶⁹ Regulation 4.3, para. 2.

⁴⁷⁰ Guideline B4.3.8, para. 2.

⁴⁷¹ Guideline B4.3.8, para. 3.

⁴⁷² Guideline B4.3.1, para. 1.

⁴⁷³ Guideline B4.3.1, para. 2.

⁴⁷⁴ Guideline B4.3.1, para. 2(b).

⁴⁷⁵ Guideline B4.3.1, para. 2(c).

⁴⁷⁶ Guideline B4.3.1, para. 2(d).

⁴⁷⁷ Guideline B4.3.1, para. 2(e); Standard A3.1, para. 5(h).

⁴⁷⁸ Guideline B4.3.1, para. 2(f); Standard A3.1, para. 5(h).

⁴⁷⁹ Guideline B4.3.1, para. 2(g); Standard A5.3 para. 5(h).

⁴⁸⁰ Guideline B4.3.1, para. 2(h).

⁴⁸¹ Guideline B4.3.1, para. 2(i).

⁴⁸² Guideline B4.3.1, para. 2(j).

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- (k) *dangerous cargo and ballast;*⁴⁸⁴
 - (l) ***personal protective equipment** for seafarers;*⁴⁸⁵
 - (m) *work in enclosed spaces;*⁴⁸⁶
 - (n) *physical and mental effects of fatigue;*⁴⁸⁷
 - (o) *the effects of drug and alcohol dependency;*⁴⁸⁸
 - (p) *HIV/AIDS protection and prevention;*⁴⁸⁹ *and*
 - (q) *emergency and accident response.*⁴⁹⁰
5. *The assessment of risks and reduction of exposure on the matters referred to in paragraph 4 above shall take account of the physical occupational health effects, including manual handling of loads, noise and vibration, the chemical and biological occupational health effects, the mental occupational health effects, the physical and mental health effects of fatigue, and occupational accidents. The necessary measures shall take due account of the preventive principle according to which, among other things, combating risk at the source, adapting work to the individual, especially as regards the design of workplaces, and replacing the dangerous by the non-dangerous or the less dangerous, have precedence over personal protective equipment for seafarers.*⁴⁹¹
6. *In addition, the competent authority shall ensure that the implications for health and safety are taken into account, particularly in the following areas:*⁴⁹²
- (a) *emergency and accident response;*⁴⁹³
 - (b) *the effects of drug and alcohol dependency;*⁴⁹⁴ *and*
 - (c) *HIV/AIDS protection and prevention.*⁴⁹⁵
7. **Compliance with the requirements of applicable international instruments on the acceptable levels of exposure to workplace hazards on board ships and on the development and implementation of ships' occupational safety and health policies and programmes will be considered as meeting the requirements set out in this Section 4.3.**⁴⁹⁶

⁴⁸³ Guideline B4.3.1, para. 2(k).

⁴⁸⁴ Guideline B4.3.1, para. 2(l).

⁴⁸⁵ Guideline B4.3.1, para. 2(m).

⁴⁸⁶ Guideline B4.3.1, para. 2(n).

⁴⁸⁷ Guideline B4.3.1, para. 2(o).

⁴⁸⁸ Guideline B4.3.1, para. 2(p).

⁴⁸⁹ Guideline B4.3.1, para. 2(q).

⁴⁹⁰ Guideline B4.3.1, para. 2(r).

⁴⁹¹ Guideline B4.3.1, paras 1–3.

⁴⁹² Guideline B4.3.1, paras 1–4.

⁴⁹³ Guideline B4.3.1, paras 1–4(a).

⁴⁹⁴ Guideline B4.3.1, paras 1–4(b).

⁴⁹⁵ Guideline B4.3.1, paras 1–4(c).

⁴⁹⁶ Standard A4.3, para. 4.

