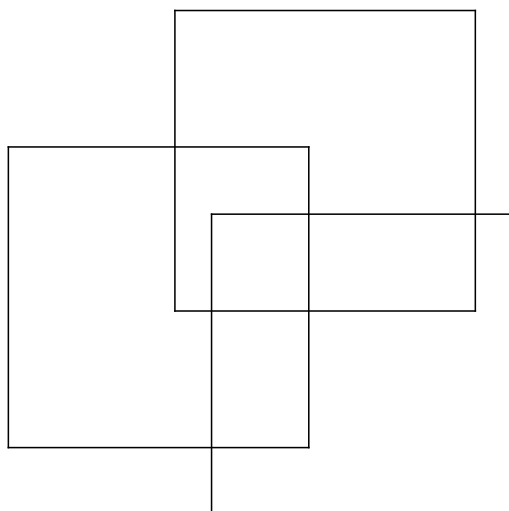




Final report

**Meeting of Experts to adopt a revised code of practice
on safety and health in shipbuilding and ship repair**
(Geneva, 22–26 January 2018)



MECPS/2018/6

INTERNATIONAL LABOUR ORGANIZATION

Sectoral Policies Department

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INTERNATIONAL LABOUR OFFICE, GENEVA

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Introduction

1. The Meeting of Experts to adopt a revised code of practice on safety and health in shipbuilding and ship repair met from 22 to 26 January 2018 at the International Labour Office in Geneva, in accordance with the decision taken by the Governing Body at its 329th Session (March 2017).
2. The Meeting was attended by 22 experts – eight experts appointed following consultations with Governments, eight experts appointed following consultations with the Employers' group of the Governing Body and six experts appointed following consultations with the Workers' group of the Governing Body. The Meeting was also attended by 22 Government observers and three Worker advisors. There were seven observers from international non-governmental organizations (INGOs).
3. The Officers of the Meeting were:

<i>Chairperson:</i>	Mr César Augusto Gomez Ruiloba (Government, Panama)
<i>Vice-Chairpersons:</i>	Ms Wenhui Fei (Government, China) Ms Teniola Oluwayemisi Fayemi (Government, Nigeria) Mr John Beckett (Employer, Canada) ¹ Mr Wirrick Williams (Employer, Namibia) Ms Deborah Vallance (Worker, Australia)
<i>Employer Secretary:</i>	Mr Jean Dejardin, International Organisation of Employers (IOE)
<i>Worker Secretary:</i>	Ms Raquel Gonzalez, International Trade Union Confederation (ITUC)

4. The Chairperson [M] welcomed the participants and observed that the purpose of the Meeting was to review, improve and adopt a revised code of practice on safety and health in shipbuilding and ship repair for the use of employers, workers, governments and all others wishing to improve safety and health in the industry.
5. The Secretary-General of the Meeting, Ms Alette van Leur (Director, ILO Sectoral Policies Department), noted the increasing number of countries engaged in shipbuilding, in an industry that was dominated by China, the Republic of Korea and Japan. Workers in the sector were increasingly faced by non-standard employment relationships and special attention needed to be paid to their occupational safety and health (OSH). The sector had faced difficult times as it was highly cyclical and dependent on world trade. The revised code of practice was intended to serve as a basis for developing national and company OSH management systems, and to contribute to the overall improvement of working conditions in the sector. As a non-legally binding tool which was not subject to ratification or supervision, the revised code of practice was based on the principles, rights and obligations

¹ Mr Beckett had to return to Canada early, and was replaced as Employer Vice-Chairperson for the final two days of the Meeting by Mr Williams.

set out in international labour standards, and nothing in the Code should be understood as lowering such standards.

6. The Executive Secretary, Mr Casper Edmonds (Head of Unit, ILO Sectoral Policies Department), provided an overview of the draft Code and its background. The Code that was being revised had been adopted in 1973 and was now considered outdated in light of technological and other developments. These developments included the adoption of more recent international labour standards in the field of OSH. The revised Code also reflected the many changes in the industry, its workforce, the roles of the competent authorities, shipowners, employers, workers and their organizations, as well as contractors and subcontractors. Finally, it included a number of topics that were not referred to in the original version, such as OSH management systems, the management of change, safe workplans and the permit-to-work system.
7. The Worker Vice-Chairperson [F] emphasized that the industry had changed dramatically in terms of design and building technology since the adoption of the previous Code in 1973. She observed that the industry had faced serious overcapacity, leading to market distorting practices, severe cost competition and an increase of precarious workers. Under these circumstances, safety and health had sometimes been neglected, resulting in many serious accidents in shipyards. Shipbuilding and ship repair processes required a large number of workers and the priority was to protect their lives and promote sustainable employment in the sector. There was therefore a need for comprehensive international OSH standards, which covered all workers, including those in small and medium-sized shipyards and those employed by contractors and subcontractors. She highlighted the three priorities of the Workers' group to secure worker's representation:
 - the right to know about the hazards of their work and to receive the necessary training and education to do the work safely;
 - the right to participate fully and the right to representation in the development and implementation of health and safety policies, programmes and procedures, including risk assessments; and
 - the right to refuse or stop unsafe work without fear of repercussions.
8. The Employer Vice-Chairperson [M] noted that the sector had changed significantly since the adoption of the earlier Code in 1973 and that an update was needed to achieve high and comprehensive OSH standards. The safety and health record in the industry had improved, but there would always be room for improvement. It was important to recognize the role that OSH management systems played in ensuring efficient planning and risk assessment and in guaranteeing protection for all workers, including those employed by contractors and those in precarious employment. Because each jurisdiction was different, the sovereignty of each country should be respected.
9. The Government Co-Vice-Chairpersons [F] emphasized that the shipbuilding and ship repair industry was very competitive. Although accident rates in the industry were low and decreasing, the processes used were often hazardous, with the risk of injury and even fatalities. They hoped that the Meeting would be beneficial for the sector and would lead to an improvement in OSH and a decrease in the number of accidents.
10. A Government expert from Japan [M] noted that in his country, in view of the ever higher levels of international competition, enterprises in the shipbuilding and repair industry were making efforts to reduce the number of workers employed and to diversify their workforce, for example through the recruitment of workers from other Asian countries. A Government expert from the Republic of Korea [M] reported that the workforce in the sector in his country was skilled and that the protection of workers was considered a matter of great

importance. A Government expert from Italy [F] observed that the draft Code was very comprehensive, but included many generic statements which would need to be made more specific. A Government observer from Senegal [M] called on the Meeting to define the term “shipyard” more specifically, as it could and should cover many different types of workplaces that formed part of the industry.

11. On Wednesday, 24 January 2018, the Meeting observed a minute’s silence in tribute to four workers in Italy who had lost their lives while they were at work.

Consideration of the draft Code of Practice on safety and health in shipbuilding and ship repair ²

12. The Chairperson [M] drew the attention of the Meeting to the draft code of practice on safety and health in shipbuilding and ship repair prepared by the Office and contained in document MECPS/2018.

Introduction

13. The **Introduction** of the Code was adopted without discussion.

1. General provisions

1.1. Purpose and objectives

14. The Employer Vice-Chairperson [M] observed that the reference in subparagraph 1(a) to “both men and women”, while taking into account the need to promote equality for men and women, was not in line with the requirements and practice in many countries relating to lesbian, gay, bisexual, transsexual and queer (LGBTQ) persons.
15. A Government Co-Vice-Chairperson [F] proposed that the words “both men and women” should be replaced by “all workers”. The Meeting agreed with the proposed change, which should apply throughout the text, unless the Meeting decided to distinguish between men and women in specific sections and paragraphs.
16. A Government Co-Vice-Chairperson [F] proposed the deletion of the word “shipowners” in subparagraphs 2(d) and (e). An expert from the Government of Japan [M] explained that the deletion reflected the OSH duties and requirements set out in national legislation, which concerned governments, employers and workers. Shipowners were not primarily concerned by such duties and requirements, and were often multinational enterprises.
17. The Employer Vice-Chairperson [M] disagreed with the proposal and observed that the draft code of practice included many specific duties of shipowners.

² All references to section numbers are to the original draft text of the code of practice, unless otherwise stated.

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18. The Worker Vice-Chairperson [F] agreed that it was essential to retain the reference to shipowners. Subparagraphs 2(d) and (e) were adopted without amendment. Section 1.1 was adopted, as amended.

1.2. Application and scope

19. The Employer Vice-Chairperson [M] indicated that, in paragraph 1, the list contained in parentheses should also include “workshops of contractors”. It was so agreed.
20. The Worker Vice-Chairperson [F] said that a reference was missing in subparagraph 2(a) to the principal employer. The major employer in shipbuilding and ship repair was often a contractor, which then subcontracted many operations.
21. The Employer Vice-Chairperson [M] understood the underlying issue raised by the Worker Vice-Chairperson. However, the issue would be addressed more effectively by including a reference to employers and inserting the standard ILO terminology of “employers, workers and their respective organizations” to replace the words “workers’ and employers’ organizations”. It was so agreed. Section 1.2 was adopted, as amended.
22. Section 1.3, **Reference to ILO instruments**, was adopted without discussion.

2. General obligations, responsibilities, duties and rights

2.1. Cooperation

23. The Worker Vice-Chairperson [F] proposed the addition in paragraph 1 of the words “and consultation” after the words “joint commitment”. It was so agreed.
24. A Government Co-Vice-Chairperson [F] proposed that subparagraph 2(a) be moved to become a separate paragraph at the end of section 2.1. A Government expert from Japan [M], noting that paragraph 2(a) referred to action to be taken by shipowners on their own, rather than in cooperation, explained that it would be more appropriate as a separate paragraph.
25. The Employer Vice-Chairperson [M] opposed the suggestion as shipowners were also responsible for cooperation. The Meeting decided not to adopt the proposal and subparagraph 2(a) was adopted without amendment.
26. The Worker Vice-Chairperson [F] proposed the addition in subparagraph 2(b) of the words “and consult” after the words “should cooperate”. It was so agreed.
27. The Worker Vice-Chairperson [F] proposed the addition at the end of subparagraph 2(c) of the words “and receive the necessary education and training to do so”. It was so agreed. Section 2.1 was adopted, as amended.

2.2. Competent authority

2.2.1. General provisions

28. A Government Co-Vice-Chairperson [F] proposed the insertion in subparagraph 5(c) of a parenthesis giving examples of the specific categories of workers indicated “(for example, older workers, pregnant women workers, etc.)”.

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29. The Employer Vice-Chairperson [M] considered that the text should be left more general. The inclusion of lists could have the effect of leaving out certain categories of workers. He therefore opposed the proposal.
30. The Worker Vice-Chairperson [F] also opposed the proposed amendment, which was not adopted. Subsection 2.2.1 was adopted without amendment

2.2.2. Inspectorates

31. The Worker Vice-Chairperson [F] proposed the deletion in subparagraph 2(d) of the words “an imminent and”. She considered that inspectors should have the authority to remove workers from situations involving serious danger to life or health which might not be imminent, such as exposure to asbestos, the effects of which would be experienced in the long term.
32. A Government expert from Japan [M] said that it would be difficult to enforce the provision concerning the authority of inspectors in cases of ambiguous and long-term hazards in the workplace, such as exposure to asbestos.
33. The Employer Vice-Chairperson [M] considered that, even though the effects of certain situations might not be experienced for a number of years, the risk was still imminent. He proposed that the wording “imminent and/or serious danger” would cover the concerns raised. It was so decided.
34. The Worker Vice-Chairperson [F] proposed the addition in subparagraph 2(g) of the words “education and”. She explained that, in the field of safety and health, it was her understanding that training consisted, for example, of instruction in the use of personal protective equipment (PPE), while education designated, for example, the instruction provided to workers so that they could understand the information contained in chemical safety data sheets.
35. A Government expert from Singapore [M] expressed the view that it was not necessary for inspectors to have access to all the education records of workers, but only those that were relevant.
36. The Employer Vice-Chairperson [M] expressed agreement with the inclusion of the word “education”, although it should be understood as the education provided on safety and health matters, rather than all general education records. The wording “health and safety education and training records” would cover those concerns. It was so agreed. Subsection 2.2.2 was adopted, as amended.

2.3. **Employers**

37. The Worker Vice-Chairperson [F] emphasized that it was necessary to cover all workers on the site and therefore proposed to add, in paragraph 1, at the end of the first sentence, the phrase “on site, including their own workers and workers of contractors and subcontractors.”
38. The Employer Vice-Chairperson [M], disagreeing with the proposal, observed that the draft code of practice referred to the issue of contractors and subcontractors later. Moreover, some contractors might not work on site.
39. A Government Co-Vice-Chairperson [F] indicated that the provision should be as broad as possible, and that further definition would make its application more complex.

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40. An Employer expert from Spain [M] observed that ancillary companies also employed workers. The principal employer could not be expected to bear all the responsibility for the workers employed by subcontractors, and each employer should assume responsibility for its own workers.
 41. The Employer Vice-Chairperson [M] said that the principal issue in relation to safety and health concerning the employees of contractors and subcontractors was coordination. He therefore proposed the insertion of the word “coordinate” after “have a duty to”, in place of the proposal made by the Worker Vice-Chairperson. The words “on site” could be retained and the first sentence of paragraph 1 would therefore read: “Employers have a duty to coordinate, protect and promote the safety and health of all workers on site.” It was so agreed.
 42. The Worker Vice-Chairperson [F], with reference to paragraph 2, observed that those responsible for OSH in an enterprise did not organize the work, but were responsible for ensuring that work was designed so as to eliminate or control hazards and risks. She therefore proposed the replacement of the word “organize” by the word “design”. It was so agreed.
 43. The Employer Vice-Chairperson [M], with reference to the word “possible”, considered that everything was possible with sufficient time and money, but that what was really being sought was the control of hazards and risks where it was not practicable to eliminate them. He therefore proposed that here and elsewhere in the text the word “possible” should be replaced by the term “practicable”.
 44. The Worker Vice-Chairperson [F] agreed to the amendment in paragraph 2, but not generally throughout the text. It was so agreed and paragraph 2 was adopted, as amended.
 45. The Employer Vice-Chairperson [M] proposed the replacement in subparagraph 4(b) of the word “possible” by the word “practicable”. However, in view of the opposition of the Worker Vice-Chairperson, he withdrew the proposed amendment. Paragraph 4 was adopted without amendment.
 46. The Worker Vice-Chairperson [F] proposed the insertion in paragraph 6 of the words “and integrate prevention activities as follows” after the word “provide”. It was so agreed.
 47. The Worker Vice-Chairperson [F], noting that health surveillance was not necessarily a preventive activity, proposed the insertion of the word “appropriate” in subparagraph 6(a). It was so agreed.
 48. The Worker Vice-Chairperson [F] proposed the addition of a new subparagraph after subparagraph 6(e), which would read “investigate accidents, illnesses and incidents, in cooperation with health and safety committees and/or workers’ representatives, to identify all causes, and measures necessary to prevent recurrences of similar accidents, illnesses and incidents”.
 49. The Employer Vice-Chairperson [M] considered that the proposed addition contained some confusion as to the activities that were to be undertaken in cooperation with health and safety committees and with health and safety representatives. As that was normally clarified by national laws, he proposed the addition at the end of the proposed new subparagraph of the words “in accordance with national laws”.
 50. The Worker Vice-Chairperson [F] specified that the reference to workers’ representatives was not confined to health and safety representatives. What was important was for the code of practice to serve as a tool for improving health and safety outcomes, including in cases where the national legislation did not provide a very high level of protection. For example,

there was no right under the legislation in certain countries for workers to be represented. She therefore opposed the addition of “in accordance with national laws”.

51. The Employer Vice-Chairperson [M] agreed that the intention was to improve OSH outcomes. He withdrew the proposed addition of “in accordance with national laws”. The new subparagraph was adopted as proposed by the Worker Vice-Chairperson.
52. The Employer Vice-Chairperson [M] proposed the addition, at the end of paragraph 7, of the words “in accordance with national laws”.
53. The Worker Vice-Chairperson [F] understood that the wording of paragraph 7 was from an ILO Convention.
54. The Executive Secretary [M] confirmed that the wording of paragraph 7 was from Article 21 of the Occupational Safety and Health Convention, 1981 (No. 155).
55. The Employer Vice-Chairperson [F] therefore agreed to retain the original wording of the paragraph, but proposed the addition of the wording of Article 16(3) of Convention No. 155: “Employers should be required to provide, where necessary, adequate protective clothing and protective equipment to prevent, so far as reasonably practicable, risks of accidents or adverse effects on health”. It was so agreed.
56. The Worker Vice-Chairperson [F] observed, with regard to paragraph 9, that it was not important whether an employer was a national or a multinational enterprise, but whether the employer had more than one establishment. She therefore proposed the replacement of the words “is also a national or multinational enterprise with” by the word “has”. It was so agreed.
57. The Worker Vice-Chairperson [F] considered that paragraph 10 should apply to all enterprises, and not only multinational enterprises. She therefore proposed the deletion of the word “multinational”. It was so agreed.
58. The Employer Vice-Chairperson [M], with reference to paragraph 14, considered that it would be more realistic to refer to the reduction of risks and hazards to a level that was as low as practicable. He therefore proposed the replacement of the word “possible” by the word “practicable”.
59. A Government expert from Japan [M] noted that it was common in this context to refer to reductions to a level that was “as low as reasonably practicable”.
60. The Worker Vice-Chairperson [F] expressed a reluctance to agree to the term “practicable” in that context. It was a matter of concern that, in relation to carcinogens, for example, a level that was as low as reasonably practicable meant in practice that the employer took no action.
61. The Employer Vice-Chairperson [M] observed that, in relation to radiation hazards, the concept that was often used was “as low as reasonably achievable”, or “ALARA”.
62. The Executive Secretary [M] indicated that, following consultation with ILO experts on labour inspection and OSH, it was proposed that the phrase should read “as low a level as reasonably practicable”. It was so agreed.
63. The Worker Vice-Chairperson [F] proposed a new paragraph at the end of section 2.3 which would read: “Employers must establish effective ongoing communication and coordination between appropriate levels of the shipbuilding and ship repair facility with contractors and subcontractors prior to the commencement of work.”

