

**Twenty-eighth session**  
**Council session, part I**  
Kingston, 16-31 March 2023  
**Item 10 of the provisional agenda of the Council**  
**Draft regulations on exploitation of mineral resources in the Area**

## **Draft regulations on exploitation of mineral resources in the Area**

### **Parts IV and VI and related Annexes**

**Prepared by the Facilitator, Ms. Raijeli Taga (Fiji), of the Informal Working  
Group on the protection and preservation of the marine environment**

1. The present document contains my further revised draft text for Parts IV and VI and related annexes of the draft regulations on exploitation of mineral resources in the Area.
2. The structure of the facilitator's further revised text is as follows:
  - Part IV: Protection and preservation of the Marine Environment;
  - Part VI: Closure plans;
  - Annex IV: Environmental Impact Statement;
  - Annex IV bis: (previously III bis) Scoping Report;
  - Annex VII: Environmental Management and Monitoring Plan;
  - Annex VIII: Closure Plan;
  - Annex X ter: Design criteria for Impact Reference Zones (IRZs) and Preservation Reference Zones (PRZs) (as proposed in November 2022);
  - Schedule: Use of terms and scope.
3. The further revised text is presented as a revision of the facilitator's original text ([ISBA/27/C/IWG/ENV/CRP.1](#)) that was revised before the second part of the twenty seventh session in July 2023 ([ISBA/27/C/IWG/ENV/CRP.1/Rev.1](#)). It has been amended in accordance with the comments made by delegations and observers in July 2022 (regulations 44-55) and November 2022 (regulations 56-61 and relevant annexes), as well as the written proposals submitted by delegations and observers between sessions. New amendments are reflected in mark-up text, whilst previously marked-up text has been accepted to the extent that I have not heard any objection to the content or where there has been a clear consensus as to the content.
4. In further revising the text I have used the same approach as previously used, that is:
  - (a) Only those proposals in respect of which there has been no express opposition are reflected in the text. This is without prejudice to their future consideration or the

possibility for delegations to re-introduce textual proposals not incorporated in the present revised text.

(b) Ideas that reflected a general direction in the discussions have been incorporated, although the precise textual formulations proposed by delegations may not always have been utilized. While not every individual idea or proposal is necessarily reflected, the text presented is an attempt at reflecting the general thrust of those ideas and proposals.

(c) Where general comments were made but no drafting suggestions were provided or where several drafting suggestions were made going in a similar direction without being identical, I am proposing wording for the consideration of delegations.

(d) Options have been used throughout the text to present alternative conceptual approaches. The order in which options appear in the text should not be taken as indicating any suggested order of priority, nor as indication of the level of support for any particular option.

(e) Boxes contain explanations of revisions and/or my comments, where necessary, and are included under the relevant articles or sections.

5. I would like to remind delegations and observers, that the work and results of the Informal Working Group should be fully consistent with the provisions of the Convention and the 1994 Agreement, and general principles of International Law where applicable.

6. The Informal Working Group will meet from 20 to 22 March 2023. I propose that the group reads through the amended Draft Regulations 44-61 and annexes IV, IV bis, VII, VIII and X ter as well as the Schedule.

7. I also propose to hear from the coordinator of the stakeholder consultation group at the opening of the meeting as the outcomes will benefit discussions on several provisions under the scope of the work for the group. At this stage of readings of the text, I also intend to encourage discussions in small groups to address any remaining issues to forge text-based consensus.

## Enclosure

### Further revisions to the relevant parts and Annexes of the Draft Regulations

#### Part IV Protection and preservation of the Marine Environment

##### Section 1 Obligations relating to the Marine Environment

###### Regulation 44 General obligations

1. The Authority, sponsoring States, the Enterprise, Contractors and States competent for vessels, installations, structures and other devices flying their flag or of their registry or operating under their authority shall each, within their respective competence plan, adopt, implement and modify measures necessary for ensuring effective protection of the Marine Environment, including rare or fragile ecosystems all forms of marine life as well as the habitat of depleted, threatened or endangered species from harmful effects directly or indirectly resulting from Exploitation in the Area, including from shipboard dewatering immediately above a mine site of minerals derived from that mine site and from transportation of minerals to inland facilities, which may include inland processing in accordance with the Rules of the Authority, Standards and taking into account Guidelines referred to in regulation 45 and the applicable Regional Environmental Management Plan. To this end:

(a) In adopting and keeping under periodic review rules, regulations and procedures, as well as the Standards and Guidelines in accordance with the Convention and the Agreement, the Authority shall:

(i) Apply the precautionary approach principle as reflected in principle 15 of the Rio Declaration on Environment and Development and the ecosystem-based management approach to the assessment and management and prevention of risk of harm to the Marine Environment from Exploitation in the Area;

(ii) Apply the Best Available Techniques and Best Environmental Practices taking into account the applicable guideline,

(iii) Integrate Best Available Scientific Evidence in decision-making, including all risk assessments and management undertaken in connection with environmental assessments, acknowledging knowledge gaps, and the management and response measures taken under or in accordance with Best Environmental Practices; and

(iv) Ensure accountability and transparency in the assessment, evaluation and management of Environmental Effects and risks from Exploitation in the Area, including through Stakeholder participation and the timely prompt public release of relevant environmental data and information at regular intervals and in an accessible format through the Authority's website.

(iv)bis Take into account the approach that the polluter should in principle bear the cost of pollution, endeavour to promote practices whereby those engaged in exploitation activities bear the cost of meeting the pollution

prevention and control requirements for the authorized activities, having due regard to the public interest.

(v) Include Underwater Cultural Heritage in the definition of marine environment. Thus, references to the environment include references to these objects which hereinafter are referred to as underwater cultural heritage (UCH) which has been more precisely defined in the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage.

(vi)ter- Ensure to minimize the direct or indirect In implementing the regulations, act so as not to transfer directly or indirectly damage or the likelihood of damage from one part of the environment to another or transform one type of pollution into another as stated in article 195 of the Convention. This -especially related to avoiding toxic, persistent and bio accumulative substances.

(b) In taking all necessary measures to ensure that the Contractor carries out Exploitation in the Area in conformity with the terms of its contract and its obligations under the- Rules of the Authority related to the effective protection for the Marine Environment from harmful effects, the Sponsoring State shall, ast a minimum, assist the Authority to implement, ~~mutatis mutandis~~, the measures set out under paragraph (a)(i) to (i*vi*) above.

(c) In taking necessary measures to prevent, reduce and control pollution and other hazards to the Marine Environment ,including the coastline, and of interference with the ecological balance ecosystem structure, function and resilience of the Marine Environment including the coastline, and of interference with the ecological balance of the Marine Environment arising from Exploitation in the Area, the Enterprise and Contractors shall implement, *mutatis mutandis*, the measures set out under paragraph (a)(i) to (iii) above and demonstrate accountability and transparency in the assessment, evaluation and management of Environmental Effects and risks from Exploitation , including through Stakeholder participation and the timely public release of environmental data and information on their respective activities at regular intervals and in an accessible format. In so doing, the Enterprise and Contractors shall apply a priority order to avoid, minimize, mitigate, and remediate shall Mitigate harm to the Marine environment mitigate, and remediate restore, and as a last resort, -offset where agreed, harm to the Mmarine Eenvironment. as well as- and adapt the necessary measures to newly emerged-obtained information and data.

2. In adopting laws and regulations, in accordance with the Convention, to prevent, reduce and control pollution of the ~~m~~Marine environment from Exploitation in the Area undertaken by vessels, installations, structures and other devices flying their flag or of their registry or operating under their authority, as the case may be, States shall implement, *mutatis mutandis*, the measures set out under paragraph 1(a)(i) to (i*vi*) above.

2 bisAlt. The parties mentioned in paragraph 1 shall:

(a) Apply the precautionary approach, and the ecosystem-based management approach to the assessment and management of risk of harm to the Marine Environment from Exploitation in the Area;

(b) Apply the Best Available Techniques and Best Environmental Practices;

(c) Integrate Best Available Scientific Evidence in decision making, including all risk assessments and management undertaken in connection with

environmental assessments, and the management and response measures taken under or in accordance with Best Environmental Practices; and

(d) Ensure accountability and transparency in the assessment, evaluation and management of Environmental Effects and risks from Exploitation in the Area, including through Stakeholder participation and the timely public release of relevant environmental data and information at regular intervals and in an accessible format through the Authority's website.

(e) Take into account the approach that the polluter should, in principle, bear the cost of pollution, endeavour to promote practices whereby those engaged in exploitation activities bear the cost of meeting the pollution prevention and control requirements for the authorized activities, having due regard to the public interest.

(f) In implementing the regulations, act so as not to transfer, directly or indirectly, damage or likelihood of damage from one part of the environment to another or transform one type of pollution into another as stated in article 195 of the Convention.

