Draft standard and guidelines on the development and application of
Environmental Management Systems
developed by the Legal and Technical Commission

DRAFT FOR STAKEHOLDERS CONSULTATION
(DO NOT QUOTE OR CITE)

Background

1. At the first and second parts of its twenty-sixth session, the Commission considered draft standards and guidelines on the development and application of environmental management systems for the application of Draft regulation 46 of the Draft regulations on exploitation of mineral resources in the Area (ISBA/25/C/WP.1) on the basis of a document prepared by the secretariat with the assistance of a consultant.

2. Draft regulation 46 requires a contractor to implement and maintain an environmental management system, taking into account the relevant Guidelines. Draft regulation 46 specifies that an environmental management system shall: (a) be capable of delivering site-specific environmental objectives and Standards in the Environmental Management and Monitoring Plan; (b) be capable of cost-effective, independent auditing by recognized and accredited international or national organizations; and (c) permit effective reporting to the Authority in connection with environmental performance.

3. The Commission considered that a number of aspects of an environmental management system should be elaborated upon as mandatory requirements in a standard (Annex I), including the elements framing the development and application of an environmental management system and the core process, while other aspects, such as operational, requirement identification and auditing aspects, could be set out in guidelines (Annex II).

4. The Commission recognized that these draft standard and guidelines were connected to a number of other environment-related standards and guidelines under development, such as those related to environmental impact assessments, the environmental impact statement, environmental management and monitoring plan, baseline data collection and contingency planning. Accordingly, these will be reviewed together jointly in light of stakeholders’ comments.
Annex I

Draft standard on the development and application of environmental management systems

1. The Environmental Management System is that part of the overall management system applied by a Contractor that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining environmental policy, goals and environmental performance.

2. The Regulations on Exploitation of mineral resources in the Area specify the requirements for an Environmental Management System.

3. The Contractor shall ensure the development of an Environmental Management System that:

   (a) delivers site-specific environmental outcomes consistent with the environmental management and monitoring plan;

   (b) allows for the prevention and control of pollution of the marine environment from mining operations;

   (c) is developed by applying recognized standards and systems including the approaches adopted by ISO standards and guidance, in particular ISO 31000: Risk management – Principles and guidelines, ISO 14001: Environmental management systems – Requirements with guidance for use, and ISO 19011:2018 Guidelines for auditing management systems; and

   (d) is consistent with the ISA Rules, Regulations and Procedures

4. The Contractor shall undertake the four key steps of the core process of an environmental management system as follows:

   (a) identify and understand the key issues of the seabed mining operation that may have an impact on the marine environment;

   (b) ensure that its operations are planned and carried out in a systematic and controlled manner to minimise or eliminate harmful effects on the marine environment;

   (c) establish monitoring activities to follow up and be able to check and evaluate whether the results achieved are as planned;

   (d) assess its operations and identify areas for improvement.
Annex II
Draft guidelines on the development and application of environmental management systems

CONTENTS

I.  Introduction
II. Purpose
III. Leadership and policy
    A. Leadership
    B. Policy, objectives and strategy
    C. Roles, responsibilities and authorities
IV. Identification of requirements
    A. Legal requirements and other obligations
    B. Baseline data on the seabed
    C. Environmental impact assessment and environmental impact statement
V.  Operations
    A. Operational planning and control
    B. Nonconformities
    C. Procurement and subcontractor management
    D. Emergency response and contingency plan
VI. Monitoring and performance evaluation
    A. Environmental monitoring plan
    B. Evaluation of performance
    C. Reporting to and notifying ISA
VII. Audits and management review
    A. Internal and external audits
    B. Management review
VIII. Support
    A. Resources
    B. Awareness and Competence
    C. Communication
    D. Management System Documentation
IX. Definitions

I.  INTRODUCTION

1. This document describes the development and application of environmental management systems (EMS) for exploitation of mineral resources in the Area. It describes how to fulfil the requirements of the Regulations on exploitation of mineral resources in the Area (Exploitation Regulations).

2. These Guidelines shall be read in conjunction with the Exploitation Regulations, as well as other relevant International Seabed Authority Standards and Guidelines, including but not limited to those related to:
   - Environmental Impact Assessment and Environmental Impact Statement;
II. PURPOSE
3. The objective of these Guidelines is to describe how an environmental management system for exploitation of mineral resources in the Area should be set up. These Guidelines focus on the development and content of the environmental management system.