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8. **Shipowners must adopt and promote on-board occupational safety and health management policies and programmes**, consistent with the guidelines referred to in paragraph 3 above, **that:**
- (a) **include reasonable precautions to prevent occupational accidents, injuries and diseases on board ship, including measures to reduce and prevent the risk of exposure to harmful levels of ambient factors and chemicals as well as the risk of injury or disease that may arise from the use of equipment and machinery on board ships;**⁴⁹⁷
 - (b) **include training and instruction of seafarers**⁴⁹⁸ **and other on-board programmes for the prevention of occupational accidents, injuries and diseases and for continuous improvement in occupational safety and health protection, that involve seafarers' representatives and all other persons concerned in their implementation, taking account of preventive measures, including engineering and design control, substitution of processes and procedures for collective and individual tasks, and the use of personal protective equipment;**⁴⁹⁹ *the curriculum for the training must be reviewed periodically and brought up to date in the light of development in types and sizes of ships and in their equipment, as well as changes in manning practices, nationality, language and the organization of work on board ships;*⁵⁰⁰
 - (c) **require the inspection, reporting and correcting of unsafe conditions and provide for the investigation and reporting of on-board occupational accidents**⁵⁰¹ *and occupational injuries and diseases; all such events must be reported so that they can be investigated and comprehensive statistics can be kept, analysed and published, taking account of protection of the personal data of the seafarers concerned; reports must not be limited to fatalities or to accidents involving the ship;*⁵⁰² *due regard should be had to any international system or model for recording accidents to seafarers which may have been established by the International Labour Organization;*⁵⁰³
 - (d) **provide special attention to the safety and health of seafarers under the age of 18;**⁵⁰⁴
 - (e) **specify the duties of the master or a person designated by the master, or both, to take specific responsibility for the implementation of and compliance with the ship's occupational safety and health policy and programme;**⁵⁰⁵
 - (f) **specify the authority of the ship's seafarers appointed or elected as safety representatives to participate in meetings of the ship's safety committee; such a committee must be established on board a ship on which there are five or more seafarers;**⁵⁰⁶
 - (g) **include risk evaluation**⁵⁰⁷ **in relation to management of occupational safety and health that refer to appropriate statistical information from their ships and from general statistics provided by the competent authority.**⁵⁰⁸

⁴⁹⁷ Standard A4.3, para. 1(b).

⁴⁹⁸ Standard A4.3, para. 1(a).

⁴⁹⁹ Standard A4.3, para. 1(c).

⁵⁰⁰ Guideline B4.3.9, para. 1.

⁵⁰¹ Standard A4.3, para. 1(d).

⁵⁰² Guideline B4.3.5, para. 1; Standard A3.1, para. 2(a).

⁵⁰³ Guideline B4.3.5, para. 3.

⁵⁰⁴ Standard A4.3, para. 2(b).

⁵⁰⁵ Standard A4.3, para. 2(c).

⁵⁰⁶ Standard A4.3, para. 2(d).

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9. With respect to young seafarers referred to under paragraph 8(d), *except where they are recognized as fully qualified in a pertinent skill by the competent authority, the standards set in accordance with paragraph 2 must specify restrictions on young seafarers undertaking, without appropriate supervision and instruction, certain types of work presenting special risk of accident or of detrimental effect on their health or physical development, or requiring a particular degree of maturity, experience or skill. In determining the types of work to be restricted by the regulations, the competent authority might consider in particular work involving:*⁵⁰⁹
- (a) *the lifting, moving or carrying of heavy loads or objects;*⁵¹⁰
 - (b) *entry into boilers, tanks and cofferdams;*⁵¹¹
 - (c) *exposure to harmful noise and vibration levels;*⁵¹²
 - (d) *operating hoisting and other power machinery and tools, or acting as signallers to operators of such equipment;*⁵¹³
 - (e) *handling mooring or tow lines or anchoring equipment;*⁵¹⁴
 - (f) *rigging;*⁵¹⁵
 - (g) *work aloft or on deck in heavy weather;*⁵¹⁶
 - (h) *nightwatch duties;*⁵¹⁷
 - (i) *servicing of electrical equipment;*⁵¹⁸
 - (j) *exposure to potentially harmful materials, or harmful physical agents such as dangerous or toxic substances and ionizing radiations;*⁵¹⁹
 - (k) *the cleaning of catering machinery;*⁵²⁰ *and*
 - (l) *the handling or taking charge of ships' boats.*⁵²¹

⁵⁰⁷ Standard A4.3, para. 1(a).

⁵⁰⁸ Standard A4.3, para. 8.

⁵⁰⁹ Guideline B4.3.10, para. 2.