3. The- Legal and Technical Commission shall make recommendations on the implementation of paragraphs 1 and 2 above.

4. No regulation in this Part shall be interpreted as preventing sponsoring States, the Enterprise and Contractors from taking, individually or jointly, more stringent measures in accordance with codified and customary based international law with respect to the prevention, reduction and where practicable elimination of detrimental effects on the marine environment.

**Explanation / comment**

- One delegation proposed the insertion of a new point “v” in regulation 44, 1 (a) related to Underwater Cultural Heritage. I note that this content aligns with the proposed addition of the definition of the term “Underwater Cultural Heritage” as it is proposed defined in the Schedule.
- I have inserted a reference to article 195 of the Convention in regulation 44, 1 (a) (vi) related to the obligation not to transform one type of pollution into another.
- One delegation has submitted a draft for the insertion of a new paragraph 2 bis, which includes litra's a-f. In litra a, I removed a reference to the precautionary approach stemming from article 15 of the Rio Declaration as this aligns with the change that has been suggested to paragraph 1 (a) (i) of this regulation 44 and I repeated the abovementioned reference to article 195 of the Convention in litra f.
- Finally, regarding the proposed litra d – which refers to transparency in the assessment process through Stakeholder consultation and participation and public release of data – I would like to point out that the Authority has received requests from delegations calling for the development of a Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open manner with clear targets, implementation process and time limits.

Discussions on stakeholder consultation, such as this one in litra d, should therefore also take into account these general discussions. I intend to invite the coordinator of the group to present the outcomes of the stakeholder consultation for our discussions. I invite for comments to the addition of this paragraph 2 bis.

- One delegation has suggested the re-instatement of paragraph 3, related to the Legal and Technical Commission making recommendations on implementation. I invite for views on this.
- One delegation suggested the insertion of a new paragraph 4 related to possibility for sponsoring States, the Enterprise and Contractors to, either individually or jointly, applying more stringent measures in accordance with international law respect to protect the marine environment. I support this amendment as I believe the reference to International Law is in its place. I have taken the liberty to include a reference to “*codified and customary based*” international law as international law is evolving rapidly regarding the protection of the environment, also in relation to principles of customary law protecting against pollution and climate change. I invite for comments to this.

#### Regulation 44bis

##### Regional Environmental Management Plans

1. ~~An application for a Plan of Work shall not be considered by t~~ The Commission shall only consider an application for a Plan of Work if ~~until and unless a Regional Environmental Management Plan has been adopted by the Council for the particular area concerned. In the event that an application for a Plan of Work is submitted for an area where no such Regional Environmental Management Plan exists, the drafting of a Regional Environmental Management Plan applicable to the area in concern shall be prioritised and adopted without any undue delay, taking into account Section 2, Article 15 b/c of the 1994 Implementing Agreement.~~

##### Explanation / comment

- One proposal for the wording of regulation 44 bis was submitted as a joint proposal from 19 delegations. This version has been inserted. I invite for further comments to this.

#### Regulation 45

##### Development of environmental Standards and Guidelines

1. ~~The Council shall, based on the recommendations of the Commission, develop~~ Environmental Standards ~~and Guidelines shall be developed~~ in accordance with regulations ~~94 and 95~~ and shall include, ~~inter alia,~~ the following subject matters ~~aimed at ensuring a Contractor does not cause Serious Harm to the Marine Environment:~~

(a) Environmental quality objectives, ~~and indicators and thresholds,~~ including ~~but not limited to on ecological balance of the marine environment ecosystem, structures, functions and services,~~ biodiversity status, plume, ~~dispersion and dilution,~~ toxicity, composition, ~~water~~ chemistry, ~~as well as and~~

~~extent~~ sedimentation rates ~~and~~ light and noise emissions. This also includes (a)bis  
~~B~~baseline data collection, including as well as all available data on the marine  
ecosystems and biodiversity.

(b) Environmental management, reporting and m~~M~~onitoring procedures  
to assess the impacts on the Marine Environment, including ~~and~~ interpretation of  
results, and

(c) Mitigation measures of harmful effects to the marine environment,  
~~Mitigation measures Prevention, reduction and control measures and/or~~  
~~remediation of environmental harm, and/or~~ where possible, remediation or  
compensation of environmental harm, thereby following the mitigation hierarchy  
of avoid, minimize, remediate

(d) Technical requirements with regard to the equipment used for the  
Exploitation activities and

(f) Quantitative assessment of E~~environmental~~ Effects.