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64. The Employer Vice-Chairperson [M] expressed agreement with the broad statement, but proposed the replacement of “must” by “should”, in line with the language used throughout the code of practice. It was so agreed. Section 2.3 was adopted, as amended.

2.4. Workers

65. The Worker Vice-Chairperson [F], with reference to paragraph 2, considered that the text should not be confined to acts by a person, but should also, for example, include non-compliant equipment. The words “by any person” should therefore be deleted. She added that the action taken should be “appropriate”, rather than “corrective”. It was so agreed.
66. The Worker Vice-Chairperson [F], in subparagraph 7(d), proposed the replacement of the words “requested, and be” with the words “be consulted and”. It was so agreed.
67. The Worker Vice-Chairperson [F], with reference to subparagraph 10(c), proposed the replacement of the words “imminent and serious” by the words “imminent and/or serious”.
68. The Employer Vice-Chairperson [M] considered that subparagraph 10(c) betrayed a certain confusion between action that workers should take to remove themselves from danger, and the action required to prevent danger for other people.
69. The Worker Vice-Chairperson [F] considered that the proposed amendment removed the confusion. A Government Co-Vice-Chairperson [F] agreed with the Worker Vice-Chairperson.
70. The Executive Secretary [M], in response to a request for clarification, said that the origin of the words “and that of other people” was not clear and they could perhaps be deleted.
71. The Worker Vice-Chairperson [F] said that what was important was to clarify that workers had the right not only to remove themselves from danger, but also to take action in respect of other workers. She therefore proposed the addition, after “themselves”, of the words “and/or any co-workers in the vicinity”.
72. The Employer Secretary [M], recalling that the subparagraph covered situations of emergency, proposed to modify the suggested amendment to read: “and their co-workers in the vicinity”. It was so agreed.
73. A Government Co-Vice-Chairperson [F] proposed the addition, at the end of paragraph 14, of the words “not before three months after childbirth”. She explained that merely referring to the appropriate time was imprecise.
74. The Employer Vice-Chairperson [M] did not agree with the proposal. It was not appropriate to impose the standards set by European legislation in other regions. Moreover, the appropriate period following childbirth was a matter to be decided by the mother and her doctor. It was so agreed, and paragraph 14 was adopted without amendment. Section 2.4 was adopted, as amended.
75. Section 2.5, **Suppliers, manufacturers and designers**, was adopted without discussion.

2.6. Contractors and subcontractors

76. The Worker Vice-Chairperson [F] proposed the following text to replace paragraph 3(b): “the same safety and health rights outlined in subsection 2.2.1, paragraph 7, apply to contractors and subcontractors and their workers as to the workers in the establishment,

including education and training requirements and procedures to investigate accidents, occupational illnesses and dangerous occurrences;”. It was so agreed.

77. A Government Co-Vice-Chairperson [F] proposed the addition, at the end of subparagraph 2(f), of the sentence: “Periodic joint safety and health patrols by employers, contractors and subcontractors should be facilitated to identify and control harm and hazards at work.” A Government expert from the Republic of Korea [M] explained that there was some confusion concerning safety and health monitoring. Safety and health patrols were not inspections, but were carried out by the OSH personnel of employers, contractors and subcontractors. He added that many contractors and subcontractors did not have the capacity to deal with all OSH issues and therefore required support from employers to undertake joint OSH activities.
78. The Employer Vice-Chairperson [M] observed that the whole section concerned the duties and responsibilities of contractors and subcontractors, and that the word “employers” should therefore be removed. With some rewording, the proposal could be acceptable. He added that even small shipyards were normally large enough to be covered by the requirement to establish a safety and health committee.
79. The Executive Secretary [M], as requested by the Meeting, proposed a reformulation of the suggested new text of the subparagraph to read: “Periodic joint safety and health inspection at the site, in some countries referred to as ‘safety and health patrols’, ‘safety walks’ ‘safety representative site inspections’, should be facilitated by the employer to identify and control hazards at work.”
80. The Worker Vice-Chairperson [F] emphasized that all those concerned should be involved in inspections covering what happened at the workplace. Certain contractors and subcontractors which employed a very small number of people did not have the necessary OSH capacity and required support from the principal employer. What was important was that everyone needed to work together to improve OSH.
81. The Employer Secretary [M] said that it was necessary to ensure that the impression was not given that the principal employer was responsible for the OSH of all employers working at the site, including contractors and subcontractors.
82. Following further consultation, the Meeting agreed that a new subparagraph should be added after subparagraph 2(f) and read: “Include periodic joint safety and health inspections by employers, contractors and subcontractors involved in the work at the site to identify and control harm and hazards at work.” Section 2.6 was adopted, as amended.

3. Occupational safety and health management

83. The Worker Vice-Chairperson [F] proposed the addition of the word “systems” to the heading. It was so agreed and the heading was adopted, as amended.

3.1. Introduction

84. The Worker Vice-Chairperson [F] proposed to add the word “consultation” to the figure to bring it into line with the constant emphasis placed on consultation throughout the text.
85. The Employer Vice-Chairperson [M] considered that consultation was inherent to OSH management systems as a whole, and that it should not therefore be identified in the figure as a stand-alone item.

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86. A Government expert from Japan [M], while agreeing that consultation was inherent to the whole process, observed that the figure was widely used and accepted and should remain as it was.
87. The Worker Vice-Chairperson [F] reluctantly withdrew her proposal. Section 3.1 was adopted without amendment.
88. Section 3.2, **Occupational safety and health policy**, and subsection 3.2.1, **Worker participation**, were adopted without discussion.

3.3. **Initial review**

89. A Government Co-Vice-Chairperson [F] proposed a rewording of the first part of paragraph 1 to read: “Before works begin the employer should guarantee that an initial review is carried out ...”. It was so agreed and section 3.3 was adopted, as amended.

3.4. **Hazard identification, risk assessment and preventive and protective measures**

90. Paragraphs 1 to 4 of section 3.4 and subsection 3.4.1, **Hazard identification**, were adopted without discussion.

3.4.2. Risk assessment

91. The Worker Vice-Chairperson [F] proposed the addition, in paragraph 1, in the second sentence, after the words “All risks should be assessed”, of the words “with the full participation of those who face the risk”.
92. The Employer Vice-Chairperson [M] considered that it would be more appropriate for the additional wording to read: “in consultation with workers and their representatives”. It was so agreed.
93. The Worker Vice-Chairperson [F] proposed, in paragraph 2, to add the words “in consultation with workers and their representatives” at the end of the first sentence, but withdrew her proposal in view of the opposition of the Employer Vice-Chairperson [M]. Paragraph 2 was adopted without amendment. Subsection 3.4.2 was adopted, as amended.
94. Subsections 3.4.3, **Risk control**, and 3.4.4, **Evaluation**, were adopted without discussion.

3.5. **Contingency and emergency preparedness**

3.5.1. Emergency preparedness

95. The Worker Vice-Chairperson [F] requested clarification from the Office concerning the use of the term “prevention” in paragraph 1 in relation to emergency planning, preparedness and response arrangements.
96. The Executive Secretary [M] indicated that the terms “planning”, “preparedness”, “prevention”, “response”, and sometimes “recovery”, were commonly used in relation to emergency planning. He considered that prevention had its place in emergency planning, for example in relation to such events as floods, riots or fires in the vicinity of facilities, for which preventive measures might be required, depending on the risk.

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97. A Government Co-Vice-Chairperson [F] proposed the addition, in paragraph 4, after the words “The plan should include”, of the words “for each probable scenario”.
98. The Employer Vice-Chairperson [M] indicated that the term “probable” was not appropriate. Emergency scenarios should be identified through a risk-assessment process which concluded that there was a realistic possibility of the occurrence of the risk.
99. A Government Co-Vice-Chairperson [F], in response, proposed the wording “for each foreseeable scenario”.
100. The Worker Vice-Chairperson [F] observed that the term “foreseeable” was sometimes used in regulations and included an assumption that a risk assessment had been carried out and that there was therefore a probability of the occurrence of the risk. The Employer Vice-Chairperson concurred. It was so agreed.
101. The Worker Vice-Chairperson [F] proposed the insertion in subparagraph 4(g), after the words “including regular exercises”, of the words “at least annually”.
102. The Employer Vice-Chairperson [M] observed that emergency planning in operations as complex as shipbuilding and repair involved many scenarios, most of which were tested at least on an annual basis, although that was not necessarily the case for all scenarios. Nevertheless, he could accept the proposed change. It was so decided.
103. A Government Co-Vice-Chairperson [F] proposed the insertion of an additional subparagraph: “The emergency response plan should be evaluated periodically through simulated exercises and the necessary improvements that should be implemented and registered in specific reports.” A Government expert from Brazil [M] noted that records should be kept of the evaluations. Following a brief discussion, it was agreed that the end of the new subparagraph should read: “with the necessary improvements recorded and implemented.”
104. The Employer Vice-Chairperson [M] indicated that, in paragraph 7, the word “might” should be replaced by “should” and the phrase should read: “Emergency response teams should be established and capable, among others, of:”. It was so agreed. Subsection 3.5.1 was adopted, as amended.

3.5.2. First aid

105. The Employer Vice-Chairperson [M] raised the issue of why, in paragraph 10, it was necessary to record the sex of persons to whom first aid had been rendered.
106. The Worker Vice-Chairperson [F] indicated in reply that there could be occasions when the sex of the injured individual was important for prevention purposes. Paragraph 10 was adopted without amendment.
107. The Employer Vice-Chairperson [M] said that, while clearly agreeing on the need for first-aid and the necessary training, he disagreed with the statement that all persons in supervisory positions should hold a recognized first-aid certificate. However, in view of the support for the wording in the other groups, he did not press his objection. Paragraph 11 was adopted without amendment. Subsection 3.5.2 was adopted without amendment.
108. Subsection 3.5.3, **Rescue**, was adopted without discussion.

4. Management of change

109. Chapter 4 on the management of change was adopted without discussion.

5. Reporting, recording and notification of work-related injuries and diseases, ill health and dangerous occurrences

5.1. General provisions

- 110.** A Government Co-Vice-Chairperson [F], noting that there was no mention of fatalities in the title to the chapter, proposed to insert the word “fatalities” after “ill health”.
- 111.** The Employer Vice-Chairperson [M] observed that the term “work-related injury” was normally defined as including fatalities. The Executive Secretary [M] added that in other codes of practice the term “occupational injury” was defined as covering fatalities. The proposed amendment was withdrawn and the title adopted without amendment.
- 112.** The Employer Vice-Chairperson [M] proposed the inclusion in subparagraph 2(c) of the words “based on the number of people exposed and/or the frequency of the occurrence”.
- 113.** The Worker Vice-Chairperson [F] expressed concern that the proposed wording only referred to the number of people affected and the frequency of the occurrence, but not the consequences, which could be considerable. Even with a modification of the proposed amendment to replace “the number of people exposed” by the word “severity”, she considered that it was better not to qualify the definition of priorities. The amendment was withdrawn and paragraph 2 was adopted without amendment.
- 114.** The Worker Vice-Chairperson [F] proposed the addition, in paragraph 3, of the words “in consultation with the most representative organizations of employers and workers”. It was so agreed.
- 115.** The Worker Vice-Chairperson [F] proposed the addition at the end of subparagraph 3(a)(iii) of the words “and any other illnesses identified as being occupational in origin”.
- 116.** The Employer Vice-Chairperson [M] considered that the proposal was too repetitive and suggested that the subparagraph could be shortened to read simply “all occupational diseases”. It was so agreed.
- 117.** The Employer Vice-Chairperson [M] proposed the replacement of the term “benefits” in subparagraph 6(a) by the word “compensation”.
- 118.** The Secretary-General [F], in response to a request for clarification from the Worker Vice-Chairperson [F], indicated that “benefits” was the term used in the Employment Injury Benefits Convention, 1964 (No. 121). In light of the clarification, the proposed amendment was withdrawn and paragraph 6 was adopted without amendment. Section 5.1 was adopted, as amended.

5.2. Reporting at the level of the facility

119. The Worker Vice-Chairperson [F] proposed to amend paragraph 1 to read: “The employer, after consultation with workers and their representatives in the enterprise, should set up arrangements, in accordance with national laws or regulations, to enable all workers at the site to comply with the requirements to report”. It was so agreed.
120. The Worker Vice-Chairperson [F] proposed the deletion from subparagraph 1(a) of the words “have reasonable justification to” and “an imminent and serious”, so that it would read: “forthwith to their immediate supervisor, without detriment to themselves, any situation which they believe presents a danger to life or health”. It was so agreed. Section 5.2 was adopted, as amended.

5.3. Recording at the level of the facility

121. The Worker Vice-Chairperson [F] proposed the addition in paragraph 1, following the first sentence, of the words: “This includes contractor and subcontractor workers.” The purpose of the amendment was to ensure that there was a comprehensive reporting system through which the employer would be provided with a full picture of what was happening on site.
122. The Employer Vice-Chairperson [M] observed that the contractor and subcontractor workers concerned were those working at the site. Moreover, recording requirements, particularly in terms of the time that records had to be kept, varied considerably under the legislation of the various countries. He therefore suggested that the proposed new sentence should read: “This includes contractor and subcontractor workers at the site and in accordance with national laws”.
123. The Worker Vice-Chairperson [F] agreed to the addition of “at the site”. The purpose of the proposed addition was to ensure that the necessary information was available to everyone at the facility. The problem observed in practice was a compartmentalization of information, with a lack of comprehensive reporting at facilities. It was unclear why the reference was needed to national laws in relation to the workers of contractors and subcontractors, particularly as the objective of the code of practice was to try and improve the situation, rather than to maintain the status quo. However, national provisions on the length of time that records needed to be kept constituted a separate point, and the reference to “national laws” might instead be better placed at the end of the first sentence.
124. The Employer Vice-Chairperson [M] agreed with the proposal by the Worker Vice-Chairperson and suggested that the first sentence should read: “The employer should ensure that records of work-related injuries and diseases, ill health and dangerous occurrences are available and readily retrievable at all reasonable times in accordance with national laws and regulations”.
125. The Executive Secretary [M], following further consultation, proposed the following text to replace the first sentence in paragraph 1: “The employer should ensure that records of work-related injuries and diseases, ill health and dangerous occurrences are available and readily retrievable at all reasonable times. Such records should be maintained in accordance with national laws and regulations, where these exist, and should include contractor and subcontractor workers at the site. In the absence of national laws and regulations on recording at the level of the facility, guidance should be drawn from this code, as well as from other relevant nationally and internationally recognized instruments.” It was so agreed.
126. The Worker Vice-Chairperson [F] proposed, in paragraph 6, to change “workers or their representatives” to “workers and their representatives”. It was so agreed. Section 5.3 was adopted, as amended.

5.4. Notification of work-related injuries

127. The Worker Vice-Chairperson [F], with reference to paragraph 1, said that the notification requirement should be for fatalities and serious occupational accidents, and that notification should be to the direct family of the victim. She therefore proposed that the first part of the paragraph should read: “All fatalities and serious occupational accidents should be notified to the direct family of the accident victim.”. It was so agreed.
128. A Government Co-Vice-Chairperson [F] proposed amending subparagraph 2(d) by adding “alternatively,” at the beginning of the sentence. A Government expert from the Republic of Korea [M] indicated that subparagraphs (a), (b) and (c) referred to three different reports, while (d) referred to a single report. The purpose of the amendment was to avoid any overlap.
129. The Worker Vice-Chairperson [F] said that it was not clear that, if the report referred to in subparagraph (d) was an alternative to those specified in (a), (b) and (c), all the necessary bodies would receive the appropriate information.
130. The Employer Vice-Chairperson [M] proposed removing subparagraph (d) entirely, as subparagraphs (a), (b) and (c) referred to three different reports for different purposes, and the necessary information could not be contained in a single report for all the bodies concerned.
131. The proposed amendment was withdrawn and paragraph 2 was adopted without amendment. Section 5.4 was adopted, as amended.

5.5. Notification of occupational diseases

132. The Worker Vice-Chairperson [F], with reference to subparagraph 1(b), noted that an occupational disease might well not have been contracted during service with the present employer. She therefore proposed to replace the words “length of service with present employer” by “work history”. It was so agreed. Section 5.5 was adopted, as amended.

6. Safety and health organization

6.1. Occupational health services

133. The Worker Vice-Chairperson [F] proposed the addition, in paragraph 3, of the words “in consultation with workers and their representatives”.
134. The Employer Vice-Chairperson [M] asked for clarification on whether consultation was embedded in the provisions of the Occupational Health Services Convention, 1985 (No. 161).
135. The Executive Secretary [M] said that Paragraph 1 of the Occupational Health Services Recommendation, 1985 (No. 171), called for consultation with the most representative organizations of employers and workers.
136. The Worker Vice-Chairperson [F] added that what was called for in paragraph 3 was consultation at the level of the facility. In light of the explanations provided, the Meeting approved the proposed amendment.

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137. The Worker Vice-Chairperson [F] noted that in subparagraph 3(e) the reference to “both women and men” should be retained, as there could be differences in protective equipment based on gender.
 138. The Employer Vice-Chairperson [M] proposed the addition in subparagraph 3(k) of the word “incidents,” before the word “accidents”. It was so agreed.
 139. The Worker Vice-Chairperson [F] proposed the addition, in paragraph 6, after the word “performed”, of the words “in consultation with workers and their organizations”.
 140. The Employer Vice-Chairperson [M] said that the proposal was already covered in the appendix.
 141. The Worker Vice-Chairperson [F] withdrew the proposed amendment to paragraph 6. Section 6.1 was adopted, as amended.

