



**Draft Standard and Guidelines for the safe management and operation of
mining vessels and installations**

Developed by the Legal and Technical Commission

**DRAFT FOR STAKEHOLDER CONSULTATION
(DO NOT QUOTE OR CITE)**

Background

1. During the continuation of the twenty-sixth session, the Commission considered a draft standard and guidelines for the safe management and operation of mining vessels and installations pursuant to regulation 30 of the draft regulations on exploitation of mineral resources in the Area (ISBA/25/C/WP.1), the draft standard and guidelines were prepared by a working group of the Commission.
2. The purpose of the draft standard and guidelines for the safe management and operation of mining vessels and installations is to recommend how a contractor can achieve safe management and operation of Mining Vessels and Installations engaged in the Area by minimizing risk and ensuring the protection of: (i) human life at sea; (ii) the Marine Environment; and (iii) Mining Vessels, Installations, and property.
3. Draft regulation 30 requires a contractor to comply with applicable international rules and standards established by competent international organizations or general diplomatic conferences concerning the safety of life at sea, the pollution of the Marine Environment by vessels, the prevention of collisions at sea and the treatment of crew members, as well as any rules, regulations and procedures and Standards adopted from time to time by the Council relating to these matters.
4. To give effect to the requirements contained in draft regulation 30, the Commission considered that it was necessary to prepare: (i) a Standard (Appendix I); and (ii) Guidelines (Appendix II) for the safe management and operation of mining vessels and installations

1 **Appendix I**

2 **Draft Standard for the safe management and operation of mining vessels and**
3 **installations**

4 1. The safe management and operation of Mining Vessels and Installations is part of the
5 safety management system to be implemented and maintained by the Contractor in accordance
6 with the Regulations for Exploitation of mineral resources in the Area. Mining Vessels and
7 Installations means the vessels and installations applied in the support and conduct of mining
8 in the Area.
9

10 2. The Contractor shall ensure that the management and operation of all Mining Vessels
11 and Installations engaged in exploitation of mineral resources in the Area are safe and comply
12 with applicable international rules, regulations and standards.
13

14 3. The Contractor shall ensure the development of a Safety Management System that:

- 15 a. ensures safety of personnel, protection of the marine environment; and safety of
16 Mining Vessels and Installations, and property;
- 17 b. includes risk analyses and emergency preparedness analyses to provide a balanced
18 and comprehensive picture of the risk associated with exploitation and ensure that
19 the risk of incidents are reduced as much as reasonably practicable;
- 20 c. is developed by applying recognized international standards and systems including
21 the approaches adopted by ISO standards and guidance, in particular ISO
22 31000:2018 – Risk Management – Guidelines, ISO 9001:2015 – Quality
23 management systems – Requirements, and ISO 19901-6:2009 – Petroleum and
24 natural gas industries – Specific Requirements for offshore structures – Part 6:
25 Marine operations; and
- 26 d. is consistent with the ISA Rules, Regulations and Procedures
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Appendix II
Draft Guidelines for the safe management and operation of mining vessels and installations

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47 **I. INTRODUCTION**

48 1. These Guidelines contain guidance for the safe management and operation of vessels
49 and installations used in the support and conduct of exploitation in the Area. By vessels is meant
50 the vessels that are stationary on the mining site during the mining operations to run and support
51 the marine and submarine operations involved, including temporary storage and transfer of
52 mined material to cargo vessels for transport away from mining site. By installations are meant
53 all equipment deployed in the water column and on the seabed to carry out the mining and
54 seabed-to -surface transport. Such vessels and installations are hereinafter termed Mining
55 Vessels and Installations.

56 **A. Scope**

57 2. These Guidelines apply to Mining Vessels and Installations intended to be deployed for
58 exploitation in the Area. The Guidelines are based on best industry practices and are
59 recommendations for the implementation of applicable mandatory requirements in the
60 Regulations for Exploitation of mineral resources in the Area (Exploitation Regulations) and
61 should be read in conjunction with the Standard.

62 **B. Purpose**

63 3. The purpose of these Guidelines is to describe how a Contractor can achieve safe management
64 and operation of Mining Vessels and Installations engaged in the Area by minimizing risk and protection
65 of:

- 66 • Human life at sea.
- 67 • Marine environment; and
- 68 • Mining Vessels and Installations, and property

69
70 4. Safe management and operation require identification and understanding of the risks to human
71 life and property at sea and the marine environment, together with a system of planning, controls, training
72 and compliance with applicable internationally recognized rules and regulations and national laws.