(g) Assessment of accidental events and natural hazards leading to  
environmental emergencies as well as environmentally hazardous discharges and  
residual effects of such emergencies, including preparation and implementation  
of emergency response and contingency plans.

(h) Procedural and substantive requirements relating to submissions  
required by these regulations, including but not limited to: Plans of Work,  
Environmental Management Systems, Environmental Impact Assessments,  
Environmental Impact Statements, and Environmental Management and  
Monitoring Plans.

(i) Safe management and operation of mining vessels and installations.

2. The Authority shall not approve any Exploitation activities unless the  
necessary environmental Standards and Guidelines have been adopted.

#### **Explanation / comment**

- Several submissions entailed suggestions for the wording of regulation 45. Many had similar wording and intentions, although with differences in wording. I have tried to merge these to reflect the points on which there was consensus to include. I invite for further comments on this.

#### **Regulation 46**

##### **Environmental management system**

1. A Contractor shall develop, implement and maintain an environmental  
management system, in compliance with the Standards and taking account  
of the relevant Guidelines, as well as Good Industry Practice, Best Available  
Scientific Evidence,

2. and in accordance with Good Industry Practice and internationally  
recognized standards.

~~[1bis The Commission will develop a document that will set the binding~~  
~~minimum Standards for an Environmental Management Plan System.~~

~~1ter Compliance with this regulation is a fundamental term of the contract, for~~  
~~the purposes of Rregulation 103.]~~

2. An environmental management system shall, inter alia:

(a) Deliver the Authority's environmental objectives in the project-area under application as reflected in the applicable Regional Environmental Management Plan and the Applicant's Environmental Management and Monitoring Plan, as well as any additional objectives as set by the Contractor or Sponsoring State;

(b) Be audited annually periodically by an independent recognized and accredited international or national organization, in accordance with applicable Standards and Guidelines, at an interval to be agreed to by the Legal and Technical Commission and the Contractor; and

(c) Facilitate effective reporting to the Authority in connection with environmental performance, pursuant to Regulations 33, 34, 38, 39, and 52 ~~and 58~~.

(d) Undergo periodic an annual management review and include the results in the Contractor's annual reports and the performance assessment of the Environmental Management and Monitoring Plan under Regulation 52.

(e) Be in accordance with Best Available Scientific Evidence, Best Environmental Practices and Best Available Techniques and Good Industry Practice. ~~and Internationally Recognized Standards~~

3. A proposed change to a Contractor's Environmental Management System shall be treated the same as a modification of a Plan of Work, pursuant to regulation 57.

#### **Explanation / comment**

- The submissions showed a consensus for deleting 1bis and 1ter.
- One submission suggests, in paragraph 1 litra b, that the environmental management system shall be audited at an interval to be agreed to by the Legal and Technical Commission and the Contractor. I would value inputs on whether this implies that there needs to be consensus reached between the Commission and the Contractor on the interval. If not, i.e. the Commission sets the final interval with non-binding input from the Contractor, this should be reworded or deleted. I invite for comments on this.
- I deleted the reference in litra c to regulation 58 as this regulation is currently deleted. I invite for views on this.

#### **Regulation 46bis**

##### **Environmental impact assessment**

1. An applicant or Contractor, as the case may be, shall carry out an environmental impact assessment process on ~~of~~ the potential effects on the ~~M~~marine Eenvironment of the proposed ~~mining operation~~ Exploitation in

accordance with the Rules of the Authority these regulations -and the applicable Standard and taking into account the relevant Guidelines as well as ~~Good Industry Practice~~, Best Available Scientific Evidence, Best Environmental Practices and Best Available Techniques.

1 bis. In the conduct of the environmental impact assessment, the Sponsoring State and Contractor shall, with respect to resource deposits in the Area which lie across limits of national jurisdiction, conduct the environmental impact assessment with due regard to the rights and legitimate interests of any coastal State across whose jurisdiction the resource deposits lie, including through maintaining consultations and a system of prior notification, in accordance with Regulation 4.

1 ter. The purpose of an environmental impact assessment under these regulations shall be to predict environmental impacts anticipated from the proposed activities, to enable the Authority to assess the potential adverse Environmental Effects, with the aim to:

- (a) Ensure effective protection for the marine environment from harmful effects which may arise from such proposed activities.
- (b) Ensure that activities in the Area are carried out with reasonable regard for other activities in the Marine Environment, and
- (c) Prevent Serious Harm to the Marine Environment arising out of the proposed activities.