6.2. Safety and health officers

142. The Worker Vice-Chairperson [F] observed that the reference in paragraph 1 to “a safety and health officer” should also envisage the plural form by referring to “(a) safety and health officer(s)”. It was so agreed.
143. The Worker Vice-Chairperson [F] observed that there were cases in which safety and health officers were appointed who did not have the necessary qualifications or understanding of their role, which could lead to serious accidents. She therefore proposed a new paragraph following paragraph 1 which would read as follows: “Safety and health officers should work in consultation with workers and their representatives, and in particular with the safety and health committee. All safety and health officers should have qualifications and training to perform this role.”
144. The Employer Vice-Chairperson [M] emphasized that it was the duty of employers, not of safety and health officers, to work in consultation with workers.
145. The Worker Vice-Chairperson [F] agreed to remove the first sentence of the proposed new paragraph. It was so agreed.
146. The Worker Vice-Chairperson [F] proposed the addition of a point to subparagraph 3(a), which would read: “the safety officers are responsible for the daily oxygen measurements in tanks and confined spaces”.
147. The Employer Vice-Chairperson [M] proposed adding that safety officers would be responsible “for ensuring” the measurements. However, he considered that such details, while important, should be contained in the section on confined spaces.
148. A Government expert from Brazil [M] agreed that the proposed addition should be in the section on confined spaces.
149. The Worker Vice-Chairperson [F] agreed that, while the procedural elements should be contained in the section on confined spaces, which was largely procedural in nature, it was important to set out the areas in which health and safety officers should assist and advise management. She also referred to recent cases of fatalities in such situations.

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150. The Executive Secretary [M], following consultations, proposed that the suggested additional subparagraph should read: “the daily measurement of oxygen in confined spaces as well as other general preventive and protective measures described in Chapter 7 of this code.” It was so agreed.
151. The Worker Vice-Chairperson [F] proposed, in subparagraph 3(d), to replace the word “behave” with the words “build a culture”.
152. The Employer Vice-Chairperson [M] emphasized that it was the role of the employer to build a culture, not of safety and health officers. He proposed instead to replace the word “behave” with the term “comply”. It was so agreed. Section 6.2 was adopted, as amended.

6.3. *Safety and health committees*

153. The Worker Vice-Chairperson [F] proposed the addition, in paragraph 1, of the words “, including contractors and subcontractors,” and a reference to subsection 2.2.1, paragraph 7.
154. The Employer Vice-Chairperson [M] did not agree with the proposal. He emphasized that it was the duty of employers to set up safety and health committees for their own employees, and that contractors and subcontractors were covered by the same requirement for their own workers. What was important was the communication of information between the various safety and health committees, and particularly to the safety and health committee of the employer.
155. A Government expert from Japan [M] indicated that, in accordance with the laws and regulations of certain countries, safety and health committees could not include contractors. However, coordination should be ensured with contractors and subcontractors. A Government expert from the Republic of Korea [M] observed that different countries had different mechanisms to ensure coordination with contractors and subcontractors. It was not therefore necessary for the paragraph to cover contractors and subcontractors.
156. The Worker Vice-Chairperson [F] said that in Australia, due to the very broad definition of employers, that is those who conducted business, it was clear that all personnel, including those employed by contractors and subcontractors, were covered by safety and health committees.
157. Following further consultation, the Meeting agreed to adopt paragraph 1 without amendment. Section 6.3 was adopted without amendment.

6.4. *Worker safety and health representatives*

158. The Worker Vice-Chairperson [F] indicated that the words “and health” should be added in subparagraph 2(a). It was so agreed. Section 6.4 was adopted, as amended.

7. General preventive and protective measures

7.1. *General provisions*

159. The Worker Vice-Chairperson [F] proposed, in subparagraph 1(a), to replace the words “and without risks” by the words “through the elimination or control of hazards to minimize risks”. It was so agreed. Section 7.1 was adopted, as amended.

7.2. Means of access and egress

- 160. The Worker Vice-Chairperson [F] proposed, in paragraph 1, at the end of the first sentence, the addition of the words “on- and offshore”. It was so agreed.
- 161. A Government Co-Vice-Chairperson [F] proposed the addition, in subparagraph 2(a), after the words “a gangway”, of the words “a service tower”. A Government expert from the Republic of Korea [M] explained that it was common, when building ocean-going ships, for access to the higher decks to be by a service tower. It was so agreed.
- 162. The Worker Vice-Chairperson [F], with reference to subparagraph 2(b), raised the question of rope ladders, which should only be used where necessary as a last resort.
- 163. The Employer Vice-Chairperson [M], while agreeing that rope ladders should be used as a last resort, said that there were cases in which their use was necessary, for example when a vessel was at anchor, or for the transfer of pilots.
- 164. The Worker Vice-Chairperson [F] proposed to replace the word “rope” with “adequate” and to add a subparagraph 2(c) that would read: “approved lifting cages”. It was so agreed. Section 7.2 was adopted, as amended.

7.3. Prevention of unauthorized entry

- 165. The Employer Vice-Chairperson [M] emphasized that all employees should go through some form of induction, and proposed the addition, in paragraph 1, after the words “appropriate PPE”, of the words “and made aware of emergency procedures and all risks they might be exposed to”. It was so agreed. Section 7.3 was adopted, as amended.

7.4. Roadways, quays, yards and other places

- 166. The Worker Vice-Chairperson [F] proposed the addition, following paragraph 1, of a new paragraph that would read: “To the extent possible, vehicular traffic should be physically separated from pedestrian or bicycle traffic.” In response to a comment by a Government Co-Vice-Chairperson [F] that the concern was already covered by paragraph 4, she observed that paragraph 4 addressed travel lines, not separate areas. The proposed new paragraph was adopted.
- 167. The Employer Vice-Chairperson [M] proposed to add the phrase “or other means of effective separation” at the end of paragraph 3. It was so agreed.
- 168. The Employer Vice-Chairperson [M] observed that paragraph 6 appeared to assume that the entire shipyard would shut down during shift changes. However, most shipyards operated continuously and lunch breaks and shift changes were staggered to allow work to continue, which meant that there could not be any no-driving periods.
- 169. The Worker Vice-Chairperson [F] suggested rephrasing the text to read: “No-driving periods should be scheduled to reduce or avoid the need for interaction between pedestrians and vehicles during lunch breaks and shift changes”.
- 170. The Executive Secretary [M], following consultations, proposed that the text should read: “Delivery times and/or no driving periods should be scheduled to avoid or reduce the need for interaction between pedestrians and vehicles.” It was so agreed. Section 7.4 was adopted, as amended.

7.5. *Transport of workers by water*

171. The Worker Vice-Chairperson [F] noted that paragraph 1 only covered vehicular transport, not helicopter or air transport when facilities were offshore or when workers were transported. She raised the issue of whether the code of practice should include guidance to cover these situations. The Executive Secretary [M] said the Office would prepare a proposal for new text on multiple people carriers.
172. A Government Co-Vice-Chairperson [F] proposed, in subparagraph 1(a), the insertion of “appropriately” before “manned” and the replacement of the words “an adequate and experienced” by “a competent”. It was so agreed.
173. The Secretary-General [F] proposed changing “manned” to “staffed” to keep the language gender neutral. It was so agreed.
174. A Government Co-Vice-Chairperson [F], recalling that the capacity of boats was determined in accordance with national regulations, which could differ widely, proposed the deletion of subparagraph 1(b).
175. The Worker Vice-Chairperson [F] opposed the deletion and emphasized the importance of the idea set out in subparagraph 1(b). The amendment was withdrawn and the subparagraph was adopted without amendment.
176. A Government Co-Vice-Chairperson [F], in subparagraph 1(c), proposed the addition of the words “and fire-fighting” before “appliances”. It was so agreed.
177. The Employer Vice-Chairperson [M] proposed, in subparagraph 1(d), the deletion of the words “more than 12”. He noted that the number of persons that could be carried differed between countries.
178. A Government Co-Vice-Chairperson [F] also proposed an amendment of subparagraph 1(d), as amended by the Employer Vice-Chairperson, to read: “the maximum capacity of a boat should be determined by national regulation and displayed in a conspicuous place.” A Government expert from Japan [M] explained that certification was not required for every boat.
179. The Employer Vice-Chairperson [M] disagreed, emphasizing that boats carrying workers required a certificate of operation appropriate to the national laws or competent authority.
180. The Worker Vice-Chairperson [F] expressed a strong preference for the wording of subparagraph 1(d) as amended by the Employer Vice-Chairperson. The Meeting agreed to adopt the amendment proposed by the Employer Vice-Chairperson. Section 7.5 was adopted, as amended.

7.6. *Multiple people carriers (new section)*

181. The Executive Secretary [M] drew attention to the new text on multiple people carriers, which had been prepared in response to the comment made by the Worker Vice-Chairperson [F]. The Meeting agreed to review the proposed new section.
182. The Employer Vice-Chairperson [M] proposed the deletion, in paragraph 3, of the words “by the pilot”. It was so agreed.
183. A Government Co-Vice-Chairperson [F] proposed, in paragraph 4, second sentence, the replacement of “shall” by “should”. It was so agreed.

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184. The Worker Vice-Chairperson [F] proposed the replacement of the last sentence of paragraph 4 by the following: “Anyone entering a helicopter should have received suitable training, wear a safety suit and there should be no loose items inside the helicopter.” It was so agreed.
185. A Government Co-Vice-Chairperson [F] proposed, in paragraph 5, the replacement of the word “considered” by the words “assessed by a competent person”. It was so agreed.
186. A Government Co-Vice-Chairperson [F] proposed, in paragraph 7, the replacement of the words “have an acceptable level of competence (qualifications, skill and experience)” by the words “be licensed”.
187. The Worker Vice-Chairperson [F] expressed concern that in some countries the system of issuing licenses was not in itself a sufficient guarantee that operators would have an acceptable level of competence. She therefore agreed to the addition of the words “be licensed”, but called for the retention of the words “have an acceptable level of competence (qualifications, skill and experience)”. It was so agreed.
188. The Meeting agreed that the new section, as amended, would be included after section 7.5.

7.6. Heating, cooling and ventilation

189. Subsection 7.6.1, *Heating and cooling*, was adopted without discussion.

7.6.2. Ventilation

190. A Government Co-Vice-Chairperson [F] proposed, in paragraph 2, to replace the word “steam” by “mist”. A Government expert from the Republic of Korea [M] explained that steam was vaporized water, which did not cause any harm unless it was really hot, while mist could cause harm to human health. However, both terms “steam” and “mist” could be retained. It was so agreed.
191. The Worker Vice-Chairperson [F] proposed the addition at the end of paragraph 3 of a new sentence which would read: “In accordance with section 7.8, whenever there is the potential for an unsafe atmosphere to accumulate, such as a confined space, the air must be tested for oxygen level and for the presence of flammable, explosive or toxic substances and the area made safe before any person is allowed to enter.”
192. A Government Co-Vice-Chairperson [F] proposed changing the word “must” to “should” in the suggested new sentence. It was so agreed and the paragraph was adopted, as subamended.
193. The Worker Vice-Chairperson [F] proposed rephrasing paragraph 4 to read as follows: “Compressed air should not be used for ventilation unless supplied by a unit approved for the delivery of respirable air and the air has been cleaned, temperature controlled and pressure regulated to safe levels.” It was so agreed. Subsection 7.6.2 was adopted, as amended.
194. Section 7.7, *Housekeeping*, was adopted without discussion.

7.8. Dangerous atmospheres and confined spaces

195. A Government Co-Vice-Chairperson [F] proposed adding a new paragraph after paragraph 2, which would read: “Enclosed spaces should have signs to prevent inadvertent entry.”

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196. The Employer Vice-Chairperson [M] agreed to the addition on condition that the term “enclosed spaces” was changed to “confined spaces”. A Government expert from Brazil [M] agreed that what was at issue was confined spaces. It was so agreed.
197. A Government Co-Vice-Chairperson [F] proposed the addition, in paragraph 3, after the word “unless”, of the phrase “the level of the gas is lower than the level specified in national regulation, and”. She also suggested the deletion of the phrase “made completely free of the flammable or otherwise hazardous atmosphere,” and the word “torches”. A Government expert from the Republic of Korea [M] explained that in the shipbreaking industry, where there could be some stagnation of explosive gases or flammable material in a tank, the term “completely free” could be applicable. However, in shipbuilding it would not be practical to use the term “completely free”. A more practical approach would be to use terms such as “lower than a certain percentage of the explosion limit”.
198. The Worker Vice-Chairperson [F] observed that it would require continuous monitoring to ensure that the level of the gas was lower than the level specified in national regulations. Furthermore, national regulations might not exist for all of the gases or contaminants present. The original phrasing was clearer. However, following consultations, she proposed the insertion of the words “flammable or explosive gas” so that the proposed replacement text would read: “the level of flammable or explosive gas is lower than the level specified in national regulation”. It was so agreed.
199. The Employer Vice-Chairperson [M] proposed the addition of a new sentence at the end of paragraph 3 which would read: “Any gas used in production should be removed from the space at the end of the shift.” It was so agreed.
200. The Worker Vice-Chairperson [F] proposed the addition of a subparagraph in paragraph 4 which would read: “means must be available for the attendant(s) to promptly extract the worker(s) from the confined space without the necessity of they themselves entering it.”
201. The Employer Vice-Chairperson [M] observed that not all attendants were there for rescue. For example, in the case of vertical and horizontal confined spaces, it might be the responsibility of attendants to carry out a rescue, if appropriate, while in other cases they might be there only for communication purposes.
202. The Chairperson [M] noted that in Latin America the standby person had radio communication both with those inside the confined space and with the emergency response team.
203. The Employer Vice-Chairperson [M] suggested rephrasing the new subparagraph to read as follows: “means should be available for the attendant(s) to effect rescue from the confined space without entry”. It was so agreed. Section 7.8 was adopted, as amended.

7.9. Scaffolds

7.9.1. General

204. The Worker Vice-Chairperson [F] requested clarification concerning the order of the next few sections, and particularly section 7.11, **Precautions against the fall of persons and materials**.
205. The Executive Secretary [M] explained that the proposed structure was intended to first present scaffolds and ladders and to build up to measures to prevent falls by persons and of materials. The Meeting took note of the explanation.

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206. A Government Co-Vice-Chairperson [F] proposed, in paragraph 5, after the word “Scaffolds”, to add the words “over the height specified by national regulations”. A Government expert from Japan [M] explained that his country’s regulation specified the height above which the supervision of a competent person was required.
207. The Worker Vice-Chairperson [F], while warning that national regulation differed widely in the matter, did not oppose the amendment. It was so agreed.
208. The Employer Vice-Chairperson [M] proposed to add the words “and properly signed” at the end of paragraph 5. It was so agreed. Subsection 7.9.1 was adopted, as amended.

7.9.2. Materials

209. A Government Co-Vice-Chairperson [F] proposed, in paragraph 3, to add the words “or certifying body” after the “competent authority”. A Government expert from Japan [M] explained that in most countries the certification of products was approved by certifying bodies, rather than governments. It was so agreed.
210. The Worker Vice-Chairperson [F] proposed, in paragraph 3, to replace the word “oiled” by the words “clean and operable”. It was so agreed.
211. A Government Co-Vice-Chairperson [F] proposed to replace the wording in paragraph 6 so that it would read: “Material of tubing should be appropriate as specified by national regulation”.
212. The Worker Vice-Chairperson [F] once again emphasized that in many countries national regulation was slower than technical development.
213. The Secretary-General [F] recalled that codes of practice were not binding instruments and should be aspirational. The Code should also apply to countries that did not have appropriate national legislation or regulation.
214. A Government expert from Japan [M] proposed an alternative wording for paragraph 6 as follows: “Material of tubing should have sufficient strength as specified by national regulation”.
215. The Employer Vice-Chairperson [M] agreed that it was important to refer to national regulation in some cases, even if the Code was non-binding.
216. A Government expert from Japan [M] proposed the addition to the suggested new text of the words “well-designed”.
217. The Chairperson referred to the situation in Latin America, and more particularly in Panama, to highlight that most countries did not have specific and detailed national legislation and that, in the absence of such regulation, certification of equipment or tools by an internationally recognized institution was necessary to save workers’ lives.
218. The Employer Vice-Chairperson [M] agreed with the Chairperson’s observation and drew attention to the repetition between paragraphs 3 and 6. He therefore proposed the deletion of paragraph 6. It was so agreed. Subsection 7.9.2 was adopted, as amended.
219. Subsections 7.9.3, ***Design and construction***, 7.9.4, ***Prefabricated scaffolds***, 7.9.5, ***Use of scaffolds***, 7.9.6, ***Lifting appliances on scaffolds***, 7.9.7, ***Inspection and maintenance***, 7.9.8, ***Dismantling***, 7.9.9, ***Suspended scaffolds***, and 7.9.10, ***Platforms attached to lifting appliances and mobile elevated working platforms***, were adopted without discussion.

7.9.11. Mobile scaffolding

- 220. A Government Co-Vice-Chairperson [F] proposed, in paragraph 3, at the end of the sentence, to add the words “or the limits specified by national regulation”.
- 221. The Worker Vice-Chairperson [F] emphasized that in most countries national regulation lagged behind technological change and therefore opposed the amendment.
- 222. The Executive Secretary [M] explained that the language came from the 1973 code of practice and was based on the *Shipyard Industry Standards* produced by the Occupational Safety and Health Administration (OSHA) of the United States Department of Labor.
- 223. The Employer Vice-Chairperson [M], in light of the reference to OSHA *Shipyard Industry Standards*, agreed to retain the text without amendment. It was so agreed.
- 224. The Employer Vice-Chairperson [M] suggested modifying paragraph 6 to read: “No person, material or tool should be on scaffolding that is being moved”. It was so agreed. Subsection 7.9.11 was adopted, as amended.