5. Figure 1 below illustrates the main elements of an environmental management system

6. In order to ensure this core process is effective and efficient, there are some framing requirements that need to be in place. The Contractor’s management should perform effective leadership, such as pointing out directions and setting overall objectives of its operations. Furthermore, to support the core process, suitable resources need to be in place.

7. As a whole, all these functions should be in place to ensure an effective and efficient environmental management system.

III. LEADERSHIP AND POLICY
A. Leadership
9. The senior management of the Contractor should demonstrate leadership and commitment with respect to the environmental management system. This includes:

8. Except as otherwise specified herein, terms and phrases defined in the Exploitation Regulations shall have the same meaning in these Guidelines.
(a) ensuring that environmental policy and objectives are established;
(b) ensuring that sufficient resources are available;
(c) communicating the importance of effective environmental management and of compliance with the environmental management system;
(d) ensuring that the environmental management system achieves its intended outcome;
(e) promoting continual improvement;
(f) conducting regular management reviews;
(g) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

B. Policy, objectives and strategy

10. Environmental policy: The senior management of the Contractor should establish, implement, maintain and communicate an environmental policy.

11. Environmental objectives: The senior management of the Contractor should establish environmental objectives at relevant functions and levels in the organization. The objectives are to be adapted to the seabed mining operation and take into account the identified environmental issues and the Contractor’s obligations (see section IV), as well as any environmental rules, regulations and procedures of the Authority.

12. The Contractor should ensure that environmental objectives are:
   • measurable (whenever practicable)
   • monitored
   • communicated
   • updated as appropriate (typically as a result of the outcome of the management review).

13. The environmental objectives can be long term (e.g. 3 – 5 years) or short term (e.g. annual objectives). Some guidelines use the term objectives for the long term, and targets or goals for the short term. This Guideline does not separate between these terms.

14. Strategy: The Contractor should establish a strategy describing how to achieve the environmental objectives. Ideally, the strategy should be operationalised by establishing a plan which describes:
   (a) what needs to be done (action);
   (b) what resources will be required;
   (c) who will be responsible;
   (d) when the actions will be completed (deadline);
   (e) how the results will be evaluated.
C. Roles, responsibilities and authorities

15. The senior management of the Contractor should ensure that the responsibilities and authorities for relevant roles are assigned and communicated throughout the organization.

16. The senior management of the Contractor should assign responsibility and authority for:
   (a) ensuring that the environmental management system is consistent with this Guideline;
   (b) reporting on the performance of the environmental management system, including environmental performance, to the senior management;
   (c) reporting to ISA (see subsection VI.C “Reporting to and notifying ISA” in these Guidelines).

IV. IDENTIFICATION OF REQUIREMENTS

A. Legal requirements

17. The Contractor should identify applicable national and international legal requirements, rules and standards, and communicate internally the relevance of these obligations, as well as obligations arising from the Exploitation Regulations to relevant parties within the Contractor’s organization.

18. The Contractor should identify activities and/or installations which may be affected by the Contractor’s seabed mining activities. Examples of activities/installations which may be affected include fisheries, scientific research, oil & gas activities, submarine cables and pipelines, etc.

19. Based on the above identified issues, the Contractor should assess and decide how to manage these through the operational controls (see section V).

B. Baseline data on the seabed

20. The Guidelines on the scope and standard of baseline data collection provide guidance on how the Contractor should identify the current status of the seabed (e.g. physical, geological, biological, chemical, sediment properties) before starting any mining activities.

C. Environmental impact assessment and environmental impact statement

21. The Exploitation Regulations provide that the Contractor shall prepare an Environmental Impact Statement in accordance with regulation 47 and in the format prescribed in annex IV to the Regulations. A Standard on the Environmental Impact Assessment (EIA) process and Guidelines on the EIA content and Environmental Impact Statement template provide guidance on how the Contractor would conduct an EIA and report on its results.
V. OPERATIONS

A. Operational planning and control

22. The Exploitation Regulations provide that the Contractor shall take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment from its activities in the Area (see subsections IV.A Legal requirements, and IV.C Environmental impact assessment and statement).