2. The environmental impact assessment process shall include the following steps:

(a) A scoping~~process~~ Stage and scoping report in accordance with Regulation 46ter and annex IVbis to identify and ~~prioritize-risk assess~~ the ~~main anticipated~~ activities and potential impacts associated with the proposed mining operation which are relevant to the assessment, and identify reasonable alternatives to the proposed activity, including a no-action alternative, to Mitigate Environmental Effects as well as to identify and engage with Stakeholders, in order to focus the Environmental Impact Statement on the key environmental issues. The outcome will result in a binding document for all the parties in the mining operation. It should include assessment of the available baseline data and their compliance with the relevant Standard, an environmental risk assessment, and the results of the consultation process with Stakeholders in line with the relevant Standards and Guidelines and set out the terms of reference for the environmental impact assessment.

(b) An Environmental impact assessment ~~and evaluation process~~ to describe the Marine Environment including Underwater Cultural Heritage and predict the nature and extent of the Environmental Effects of the mining operation, in accordance with the applicable Standard, including cumulative ~~and synergistic~~ impacts and residual ~~and synergistic~~ effects also considering other existing and foreseen mining operations, using Best Available Scientific Evidence, Best Archaeological Practices, Best Environmental Practices, Best Available Techniques, and Good Industry Practice and taking into account, where applicable:

- (i) The intensity or severity of the impact at the specific site being affected;
- (ii) The spatial extent of the impact relative to the availability of the habitat type affected;

- (iii) The sensitivity/vulnerability of the ecosystem to the impact;
- (iv) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (v) The extent to which ecosystem functions may be altered by the impact; and
- (vi) The timing and duration of the impact relative to the period in which a species needs the habitat affected for its long survival ~~during one or more of its life history stages.~~

(c) The Identification of measures of the mitigation hierarchy envisaged to prevent, reduce, and control, mitigate or if where possible, offset ~~avoid, minimize, remediate, rehabilitate and restore offset~~ or, as a last resort and if approved, or if possible, ~~offset~~ or if possible, offset and manage harmful Environmental Effects and risks to as low as reasonably practicable, and within acceptable levels in accordance with environmental quality objectives Standards including through the development and preparation of an Environmental Management and Monitoring Plan;

~~(c)bis An analysis of reasonable alternatives to the planned activity under the jurisdiction or control of a State Party, including the no action alternative;~~

(d) The preparation and submission to the Authority of the Environmental Impact Statement to document and report the results of the environmental impact assessment in accordance with Regulation 47, annex IV to these regulations, the applicable Standards and taking into account the relevant Guidelines.

(e) Publication and review by the Commission of the Environmental Impact Statement, and publication of the report and recommendation by the Commission to the Council pursuant to Regulations 11 – 15.

(f) A decision by the Council to approve, or not approve, the proposed activities or proposed modification to the Plan of Work that was the subject of the Environmental Impact Assessment, including any conditions imposed upon an approval, which decision shall be recorded and published in accordance with Regulation 16.

3. In addition to the Environmental Impact Statement required for an application for a plan of work pursuant to Regulation 7(3)(d), a Contractor must conduct a new Environmental Impact Assessment and submit a new or revised Environmental Impact Statement when:

(a) A Material Change to an existing Plan of Work is proposed which is likely to increase the adverse Environmental Effects caused by the activities;

(b) An activity described in the Plan of Work is predicted to exceed the impact thresholds set out in the Commission's Recommendations for the Guidance of Contractors ISBA/25/LTC/6/Rev.1 or a Standard that sets screening thresholds for environmental impact assessment, and this activity and predicted impact has not already been addressed by an Environmental Impact Statement; or,

(c) Otherwise deemed necessary by the Commission, in accordance with applicable Standards and taking into account Guidelines, e.g., when changes to an existing Plan of Work is proposed other than the type described under sub-paragraph (1)(a) or when the Commission requests an applicant to change its proposed Plan of Work during the application stage under Regulation 14.