7.10. Ladders

- 225. The Worker Vice-Chairperson [F] proposed the addition, after paragraph 2, of a new paragraph which would read: “Ladders should be limited to 6 m in length”.
- 226. The Employer Vice-Chairperson [M] noted that certified ladders longer than 6 m in length were commonly used. A Government Co-Vice-Chairperson [F] agreed. A Government expert from Singapore [M] explained that there was no length limitation on fixed ladders in his country, but that safety measures were adopted commensurate with the length of the ladder.
- 227. The Worker Vice-Chairperson [F] withdrew the proposal.
- 228. The Employer Vice-Chairperson [M] proposed to move paragraphs 9 and 10 to the beginning of the section. It was so agreed.
- 229. A Government Co-Vice-Chairperson [F] proposed to add a sentence, at the end of paragraph 10 (now moved to the beginning of the section as paragraph 2), which would read: “The angle should be approximately 75 degrees or the limit specified by national regulation to make them as stable as possible”. A Government expert from Japan [M] noted that the angle of 75 degrees was accepted in certain countries, but not everywhere.
- 230. The Employer Vice-Chairperson [M], in the proposed new sentence, suggested the replacement of the words “the limit specified by national regulation to make them as stable as possible” by the words “or a 1:4 ratio”, which was the general rule applied in the use of ladders. It was so agreed.
- 231. A Government Co-Vice-Chairperson [F] proposed, after paragraph 6, to add a new paragraph which would read: “Hand ladders for access should extend at least 1 m beyond the platform”. It was so agreed.
- 232. A Government Co-Vice-Chairperson [F] also proposed to add a paragraph at the end of the section (new paragraph 17) which would read: “Painted wooden ladders and improvised hand ladders should not be used”. It was so agreed.

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233. The Worker Vice-Chairperson [F] proposed to add another new paragraph at the end of the section (new paragraph 18) which would read: “To ensure effective inspection, ladders should never be painted or coated in any way that could conceal defects or cover up the manufacturers’ specifications or capacity labels”. It was so agreed. Section 7.10 was adopted, as amended.

7.11. *Precautions against the fall of persons and materials*

234. A Government Co-Vice-Chairperson [F] proposed, in paragraph 5, in the bracket, the addition of “-2” after the number “1.8”, and the deletion of the words “is typical”.
235. The Employer Vice-Chairperson [M] proposed the deletion of the whole of the bracketed phrase. It was so agreed.
236. A Worker expert from Italy [M] noted that, regardless of the height, the wearing of safety harnesses was essential, but was not addressed in the paragraph. In response, the Executive Secretary [M] explained that the subject was covered in subsequent sections.
237. The Employer Vice-Chairperson [M] proposed, in paragraph 16, to replace the words “more than 6 m” by the word “from”, and to add the words “, in accordance with national laws” at the end of the last sentence.
238. The Worker Vice-Chairperson [F] opposed the amendment and recalled that the purpose of the Code was to protect workers in countries where national laws did not establish appropriate safety standards.
239. The Employer Vice-Chairperson [M], in a spirit of compromise, in place of his original suggestion, proposed to add, after “6 m”, the words “or as specified by national regulations”. It was so agreed. Section 7.11 was adopted, as amended.

7.12. *Fire prevention and firefighting*

240. A Government Co-Vice-Chairperson [F] proposed the addition, at the end of paragraph 4, of a sentence to read: “The storage tanks for flammable liquids and gases should be earthed to impede the accumulation of static energy and to eliminate the same energy from trucks when these tanks are being loaded”.
241. The Employer Vice-Chairperson [M], while agreeing with the concept, proposed the modification of the suggested sentence as follows: “The storage tanks for flammable liquids and gases should be earthed to discharge the accumulation of static energy.” He also proposed the addition of a third sentence to read: “The trucks loading fuel from tanks should also be earthed before connecting to the tanks”.
242. A Government expert from Brazil [M] proposed to add the words “or unloading” after the word “loading”. It was so agreed.
243. A Government Co-Vice-Chairperson [F] proposed, in paragraph 7, the deletion of the word “metal” and the insertion after “containers” of the words “made of non-combustible material”. It was so agreed.
244. A Government Co-Vice-Chairperson [F] proposed, in paragraph 14, the addition of a new sentence to read: “The evacuation plan should be evaluated periodically with the necessary improvements recorded and implemented.”

245. The Employer Vice-Chairperson [M] and a Government expert from Brazil [M] noted that the issue was addressed in other sections of the Code. The proposed amendment was withdrawn. Section 7.12 was adopted, as amended.

246. Section 7.13, **Means of escape in case of fire or other dangers**, was adopted without discussion.

7.14. Signs, notices, colour codes and communication

247. The Employer Vice-Chairperson [M] proposed the addition of a new sentence at the end of paragraph 1 which would read: “Signs should be posted to ensure that workers are not unnecessarily exposed to hazards.” It was so agreed. Section 7.14 was adopted, as amended.

8. Operational planning

248. Section 8.1, **General requirements**, was adopted without discussion.

8.2. Preparation of safe workplans

249. The Employer Vice-Chairperson [M] proposed, in subparagraph 3(c), the replacement of the word “by” with the word “for”. It was so agreed.

250. The Employer Vice-Chairperson [M] proposed, in paragraph 5, the addition in the second sentence of the words “the ship repairer/ship builder” after “this should be verified by”.

251. A Worker expert from Italy [M] suggested that the paragraph should specify that in the case of ship repair the shipowner was responsible for indicating that the ship was asbestos-free. A Worker expert from Chile [M] added that, in the case of a ship that contained asbestos, information should be provided prior to its arrival so that the necessary plan could be drawn up for the assessment and prevention of potential risks.

252. The Employer Vice-Chairperson [M] noted that the presence of asbestos was not specific to cargo tanks, and proposed the insertion in the first line of the words “any hazardous substance and” after “should provide information on”. It was so agreed.

253. The Executive Secretary [M] requested clarification on the proposed addition of the words “the ship repairer/ship builder”, as the paragraph only referred to ship repair.

254. The Employer Vice-Chairperson [M] agreed that the paragraph only referred to “ship repair” and that it should therefore refer either to “employer” or “ship repairer”. The Meeting agreed to adopt the word “employer”. Paragraph 5 was adopted, as amended.

255. The Worker Vice-Chairperson [F] proposed, in paragraph 8, the replacement of the words “provide for reasonable” by the words “be designed to protect against fatigue by the provision of reasonable”, and the replacement of “tolerable” by “acceptable”. It was so agreed. Section 8.2 was adopted, as amended.

8.3. Permit-to-work system

8.3.1. Application

256. A Government Co-Vice-Chairperson [F] proposed the addition of the words “high-risk” before “work”. A Government expert from Singapore [M] explained that the subsequent sections referred to high-risk types of work. It was so agreed.
257. The Worker Vice-Chairperson [F] proposed the addition of a new subparagraph, after subparagraph (j), which would read “pressure testing”. It was so agreed.
258. The Employer Vice-Chairperson [M] proposed the addition of a new subparagraph after subparagraph (j) to read: “electrical work”. It was so agreed.
259. The Employer Vice-Chairperson [M] proposed the addition of a final subparagraph which would read: “such other work identified as high-risk by the employer”. He observed that lists always tended to leave out elements. It was so agreed. Subsection 8.3.1 was adopted, as amended.
260. Subsection 8.3.2, *Implementation of permit-to-work system*, was adopted without discussion.

9. Health and safety requirements for the most common hazardous operations and tasks in the construction and repair of ships

9.1. Docks and docking operations

261. The Employer Vice-Chairperson [M], with reference to paragraph 1, noted that the term “buoys” on its own could refer to a number of types of equipment, including navigation aids. He therefore proposed that they should be specified as “life-saving buoys”. It was so agreed. Section 9.1 was adopted, as amended.

9.2. Hull construction

262. The Employer Vice-Chairperson [M] requested clarification on the origin of the figure of 1.5 specified in paragraph 1 as the safety factor against tipping.
263. The Executive Secretary [M] indicated that the figure was cited in the 1973 code of practice. Section 9.1 was adopted without further discussion.

9.2.1. Prefabricated sections

264. A Government Co-Vice-Chairperson [F] proposed the deletion of the last sentence in paragraph 7, which read: “No work should be done on sections secured by suspension from cranes.” A Government expert from the Republic of Korea [M] explained that the sentence gave rise to some misunderstanding. During the construction of ships, it was sometimes necessary to suspend pre-assembled sections from a crane while they were being fixed to the rest of the ship.

265. A Worker expert from Chile [M] agreed that the use of cranes to suspend sections was necessary when they were being fitted and considered that the current wording could give rise to confusion. A Worker expert from Italy [M] emphasized that it was extremely dangerous and should not be permitted for workers to work on or under suspended pre-assembled sections.

266. The Employer Vice-Chairperson [M] agreed that when sections were being put together it was necessary to carry out work while they were suspended to fit them, such as welding. What should not be permitted while a section was suspended was any type of fabrication work. It was also important to recognize the reality that, when sections were being fitted, it was necessary, with all the required precautions, to work underneath them to block them into position. The Meeting agreed to delete the sentence. Subsection 9.2.1 was adopted, as amended.

267. Subsection 9.2.2, *Hoisting*, was adopted without discussion.

9.3. Surface preparation and preservation

268. The Worker Vice-Chairperson [F] proposed the addition to the list in paragraph 1 of “high-pressure water”. It was so agreed.

269. The Employer Vice-Chairperson [M] proposed the deletion in paragraph 2 of “such as copper in antifouling paint. The silica used in abrasive blasting can cause lung cancer (silicosis).” He observed that the problem with giving examples was that other elements were not mentioned.

270. The Worker Vice-Chairperson [F] did not oppose the proposed deletion, on the understanding that the reference to toxic materials included the dust resulting from abrasive blasting operations. She emphasized the very real problem of silicosis. Section 9.3 was adopted, as amended.

9.3.1. Toxic cleaning solvents

271. The Worker Vice-Chairperson [F] proposed the addition in subparagraph 1(b) of the words “and healthy” after the word “safe”.

272. The Employer Vice-Chairperson [M] observed that, although it was common to refer to safe and healthy workplaces, the subject of the subparagraph was safe and respirable air. The term “healthy” was not therefore necessary. It was so agreed. Subsection 9.3.1 was adopted without amendment.

9.3.2. Chemical paint and preservative removers

273. The Worker Vice-Chairperson [F] proposed the insertion of an additional subparagraph: “when this type of work is conducted, no other worker should enter the exclusion zone.” It was so agreed. Subsection 9.3.2 was adopted, as amended.

9.3.3. Power tools

274. The Worker Vice-Chairperson [F] proposed the insertion in paragraph 1, after the word “power”, of the words “and air”.

275. The Employer Vice-Chairperson [M] considered that it would be better to refer to “power or air tools”

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276. The Chairperson noted that the normal term was “pneumatic”. It was so agreed.
277. A Government Co-Vice-Chairperson [F] proposed, in subparagraph 1(a), the addition of the words “, as appropriate and specified by national regulations.” A Government expert from Japan [M] explained that it was not necessary to ground all portable electric tools, such as specifically designed low voltage tools. He acknowledged that some national regulations did not set high safety standards, but considered that, as a result of the relevant standards set by the International Electrotechnical Commission (IEC), of which almost all countries were members, the standards applied to portable electric tools were almost harmonized throughout the world.
278. The Worker Vice-Chairperson [F] expressed doubt that the relevant standards were harmonized throughout the world. For example, she noted that none of the health and safety regulations in Australia referred to international standards. It would therefore be better to follow the manufacturer’s specifications. A Worker expert from Italy [M] recalled that battery powered electric tools did not need to be grounded.
279. The Worker Vice-Chairperson [F], in light of the discussion, proposed that subparagraph 1(b) should read as follows: “portable electrical tools which do not have batteries should be connected as indicated by the manufacturer’s specifications”.
280. The Employer Vice-Chairperson [M] agreed with the proposal, but suggested replacing the word “connected” by “grounded”. It was so agreed.
281. The Worker Vice-Chairperson [F] proposed to add a new subparagraph that would read “air tools should have a secure connection between the tool and the air hose”.
282. The Chairperson [M] proposed the replacement of the term “air” by the word “pneumatic.”
283. The Employer Vice-Chairperson [M] agreed with the proposed subparagraph, but noted that the text was becoming repetitive, as there was a specific section dealing with pneumatic tools. The Meeting agreed to adopt paragraph 1, as amended. Subsection 9.3.3 was adopted, as amended.
284. Subsection 9.3.4, **Flame removal**, was adopted without discussion

9.3.5. Abrasive blasting

285. The Worker Vice-Chairperson [F] proposed the addition of a new paragraph after paragraph 1 which would read: “When this type of work is being conducted, no other workers should enter the exclusion zone.” It was so agreed.
286. The Employer Vice-Chairperson [M], in paragraph 7, proposed to add the word “, hearing” after “face”. It was so agreed.
287. The Employer Vice-Chairperson [M], in paragraph 9, proposed to replace the term “safety belt” by the word “harnesses”. In light of a comment by a Government expert from the Republic of Korea [M], he noted that there were many forms of fall protection systems, and therefore proposed the term “a fall protection system“, rather than “harnesses”. It was so agreed. Subsection 9.3.5 was adopted, as amended.

9.4. Painting

- 288.** The Worker Vice-Chairperson [F] proposed, in paragraph 2, to insert the words “, especially carcinogens and mutagens” after the word “substances”. She also proposed to replace the word “aware” in the second sentence by the words “trained and informed”.
- 289.** The Employer Vice-Chairperson [M] noted that when workers had received training the word “informed” was redundant in the present context. He proposed to use the word “substitute” instead of “replace” and to insert “that still meet the technical specifications required” after “solvents”. He explained that if a substance was substituted, the new substance still had to perform the required technical function.
- 290.** A Government expert from Italy [F], noting a brief discussion on the distinction between workers being informed and trained, said it was important for workers to be informed of the risks of the materials and substances employed and trained in their use.
- 291.** The Employer Vice-Chairperson [M] agreed that both of the terms “trained” and “informed” could be retained if a distinction was made concerning their use. He therefore proposed the phrase “informed about the risks of fire, toxicity and other hazards” and the addition at the end of the sentence of the words “, and trained in their safe use or disposal”.
- 292.** A Government expert from the Republic of Korea [M] suggested the addition, after the words “carcinogens and mutagens” of “reproductive toxicity”. It was so agreed. Paragraph 2 was adopted, as amended.
- 293.** A Government Co-Vice-Chairperson [F] proposed, in paragraph 6, the addition of the word “enclosed” before “spaces”. Government experts from Japan [M] and the Republic of Korea [M] said that there was little need for ventilation in the case of painting in the open air.
- 294.** The Worker Vice-Chairperson [F] said that the addition of the word “enclosed” completely changed the meaning of the paragraph and therefore opposed the proposal.
- 295.** The Employer Vice-Chairperson [M] also opposed the proposed amendment, indicating that, when using certain volatile substances, the measures listed in the paragraph were also required out of doors. The proposed amendment was withdrawn.
- 296.** A Government expert from the Republic of Korea [M] indicated, with reference to subparagraph 6(c), that explosion-proof lights were only required when the level of risk was higher than the lower explosive limit (LEL). The subparagraph should therefore be modified or deleted.
- 297.** The Chairperson [M] observed that it was always better to avoid the risk of explosion through the use of explosion-proof lights. The Meeting agreed to retain subparagraph 6(c), with the addition of the words “should be”. Section 9.4 was adopted, as amended.

9.4.1. Spray painting

- 298.** The Worker Vice-Chairperson [F] proposed the addition of a new paragraph after paragraph 1 that would read: “All other hazards associated with this work, such as noise, manual handling and exposure to hazardous substances, should be controlled.”
- 299.** The Employer Vice-Chairperson [M] agreed with the addition, except for the words “and exposure to hazardous substances”, which should be removed, as the whole section was already concerned with exposure to hazardous substances. It was so agreed.

300. The Employer Vice-Chairperson [M] proposed, in subparagraph 9(a), the insertion of the words “and face” before “coverings”, as well as the addition of the word “respirators”.

301. The Worker Vice-Chairperson [F] agreed and proposed to further add the words “hearing protection”. It was so agreed. Subsection 9.4.1 was adopted, as amended.

9.4.2. Paints and tank coatings dissolved in highly volatile, toxic and flammable solvents

302. The Employer Vice-Chairperson [M] requested clarification concerning the origin of the figure of 10 per cent of the lower explosive limit referred to in subparagraphs 1(a) and (b).

303. The Executive Secretary [M] indicated that the figure was set out in certain national legislation and guidelines, including the *OSHA Shipyard Industry Standards*.

304. A Government expert from the Republic of Korea [M] said that the limit was different in the legislation in his country. Subparagraphs 1(a) and (b) were adopted without amendment.

305. A Government Co-Vice-Chairperson [F] proposed, in subparagraph 1(e), the addition at the end of the first sentence of the words “as specified by national regulations” and the deletion of the sentences “Fans should have non-ferrous blades. Portable air ducts should also be of non-ferrous materials.” A Government expert from the Republic of Korea [M] observed that the reference to the use of non-ferrous blades and materials was only concerned with the prevention of sparks, but that there were also other concerns in the prevention of explosions, including electric static charges. He therefore proposed the addition of a reference to IEC Standard 60079-0.

306. The Worker Vice-Chairperson [F] preferred a reference to internationally accepted standards rather than to national regulations.

307. A Government expert from Japan [M], while agreeing with the issues identified, believed that, rather than singling out an IEC standard, it would be better to include a more general reference to internationally accepted standards covering explosion protection. Following a brief discussion, the Meeting agreed to the addition of the words “in accordance with nationally and internationally recognized instruments covering explosion protection” and to the deletion of the sentences “Fans should have non-ferrous blades. Portable air ducts should also be of non-ferrous materials.”

308. A Government Co-Vice-Chairperson [F], in subparagraph 1(m), proposed the addition of the words “and the oxygen levels should be checked periodically”.