⁵¹⁰ Guideline B4.3.10, para. 2(a).

⁵¹¹ Guideline B4.3.10, para. 2(b).

⁵¹² Guideline B4.3.10, para. 2(c).

⁵¹³ Guideline B4.3.10, para. 2(d).

⁵¹⁴ Guideline B4.3.10, para. 2(e).

⁵¹⁵ Guideline B4.3.10, para. 2(f).

⁵¹⁶ Guideline B4.3.10, para. 2(g).

⁵¹⁷ Guideline B4.3.10, para. 2(h).

⁵¹⁸ Guideline B4.3.10, para. 2(i).

⁵¹⁹ Guideline B4.3.10, para. 2(j).

⁵²⁰ Guideline B4.3.10, para. 2(k).

⁵²¹ Guideline B4.3.10, para. 2(l).

Appendix V

Chart summarizing ILO documents related to Standard A4.3

Standard A4.3	Topic	ILO documents
Standard A4.3, paras 1–4 Guideline B4.3.7 Guideline B4.3.8 Guideline B4.3.11	OSH policies and programmes	Occupational Safety and Health Convention, 1981 (No.155), and Recommendation (No. 164) Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187), and Recommendation (No. 197)
Standard A4.3, paras 1, 8 Guideline B4.3.1, para. 3	Risk evaluation	Occupational Safety and Health Convention, 1981 (No. 155), Article 7 ILO code of practice on ambient factors in the workplace, 2001
Standard A4.3, paras 1, 2, 7 Guideline B4.3.1, para. 2(m) Guideline B4.3.9 Guideline B4.3.11	Prevention of occupational accidents, injuries and diseases	Occupational Safety and Health Convention, 1981 (No. 155), Article 4 Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187), Articles 1, 4 ILO code of practice on accident prevention on board ship at sea and in port, 1996
Standard A4.3, paras 1, 5, 6, 8 Guideline B4.3.5 Guideline B4.3.6	Investigating and reporting	ILO code of practice on accident prevention on board ship at sea and in port, 1996 Protocol of 2002 to the Occupational Safety and Health Convention, 1981 (No. 155) ILO list of occupational diseases (revised 2010)
Standard A4.3, para. 1(a) Guideline B4.3.9, para. 2 Guideline B4.3.10	Training and instruction	ILO code of practice on accident prevention on board ship at sea and in port, 1996, Chapter 10
Standard A4.3, para. 1(b) Guideline B4.3.1, para. 3	Ambient factors – Chemicals and biologicals	ILO code of practice on ambient factors in the workplace, 2001, Chapter 4 ILO code of practice on safety in the use of chemicals at work, 1993
Standard A4.3, para. 1(b) Guideline B4.3.1, para. 2(c)	Ambient factors – Machinery	ILO code of practice on accident prevention on board ship at sea and in port, 1996, Chapter 21
Standard A4.3, para. 1(b) Guideline B4.3.1, para. 2(d)	Ambient factors – Heat and cold	ILO code of practice on ambient factors in the workplace, 2001, Chapter 8
Standard A4.3, para. 1(b) Guideline B4.3.1, para. 2(e) Guideline B4.3.1, para. 3 Guideline B4.3.2 Guideline B4.3.10, para. 2(c)	Ambient factors – Noise	ILO code of practice on ambient factors in the workplace, 2001, Chapter 9 ILO code of practice on protection of workers against noise and vibration in the working environment, 1977
Standard A4.3, para. 1(b)	Ambient factors – Vibration	ILO code of practice on ambient factors in the workplace, 2001, Chapter 10