~~When, following the approval of a Plan of Work, the Contractor modifies the Plan of Work in such a way that the proposed modification constitutes a Material Change in the Environmental Management and Monitoring Plan or Closure Plan as determined under these Regulations, screening shall also be part of the environmental impact assessment process in order to determine whether a new Environmental Impact Assessment and Environmental Impact Statement is required.~~

4. The environmental impact assessment process shall:

(a) Be based on relevant baseline data that captures temporal, seasonal and spatial variation in accordance with Standards and the relevant Regional Environmental Management Plan;

(b) Include an environmental risk assessment and a survey of the seabed to identify Underwater Cultural Heritage, that takes into consideration the region as a whole, in accordance with the objectives and measures of the relevant and applicable Regional Environmental Management Plan, ~~if any~~;

(c) Provide for ~~s~~Stakeholder consultation in accordance with regulation 93bis, relevant Standards and taking into account the relevant Guidelines via effective, time-bound opportunities for participation, including at the scoping stage and before the Environmental Impact Statement is finalized;

(d) Be subject to an independent scientific assessment prior to the submission of the proposed Environmental Impact Statement to the Authority;

(e) Take into account the results from test mining, in accordance with Regulation 48bis;

(f) Be conducted in accordance with the terms of reference developed during the scoping process;

(g) Be carried out by a suitable combination of qualified, independent and competent environmental impact assessment practitioners and scientific experts experienced in the relevant issues for the particular project and its location; and

(h) Identify scientific knowledge gaps or data uncertainties, and the degree to which these influence the assessment.

5. A Contractor shall review periodically, as indicated in the Environmental Management and Monitoring Plan, impact assessments previously performed, including ~~for~~ cumulative and synergistic impacts of activities covered by the assessment; ~~periodically as indicated in the monitoring plan~~ and revise them thereafter ~~[covered by the assessment, periodically as indicated in the monitoring plan and revise them thereafter]~~ whenever a change in the mining operation has occurred, ~~or there is relevant new information or when the review indicates that such changes warrant a revision.~~

6. ~~An environmental impact assessment and~~ Environmental Impact Statement shall be considered by the Authority in accordance with Part II or regulation 57; ~~as the case may be.~~

7. In accordance with article 142 of the Convention and Regulation 4 in the conduct of the environmental impact assessment, with respect to resource deposits in the Area which lie across the limits of national jurisdiction, the Sponsoring State and the Contractor shall maintain consultations, including a system of prior notification, with any coastal State whose limits of national jurisdiction resource deposits in the Area lie adjacent to the Contract Area across

~~whose jurisdiction resource deposits in the Area lie\_ [across whose jurisdiction resource deposits in the Area lie\_ with a view to avoiding infringement of their rights and legitimate interests, in accordance with Regulation 4.~~

8. In conducting an environmental impact assessment for the purposes of these regulations, an applicant or Contractor shall proactively consult with Stakeholders at all stages, in accordance with relevant Standards and taking account of Guidelines; and in the course of such consultations, the applicant or Contractor shall:

- (a) Provide Stakeholders with access to up-to-date and comprehensive information about the proposed activities and environmental data and impacts;
- (b) Use best efforts to obtain Stakeholder comments on the draft scoping report and draft environmental impact statement for a reasonable period. Provide a reasonable opportunity for Stakeholders to raise enquiries and to make known their views;
- (c) Make publicly available Stakeholder comments received during the consultation process, including on the applicant or Contractor's own website;
- (d) Record and address, in the scoping report and Environmental Impact Statement respectively, any Stakeholder comments received.

9. The Environmental Impact Statement shall be in the form prescribed by the Authority in annex IV to these regulations and shall:

(a) Demonstrate that the proposed mining operation is in accordance with all relevant environmental Standards and with the requirements of the relevant Regional Environmental Management Plan.

~~(b) Be Based on Describe~~ the results of the environmental impact assessment;

(c) Identify substantive comments received through public consultation on the environmental impact assessment and how they have been addressed;

#### **46bis (alt)**

##### **Environmental Impact Assessment Scoping**

1. An application or Contractor shall use environmental impact assessment scoping to identify and prioritize the main activities and potential impacts associated with the proposed mining operation, in order to focus the Environmental Impact Statement on the key environmental issues.

2. In undertaking the environmental impact assessment scoping process, the applicant or Contractor shall:

- a. Review available data and knowledge, and propose additional data to be collected and studies needed to complete an Environmental Impact Statement in accordance with these regulations;
- b. Undertake a preliminary impact analysis and environmental risk assessment which will be updated as the environmental impact assessment proceeds;
- c. Proactively identify Stakeholders in accordance with relevant Standards and taking into account any Guidelines; and
- d. Identify and evaluate feasible alternative means of carrying out the project that will be examined in detail in the environmental impact assessment.