309. The Worker Vice-Chairperson [F] agreed with the proposal, but suggested changing the last two words to “monitored continuously”.

310. The Employer Vice-Chairperson [M], while acknowledging the concerns raised, identified certain problems with the wording. Workers were required to use airline respirators because it was not possible to attain an atmosphere in which it was safe to use other less onerous types of equipment. It would not be possible to monitor such an atmosphere continually because the monitoring equipment would become plugged. He added that the subparagraph was dealing with two distinct situations.

311. The Worker Vice-Chairperson [F] considered that it was necessary to monitor the atmosphere, and not just the oxygen levels, as already explained in section 7.8. She therefore proposed the addition of the words “, and the atmosphere should be monitored as set out in section 7.8”, and the separation of the text into two subparagraphs. It was so agreed. Subsection 9.4.2 was adopted, as amended.

312. Subsections 9.4.3, *Drying*, and 9.4.4, *Other provisions*, were adopted without discussion.

9.5. Welding, flame cutting and hot work

313. The Employer Vice-Chairperson [M] observed that the whole section was very technical.

314. The Chairperson noted that the technology used for welding, flame cutting and hot work had changed radically since the adoption of the previous Code in 1973.

9.5.1. General

315. The Worker Vice-Chairperson [F], in paragraph 5, proposed the addition of the words “nickel, manganese” to the list of substances and the addition at the end of the chapeau of the words “the provision of an effective ventilation system which includes”. She also proposed the addition of a subparagraph “fresh air” and the deletion of the subparagraph “providing effective local exhaust ventilation”. She noted that nickel was one of the principal carcinogens.

316. The Employer Vice-Chairperson [M] suggested that the proposed new subparagraph should read “clean respirable air”. He added that workers needed to be provided with cartridge or airline respirators, depending on the exposure risk. Even when welding, flame cutting and hot work was undertaken outside, it was necessary to provide protection. He therefore proposed the addition of a subparagraph “cartridge respirators, depending on what the exposure risk is”. The Meeting noted that airline respirators were required when it was not safe to work using cartridge respirators and effective local exhaust ventilation. It was therefore agreed that the order of the subparagraphs would be: “(a) clean respirable air; (b) cartridge respirators, depending on what the exposure risk is; (c) effective local exhaust ventilation; or (d) airline respirators.” Paragraph 5 was adopted, as amended. Subsection 9.5.1 was adopted, as amended.

9.5.2. Welding at places with fire risks

317. The Worker Vice-Chairperson [F] proposed the addition of a new paragraph which would read: “Welding should not take place in the vicinity of other work which is likely to cause a fire hazard.” It was recalled that shipbuilding and repair consisted of many different operations, many of which were carried on simultaneously. However, it was very dangerous for welding to be carried out in the presence of combustible or flammable materials.

318. The Employer Vice-Chairperson [M] considered that the idea contained in the proposed addition was already covered by paragraph 1. However, as paragraph 1 contained two ideas, he proposed, instead of the addition suggested by the Worker Vice-Chairperson, the separation of paragraph 1 into two paragraphs and a modification of the wording involving the replacement, in the second sentence, of “the object” by “objects” and the replacement of “removed to a safe distance” by the words “at a safe distance from welding, flame or heating”. It was so agreed.

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319. The Worker Vice-Chairperson [F], in order to address situations in which it was not possible to remove hydrocarbons, for example in the context of repair work offshore, proposed the inclusion of an additional paragraph which would read: “If hydrocarbons exist in the welding area, positive pressure should be created around the area where welding is due to take place. This can be done using a tent that is made for purpose. Controls must be continuously kept in place during the hot work.”
320. The Employer Vice-Chairperson [M], while recognizing the problem and agreeing with most of the proposal, suggested the removal of the second sentence referring to the use of a tent, as other methods were also available. It was so agreed. Subsection 9.5.2 was adopted, as amended.
321. Subsections 9.5.3, *Heating in confined spaces*, and 9.5.4, *Welding on containers for explosive or flammable substances*, were adopted without discussion.

9.5.5. Gas welding and cutting

322. The Worker Vice-Chairperson [F] requested clarification concerning the pressure indicated in paragraph 2 in relation to welding using acetylene.
323. The Executive Secretary [M] indicated that, following verification, acetylene could not be used at a pressure exceeding 1 atm gauge as it became volatile above that pressure. Subsection 9.5.5 was adopted without further discussion.
324. Subsections 9.5.5.1, *Use of fuel gas*, 9.5.5.2, *Manifolds*, 9.5.5.3, *Hose*, and 9.5.5.4, *Torches*, were adopted without discussion.

9.5.6. Electric arc welding

325. The Employer Vice-Chairperson [M] requested a clarification with regard to the meaning of the term “live part” in paragraph 4(c) of subsection 9.5.6.4 “Operations”.
326. The Executive Secretary [M] indicated that the words “live part” were a standard term in the context of welding and referred not only to the welding surface, but also the electrode and its holder. The term was used on three occasions in the text of the Code.
327. Subsection 9.5.6, including subsections 9.5.6.1, *Manual electrode holders*, 9.5.6.2, *Welding cables and connectors*, 9.5.6.3, *Ground returns and machine grounding*, and 9.5.6.4, *Operations*, were adopted without further discussion.

9.5.7. Gas metal arc welding

328. The Employer Vice-Chairperson [M] proposed the addition of a reference to inert gases in subparagraphs 1(d) and (e). That would involve, in subparagraph (d), replacing the words “chromium and nitrogen dioxide” by the words “Chromium, nitrogen dioxide and inert gases” and, in subparagraph (e), adding the words “and inert gases” at the end of the sentence. It was so agreed.
329. A Government Co-Vice-Chairperson [F] proposed the addition of a new paragraph which would read: “Safe working procedures for workers using inert gas in confined spaces should be implemented to prevent suffocation through: (a) ensuring a safe way of connecting gas hoses; (b) applying permit-to-work system according to section 8.3. of this code; and (c) securing sufficient ventilation or providing airline respirators.” A Government expert from the Republic of Korea [M] explained that the problem of inert gases had resulted in the death of several workers in recent years. It was so agreed. Subsection 9.5.7 was adopted, as amended.

9.5.8. Protective clothing and equipment

330. The Employer Vice-Chairperson [M] noted that it was now rare for welders to wear helmets, although they did of course wear specific head protection. He therefore proposed the deletion of the word “helmet” in paragraph 2.
331. A Government expert from Japan [M] indicated that in Japan all workers engaged in work at over 2 m of height were required to wear helmets, including welders, who normally wore protective headgear which protected their face and head.
332. During a brief discussion, it was noted that the protective equipment used by welders included protective head gear, although there were some cases in which traditional helmets were still used. Moreover, the subject of personal protective equipment and protective clothing was covered in greater detail in Chapter 16. In light of the discussion, the Meeting approved the wording “welders should be protected by a welding helmet, face shield or”. Subsection 9.5.8 was adopted, as amended.

9.6. *Installation or repair of boilers, piping and ship machinery*

9.6.1. Boilers

333. A Government Co-Vice-Chairperson [F] proposed the addition in paragraph 1 of a final sentence which would read: “Boiler operators and attendants should be trained and certified.” It was so agreed.
334. A Government Co-Vice-Chairperson [F] proposed the addition, in paragraph 7, of the words “and heat” after “pressure”.
335. The Employer Vice-Chairperson [M] indicated that, although the addition of “and heat” was unnecessary, he would not oppose the suggestion. It was so agreed.
336. A Government Co-Vice-Chairperson [F], in subparagraph 8(a), proposed the replacement of the words “locked or tagged” by “locked and tagged” in the first and last sentences, and the replacement of the second sentence by the following: “This lock and tag and blank of the valves should only be removed by those persons who installed them or by authorized persons only after it is verified that this may be done without creating a hazard to the workers working on the boiler, or until the work on the boiler is completed.” A Government expert from Brazil [M] recalled that it was a basic principle of OSH that valves that were secured, blanked and locked should be unlocked by the same person.
337. The Employer Vice-Chairperson [M], while agreeing with the principle, suggested the deletion from the proposed additional text of the words “working on the boiler, or until the work on the boiler is completed”. It was so agreed. Subsection 9.6.1. was adopted, as amended.

9.6.2. Piping

338. A Government Co-Vice-Chairperson [F] proposed the same changes in paragraph 1(a) as had been approved for paragraph 8(a) of subsection 9.6.1, namely the replacement of the words “locked or tagged” by “locked and tagged” in the first and last sentences, and the replacement of the second sentence by the following: “This lock and tag and blank of the valves should only be removed by those persons who installed them or by authorized persons only after it is verified that this may be done without creating a hazard to the workers.” It was so agreed. Subsection 9.6.2 was adopted, as amended.

9.6.3. Propulsion machinery

339. A Government Co-Vice-Chairperson [F] proposed the replacement, in subparagraphs 1(b) and (c), of the terms “locked or tagged” by the words “locked and tagged”. She also proposed the addition of a new paragraph that would read: “Locks and tags indicated in subparagraphs (b) and (c) above should only be removed by those persons who installed them or by authorized personnel only after it is verified that this may be done without creating a hazard to the workers.” It was so agreed and subsection 9.6.3. was adopted, as amended.

340. Subsection 9.6.4, **Deck machinery**, was adopted without discussion.

10. Hazardous substances

10.1. General provisions

341. The Worker Vice-Chairperson [F] suggested the inclusion in paragraph 1 of a reference to the Occupational Cancer Convention, 1974 (No. 139), and the Occupational Cancer Recommendation, 1974 (No. 147). It was so agreed.

342. The Worker Vice-Chairperson [F] proposed the addition of a sentence at the end of paragraph 3 to read: “This list should highlight those substances which are mutagens, carcinogens and reproductive toxins”. It was so agreed.

343. The Worker Vice-Chairperson [F] proposed the addition of a new subparagraph at the end of paragraph 4, which would read: “The ship has an asbestos register to ensure that the ship repair facility can take preventative measures”. It was so agreed. Section 10.1 was adopted, as amended.

10.2. Assessment

344. The Worker Vice-Chairperson [F] requested clarification concerning the meaning of paragraph 5 and the manner in which exposure limits could become invalid.

345. The Executive Secretary [M] explained that the wording was taken from the ILO publication *Safety and health in shipbreaking: Guidelines for Asian countries and Turkey* (2004).

346. A Government expert from Italy [F] explained that in some cases exposure limits would not be valid in particular work circumstances, such as in the case of pregnancy.

347. The Worker Vice-Chairperson [F] proposed a clarification of the wording through the replacement of the words “often be invalid” by the words “in some cases not reflect the workers’ exposures”. It was so agreed. Section 10.2 was adopted, as amended.

10.3. Monitoring for chemical hazards in the workplace

348. Subsection 10.3.1, **General principles**, was adopted without discussion.

10.3.2. Measuring methods

349. A Government Co-Vice-Chairperson [F] proposed to add, in the first sentence of paragraph 3, the words “and area monitoring” after “personal monitoring”, and the words “for personal monitoring” in the second sentence after “Air samples”. A Government expert from Japan [M] explained that area monitoring could be very effective in addition to personal monitoring and that air samples could be taken at several points. It was so agreed. Subsection 10.3.2 was adopted, as amended.
350. Subsections 10.3.3, **Monitoring strategy**, 10.3.4, **Record keeping**, and 10.3.5, **Interpretation and application of monitoring data**, were adopted without discussion.

10.4. Control measures

351. The Worker Vice-Chairperson [F] proposed, in paragraph 3, the addition after “(1984)” of the words “and the WHO-ILO joint publication *Outline for the development of national programmes for elimination of asbestos-related diseases* and the ILO Resolution concerning asbestos (2006)”. She also proposed the addition of a new sentence at the end of the paragraph to read: “No new asbestos product should be used in shipbuilding, ship conversion or ship repair”. It was so agreed.
352. A Government Co-Vice-Chairperson [F] proposed that paragraph 3 should be moved to the beginning of the section. It was so agreed.
353. A Government Co-Vice-Chairperson [F] proposed the deletion of subparagraph 1(a). A Government expert from Italy [F] explained that asbestos was already addressed in paragraph 3, which had been moved to the beginning of the section. Moreover, paragraph 1 referred to the most common hazardous activities involving chemical substances, and it should be assumed that asbestos was no longer used.
354. The Worker Vice-Chairperson [F] emphasized that asbestos had not been removed from all ships, especially smaller vessels. Subparagraph 1(a) should therefore be retained.
355. The Employer Vice-Chairperson [M] also opposed the deletion of subparagraph 1(a). Subparagraph 1(a) was retained and section 10.4 was adopted, as amended.
356. A Worker expert from Chile [M] called for special care to be taken when translating the term “asbestos” into Spanish, which used several terms to indicate asbestos, the meaning of which was not always the same.

10.5. Chemical safety data sheets

357. The Worker Vice-Chairperson [F] proposed the addition of a new paragraph at the end of the section that would read: “Employers should ensure that the safety data sheets are displayed on site and easily available to workers in appropriate languages. Workers should be informed and trained to understand the information in the safety data sheet”.
358. The Employer Vice-Chairperson [M] suggested that, in the first sentence of the proposed new paragraph, the phrase “displayed” should be clarified by the addition of the words “in print or digitally”. Moreover, he disagreed with the second sentence of the amendment. Rather than training, workers should be informed of the hazards involved and how to protect themselves if exposed.
359. A Worker expert from Chile [M] said that the purpose of the paragraph was to clarify the need for workers to understand the content of safety data sheets.

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360. The Employer Vice-Chairperson [M] proposed to rephrase the last sentence of the proposed amendment to read: “Workers should be informed of the hazards that they may be exposed to and what to do if they are exposed”.
361. The Worker Vice-Chairperson [F] said that a reference was required on how to prevent exposure.
362. The Employer Vice-Chairperson [M] therefore proposed that the last sentence should read: “Workers should be informed of the hazards that they may be exposed to, how to protect themselves from that hazard, and what to do if they are exposed.” It was so agreed. Section 10.5 was adopted, as amended.
363. Section 10.6, **Health surveillance**, was adopted without discussion.

11. Physical hazards

364. Sections 11.1, **General provisions**, and 11.2, **Slips and trips**, were adopted without discussion.

11.3. Noise

365. The Employer Vice-Chairperson [M] proposed, in paragraph 7, the addition of the words “improving maintenance or” after “not practicable”. It was so agreed.
366. A Government Co-Vice-Chairperson [F] proposed the addition of a sentence at the end of paragraph 7, which would read: “Machinery and tools should be checked periodically since wear on components could lead to an increase in noise levels.” It was so agreed.
367. The Employer Vice-Chairperson [M] proposed the deletion of subparagraph 11(e) on the basis that audiometric testing measured the level of exposure, but did not reduce it. It was so agreed.
368. A Government Co-Vice-Chairperson [F] proposed, in paragraph 12, the deletion of the words “at least” and the replacement of the word “annually” by “bi-annually”.
369. The Worker Vice-Chairperson [F] disagreed with the removal of the words “at least”.
370. The Employer Vice-Chairperson [M] opposed the term “bi-annually”. The proposed amendment was withdrawn.
371. The Worker Vice-Chairperson [F] proposed, in paragraph 13, the addition of a new subparagraph which would read, “(c) high noise level”.
372. A Government Co-Vice-Chairperson [F] suggested removing the word “high” from the proposed subparagraph. It was so agreed. Section 11.3 was adopted, as amended.

11.4. Vibration

373. The Employer Vice-Chairperson [M] proposed the addition of a new first sentence to paragraph 2 which would read: “Employers should comply with exposure limit standards and other nationally and internationally recognized instruments, as required by the competent authority.” He added that the reference in paragraph 2(b) to “seek the advice” of the competent authority was not in line with the rest of the paragraph, which related to compliance. He therefore proposed the deletion of subparagraph 2(b). It was so agreed. Section 11.4 was adopted, as amended.

11.5. Lighting

374. The Worker Vice-Chairperson [F] proposed to insert a new first sentence in paragraph 1, which would read: “The work area should be sufficiently lighted to ensure that work can be effectively performed and poses no risk to workers’ eyesight.”
375. The Employer Vice-Chairperson [M], while agreeing with the concept, indicated that the term the “work area” was not entirely clear and could, for example, require the lighting of the whole dock area for a relatively small job. He therefore proposed its replacement by the words “task area”. It was so agreed.
376. A Government Co-Vice-Chairperson [F] proposed, in paragraph 3, to replace the words “(12-24 V)” by the words “specified by nationally and internationally recognized instruments (for example, 12-24 V)”. It was so agreed. Section 11.5 was adopted, as amended.

11.6. Electricity

377. Subsection 11.6.1, **General provisions**, was adopted without discussion.

11.6.2. Insulation

378. The Employer Vice-Chairperson [M] observed that 48V was not necessarily a safe voltage. He therefore proposed, in paragraph 3, the replacement of the words “a safe voltage (for example, 48V)” by the words “a voltage likely to result in a fatal shock”. It was so agreed. Subsection 11.6.2 was adopted, as amended.

11.6.3. Control devices

379. A Government expert from the Republic of Korea [M] observed, with reference to paragraph 3, that the language was taken from the 1973 Code and was no longer adapted to modern technology. It was important to refer to the possibility of multiple controllers. He therefore proposed the replacement of paragraph 3 by the following text: “In case there are multiple controllers for a motor, the circuit should be so arranged that the motor can be started again only from the same controller from which it was stopped.” It was so agreed. Subsection 11.6.3 was adopted, as amended.
380. Subsections 11.6.4, **Distribution boxes**, and 11.6.5, **Earthing systems**, were adopted without discussion.