Standard A4.3	Topic	ILO documents
Guideline B4.3.1, para. 2(f) Guideline B4.3.1, para. 3 Guideline B4.3.3 Guideline B4.3.10, para. 2(c)		ILO code of practice on protection of workers against noise and vibration in the working environment, 1977
Standard A4.3, para. 2(b) Guideline B4.3.4	Obligations of shipowners, seafarers and others	ILO code of practice on accident prevention on board ship at sea and in port, 1996, Chapter 2
Standard A4.3, para. 2(c)	Duties of master	ILO code of practice on accident prevention on board ship at sea and in port, 1996
Standard A4.3, paras 3, 5, 7, 8	Tripartite consultation	Occupational Safety and Health Convention, 1981 (No.155), Articles 1, 2, 4, 8, 15, 19 Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187), Articles 2–5 ILO code of practice on accident prevention on board ship at sea and in port, 1996, Chapter 1
Standard A4.3, paras 5, 8 Guideline B4.3.5	Statistics	Occupational Safety and Health Convention, 1981 (No.155), Article 11
Guideline B4.3.1, para. 2(b)	Asbestos	ILO code of practice on safety in the use of asbestos, 1984
Guideline B4.3.1, para. 2(j)	Fire prevention and firefighting	ILO code of practice on accident prevention on board ship at sea and in port, 1996, Chapters 5, 6
Guideline B4.3.1, para. 2(n)	Enclosed spaces	ILO code of practice on accident prevention on board ship at sea and in port, 1996, Chapter 10
Guideline B4.3.1, para. 2(p) Guideline B4.3.1, para. 4	Drug and alcohol dependency	ILO code of practice on management of alcohol- and drug-related issues in the workplace, 1996 <i>Drug and Alcohol Abuse Prevention Programmes in the Maritime Industry (A Manual for Planners)</i> (Revised), ILO, 2001
Guideline B4.3.1, para. 2(q) Guideline B4.3.1, para. 4	HIV/AIDS	HIV and AIDS Recommendation, 2010 (No. 200) ILO code of practice on HIV/AIDS and the world of work, 2001

Appendix VI

Relevant sections of the country report form under article 22

Article 22 of the Constitution of the ILO

Report for the period from _____ to _____
made by the Government of _____
on the
Maritime Labour Convention, 2006
(ratification registered on _____)

...

Part II. Specific information

1. This section of the report follows the same organization as the Maritime Labour Convention, 2006 (MLC, 2006). It is divided into five Titles (Titles 1–5). Each Title sets out the related Regulations and Code provisions and asks for specific information on how they have been given effect in your country. For convenience, this form contains a description of the basic requirements in each area.¹ The relevant provisions of the Convention are identified in each question, so that their text can be consulted.
2. It will be noted that the provisions under each Regulation also include a reference to the Guidelines in Part B of the Code to the Convention. As mentioned above at point 8 in the guidance for drawing up reports, it is not mandatory for Members to follow the Guidelines when implementing the Regulations and Standards. However, if a Member has chosen to do so, the ILO supervisory bodies would not have to consider further the adequacy or sufficiency of the Member's implementation of the relevant provisions of the Convention.

...

Regulation 1.3 – Training and qualifications	
<ul style="list-style-type: none">■ Seafarers must be trained or certified as competent or otherwise qualified to perform their duties on board ship.■ Seafarers must have successfully completed training for personal safety on board ship.■ Obligations under Convention No. 74, if ratified, continue to apply. <p>NB. <i>Training and certification in accordance with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW), as amended, is to be accepted as meeting these requirements.</i></p>	
Adequate information on all matters is to be found in the enclosed DMLC, Part I <input type="checkbox"/> /Part II <input type="checkbox"/> Please check one or both boxes or provide the information in the right-hand column below.	
Do all seafarers have to be trained, certified or otherwise qualified for the duties they are to carry out on board ship? (Regulation 1.3, paragraph 1 – see also paragraph 4)	

¹ The description of basic requirements is based on the text adopted by tripartite expert meetings in September 2008 when they adopted *Guidelines for flag State inspections under the Maritime Labour Convention, 2006* (MEFS/2008/8(Rev.)) and from the text of the Maritime Labour Convention, 2006.

Are all seafarers required to successfully complete training for personal safety on board ship? (Regulation 1.3, paragraph 2)	
Is training and certification in accordance with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW), as amended, accepted? (Regulation 1.3, paragraph 3)	
Additional information concerning implementation of Regulation 1.3 (see above: Practical guidance for drawing up reports, point 5).	
Explanations (see above: Practical guidance for drawing up reports, point 7).	