3. The applicant or Contractor shall prepare and submit to the Secretary-General a scoping report in accordance with this regulation and in the format prescribed in Annex IVH bis.

4. Upon receipt of a scoping report from an applicant or Contractor, the Secretary-General shall:

- e. Make the report available on the Authority's website for a period of at least 60 days, with an invitation for members of the Authority and Stakeholders to submit comments in writing;
- f. Following the close of the comment period under paragraph (1)(a), provide any comments received to the applicant or Contractor with a specified timeframe for response;
- g. Following the close of the comment period under paragraph (1)(a), provide any comments received to the applicant or Contractor with a specified timeframe for response;
- h. At the expiry of the timeframe specified in paragraph (1) (b), provide the Commission with the scoping report, any stakeholder comments received, and any responses to those comments from the applicant or Contractor.
5. The Commission shall consider a scoping report submitted in accordance with this regulation, and any comments and responses received, in accordance with any relevant Standards and taking into account Guidelines. Based on this review, the Commission shall make recommendations to the applicant or Contractor regarding the proposed environmental impact assessment, accompanied by a detailed rationale.
6. The Commission's recommendations under paragraph (2) may include recommendation:
  - i. to revise the environmental risk assessment or other aspects of the scoping report based on different methodology or inputs;
  - j. to amend the proposed terms of reference for the environmental impact assessment; or
  - k. to re-submit a revised scoping report for further Stakeholder consultation and Commission review, in the case where uptake of any of the Commission's recommendations are likely to lead to a Material Change in the Scoping Report.
7. The applicant or Contractor shall take into account the Commission's recommendations under this regulation, before proceeding with an environmental impact assessment process.

**Explanation / comment**

- During the meeting in November, one delegation requested that a link to annex III bis (now annex IV bis) should be inserted in regulation 46 bis. I have made such a reference in paragraph 2 a.
- In relation to paragraph 4 litra c and paragraph 8 which refer to Stakeholder consultation, I would note that the Authority has received requests from delegations calling for the development of a Standardized Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open manner with clear targets, implementation process and time limits. Discussions on stakeholder consultation should therefore also take into account these general discussions, including the presentation to be made by the coordinator of the stakeholder consultation group at the opening of the meeting as the outcomes will benefit discussions on several provisions under the scope of the work for the group.

- I note in regard to the reference to Best Archaeological Practices in paragraph 2 b) that this term is now proposed defined in the Schedule.
- Finally, an alternative to regulation 46bis has been left as “Alt. 46 bis” to allow delegations to consider this and/or merge elements which may be deemed relevant with other parts of regulation 46 bis.

## Regulation 46ter

### Environmental monitoring

1. A Contractor shall, pursuant to its Environmental Management and Monitoring Plan required under Regulation 48 and in accordance with the Standard on environmental monitoring programmes and other applicable Standards, shall observe, measure, evaluate and analyse, in accordance with Good Industry Practice, Best Available Scientific Evidence, Best Environmental Practices, and Best Available Techniques, the environmental metrics relative to thresholds contained in the Standards, and risks to or effects of pollution and other hazards to of pollution and other hazards Environmental eEffects of pollution and other hazards the Marine Environment arising from Exploitation the mining operation following the approval of the Plan of Work. It shall keep under surveillance the effects of the mining operation to determine whether it is having or likely to have harmful effects on the mMarine eEnvironment. the [mining operation following the approval of the Plan of Work. It shall keep under surveillance, during all stages of the mining life cycle, the effects of the mining operation to determine whether it is having or likely to have harmful effects on the Marine Environment until post-closure monitoring is concluded.

2. A-The Contractor shall cooperate with the Authority and the sponsoring State or States in the establishment and implementation of monitoring programmes. shall establish and implement an environmental management and monitoring plan, after approval by cooperate with the Authority and the sponsoring State or States in the establishment and implementation of the Contractor’ s environmental monitoring programmes as well as share findings and results of such programmes with the Authority for wider dissemination.

3. The Environmental Management and Monitoring Plan shall contain a monitoring programme for at least the first seven years of Exploitation, to be conducted by independent experts and in compliance with the applicable Standards.