73 5. These Guidelines shall be read in conjunction with the Exploitation Regulations, as well as other
74 relevant International Seabed Authority Standards and Guidelines, including but not limited to those
75 related to:

- 76 • Emergency Response and Contingency Planning;
- 77 • Environmental Impact Assessment and Environmental Impact Statement;
- 78 • Environmental Management and Monitoring Plan; and
- 79 • Scope and Standard of Baseline Data Collection.
- 80 • Hazard Identification and Risk Assessment

81
82 **II. THE SAFETY MANAGEMENT PROCESS**

83 **A. Introduction**

84 6. The objective of the process of development and implementation of safe management
85 for Mining Vessels and Installations is to ensure that the Contractor, Sub-contractors, and all
86 associated parties and personnel engaged in supporting exploitation in the Area comply with
87 the same level of safety during operations.

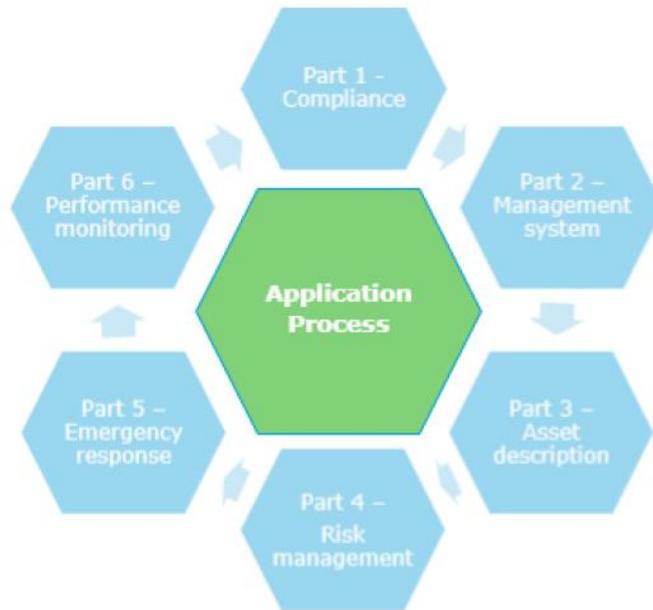
88 **B. Description of the process**

89 7. Prior to deployment of a mining Facility into service, the Contractor should, in its
90 application to the International Seabed Authority for approval of a plan of work, document

91 operational intent and profile following the topics set out in Figure 1 and providing relevant
 92 documentation as necessary.

93 **Figure 1: Overview of topics to be considered in the safe management and operation**
 94 **plan**

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Part	Topic	Content
Part 1	Compliance	This part will outline the approach and methods to describe and demonstrate compliance with relevant regulations, operator requirements as well as external stakeholders and their expectations
Part 2	Management system	Part 2 provides a description of the operator’s management system to ensure that health, safety & environmental risks are reduced to a tolerable (As Low As Reasonably Practicable) level. The methods to reduce risk must be considered in Part 4.
Part 3	Facility description	Description of the asset, its operations, description of the equipment and systems necessary to reduce risk to a tolerable level following the ALARP (As Low as Reasonably Practicable) principle, and to fulfil the requirements of the applicant’s scope of operations. The equipment and systems must be considered in Part 4.
Part 4	Risk management	Description of the risk management process for assuring that the risks associated with proposed scope of operations are reduced to a level that is tolerable following the ALARP (As Low as Reasonably Practicable) principle, to the operator and other stakeholders. The risk management process must consider elements described in Part 2 and the systems and equipment described in Part 3.
Part 5	Emergency response	Provides a description of emergency response arrangements and plans. These should be described based on the risk management process in Part 4.
Part 6	Performance monitoring	Provides a description of the arrangements for monitoring to ensure that the risk management measures identified in Part 4 are implemented, maintained and effective at the workplace.

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98 **III. REGULATORY FRAMEWORK**

99 8. The Exploitation Regulations and the Standard require that the management and
100 operation of all Mining Vessels and Installations comply with applicable international rules and
101 standards, ISA rules, regulations and procedures, and with the national laws of the flag State
102 relating to vessel standards and crew safety in the case of vessels, or of the sponsoring State or
103 States in the case of Installations, and with the national laws of the sponsoring State or States in
104 relation to any matters that fall outside of the jurisdiction of the flag State, such as worker rights
105 for non-crew members and human health and safety that pertains to the mining process rather
106 than to ship operation.