11.6.6. Overload and earth leakage protection

381. A Government Co-Vice-Chairperson [F] proposed, in paragraph 1, the addition after “all fuses” of the words “and circuit breakers” and the addition after “manufacturer” of the words “or competent person”. A Government expert from the Republic of Korea [M] explained that when fuses and circuit breakers were manufactured overseas, their calibration was more complex and could not always be done by the manufacturer.
382. The Employer Vice-Chairperson [M], while accepting the addition of “circuit breakers”, opposed the addition of “or competent person”. Fuses and circuit breakers were always calibrated by the manufacturer. The proposed addition of “or competent person” was withdrawn.
383. A Government Co-Vice-Chairperson [F] proposed, in paragraph 2, the addition of the words “and circuit breakers” after “uncalibrated fuses”. It was so agreed. Subsection 11.6.6 was adopted, as amended.

11.6.7. Transformers

384. The Employer Vice-Chairperson [M] questioned the need to refer in paragraph 2 to polychlorinated biphenyls (PCBs), which had been banned worldwide.
385. The Chairperson [M] explained that they still existed in some countries. The Meeting agreed to adopt subsection 11.6.7 without amendment.

11.6.8. Conductors

386. The Employer Vice-Chairperson [M] expressed concern at the example given in paragraph 3(c), since the safe distance between forklifts and power lines differed from country to country.
387. The Executive Secretary [M] explained that the text came from the code of practice adopted by the 2017 Meeting of Experts on Safety and Health in Opencast Mines (subsection 9.22.8). Standards in that respect were set at the national level. The Meeting agreed to retain the example given in parentheses.
388. The Employer Vice-Chairperson [M] proposed, in paragraph 4, the addition of the words “and permits” after “risk assessment”. It was so agreed.
389. A Government Co-Vice-Chairperson [F] proposed, in subparagraph 9(a), the replacement of the words “not significantly less than” by the words “equivalent to”. It was so agreed.
390. The Employer Vice-Chairperson [M] proposed the addition of a sentence at the end of paragraph 10 which would read: “Power cables should be routed and separated from torch cables.” It was so agreed. Subsection 11.6.8 was adopted, as amended.
391. Subsections 11.6.9, **Switchboards and switchgear**, and 11.6.10, **Protection of portable, transportable and mobile machines**, were adopted without discussion.

11.6.11. Miscellaneous safety procedures

392. The Employer Vice-Chairperson [M] proposed, in paragraph 4, after “de-energized”, the addition of the words “and earthed”. It was so agreed. Subsection 11.6.11 was adopted, as amended.

11.7. *Electric and magnetic fields*

393. The Worker Vice-Chairperson [F] proposed, in paragraph 3, first sentence, the deletion of the words “employed in areas where they may be”. It was so agreed.
394. The Employer Vice-Chairperson [M] proposed, after the first sentence of paragraph 3, the addition of a sentence which would read: “Pregnant women should not be exposed to magnetic fields of a strength likely to affect the foetus.” It was so agreed. Section 11.7 was adopted, as amended.

11.8. *Optical radiation*

395. A Government Co-Vice-Chairperson [F] proposed the addition at the end of paragraph 2 of the words “at regular intervals.” It was so agreed. Section 11.8 was adopted, as amended.

11.9. *Ionizing radiation*

396. The Employer Vice-Chairperson [M] proposed the replacement of the chapeau of paragraph 1 by the words: “Equipment that is a source of ionizing radiation includes:”. It was so agreed.
397. A Government Co-Vice-Chairperson [F] proposed the addition to paragraph 2 of the words “and the radiation dose to which workers are exposed”, and the addition of the word “exposure” at the end of the paragraph.
398. The Employer Vice-Chairperson [M] supported the amendment, but proposed to replace the word “are” after “workers” by the words “may be”. It was so agreed.
399. A Government Co-Vice-Chairperson [F] proposed the replacement of the text of paragraph 3 by the following sentence: “Radiation exposure monitoring should be implemented in accordance with nationally and internationally recognized instruments.” A Government expert from Japan [M] noted that, as originally worded, paragraph 3 only referred to consultation with the competent authority, which was inadequate. It was so agreed.
400. The Employer Vice-Chairperson [M] proposed the addition of a paragraph after paragraph 3 which would read: “Equipment which produces ionizing radiation should be correctly used and maintained in accordance with national laws.”
401. The Worker Vice-Chairperson [F] observed that certain countries might not have national laws pertaining to equipment producing ionizing radiation.
402. The Employer Vice-Chairperson [M], in response, proposed the replacement of the words “in accordance with national laws” by “in accordance with recognized international instruments”. It was so agreed.
403. The Employer Vice-Chairperson [M] proposed the addition of a further new paragraph, which would read: “Signs should be used when using ionizing radiation devices to ensure that other workers are not exposed to the hazard.” It was so agreed.
404. The Employer Vice-Chairperson [M] further proposed moving paragraph 4 from section 11.10 and its incorporation into section 11.9.

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405. A Worker expert from Chile [M] reiterated the importance of evacuating ships or workplaces when equipment that was a source of ionizing radiation was being used, so as to prevent workers from being exposed to radiation.
406. The Employer Vice-Chairperson [M] clarified that there was no need to clear the whole ship when such equipment was in use, but only the area concerned. Equipment that was a source of ionizing radiation was typically designed to be used in narrow areas.
407. The Worker Vice-Chairperson [F] emphasized that it was necessary to recognize that the level of technology varied between countries and to ensure that workers were not exposed to radiation where technology was not advanced. A Worker expert from Chile [M] added that, because they did not have access to modern equipment, many employers displayed warning signs requiring evacuation during the use of equipment that was a source of radiation. He proposed the establishment of a security perimeter to ensure worker safety. The Worker Vice-Chairperson [F] proposed the use of the term “exclusion zones”, as in previous sections of the draft code of practice.
408. The Chairperson [M] added that the action taken should be based on the manufacturers’ instructions.
409. The Employer Vice-Chairperson [M], in light of the discussion, proposed that the paragraph should read: “Exclusion zones should be developed as per the manufacturers’ instructions and access should be restricted to areas where ionizing radiation devices are used, and these should be marked with appropriate signs and safety flag lines.” It was so agreed.
410. Section 11.9 was adopted, as amended.

11.10. Radiography

411. The Worker Vice-Chairperson [F] requested clarification concerning the meaning and use of the term “fissionable material” in paragraph 1.
412. The Executive Secretary [M] clarified that radioactivity was a result of fission.
413. An Employer expert from Spain [M] observed that X-rays and radiographic sources in hospitals did not emit radiation constantly, but were operated using a switch to turn them on. A Government expert from Japan [M] added that, although radioactive substances emitted radiations constantly, X-rays in hospitals were activated by electricity and were not therefore comparable. He indicated that, in accordance with common usage in the field of radiation safety, radiographic sources included X-rays and the terms “radioactive material” or “radioactive substance” would be more accurate. The Meeting agreed to use the terms “radiographic substances” in paragraph 1.
414. The Worker Vice-Chairperson [F] proposed reproducing the text of the new paragraph adopted in section 11.9, which would be inserted after paragraph 2 and would read: “Radiation exposure monitoring should be implemented in accordance with nationally and internationally recognized instruments.” It was so agreed.
415. The Employer Vice-Chairperson [M] proposed the insertion in paragraph 3 of the word “certification” after “instruction”. It was so agreed. Section 11.10 was adopted, as amended.

11.11. Heat and cold stress and wet conditions

416. The Employer Vice-Chairperson [M] observed that, in practice, it was very uncommon for work to be carried out using bare hands. He therefore proposed the deletion in paragraph 1(f) of the words “with bare hands”. It was so agreed.
417. The Employer Vice-Chairperson [M], noting that there were countries where the formation of ice constituted a problem, proposed the addition in paragraph 1 of a subparagraph that would read: “workers work in cold or high humidity environments where ice can develop”.
418. The Worker Vice-Chairperson [F] noted that problems also arose in conditions that were cold but dry, and which were therefore without ice. The words “where ice can develop” were therefore too limiting. A Government expert from Japan [M] also pointed to the repetition between subparagraph (d) and the proposed new subparagraph. The Employer Vice-Chairperson [M] withdrew the proposed addition. Section 11.11 was adopted, as amended.
419. Subsection 11.11.1, *Hot working environments*, was adopted without discussion.

11.11.2. Cold working environments

420. The Employer Vice-Chairperson [M] proposed the deletion of the words “on board” in subparagraph 1(a). Subsection 11.11.2 was adopted, as amended.
421. Subsection 11.11.3, *Rainy or wet working environments*, was adopted without discussion.

12. Ergonomical hazards

422. The Worker Vice-Chairperson [F] considered that the Chapter did not adequately address ergonomic issues. She therefore proposed the addition of a new paragraph at the beginning of the Chapter that would read: “Where workers are using machinery, the provisions of the ILO code of practice on machinery should apply, in particular the reference made in p. 48 of that code.”
423. The Executive Secretary [M] proposed that, for the sake of consistency between language versions, it was better not to refer to page numbers, and the reference should be made directly to the figure. It was so agreed.
424. The Worker Vice-Chairperson [F] proposed the insertion, in paragraph 1, of “excessive force” after the words “repetitive work movements”. It was so agreed.
425. The Employer Vice-Chairperson [M] proposed, in paragraph 4, the insertion of the words “repetitive work,” in the first sentence after the words “to engage in”.
426. A Government Co-Vice-Chairperson [F] proposed, in paragraph 4, first sentence, the addition of the words “due to posture required by them or” after “a load which”. She also proposed, in the second sentence, the replacement of the words “Where appropriate” by “In such situations”. It was so agreed.
427. The Worker Vice-Chairperson [F] proposed, in paragraph 6, the addition at the end of the first sentence of the words “by sufficient rest periods and job rotations” and the deletion of the sentence “The workload may be brought to a tolerable level with sufficient rest periods and job rotations.” It was so agreed.

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428. The Worker Vice-Chairperson [F] proposed the deletion of the last sentence in paragraph 8: “Receipt of this information should be verified.” She explained that it was not the responsibility of workers to provide verification of the receipt of such information.
429. The Employer Vice-Chairperson [M] said that it was necessary to keep records of documentation and the responsibilities of employers.
430. A Government expert from Italy [F] noted that no reference was made to documentation in the Chapter on competence, education and training. The Worker Vice-Chairperson [F] proposed the addition of wording in the Chapter on competence, education and training to explicitly refer to the need for training records. It was so agreed and paragraph 8 was adopted, as amended. Chapter 12 was adopted, as amended.

13. Biological hazards

431. The Worker Vice-Chairperson [F] proposed to amend subparagraph 2(b) to read: “the provision of sanitary hygiene information to workers, both women and men”. In response to a comment by a Government expert from Italy [F] concerning the deletion of the word sanitation, she modified her proposal to read: “the provision of sanitation and sanitary hygiene information to workers, both women and men”. It was so agreed.
432. The Worker Vice-Chairperson [F] proposed the addition at the beginning of subparagraph 2(c) of the words “prevention”. However, in response to a comment that the chapeau of paragraph 2 already referred to preventive measures, she withdrew the proposed amendment. Chapter 13 was adopted, as amended.

14. Safety requirements for tools, machines and equipment

14.1. General provisions

433. A Government Co-Vice-Chairperson [F] proposed the replacement, in subparagraph 3(e), of the words “unless a use outside the initial design purpose” by the words “and in line with the manufacturer’s instructions, unless it”. It was so agreed.
434. The Worker Vice-Chairperson [F] proposed, in subparagraph 3(f), to replace the word “appropriate” by “specific”. It was so agreed.
435. A Government Co-Vice-Chairperson [F] proposed, in paragraph 4, last sentence, the addition of the words “safety features” after the words “should include any”. It was so agreed.
436. A Government Co-Vice-Chairperson [F] proposed, in paragraph 6, second sentence, the deletion of the words “and minor repairs”. She also proposed the replacement of the last sentence by: “Only competent persons should carry out repairs on machines and tools.” A Government expert from Singapore [M] explained that only trained persons should be allowed to undertake repair work. It was so agreed.
437. The Employer Vice-Chairperson [M] proposed the addition of a new paragraph at the end of the section to read: “Employers should develop a system for tag out of defective tools to ensure they are not used”.

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- 438.** The Worker Vice-Chairperson [F] proposed the addition to the new paragraph of the words “identification and” after “a system for”. It was so agreed. Section 14.1 was adopted, as amended.

14.2. Hand tools

- 439.** A Government Co-Vice-Chairperson [F] proposed the addition of a new paragraph after paragraph 2 which would read: “When used at heights, tools should be secured to workers to prevent them from being dropped during transportation or when the workers lose their grip, and to ensure they are not left behind after work.” It was so agreed. Section 14.2 was adopted, as amended.

14.3. Power-driven tools

14.3.1. Pneumatic tools

- 440.** The Employer Vice-Chairperson [M] proposed, in paragraph 5(b), the insertion of the word “, hearing” after “suitable head”. It was so agreed. Subsection 14.3.1 was adopted, as amended.

14.3.2. Hydraulic tools

- 441.** The Employer Vice-Chairperson [M] expressed concern at the reference made in paragraph 4 to the specific period of six months. He therefore proposed the replacement of the words “at least every six months” by the words “and maintained on a regular basis by a competent person and complete records kept”. It was so agreed.
- 442.** The Employer Vice-Chairperson [M] proposed, in paragraph 5, to replace the word “supplier” by the term “manufacturer”. It was so agreed. Subsection 14.3.2 was adopted, as amended.

14.3.3. Cartridge-operated tools

- 443.** The Worker Vice-Chairperson [F] proposed, in paragraph 1, to use the word “displayed” instead of “placed”. It was so agreed.
- 444.** The Worker Vice-Chairperson [F] proposed to replace subparagraph 9(d) by the following: “tools to be separately stored from the cartridge”. The Meeting agreed that the new subparagraph should read: “stores the cartridge separate from the tools”. It was so agreed.
- 445.** The Worker Vice-Chairperson [F] proposed the addition of a new paragraph at the end of the subsection that would read: “The employer should keep a registry of cartridges”. It was so agreed. Subsection 14.3.3 was adopted, as amended.

14.3.4. Electrical tools

- 446.** The Worker Vice-Chairperson [F] proposed, in subparagraph 2(a), the insertion of the words “grounded as per the manufacturer’s specifications” after the words “be earthed”.
- 447.** The Employer Vice-Chairperson [M] requested clarification about the difference between the terms earthed and grounded.
- 448.** The Chairperson [M] noted that on a ship there was no earth, and that all electrical tools therefore had to be grounded.

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449. The Worker Vice-Chairperson [F] pointed out that the same language had been included in subparagraph 9.3.3(b).
450. The Executive Secretary [M] observed that there was also a linguistic difference, with the term “earthed” being common in the United Kingdom, while “grounded” prevailed in North America. Both earthing and grounding aimed to prevent the leakage of electricity.
451. The Employer Vice-Chairperson [M] proposed the insertion of a slash between “earthed” and “grounded”. It was so agreed.
452. A Government Co-Vice-Chairperson [F] proposed the addition of the words “or battery powered” after “double-insulated”. It was so agreed.
453. The Employer Vice-Chairperson [M], noting that electricians did not repair or maintain electrical tools, proposed the replacement, in subparagraph 2(b), of the term “electrician” by the word “person”. It was so agreed and subsection 14.3.4 was adopted, as amended.

14.3.5. Stored energy

454. The Worker Vice-Chairperson [F] proposed the addition of a new paragraph after paragraph 4 which would read: “Only authorized and competent workers should work on equipment with stored energy.” It was so agreed.
455. The Employer Vice-Chairperson [M] questioned whether subparagraphs 5(e), (f) and (g) were in practice related to stored energy, and suggested their deletion if not.
456. The Chairperson [M] proposed the deletion in subparagraph 5(g) of the word “when” and noted that the subparagraph was not directly related to the topic of storage energy. He observed that anything that was at or above sea level could generate potential energy.
457. The Worker Vice-Chairperson [F] could agree to the deletion of subparagraphs 5(e) and (f), but proposed to retain subparagraph 5(g), with modified wording, as energy could be stored in the contents of a tank or confined space.
458. The Executive Secretary [M], noting that the chapeau of paragraph 5 referred to poor air quality, said that it would seem logical to retain subparagraph 5(g). Subparagraph (f) was related to the storage of energy in battery-operated tools. Moreover, the possibility of unstable gases remaining in confined spaces was also related to stored energy.
459. During a brief discussion of the subject, several speakers observed that the Meeting had not discussed the possibility of workers receiving shocks from accumulated energy released from cutting operations, as well as from the docking and securing of ships and the lifting of loads. It was necessary to maintain a safety zone on ships.
460. Following further consultation, the Meeting decided to delete subparagraph 5(f), which read “the tools to be used are in good condition and suitable for their intended purpose” and to add at the end of subparagraph 5(h) “and a safety zone is established”.
461. The Worker Vice-Chairperson [F] proposed the addition at the end of the subsection of a new paragraph which would read: “The lock and tag should only be removed by those persons who installed them or by authorized personnel only after it is verified that this may be done without creating a hazard to the workers.” It was so agreed.

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462. Following further consultation, the Meeting also decided to add, at the end of paragraph 4, the words: “, and the arrival and departure of a ship when it is being winched into the dry dock or during manoeuvres, with cables and ropes under tension.” Subsection 14.3.5 was adopted, as amended.

14.4. Tools for plate-cutting, flame-cutting and other hot work

463. The Worker Vice-Chairperson [F] proposed, in paragraph 2, the addition of the words “in particular,” after “taken during operations”. It was so agreed.
464. The Worker Vice-Chairperson [F] proposed, at the end of paragraph 5, the addition of the words “or covered by appropriate protective materials”. It was so agreed. Section 14.4 was adopted, as amended.

14.5. Abrasive wheels

465. The Worker Vice-Chairperson [F] proposed, in paragraph 2, the replacement of the word “wheels” by the word “devices” and the addition of the words “or belt” after the word “wheel”. It was so agreed.
466. The Worker Vice-Chairperson [F] proposed, at the end of paragraph 10, the addition of the words “and protection against respiratory hazards” after “splashes”.
467. The Employer Vice-Chairperson [M] proposed the insertion of the words “and hearing” after “respiratory” in the new proposed text. It was so agreed. Section 14.5 was adopted, as amended.