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Title 3. Accommodation, recreational facilities, food and catering

<p>Regulation 3.1 – Accommodation and recreational facilities Standard A3.1; see also Guideline B3.1</p> <ul style="list-style-type: none"> ■ All ships must be in compliance with the minimum standards established by the MLC, 2006, providing and maintaining decent accommodation and recreational facilities for seafarers working or living on ships, or both, consistent with promoting seafarers' health and well-being. ■ Seafarer accommodation must be safe and decent and must meet national requirements implementing the MLC, 2006 (Standard A3.1, paragraph 1). ■ Frequent inspections of seafarer accommodation areas must be carried out by the master or a designate (Standard A3.1, paragraph 18) and recorded; the records must be available for review. ■ Particular attention must be paid to the requirements relating to: <ul style="list-style-type: none"> – the size of rooms and other accommodation spaces (Standard A3.1, paragraphs 9 and 10); – heating and ventilation (Standard A3.1, paragraph 7); – noise and vibration and other ambient factors (Standard A3.1, paragraph 6(h)); – sanitary and related facilities (Standard A3.1, paragraphs 11 and 13); – lighting (Standard A3.1, paragraph 8); – hospital accommodation (Standard A3.1, paragraph 12). ■ The requirements under Regulation 3.1 also cover: <ul style="list-style-type: none"> – recreational facilities (Standard A3.1, paragraphs 14 and 17); – occupational safety and health and accident prevention requirements on ships, in light of the specific needs of seafarers who both live and work on ships (Standard A3.1, paragraphs 2(a) and 6(h)). ■ Ships that were constructed* before the entry into force of the MLC, 2006, for your country must: <ul style="list-style-type: none"> – provide and maintain decent accommodation and recreational facilities for seafarers working or living on board, or both, consistent with promoting the seafarers' health and well-being in accordance with national legislation (Regulation 3.1, paragraph 1); and – meet the standards set out in Conventions Nos 92 and/or 133, if applicable in your country (because of ratification, through substantial equivalence due to ratification of Convention No.147 or the Protocol of 1996 to Convention No. 147 or otherwise) (Regulation 3.1, paragraph 2). <p>The requirements of the Code relating to ship construction and equipment do not apply to these ships, unless applied by national law. The other Code requirements do apply.</p> <p><i>*A ship is deemed to be constructed on the date its keel is laid or when it is at a similar stage of construction.</i></p> <p>Adequate information on all matters is to be found in the enclosed DMLC, Part I <input type="checkbox"/>/Part II <input type="checkbox"/></p> <p>Please check one or both boxes or provide the information in the right-hand column below.</p>

Has your country adopted laws and regulations to ensure that all ships covered by the Convention which fly its flag (including those constructed prior to the Convention's entry into force for your country) maintain decent accommodation and recreational facilities for seafarers on board? (<i>Regulation 3.1, paragraph 1; Standard A3.1, paragraph 1</i>)	If yes, please summarize the content of the legislative provisions concerned:
For ships constructed prior to the Convention's entry into force for your country, are the relevant requirements in Convention No. 92 or No. 133 (or of Convention No. 147 or its Protocol) applicable with respect to matters relating to construction and equipment? (<i>Regulation 3.1, paragraph 2</i>)	If no, please indicate the kinds of requirements that are considered to relate to construction and equipment and are thus not applicable to those ships:
Do the laws and regulations establishing the minimum standards for seafarers' on-board accommodation and recreational facilities take account of the requirements in Regulation 4.3 and the Code regarding occupational safety and health and accident prevention? (<i>Standard A3.1, paragraphs 2(a)</i>)	If no, please explain how these concerns are taken into account:
Are the inspections required under Regulation 5.1.4 carried out when a ship is registered or re-registered and/or when seafarer accommodation is substantially altered? (<i>Standard A3.1, paragraph 3</i>)	If no, please explain:
Please summarize the content of your country's general requirements for accommodation implementing <i>paragraph 6(a)–(f) of Standard A3.1</i> .	
Have any exceptions (other than for passenger ships and special purpose ships) been made with respect to the location of sleeping rooms? (<i>Standard A3.1, paragraph 6(c) and (d)</i>)	If yes, please indicate the kinds of exceptions made:
Please summarize the content of your country's measures to prevent exposure to hazardous levels of noise and vibration and other ambient factors. (<i>Standard A3.1, paragraph 6(h)</i>)	
Please summarize the content of your country's requirements for heating and ventilation implementing <i>paragraph 7 of Standard A3.1</i> .	
Please summarize the content of your country's requirements for lighting implementing <i>paragraph 8 of Standard A3.1</i> .	
Please summarize the content of your country's requirements for sleeping rooms implementing <i>paragraph 9 of Standard A3.1</i> .	
Please summarize the content of your country's requirements for mess rooms implementing <i>paragraph 10 of Standard A3.1</i> .	
Please summarize the content of your country's requirements for sanitary and laundry facilities implementing <i>paragraphs 11 and 13 of Standard A3.1</i> .	
Please summarize the content of your country's requirements for hospital accommodation implementing <i>paragraph 12 of Standard A3.1</i> .	
Please summarize the content of your country's requirements for recreational facilities, amenities and services implementing <i>paragraphs 14, 15 and 17 of Standard A3.1</i> .	
Have any exemptions for ships less than 200 gross tonnage been given? (<i>Standard A3.1, paragraphs 20 and 21</i>)	If yes, please indicate the kinds of exemptions given:
Have any variations to take account of the interest of seafarers having differing and distinctive religious and social practices been permitted? (<i>Standard A3.1, paragraph 19</i>)	If yes, please indicate the kinds of variations permitted:

What is the required frequency for on-board inspections of seafarers' accommodation that are to be carried out by or under the authority of the master and what are the requirements for recording and review of those inspections? (Standard A3.1, paragraph 18)	
Additional information concerning implementation of Regulation 3.1 (see above: Practical guidance for drawing up reports, point 5).	
Explanations (see above: Practical guidance for drawing up reports, point 7).	

...

Title 4. Health protection, medical care, welfare and social security protection

...

Regulation 4.3 – Health and safety protection and accident prevention Standard A4.3; see also Guideline B4.3	
<ul style="list-style-type: none"> ■ The working, living and training environment on ships must be safe and hygienic and conform to national laws and regulations and other measures for occupational safety and health protection and accident prevention on board ship. Reasonable precautions are to be taken on the ships to prevent occupational accidents, injuries and diseases including risk of exposure to harmful levels of ambient factors and chemicals as well as the risk of injury or disease that may result from the use of equipment and machinery on the ship. ■ Ships must have an occupational safety and health policy and programme to prevent occupational accident injuries and diseases, with a particular concern for the safety and health of seafarers under the age of 18. ■ A ship safety committee, which includes participation by the seafarer safety representative, is required (for ships with five or more seafarers). ■ Risk evaluation is required for on-board occupational safety and health management (taking into account relevant statistical data). 	
Adequate information on all matters is to be found in the enclosed DMLC, Part I <input type="checkbox"/> /Part II <input type="checkbox"/> Please check one or both boxes or provide the information in the right-hand column below.	
Has your country adopted national laws and regulations and taken other measures, including the development and promulgation of national guidelines for the management of occupational safety and health, to protect seafarers that live, work and train on board ships flying its flag? (Regulation 4.3, paragraphs 1–3)	If yes, please provide a reference to those provisions if they are in English, French or Spanish; otherwise, please summarize their content:
Do those laws and regulations and other measures address all matters in Standard A4.3, paragraphs 1 and 2, including any measures taken to protect seafarers under the age of 18? (Standard A4.3, paragraphs 1 and 2; see guidance in Guideline B4.3)	If no, please indicate the matters that are not addressed:
Are those laws and regulations and other measures reviewed regularly, in consultation with shipowners' and seafarers' organizations, with a view to their revision to account for changes in technology and research and the need for continuous improvement? (Standard A4.3, paragraph 3)	
Are ships with five or more seafarers on board required to have a safety committee which includes seafarer representatives? (Standard A4.3, paragraph 2(d))	

Are occupational accidents, injuries and diseases reported taking into account guidance from the ILO? (Standard A4.3, paragraphs 5(a) and 6)	If no, please explain what reports are required:
Are shipowners required to conduct risk evaluations for occupational safety and health on board ship? (Standard A4.3, paragraph 8)	If no, please explain what shipowners are required to do with respect to ascertaining and preventing risks:
Additional information concerning implementation of Regulation 4.3 (see above: Practical guidance for drawing up reports, point 5).	
Explanations (see above: Practical guidance for drawing up reports, point 7).	
Documentation: Please provide, in English, French or Spanish: <ul style="list-style-type: none"> – an example of a document (e.g. Part II of the DMLC outlining a shipowner's practices or on-board programmes (including risk evaluation) for preventing occupational accidents, injuries and diseases (Standard A4.3, paragraphs 1(c), 2(b) and 8); – a copy of the relevant national guidelines (Regulation 4.3, paragraph 2); – a copy of the document(s) used for reporting unsafe conditions or occupational accidents on board ship (Standard A 4.3, paragraph 1(d)). 	