23. This relates to both own operations as well as operations performed by the Contractor’s subcontractors.

24. The Contractor should establish suitable mitigating measures to reduce the environmental effects to a level that is as low as reasonably practicable (ALARP principle). Best Environmental Practices, Best available technology (BAT) and Best Available Techniques should be used whenever possible.

25. To achieve this, the Contractor should:
   (a) establish operational criteria for the seabed mining activities;
   (b) communicate the criteria to relevant personnel and subcontractors;
   (c) ensure the operational activities/processes are implemented according to the criteria;
   (d) keep documented information to have confidence that the seabed mining activities have been carried out as planned.

26. The Contractor should ensure that the mitigating measures take into account the following hierarchy of controls:
   • eliminate the process/activity that may cause harmful effects to the marine environment;
   • substitute the process/activity that may cause harmful effects to the marine environment;
   • design technical/engineering controls that reduce the harmful effects of the process/activity;
   • establish organisational and operational controls that reduce the harmful effects of the process/activity.

27. The process/activity, and selection of control hierarchy, may also involve use of equipment and/or chemicals.

B. Nonconformities

28. A nonconformity can be identified during the seabed mining operations or during an internal or external audit (subsection VII.A).

29. A nonconformity can, for example, consist in discharges from the mining support vessel or the mining operation on the seabed that exceed the environmental acceptance criteria.
When a nonconformity occurs, the Contractor should:

(a) react to the nonconformity by, as applicable:
   - taking action to control and correct it;
   - addressing the consequences, including mitigating adverse environmental impacts;

(b) evaluate the need for action to eliminate the causes of the nonconformity so that it does not reoccur (corrective action), by:
   - reviewing the nonconformity;
   - determining the causes of the nonconformity; and
   - determining if similar nonconformities exist, or could potentially occur

(c) implement any action needed.

It is important that if corrective actions are needed, they can be implemented swiftly and that the necessary equipment for this is in place.

To verify implementation and effectiveness of the corrective actions, a follow-up audit should be carried out.

C. Procurement and subcontractor management

Procurement covers both procurement of equipment and other physical assets, as well as services.

Procurement: The Contractor should establish a process to ensure environmental issues are taken into consideration when ordering and procuring equipment and other physical assets, and when engaging subcontractors.

Subcontractor management: The Contractor should establish a process to ensure that environmental issues are taken into consideration when selecting and engaging subcontractors. The following could be covered in the subcontractor selection and management process (non-exhaustive list):

(a) During subcontractor prequalification and selection phase the Contractor should:
   - define the expectations to the individual subcontractors;
   - develop an environmental self-assessment form which is to be filled out by potential the subcontractor;
   - communicate to the subcontractor the Contractor’s expectations related to environmental performance, both during prequalification phase and tendering phase;
   - review and assess the subcontractor’s ability to meet the Contractor’s expectations related to environmental performance, including status of the subcontractor’s environmental management system and historical performance (if relevant)

(b) During the operations phase, the Contractor should:
   - provide training activities for the subcontractor;
• arrange regular meetings at different levels (management as well as operational level);
• carry out inspections and/or audits of subcontractor, at office and at site (see also subsection VI.C Reporting to and notifying ISA);
• request notification of incidents (see also subsection VII.A Internal and external audits);
• request regular reporting of environmental performance.

D. Emergency response and contingency plan

36. The Exploitation Regulations provide that the Contractor shall prepare an Emergency Response and Contingency Plan prepared in accordance with annex V to the Regulations. Such a plan aims to establish, implement and maintain the processes needed to prepare for, and respond to potential emergency situations including such that are likely to have harmful effects on the marine environment.

VI. MONITORING AND PERFORMANCE EVALUATION

A. Environmental monitoring plan

37. The purpose of the environmental monitoring plan is to confirm that environmental effects meet the environmental objectives and standards for the seabed mining operation. Some parameters may need to be monitored continuously, whereas others are measured and analysed at defined intervals. Some parameters may need to be monitored, whereas others are calculated.

38. The Exploitation Regulations provide that the Contractor shall prepare an Environmental Management and Monitoring Plan prepared in accordance with regulation 48 and annex VII to the Regulations. The “Guidelines for the preparation of environmental management and monitoring plans” provide further guidance on how a Contractor may develop an environmental monitoring plan. The monitoring activities should be implemented according to the established monitoring plan.