14.6. Gas cylinders

468. Subsections 14.6.1, **General requirements**, and 14.6.2, **Storage**, were adopted without discussion.

14.6.3. Moving and handling

469. The Worker Vice-Chairperson [F] proposed, at the beginning of paragraph 9, the insertion of the words “All cylinders, particularly”. It was so agreed. Subsection 14.6.3 was adopted, as amended.

14.7. Lifting appliances and gear

14.7.1. General requirements

470. A Government Co-Vice-Chairperson [F] proposed, in paragraph 8, first sentence, the replacement of the words “in the cab in a position where it can be clearly seen by the operator at the controls” by the words “in accordance with nationally and internationally recognized instruments”.
471. The Worker Vice-Chairperson [F], while generally agreeing with the suggested text, proposed the replacement of the word “and” by “or”. It was so agreed.

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472. A Government Co-Vice-Chairperson [F] proposed, in paragraph 13, first sentence, the deletion of the first word “Every”, the replacement of the word “appliance” by its plural form “appliances”, and the addition after “appliances” of the following: “specified by nationally and internationally recognized instruments”. In addition, she proposed, in the second sentence, the addition, after the words “a predetermined amount”, of the words “in accordance with nationally and internationally recognized instruments” and the deletion of the words “generally within the range of 3 to 10 per cent above the safe working load”.
473. A Government expert from Japan [M] also proposed, in paragraph 13, the deletion of the words “where practicable”. He emphasized that load limiters needed to be used at all times, and not just when practicable. Moreover, he agreed that specific figures should not be indicated in the text of the Code, as the limits were clearly specified in the respective standards at the national and international levels, such as those of ISO.
474. The Worker Vice-Chairperson [F] emphasized that the focus of paragraph 13 was on a basic principle, and there was no place for the references to nationally and internationally recognized instruments. The paragraph should read as follows: “Power-operating lifting appliances should be fitted with a safe working load limiter. This should operate when the load that is being raised or lowered exceeds the safe working load by a predetermined amount. The limiter should only prevent motions that would increase the overload.” Following further consultation, the Meeting agreed to adopt the wording of paragraph 13 as proposed by the Worker Vice-Chairperson [F].
475. A Government Co-Vice-Chairperson [F] proposed, at the beginning of paragraph 16, the addition of a new sentence which would read: “Only tested appliances, gear and equipment can be used for lifting”. She also proposed the deletion of the second sentence of the paragraph which related to the inclusion of a record of load tests in the equipment record.
476. The Employer Vice-Chairperson [M], while agreeing with the addition of the new sentence at the beginning of the paragraph, emphasized the importance of keeping records of load tests and proposed the retention of the last sentence. Following further consultations, the Meeting agreed to the addition of the new first sentence and the maintenance of the final sentence.
477. A Government expert from Brazil [M] referred to paragraph 3 of subsection 14.7.6, **Ropes, chains and accessories**, which was of a general nature, and therefore proposed its transfer to subsection 14.7.1 as a new paragraph 17. He observed that the results of tests and examinations should apply to all types of products, and not be limited to ropes, chains and accessories. It was so agreed.
478. The Employer Vice-Chairperson [M] said that it would be preferable for paragraph 18 to be reworded in a positive way. He therefore proposed the following changes: the deletion of the word “No” in the first sentence and the use of the plural form of “appliances”; the deletion, in subparagraph 18(a), of the word “below” and the addition at the end of the subparagraph of the words “or older in accordance with the Minimum Age Convention, 1973 (No. 138), and the Worst Forms of Child Labour Convention, 1999 (No. 182)”; the deletion, in subparagraph 18(b), of the word “not” and the replacement of “or” by “and”; and the deletion, in subparagraph 18(c), of the word “not” after “has”, as well as the word “not” before “properly”.
479. The Worker Vice-Chairperson [F], while agreeing with the amendments proposed so that the paragraph read positively, emphasized that the principle set out in the paragraph would only apply if appropriate national laws and regulations were in place, which was not necessarily the case in all countries. She therefore proposed the replacement, in subparagraph 18(c), of the words “national laws and regulations” by “nationally or internationally recognized instruments”. It was so agreed.

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- 480.** The Employer Vice-Chairperson [M] proposed, in paragraph 20, the addition of the word “, certified” after “installed”. It was so agreed. Subsection 14.7.1 was adopted, as amended.

14.7.2. Cranes

- 481.** A Government Co-Vice-Chairperson [F] proposed, in paragraph 2, at the end of the first sentence, the addition of the words “as well as having a means to control the internal temperature, such as the air conditioning”.
- 482.** The Employer Vice-Chairperson [M] considered that a requirement for the installation of air conditioning in all circumstances could be costly, and sometimes unnecessary. He therefore proposed the addition to the suggested text of the words “when necessary”.
- 483.** A Government expert from Brazil [M] considered that the need to moderate the temperature in the cab should be determined through an ergonomic assessment. The words “when necessary” were therefore too vague. A Government expert from Italy [F] proposed the use of the wording “, if this is found necessary through an ergonomic assessment of the implications”. It was so agreed.
- 484.** The Worker Vice-Chairperson [F], noting the reference in paragraph 2 to the ISO, which was not a tripartite organization, and proposed the replacement of the words “ISO 8566-1:2010 Cranes – Cabins and control stations – Part 1: General” by the words “internationally recognized instruments”. The following words “In particular, it should have:” would then be a new sentence. It was so agreed.
- 485.** A Government Co-Vice-Chairperson [F] expressed the view that the subparagraphs of paragraph 2 should provide greater detail. She therefore proposed: the addition, at the end of subparagraph 2(d), of the words “and from dazzle caused by sunlight”; and the addition of a new subparagraph at the end of the paragraph which would read: “a secure means of access such as a fixed ladder with a safety cage.” A Government expert from Brazil [M] explained that it was important to ensure the protection of workers against sunlight.
- 486.** The Worker Vice-Chairperson [F], while agreeing with the proposed new subparagraph, proposed a rewording of subparagraph 2(d) to read: “a windscreen designed or equipped to ensure the operator has a full view of the load”. A Worker expert from Chile [M] also proposed the addition at the end of the subparagraph of the words “and is protected against UV radiation”. It was so agreed.
- 487.** A Government Co-Vice-Chairperson [F] proposed, in paragraph 5, the deletion of the word “mobile” and the replacement of the words “of more than 10 tonnes” by the words “exceeding limits specified by nationally and internationally recognized instruments”.
- 488.** A Government expert from the Republic of Korea [M] emphasized that cranes should have a load limiter and proposed the replacement of the words “indicator which switches off crane functions if the crane lifts beyond the rated capacity” by the words “limiter in accordance with paragraph 14.7.1.13”. A Government expert from Japan [M] said that the paragraph should apply to all cranes, and not just mobile cranes, and explained that the figure of 10 tonnes was outdated.
- 489.** Following further consultation, the Meeting agreed that paragraph 5 should read: “Cranes should have a load limiter in accordance with subsection 14.7.1, paragraph 13.”

14.7.3. Forklifts

- 490.** The Employer Vice-Chairperson [M], noting that there were different types of forklifts, proposed, in paragraph 1, the insertion of the word “which” after “forklifts”. It was so agreed.

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- 491.** A Government expert from Japan [M] observed that some forklifts did not have seat belts and proposed the deletion of the reference to seat belts in paragraph 2.
- 492.** The Employer Vice-Chairperson [M], with a view to covering the point raised, proposed the addition of the words “, where applicable,” before the words “seat belt”. It was so agreed.
- 493.** The Employer Vice-Chairperson [M] proposed, in paragraph 4, at the end of the first sentence, the insertion of the words “or separated by a barrier”. It was so agreed.
- 494.** A Government Co-Vice-Chairperson [F] proposed the addition, at the end of paragraph 4, of the words “, a horn and an audible reverse signal or alarm”. It was so agreed.
- 495.** The Employer Vice-Chairperson [M] proposed the addition of a new sentence at the beginning of paragraph 15 which would read: “When the operator leaves the seat of the forklift, the forks should be fully lowered to the floor, the parking brake applied and the engine stopped.” As a consequence, he also proposed the deletion of the last sentence of the paragraph.
- 496.** A Government Co-Vice-Chairperson [F] proposed the addition of the words “, and the keys properly kept to prevent unauthorized access”, after the word “batteries”. It was so agreed and paragraph 15 was adopted, as amended. Subsection 14.7.3 was adopted, as amended.

14.7.4. Equipment for lifting persons

- 497.** The Employer Vice-Chairperson [M] proposed, in paragraph 6, the replacement of the words “full body harness or other personal fall arrest system must” by the words “fall protection system should”. In light of the concerns expressed by the Worker Vice-Chairperson [F], he further proposed the addition of the word “certified” so that the sentence would read: “A certified fall protection system should be used when operating all boom type lifts.” It was so agreed. Subsection 14.7.4 was adopted, as amended.

14.7.5. Maintenance

- 498.** The Employer Vice-Chairperson [M] expressed concern regarding the meaning of the term “corrective maintenance” in paragraph 5. For the purposes of clarity, it might be replaced by terms such as “repair” or “corrective measures”.
- 499.** A Government expert from Singapore [M] explained that preventive maintenance was undertaken on a regular basis, but that corrective maintenance was carried out when something was not working in the system.
- 500.** The Executive Secretary [M] agreed that corrective maintenance was undertaken outside the normal maintenance schedule if it was considered necessary in order to identify and rectify a fault. The Meeting decided to adopt subsection 14.7.5 without amendment.

14.7.6. Ropes, chains and accessories

- 501.** A Government Co-Vice-Chairperson [F] proposed the addition, at the end of subparagraph 1(a), of the words “, and the use of plant fibre ropes for the lifting of any material should be prohibited”. A Government expert from Brazil [M] explained that it was not possible to guarantee the weight that could be borne by plant fibre ropes, which were prohibited in his country for that reason.
- 502.** The Worker Vice-Chairperson [F] said that she did not see a problem if fibre rope was inspected and tested. However, she would not oppose the amendment. Paragraph 1(a) was adopted, as amended.

503. The Worker Vice-Chairperson [F] proposed, in paragraph 2, the deletion of the words “with over 1 tonne lifting capacity” in the second sentence and the replacement in the third sentence of the words “of 1 tonne or more must be inspected annually” by the words “should be inspected periodically”. She also proposed the addition of a new sentence at the end of the paragraph that would read: “Care should be taken that any paint or coatings do not conceal any inspection points.” The concern was that weights lower than 1 tonne also gave rise to risks. It was so agreed.

504. It was recalled that it had been decided to move paragraph 3 to subsection 14.7.1 “General requirements”. Subsection 14.7.6 was adopted, as amended.

14.7.6.1. *Chains*

505. The Employer Vice-Chairperson [M] proposed, in paragraph 2, to replace the words “every three months” by the expression “as per nationally or internationally recognized instruments”.

506. A Government expert from Japan [M] said that, as there were no recognized international instruments on that subject, he proposed to add the words “at least” before the words “every three months”. It was so agreed. Subsection 14.7.6.1 was adopted, as amended.

507. Subsections 14.7.6.2, *Hooks*, 14.7.6.3, *Wire ropes*, and 14.7.6.4, *Synthetic fibre ropes*, were adopted without discussion.

14.7.6.5. *Safe operation of lifting gear*

508. A Government Co-Vice-Chairperson [F] proposed the inclusion in paragraph 1 of the words “clamps” “lever-pullers and chain-blocks”, so that the paragraph would read: “Lifting hooks, clamps, wires, lines, shackles, lugs, level-pullers and chain blocks must be controlled visually by the operator before lifting.” It was so agreed. Subsection 14.7.6.5 was adopted, as amended.

509. Subsection 14.7.6.6, *Shackles*, was adopted without discussion.

14.8. ***The use of robots and modern technology (new section)***

510. The Worker Vice-Chairperson [F] proposed, in view of their increasingly widespread use in the industry, that the Code should include a section on robots.

511. The Executive Secretary [M] indicated that, following some research, the Office could propose the new text on robotic welding.

512. The Employer Vice-Chairperson [M], noting that robots and modern technology were not only used for welding in shipbuilding and ship repair, but also for other operations, proposed to replace the title by the words “The use of robots and modern technology” and to delete the word “welding” throughout the text. It was so agreed.

513. A Government Co-Vice-Chairperson [F] proposed, in paragraph 1, the replacement of the words “can be grouped into four categories” by the words “could include”. It was so agreed.

514. The Government expert from Japan [M], with reference to subparagraph 2(b), indicated that it was unusual for programming to be carried out in the immediate vicinity of robots. He therefore proposed the replacement of the word “programming” by the words “teaching, trouble shooting,”.

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515. The Worker Vice-Chairperson [F] said that, while accepting the addition of “teaching” and “trouble shooting”, there were many less advanced workplaces in which a certain amount of programming was still carried out on site. She therefore wished to retain the word “programming” as well. It was so agreed.
516. A Government Co-Vice-Chairperson [F] proposed the replacement of the words “industry standards” in paragraph 6 by the words “nationally and internationally recognized instruments”.
517. The Worker Vice-Chairperson [F], in the wording suggested by the Government Co-Vice-Chairperson [F], proposed the replacement of “and” by “or”. It was so agreed.
518. A Government Co-Vice-Chairperson [F] proposed, in the last sentence of paragraph 9, to delete the word “arc” and to replace “shall” by “should”. It was so agreed.
519. The Meeting decided that the section, as so amended, would be included as section 14.8 of the Code.

15. Competence and training

520. The Worker Vice-Chairperson [F] proposed the addition of the word “education” in the title. It was so agreed.

15.1. General

521. The Worker Vice-Chairperson [F] proposed the addition of a new first paragraph which would read as follows: “In this section the word training shall be taken to mean either ‘education’ or ‘training’ or both as appropriate.”
522. The Employer Vice-Chairperson [M], expressing concern that training could be understood as general education for workers, and not as training related to the industry, proposed the addition to the new paragraph of the words “and in the context of shipbuilding and ship repair” after “In this section”. It was so agreed.
523. A Government Co-Vice-Chairperson [F] proposed, in paragraph 3, the addition of the term “OSH” before the words “training programmes”.
524. The Worker Vice-Chairperson [F] said that training in most countries was of a general nature for the occupation concerned, and included OSH aspects. She therefore opposed the amendment, which was withdrawn.
525. A Government Co-Vice-Chairperson [F] proposed to replace the text of subparagraph 3(c) with the following: “provide training before the workers take up their functions in a manner and language understood by workers, effective and timely initial practical and theoretical training before commencement of duties and refresher trainings at appropriate intervals or further to changes in risk levels for workers or in their functions.” A Government expert from Brazil [M] said that the language used for training needed to be understood by the workers. Full training needed to be provided before workers started work, as the beginning of a new operation was the most risky phase for the workers, and in too many cases workers did not receive any specific training prior to commencing work. Moreover, workers should receive proper training in the event of any significant changes in the work undertaken.

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526. The Employer Vice-Chairperson [M] expressed a preference for the original wording of subparagraph 3(c). The proposed new wording was complex and would involve additional costs for employers.
527. A Government expert from Brazil [M] said that the real costs needed to be taken into consideration with regard to training. The provision of training in a language that was understood by workers was not expensive. Indeed, if training was not provided in a manner and language understood by workers, it would be a waste of time. Moreover, the provision of initial training prior to workers commencing their duties was not more expensive than its provision subsequently, and was more effective in preventing risks. The proposed new wording sought to address three concepts: language, initial training and periodic subsequent training. Further training was required when the risks changed, for example when new technology or substances were introduced. The words “in a manner and language understood by workers” should come at the beginning of the subparagraph.
528. The Worker Vice-Chairperson [F] expressed a preference for the proposed amendment, which provided greater detail. She agreed that the risk of injury was high when workers started their work and when significant new risk factors, such as new chemical substances, were introduced into the work. It was also clear that the manner and language in which training was provided was of great importance.
529. In light of the discussion, the Meeting agreed that the subparagraph should be further amended to read: “provide, in a manner and language understood by workers, effective and timely initial practical and theoretical training before commencement of duties and refresher training at appropriate intervals, or further to significant changes in risk levels for workers or in their functions.” Subparagraph 3(c) was adopted, as amended.
530. The Employer Vice-Chairperson [M] proposed, in subparagraph 4(d), the replacement of the words “in confined spaces” by the words “at high hazard work spaces”. It was so agreed.
531. A Government Co-Vice-Chairperson [F] proposed moving paragraph 3 of section 15.4 to the end of section 15.1. She also proposed the addition of a new sentence following the first sentence, which would read as follows: “Such briefings should be given to all workers on site, including contractors, subcontractors and other third parties.” A Government expert from Brazil [M] said that the purpose of the amendment was to clarify that the daily safety briefing was a general measure that applied to all workers on site and was not confined to contractors, subcontractors and other third parties. It was so agreed. Section 15.1 was adopted, as amended.
532. Sections 15.2, **Qualification of managers and supervisors**, 15.3, **Qualification and training for workers**, and 15.4, **Qualifications of contractors, subcontractors and other third parties**, were adopted without discussion.

16. Personal protective equipment and protective clothing

16.1. General provisions

533. The Employer Secretary [M], following a brief discussion of whether the list in paragraph 2 should also include reference to hearing and respiratory protection, or a more specific mention of ear plugs and face masks, once again observed that the problem with lists was the risk of overlooking important elements. He therefore proposed to make the paragraph more general by deleting the words “for example helmets, coveralls, safety glasses, safety boots and gloves.” It was so agreed.