107
108 9. Compliance shall be demonstrated by means of processes, procedures and documented
109 actions that conform to these rules, regulations and required safety standards.

110
111 10. Depending on the type of vessels and operations, existing guidelines that would assist
112 such compliance include the following:

- 113 • Guidelines for the Safe Management and Operation of Offshore Support Vessels (UK
114 Offshore Operators Association and the Chamber of Shipping)
115 https://www.libramar.net/news/guidelines_for_the_safe_management_and_operation_of_offshore_support_vessels/2017-07-29-1314
116
- 117 • Guidelines for Offshore Marine Operations (Norwegian Shipowners' Association,
118 Norwegian Oil and Gas Association, Netherlands Oil & Gas Production Association,
119 Danish Shipowners Association, Oil & Gas UK and United Kingdom Chamber of
120 Shipping) <http://www.g-omo.info/wp-content/uploads/2019/03/GOMO-Complete-Document-March-2019.pdf>
121
- 122 • NORSOK Standard J-003 Marine Operations (Rev. 2, Aug. 1997) (Withdrawn) &
123 NORSOK Standard J-CR-003 Marine Operations (Rev. 1, Jan. 1995) (Withdrawn)
124 (Norwegian Oil Industry Association and Federation of Norwegian Engineering
125 Industries) <https://www.standard.no/en/sectors/energi-og-klima/petroleum/norsok-standard-categories/J-Marine-Operation/j-003/>
126 <https://www.standard.no/en/sectors/energi-og-klima/petroleum/norsok-standard-categories/J-Marine-Operation/j-cr-003/>
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128

129 **A. Introduction**

130 11. The operator of the Mining Vessels and Installations is responsible for implementing
131 the various requirements by means of procedures, documentation, drawings, analysis reports,
132 etc.

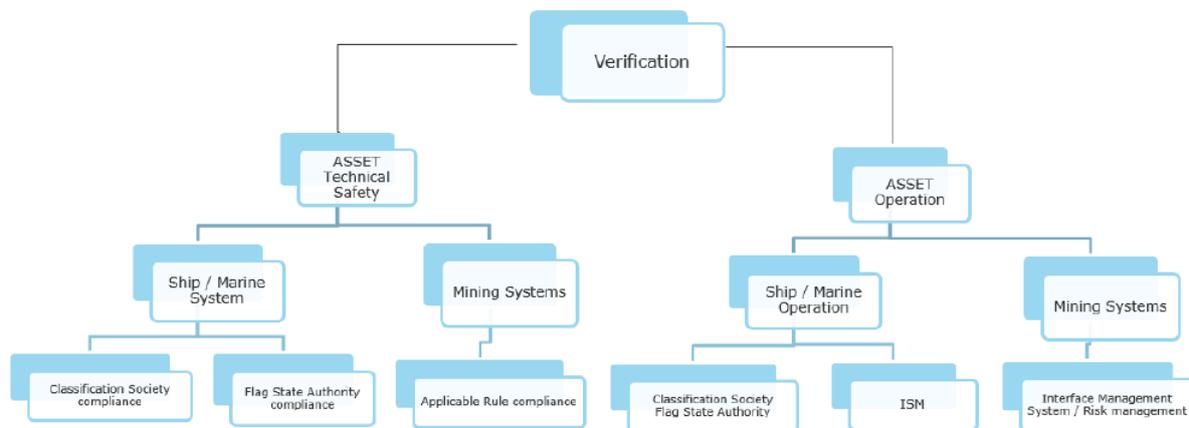
133 12. The Contractor is responsible for ensuring that the regulatory regime is followed by
134 means of verifications, spot checks, periodical reviews, audits, etc.

135 13. The ultimate responsibility lies with the Contractor.

136 **B. Technical and operational safety regime**

137 14. Figure 2 illustrates an overview of the technical and operational compliance
138 requirements for Mining Vessels and Installations.