B. Evaluation of performance

39. The results from the monitoring activities should be evaluated according to the criteria, method and frequency as defined by the Contractor (see subsections V.A Operational planning and control, and VI.A Environmental monitoring plan). The evaluation may assess the results against:

• The operational criteria defined by the Contractor (see subsection V.A)
• The environmental objectives (see subsection III.B)
• Legal requirements and other obligations (see subsection IV.A)
• Good Industry practice
40. In addition, the trends may be evaluated, whether there is a positive trend (improvement in environmental performance) or negative trend.

41. The results should be summarized by the Contractor on a regular basis, and presented to ISA (see subsection VI.C “Reporting to and notifying ISA”).

42. If the performance criteria are not met, the Contractor should take corrective action to improve the performance and meet the objectives.

43. If the Contractor does not have the necessary resources to do this, the resources need to be improved to meet the performance criteria. This could mean increasing one or several resources such as:
   - human resources;
   - infrastructure resources;
   - financial resources.

44. Human resources can be personnel with specialized skills and knowledge. Infrastructure resources can be the Contractor’s equipment, storage and processing vessels, waste management and transport vessels. Financial resources can be the necessary financial means to maintain the equipment and keep the progress of the project.

45. Reporting to ISA and notification of ISA in case of notifiable events are governed by the Exploitation Regulations.

46. Annual reporting: The annual reporting to ISA should be based on the results of the environmental monitoring plan for the seabed mining operation (see VI.A “Environmental monitoring plan”).

47. This process should describe the following:
   - parameters to report
   - format of reporting
   - method of reporting
   - when to report.

48. Notifiable events: In accordance with the Exploitation Regulations, the Contractor shall immediately inform the Secretary-General of the ISA in case of any event such as e.g. significant leaks of hazardous substances, unauthorized mining discharges.

VII. AUDITS AND MANAGEMENT REVIEW

A. Internal and external audits
49. An audit is a systematic, independent and documented process for obtaining evidence and determining to which extent the audit criteria are fulfilled. The audit criteria can be the organization’s environmental management system (i.e. the plans, work processes, procedures etc.), a contract, etc. An audit aims to ascertain whether the organisation does what it intends to do, that is it compares the actual activities and results against the requirements and expectations.

50. Generally, audits can be carried out as first party audits, second party audits and third-party audits:
   - **first party audits** are internal audits carried out by, and within, the Contractor organisation
   - **second party audits** are external audits carried out by the Contractor, auditing its subcontractors and suppliers
   - **third party audits** are external audits carried out by ISA or a certification body, auditing the Contractor.

51. The Contractor should prepare a programme for conducting audits of the environmental management system, as first party audits and second party audits. The programme should cover annual or bi-annual audits. The programme should be based on a risk-based approach.

52. The programme should cover internal audits (first party) and external audits of subcontractors (second party).

53. The Contractor needs to ensure the audit team is competent and independent of the audited unit or subcontractor.

54. The Contractor should establish a procedure for how to plan and carry out the different types of audits. The procedure should address the following (including, but not limited to):
   - annual or bi-annual audit programme (when and who prepares and approves), risk-based approach;
   - competence requirements of auditors;
   - notification, planning of each specific audit;
   - setting up an audit plan;
   - templates for notification, and audit report;
   - following up the audits.

**B. Management review**

55. The management review is a high-level process where the senior management reviews the organization’s environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

56. The senior management of the Contractor should review the organization’s environmental management system at regular intervals.
57. The purpose of the management review is to ensure the environmental management system’s continual suitability, adequacy and effectiveness for the seabed mining operation.

58. The input to the management review includes:
   (a) the status of actions from previous management reviews;
   (b) changes in:
       • external and internal issues that are relevant for the seabed mining operation to the Contractor and/or the environmental management system;
       • the Contractor’s obligations (see subsection IV.A);
       • the key environmental issues as defined through the environmental impact assessment (see subsection IV.C);
   (c) the extent to which environmental objectives have been achieved (see subsections III.B and VI.B);
   (d) information on the Contractor’s environmental performance, including trends in:
       • nonconformities and corrective actions (see subsection V.B);
       • monitoring and measurement results (see subsections VI.A and VI.B);
       • audit results (see subsection VII.A);
   (e) adequacy of resources;
   (f) relevant communication(s) with ISA or other interested parties; and
   (g) opportunities for continual improvement.