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534. The Employer Vice-Chairperson [M] proposed the addition of a subparagraph to paragraph 3, which would read: “selected as a result of a risk assessment.”
535. The Worker Vice-Chairperson [F] recalled that the decision to use PPE would necessarily be based on the results of a risk assessment, which had therefore already been completed once PPE was in use. The proposed new subparagraph was therefore implicit in the decision to use PPE.
536. The Employer expert from Spain [M] agreed that PPE was provided on the basis of a risk assessment and that, although it involved some inconvenience for workers, the aim was to protect them from the risks that had been assessed.
537. The Chairperson [M], in light of the discussion, proposed to merge the proposed new subparagraph with subparagraph (b) to read: “having regard to the type of work and based on a risk assessment”.
538. A Government expert from Italy [F] said that PPE needed to be designed to take into account certain characteristics based on gender. She therefore proposed inserting “the gender of the worker” before “and based on a risk assessment”, and that subparagraph (b), as amended, should come ahead of subparagraph (a). It was so agreed.
539. A Government Co-Vice-Chairperson [F] proposed the addition of a new paragraph at the end of the section, which would read: “The use of all PPE should be enforced by employers through appropriate means.”
540. The Worker Vice-Chairperson [F] opposed the proposed new paragraph. She recalled that the purpose of the Code was to address structurally and improve health and safety outcomes for workers. The draft text contained no other reference to “enforcement”. Despite proposals made during the discussion to change the word “enforced” to “checked” or to “encouraged”, she noted that paragraph 7 already emphasized that workers should be required to make proper use, of and take good care, of PPE. She expressed firm opposition to anything that might encourage the persecution of workers.
541. The Government Co-Vice-Chairperson [F] withdrew the proposed new paragraph. Section 16.1 was adopted with the amendments made to paragraph 3.
542. Section 16.2, **Head protection**, was adopted without discussion.

16.3. Face and eye protection

543. The Worker Vice-Chairperson [F] proposed the replacement of the last sentence of paragraph 2 by the following: “Goggles designed to be worn over ordinary prescription glasses should be selected according to the hazards to be protected against.” It was so agreed. Section 16.3 was adopted, as amended.

16.4. Hand and foot protection

544. The Employer Vice-Chairperson [M] proposed, in paragraph 2, first sentence, the deletion of the word “should” after “gloves”, and the deletion of the second sentence in its entirety. It was so agreed.
545. A Government Co-Vice-Chairperson [F] proposed the addition of a new paragraph following paragraph 4, which would read: “Footwear with suitable insulated soles should be worn by electricians or other workers who may be in contact with live parts.”

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546. The Worker Vice-Chairperson [F] did not oppose the new paragraph, but warned of the danger of the text becoming over specified.
547. The Employer Vice-Chairperson [M] agreed with the Worker Vice-Chairperson [F]. It was agreed to adopt the new paragraph.
548. A Government Co-Vice-Chairperson [F] proposed, in paragraph 4, the addition of the word “properly” after “worn”. It was so agreed.
549. The Worker Vice-Chairperson [F] proposed inserting a new paragraph after paragraph 5, which would read: “Hand and foot protection should be available in appropriate sizes for those who are required to wear them.” It was so agreed. Section 16.4 was adopted, as amended.

16.5. *Respiratory protective equipment*

550. The Employer Vice-Chairperson [M] proposed the insertion of a new sentence at the end of paragraph 1, which would read: “Workers should be trained in the proper selection of filters, where appropriate.” It was so agreed.
551. The Worker Vice-Chairperson [F] proposed, in paragraph 3, the insertion at the end of the first sentence of the words “and should be done in collaboration with those who need to wear the equipment”. It was so agreed.
552. A Government Co-Vice-Chairperson [F] proposed, in the second sentence of paragraph 3, the addition of the words “from the competent authority” after “sought”.
553. The Worker Vice-Chairperson [F] disagreed with the proposal and observed that in practice the necessary advice was generally sought from the supplier or the manufacturer. In view of the support for the proposal from the other groups, she proposed that it should be reworded to read “from competent persons”. It was so agreed.
554. The Employer Vice-Chairperson [M] proposed the addition of a new paragraph at the end of the section, which would read: “Respiratory equipment should not be used without a proper documented fit test.” He explained that the fit test was required to ensure that the equipment fitted correctly and that the material was up to date. The fit test needed to be documented for the purpose of keeping records.
555. The Worker Vice-Chairperson [F] considered that the proposed addition was largely covered by paragraph 4. She added that in the case of an emergency there would not be time for a proper documented fit test. A Worker expert explained that fit testing for respiratory protective use was required where the use of the respirator was a normal or reasonably expected part of the job, but not if the respirator was only intended to be used in emergency situations.
556. Following consultations, it was proposed that the new paragraph would read: “When negative pressure respiratory equipment is required on a regular basis, it should not be used without a proper documented fit test.” It was so agreed. Section 16.5 was adopted, as amended.

16.6. Hearing protection

557. The Worker Vice-Chairperson [F] proposed, in paragraph 1, second sentence, the deletion of the words “(the latter providing the most effective protection)”, explaining that technological improvements meant that ear muffs were not now necessarily the most effective protection available. She also proposed the replacement of the words “appropriate signs” in the last sentence by “and warning signs displayed at the location.” It was so agreed. Section 16.6 was adopted, as amended.

558. Section 16.7, **Protectors against radioactive contamination**, was adopted without discussion.

16.8. Protection from falls

559. A Government Co-Vice-Chairperson [F] proposed, in paragraph 1, first sentence, to replace the words “Safety harnesses with independently secured lifelines” by the words “Fall protection equipment, attached to independent lifelines or suitable anchorages”. She also proposed, at the end of the second sentence, the addition of the words “, and where necessary, shock absorbing lanyards.” It was so agreed. Section 16.8 was adopted, as amended.

16.9. Clothing

560. A Government Co-Vice-Chairperson [F] proposed to move the whole section up to become section 16.2, immediately following the section on general provisions. She also proposed the deletion, in paragraph 1, of the words “Where required on the basis of a risk assessment,”. A Government expert from Brazil [M] explained that work clothing should be provided by the employer irrespective of the risk, so that workers did not have to work in their own clothing. It was so agreed. Section 16.9 was adopted, as amended.

17. Special protection

561. Section 17.1, **Employment and social insurance**, was adopted without discussion.

17.2. Working hours

562. The Worker Vice-Chairperson [F] requested clarification on whether a reference should be made in the paragraph 1 to the ILO working time Conventions.

563. The Secretary-General [F] suggested that the relevant Conventions could be included in the bibliography. It was so agreed.

564. The Employer Vice-Chairperson [M] proposed, in paragraph 2, to replace the words “collective agreements” with “through social dialogue”. He observed that collective bargaining was a part of social dialogue, and negotiations between employers and workers were not limited to collective bargaining.

565. The Worker Vice-Chairperson [F] stated that social dialogue was not an agreement. However, she could agree to the amendment in light of explanations that the terminology took into account the standard ILO definition of social dialogue. It was so agreed.

566. A Government Co-Vice-Chairperson [F], in subparagraph 2(a), proposed the addition of the words “or requires high concentration,”. It was so agreed. Section 17.2 was adopted, as amended.

17.3. Night work

567. The Employer Secretary [M] proposed, in paragraph 1, the removal of the reference to the Night Work Convention, 1990 (No. 171), in view of the lack of support for the instrument among employers and the fact that it had only been ratified by 15 countries. He emphasized that night work was a necessary reality in the shipbuilding and repair industry and that the suggestion that it should be discouraged should be removed. He therefore proposed the deletion of the text following the words “In view of the hazardous nature of shipbuilding and ship repair” and its replacement by “night work should be regulated and implemented by national laws and regulations and social dialogue or in any other manner appropriate to national conditions and practice.” Reference to Convention No. 171 and the Night Work Recommendation, 1990 (No. 178), could be included in the bibliography.
568. The Worker Vice-Chairperson [F] recalled that the code of practice was not binding and saw no reason to remove the reference to instruments that had been formulated and approved following the full institutional tripartite process of the ILO. She emphasized that there was abundant evidence that night work interfered with natural bodily rhythms and resulted in fatigue, which in turn increased the frequency and severity of accidents and had a harmful effect on the health of workers
569. Following further consultation, the Meeting agreed that the wording of paragraph 1 would be amended to read: “In view of the hazardous nature of shipbuilding and ship repair, the consequences of fatigue on accident frequency, severity and health should be considered.”
570. The Worker Vice-Chairperson [F] proposed, in subparagraph 2(a), the replacement of the words “reduce or avoid” by the word “monitor”. She observed that it was not the purpose of health assessments to reduce or avoid health problems, but to identify and monitor them.
571. Following further consultation, it was agreed that the words “reduce or avoid” would be replaced by the words “identify and monitor”. Section 17.3 was adopted, as amended.

17.4. Working alone

572. The Worker Vice-Chairperson [F] proposed, in paragraph 1, the replacement of the words “Whenever an employee is working alone, such as in a confined space or isolated location” with “Only in exceptional circumstance should employees be working alone”. She then proposed to add the words “In such cases,” before the words “the employer”.
573. The Executive Secretary [M] explained that the section was drawn largely from the OSHA *Shipyard Industry Standards*. Similar wording had been proposed to the Meeting of Experts on Safety and Health in Opencast Mines, held in October 2017 which, following deliberations, had replaced the section by a single paragraph, which read: “Working alone should be avoided. If it is necessary, the employer should take appropriate measures for the protection of workers working alone or in isolation”. The Meeting agreed to replace the two paragraphs in section 17.4 by the text read out by the Executive Secretary [M].

17.5. Fatigue

574. The Worker Vice-Chairperson [F] proposed, in paragraph 1, first sentence, to insert the words “acute or chronic and is” before the word “defined”.
575. The Employer Vice-Chairperson [M] expressed the view that it was not necessary in the present text to go into such detail on the definition and description of fatigue. He therefore proposed the deletion of the first eight paragraphs of the section.

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576. The Secretary-General [F] indicated that the text was drawn from the code of practice on safety and health in opencast mines adopted in October 2017.
577. A Government Co-Vice-Chairperson [F] expressed the preference to retain the paragraphs in view of the medical and humanitarian implications of fatigue.
578. The Employer Secretary [M], noting the views of the Government group, said that if the paragraphs were to be retained, care should be taken not to focus on specific forms of work. He therefore proposed the deletion of subparagraph 1(b), which referred specifically to “shift work, especially night work”.
579. The Worker Vice-Chairperson [F] emphasized the importance of retaining the reference to shift work and night work. She added that there was a whole body of research and evidence that acknowledged the effects of these forms of work on the circadian rhythm of the body, and the fact that they could be controlled by organizational measures. However, she was not claiming that shift work should not be carried out.
580. A Government expert from Italy [F] said that her group also wanted to retain the paragraphs.
581. The Secretary-General [F] clarified that shift work and night work were not considered to be non-standard forms of employment. Indeed, night work was the subject of one of the earliest ILO instruments, the Night Work (Women) Convention, 1919 (No. 4).
582. Following further consultation, the Meeting agreed to delete paragraph 1 and to include the night work Conventions in the bibliography. The other paragraphs would be retained. Section 17.5 was adopted, as amended.
583. Section 17.6, **Alcohol and drugs**, was adopted without discussion.

17.7. HIV/AIDS

584. A Government Co-Vice-Chairperson [F], in the title and in paragraph 1, proposed to replace the term “HIV/AIDS” by “HIV and AIDS”. It was so agreed. Section 17.7 was adopted, as amended.

18. Welfare

18.1. General provisions

585. The Worker Vice-Chairperson [F], in paragraph 1, proposed to add the words “for both women and men” after the word “provided”. It was so agreed.
586. The Worker Vice-Chairperson [F] proposed to add a subparagraph to paragraph 1 which would read: “There should be access to medical services”.
587. An Employer expert from Spain [M] said that the law in many countries, such as his own, required enterprises of a certain size, based on the size of the workforce and the risks of the specific industry, to maintain an occupational prevention service for their own personnel, but not for the personnel of contractors and subcontractors, which were required to make their own arrangements in that regard. However, it was clear that all medical services were required to provide first-aid care for all workers at the site. It would therefore be necessary to specify the type of service to which reference was being made. It should be recalled that reference had already been made to emergency services in section 3.5.

588. The Employer Vice-Chairperson [M], in light of the explanations provided, proposed the addition of a new paragraph which would read: “All workers should have access to an occupational medical service.” It was so agreed.

589. The Employer Vice-Chairperson [M], with reference to subparagraph 1(c), said that it was important to avoid any misunderstanding that the accommodation for taking meals and for taking shelter during adverse weather conditions were two different places. The place where meals were taken could also be used to take shelter. He therefore proposed the replacement of the words “taking meals and for taking” by the words “taking meals which can also be used for”. It was so agreed. Section 18.1 was adopted, as amended.

18.2. *Drinking water*

590. A Government Co-Vice-Chairperson [F] proposed, in paragraph 1, after the words “drinking water”, the addition of the words “of suitable temperature”. It was so agreed.

591. A Government Co-Vice-Chairperson [F] proposed the addition of a new paragraph to read: “The communal use of glasses or other drinking water receptacles should be prohibited.” It was so agreed. Section 18.2 was adopted, as amended.

18.3. *Sanitary and washing facilities*

592. A Government Co-Vice-Chairperson [F] proposed the addition of a new final paragraph to read: “Electric showers should be connected to an earthing system.” It was so agreed. Section 18.3 was adopted, as amended.

18.4. *Facilities for changing and storing clothing*

593. A Government Co-Vice-Chairperson [F] proposed, in paragraph 1, the addition of the word “separate” at the beginning of the sentence, and of the words “women and men” before the word “workers”. It was so agreed.

594. A Government Co-Vice-Chairperson [F] proposed, in paragraph 2, the addition of the words “for each worker” after the words “should be provided for”. It was so agreed. Section 18.4 was adopted, as amended.

18.5. *Facilities and shelters for food and drink*

595. A Government Co-Vice-Chairperson [F] proposed the addition of a paragraph at the end of the section to read: “Food and drink facilities should not have a direct connection to sanitary facilities, but should be equipped with a hand basin and soap in addition to a supply of wholesome drinking water. These facilities should have washable non-slip floors.” It was so agreed. Section 18.5 was adopted, as amended.

596. Section 18.6, **Living accommodation**, was adopted without discussion.

Acronyms, abbreviations and definitions

597. Following a brief discussion, the Meeting decided, in the definition of “competent authority”, to add the words “and enforce” after the words “the power to issue”.
598. A Government Co-Vice-Chairperson [F], with reference to the definition of “worker”, raised the question of whether the words “women or men regardless of their gender identity” should be included in the definition. Following a brief discussion, while acknowledging the issue, it was considered that “any person” was the appropriate wording.
599. The section “Acronyms, abbreviations and definitions” was adopted, as amended.

Bibliography

600. The Worker Vice-Chairperson [F], with reference to section 1.1, “Fundamental ILO Conventions and accompanying Recommendations”, noted that the reference in the chapeau to eight Conventions being included in the ILO Declaration on Fundamental Principles and Rights at Work, 1998, was inaccurate and proposed the deletion of the chapeau. It was so agreed.
601. The Worker Vice-Chairperson [F], with reference to section 1.2, “Conventions and Recommendations on occupational safety and health and working conditions”, proposed the addition of the Hours of Work (Industry) Convention, 1919 (No. 1), the Weekly Rest (Industry) Convention, 1921 (No. 14), the Forty-hour Week Convention, 1935 (No. 47), the Holidays with Pay Convention (Revised), 1970 (No. 132), the Part-time Work Convention, 1994 (No. 175), and the Reduction of Hours of Work Recommendation, 1962 (No. 116). It was so agreed. The bibliography was adopted, as amended.

Appendix I – Workers’ health surveillance

602. Appendix I was adopted without discussion.

Appendix II – Surveillance of the working environment

603. Appendix II was adopted without discussion.

Adoption of the draft code of practice on safety and health in shipbuilding and ship repair

604. The draft *Code of practice on safety and health in shipbuilding and ship repair* was adopted in its entirety, as amended.

Closure of the Meeting

605. The Chairperson [M] expressed admiration for the professionalism of the participants, who had sought ways to protect human beings and the future of humanity, irrespective of their political allegiance. He thanked all those who had worked hard to achieve the success of the Meeting.

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- 606.** The Employer Vice-Chairperson [M] called on the participants to use and refer to the code of practice on safety and health in shipbuilding and ship repair for the benefit of both themselves and their countries. The importance of the Meeting and the Code should not be taken for granted, particularly since the aim was to save lives.
- 607.** The Worker Vice-Chairperson [F] said that the industry faced huge challenges relating to health and safety and that workers in the sector were losing their lives. The code of practice was a comprehensive document that should be promoted in all places where shipbuilding and ship repair were carried out. She noted that certain Worker experts from major shipbuilding countries who had wished to contribute to the discussion had not been able to do so because of language barriers and she called on the ILO to consider ways of ensuring full participation in its work irrespective of language.
- 608.** The Government Co-Vice-Chairpersons [F] thanked the Government experts for their informed and high quality contribution to the discussions with the intention of saving and protecting the lives of workers. The Code was professional, detailed and comprehensive, and would provide significant guidance in the shipbuilding and ship repair sector, particularly in countries that had not yet established such guidance.
- 609.** A Government observer from Senegal [M] thanked the officers of the Meeting for guiding its deliberations in a democratic manner.
- 610.** The Employer Secretary [M] paid tribute to the Chief of the Secretariat Services for her excellent work over the years and wished her the best for her new life outside the ILO. The Secretary-General [F] joined the tributes to the work of the Chief of the Secretariat Services over many years.
- 611.** The Secretary-General [F] emphasized that the participants, in addition to contributing to the promotion of decent work, had created an instrument that would provide guidance for many years to come on the promotion of decent work and OSH in the shipbuilding and ship repair industry. She congratulated the participants on the level of expertise and experience that they had demonstrated during the deliberations.
- 612.** The Meeting was closed at 12.30 p.m. on Friday, 26 January 2018.

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