139 **Figure 2: Overview of technical and operational compliance of Mining Vessels and**
 140 **Installations**



141
 142 15. For the ship/marine system part of the Mining Vessels and Installations, design and
 143 outfitting should comply with Classification Rules and the relevant national laws of the flag State
 144 or Sponsoring States. In operation, the Mining Vessels and Installations should follow the
 145 Classification Society and flag State and Sponsoring States supervision schemes and comply
 146 with the IMO International Safety Management Code (ISM) for safe management and operation.
 147

148 16. For the mining system part of the Mining Vessels and Installations, it is recommended
 149 that the mining specific equipment be certified according to applicable rules.
 150

151 17. The Contractor should ensure that the Mining Vessels and Installations engaged in
 152 mining operations have an adequate management system covering the interface for marine and
 153 mining operations.

154 **IV. SAFE MANAGEMENT OF OPERATIONS**

155 18. This section covers the requirements that a Contractor should fulfil in addition to
 156 technical and operational safety regime mentioned under section III of these Guidelines.

157 **A. Compliance management**

158 19. Compliance management is an important part of safe management of operations.
 159

160 20. Compliance with rules and regulations (also for those aspects covered in section IIIB
 161 Technical and operational safety regime) is key to maintaining a minimum level of safety both
 162 at the design stage as well as in operations. The Contractor should establish a system that ensures
 163 continued compliance with applicable rules, regulations, and standards.
 164

165 21. While the existing rules and regulations cover most parts of the Mining Vessels and
 166 Installations in terms of design and operations for the marine side, there are gaps when it comes
 167 to the operational side of mining systems as well as interface with the marine systems. The
 168 Contractor together with the operator should establish a safety case compliance demonstration
 169 as to how the requirements pertaining to health, safety and the environment are intended to be
 170 met.
 171

172 22. Compliance demonstration should be proportionate to the magnitude of risk. The
 173 primary objectives of risk assessment in this context are to identify and rank the risks across the

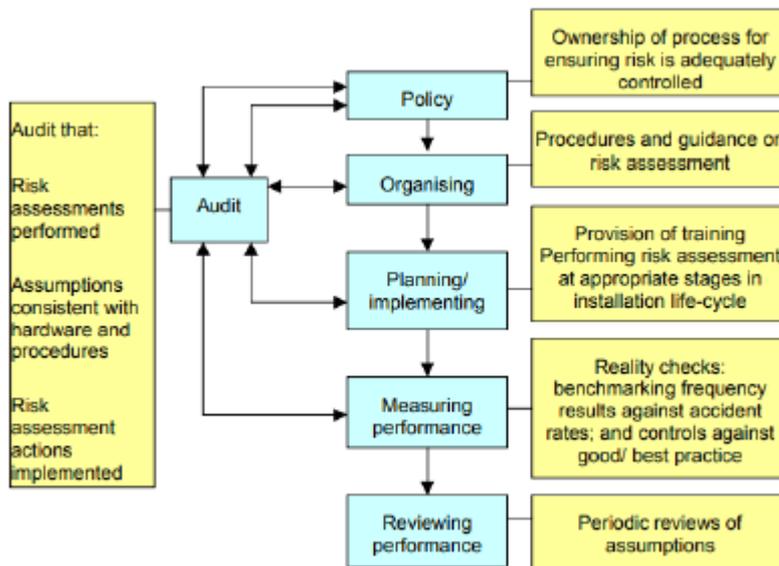
174 range of components covered under the design and operation of mining vessels and installations,
 175 so that they can be adequately managed through evaluation and implementation of appropriate
 176 risk reduction measures. Guidance on approaches to risk assessment and to what constitutes a
 177 suitable and sufficient risk assessment, for the purposes of a safety case demonstration, is
 178 provided in the S&G on Hazard Identification and Risk Assessment.

179
 180 23. The relationship of risk assessment with the Contractor’s safety management system is
 181 as per Figure 3 below.

182

183 **Figure 3: Risk assessment as part of safety management**

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186 24. Risks are reduced to as low as practicable by employing risk assessment to help focus
 187 and maximise the process of continual improvement within the safety management system.
 188 Ongoing review as part of the process can help determine whether additional controls are
 189 required or justified and hence to providing assurance to management that both safety and
 190 business risks are adequately managed and controlled. Active engagement across all levels of
 191 the workforce in the process of risk assessment is to be encouraged, with a view to gaining an
 192 understanding, and hence greater acceptance of the risks and their relative priorities. Risk
 193 assessment is an essential part of any SMS.