59. The output of the management review should include:
   (a) conclusions on the continuing suitability, adequacy and effectiveness of the environmental management system for the seabed mining operation;
   (b) decisions related to continual improvement opportunities;
   (c) decisions related to any need for changes to the environmental management system, including resources, policy, strategy;
   (d) actions, if needed, when environmental objectives have not been achieved;
   (e) any implications for the strategic direction of the organisation;
   (f) any further recommendations for improvements.

60. The Contractor should retain documented information as evidence of the results of management reviews.
VIII. SUPPORT

A. Resources

61. The Contractor should ensure that sufficient resources are available to carry out its seabed mining operations in a way that corresponds with the environmental management system. Resources in this context comprise people with relevant competence, equipment, funding, and available time.

B. Awareness and Competence

62. The Contractor should ensure awareness among its personnel by ensuring knowledge and understanding of:
   - Contractor’s policy and procedures;
   - environmental aspects related to their functions;
   - key elements of the environmental management system.

63. The Contractor should ensure the right competence to the right personnel by:
   - identifying the competence profile needed for individual positions/functions;
   - identifying the current competence among relevant personnel;
   - identifying gaps in competence for relevant personnel; and
   - preparing a competence plan for relevant personnel and provide the necessary training.

64. Training can be on-the-job-training, classroom training, e-learning etc.

65. Personnel in this context are permanent employees, temporary employees, hired-in personnel and subcontractor personnel working under the regime of the Contractor.

C. Communication

66. Communication from the Contractor should cover both internal and external communication.

67. The Contractor should establish, implement and maintain process(es) needed for internal and external communications relevant to the environmental management system, including:
   a) on what it will communicate;
   b) when to communicate;
   c) with whom to communicate; and
   d) how to communicate.

68. The Contractor should respond to relevant communications on its environmental management system.

69. The Contractor should retain documented information as evidence of its communications, as appropriate.
70. With regard to *internal communication*, the Contractor should internally communicate information relevant to the environmental management system among the various levels and functions within its organisation, including relevant changes. It should also ensure its communication process(es) enable(s) persons doing work under the Contractor’s control to contribute to continual improvement.

71. With regard to *external communication*, the Contractor should externally communicate information relevant to the environmental management system, as established by the organisation’s communication process(es) and as required by its compliance obligations and towards the International Seabed Authority.

72. Whether internal or external, communication from the Contractor should:
   - include relevant information
   - be appropriate and understandable to the parties it is communicated to (personnel, stakeholders, and/or interested parties)
   - be clear and transparent
   - be truthful, able to be trusted and not misleading.

D. Management System Documentation

73. The Contractor should have a system to ensure that the right documentation is available at all times to the right personnel.

74. When creating and updating documented information, the Contractor should ensure appropriate:
   - identification and description (e.g. a title, date, author, or reference number)
   - format (e.g. language, software version, graphics) and media (e.g. paper, electronic)
   - review and approval for suitability and adequacy.

75. Documented information required by the environmental management system and by the International Seabed Authority should be controlled to ensure that it is available and suitable for use, where and when it is needed, and that it is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity).

76. For the control of documented information, the Contractor should address the following activities as applicable:
   - distribution, access, retrieval and use;
   - storage and preservation, including preservation of legibility;
   - control of changes (e.g. version control); and
   - retention and disposition.
77. Documented information of external origin determined by the Contractor to be necessary for the planning and operation of the environmental management system should be identified and controlled.

78. When the Contractor receives documented information of external origin this can be controlled by:
   (a) verifying that it is the revision that is specified, and not a prior revision;
   (b) prior revisions of documents should be marked as obsolete;
   (c) having a database which keeps track of all internal and external documents, their titles, dates and revisions.

IX. DEFINITIONS AND ABBREVIATIONS

79. **ALARP** means as low as reasonably practicable

80. **BAT** means best available technology

81. **BEP** means Best environmental practice

82. **Contractor** means an entity having a contract with the Authority for exploitation in the Area

83. **EMS** means Environmental Management System

84. **EIA** means Environmental Impact Assessment

85. **Subcontractor** means a party in a contractual relationship with the Contractor to support the execution of the mining operation