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Appendix VII

Explanatory note to the Regulations and Code of the Maritime Labour Convention

1. This explanatory note, which does not form part of the Maritime Labour Convention, is intended as a general guide to the Convention.
2. The Convention comprises three different but related parts: the Articles, the Regulations and the Code.
3. The Articles and Regulations set out the core rights and principles and the basic obligations of Members ratifying the Convention. The Articles and Regulations can only be changed by the Conference in the framework of article 19 of the Constitution of the International Labour Organisation (see Article XIV of the Convention).
4. The Code contains the details for the implementation of the Regulations. It comprises Part A (mandatory Standards) and Part B (non-mandatory Guidelines). The Code can be amended through the simplified procedure set out in Article XV of the Convention. Since the Code relates to detailed implementation, amendments to it must remain within the general scope of the Articles and Regulations.
5. The Regulations and the Code are organized into general areas under five Titles:
 - Title 1: Minimum requirements for seafarers to work on a ship.
 - Title 2: Conditions of employment.
 - Title 3: Accommodation, recreational facilities, food and catering.
 - Title 4: Health protection, medical care, welfare and social security protection.
 - Title 5: Compliance and enforcement.
6. Each Title contains groups of provisions relating to a particular right or principle (or enforcement measure in Title 5), with connected numbering. The first group in Title 1, for example, consists of Regulation 1.1, Standard A1.1 and Guideline B1.1, relating to minimum age.
7. The Convention has three underlying purposes:
 - (a) to lay down, in its Articles and Regulations, a firm set of rights and principles;
 - (b) to allow, through the Code, a considerable degree of flexibility in the way Members implement those rights and principles; and
 - (c) to ensure, through Title 5, that the rights and principles are properly complied with and enforced.
8. There are two main areas for flexibility in implementation: one is the possibility for a Member, where necessary (see Article VI, paragraph 3), to give effect to the detailed requirements of Part A of the Code through substantial equivalence (as defined in Article VI, paragraph 4).
9. The second area of flexibility in implementation is provided by formulating the mandatory requirements of many provisions in Part A in a more general way, thus leaving a wider scope for discretion as to the precise action to be provided for at the national level. In such cases, guidance on implementation is given in the non-mandatory Part B of the Code. In this way, Members which have ratified this Convention can ascertain the kind of action that might be expected of them under the corresponding general obligation in Part A, as well as action that would not necessarily be required. For example, Standard A4.1 requires all ships to provide prompt access to the necessary medicines for medical care on board ship (paragraph 1(b)) and to “carry a medicine chest” (paragraph 4(a)). The fulfilment in good faith of this latter obligation clearly means something more than simply having a medicine chest on board each ship. A more precise indication of what is involved is provided in the corresponding Guideline B4.1.1 (paragraph 4) so as to ensure that the contents of the chest are properly stored, used and maintained.
10. Members which have ratified this Convention are not bound by the guidance concerned and, as indicated in the provisions in Title 5 on port State control, inspections would deal only with the

relevant requirements of this Convention (Articles, Regulations and the Standards in Part A). However, Members are required under paragraph 2 of Article VI to give due consideration to implementing their responsibilities under Part A of the Code in the manner provided for in Part B. If, having duly considered the relevant Guidelines, a Member decides to provide for different arrangements which ensure the proper storage, use and maintenance of the contents of the medicine chest, to take the example given above, as required by the Standard in Part A, then that is acceptable. On the other hand, by following the guidance provided in Part B, the Member concerned, as well as the ILO bodies responsible for reviewing implementation of international labour Conventions, can be sure without further consideration that the arrangements the Member has provided for are adequate to implement the responsibilities under Part A to which the Guideline relates.