43. The Contractor shall report annually in writing, in accordance with these regulations, to the Secretary-General on the implementation and results of the Environmental Management and Monitoring Plan environmental management and monitoring plan and the environmental management and monitoring programme plan, referred to in paragraph 2, in accordance with regulation 38, paragraph 2(g), and The Secretary-General shall release publicly, in an accessible format, real time or at monthly intervals, at monthly intervalsconsistent with best scientific practices, environmental data and information in the required standardized format, and in accordance with the applicable Standards, and taking into account the applicable Guidelines. Other monitoring data, pertaining for example to monitored variations in geochemistry or fauna, shall be released annually in the form of a written report. The Secretary-

General shall transmit annual reports to the Commission for its consideration pursuant to article 165 of the Convention and publish them pursuant to Regulation 38(3).

54. In implementing paragraph 1, the Sponsoring State and Contractor shall ~~maintain consultations, including a system of prior notification~~, with any adjacent coastal State across whose ~~limits of national jurisdiction jurisdiction across whose jurisdiction resource deposits in the Area~~ lie with a view to avoiding infringement of their rights and legitimate interests, in accordance with Regulation 4.

**Explanation / comment**

- One delegation proposed the insertion of a new paragraph 3 relating to the Environmental Management and Monitoring Plan containing a monitoring programme for at least the first seven years of Exploitation. I have re-numbered the following paragraphs accordingly.

## Section 2

### Preparation of the Environmental Impact Statement and the Environmental Management and Monitoring Plan

#### Regulation 47

##### Environmental Impact Statement

12. An applicant or Contractor, as the case may be, shall prepare, ~~or commission the preparation of~~, an Environmental Impact Statement in accordance with this regulation, and in consultation with ~~relevant~~ Stakeholders ~~throughout the process~~ throughout the environmental impact assessment process, ~~for approval by the Authority within the framework of the consideration and approval of the work plan.~~

24. The purpose of the Environmental Impact Statement, which shall accompany an application for approval of a Plan of Work in accordance with regulation 7, is to document and report the results of the environmental impact assessment carried out in accordance with Regulation 46bis.

3. The Environmental Impact Statement ~~shall-must~~ be in the form and ~~deliver entail~~ the contents as prescribed by the Authority in annex IV to these regulations and shall:

(a) Include a prior ~~e~~Environmental ~~Risk~~ ~~a~~Assessment prepared during the environmental impact assessment scoping phase, and revisited and updated as the environmental impact assessment proceeds;

(b) ~~Be based on~~Describe the results of the environmental impact assessment; ~~as well as those of the survey of the seabed to identify Underwater Cultural Heritage; including a description of the main elements of the methodology used for the identification and evaluation of the identified environmental impacts, and main uncertainties and knowledge gaps,~~ and also ~~Identify~~include comments received through ~~the public-Stakeholder consultation on the environmental impact assessment process~~ and ~~explain how such each comments have been incorporated or otherwise addressed considered they have been addressed;~~

(b)bis Refer to the relevant baseline data on the status of the marine environment, collected according to the relevant Standard and the relevant Regional Environmental Management Plan and to the results of the performed test mining study, where applicable;

(c) ~~Include-Identify substantive~~ comments received through the Stakeholder consultation process and an explanation of how such comments have been taken into account ~~considered and addressed by the applicant or Contractor, as the case may be, also including a description of the analysis of alternatives, including a no-action alternative;~~

(d) Be in accordance with the objectives and measures of the applicable regional environmental management plan ~~,if any~~; and

(e) Be prepared in accordance with the relevant Standards ~~in accordance with consistent with Good Industry Practice~~, Best Available Scientific Evidence, Best Environmental Practices and Best Available Techniques and taking into account the relevant Guidelines.

4. The Environmental Impact Statement shall demonstrate that the proposed ~~mining-operation-Exploitation~~ is in accordance with all applicable environmental Standards and with the requirements of the applicable Regional Environmental Management Plan ~~,if any~~

5. The Environmental Impact Statement of every project, including any revisions, should be available for at least 60 days on the official website of the International Seabed Authority in the interests of transparency of the whole process.

6. Where predictive models have been used to inform an environmental impact assessment:

(a) These shall be reviewed by competent independent experts, with the results provided to the Authority as annexures to the Environmental Impact Statement; and

(b) The monitoring programme proposed in the Environmental Impact Statement shall describe how predictions made by models will be validated.

**Explanation / comment**

- One delegations' proposal suggested, inter alia, to re-designate paragraph 2 as paragraph 1 and vice versa. I find there is great merit to this proposal as it allows paragraph 1 to state that an Environmental Impact Statement must be prepared, before paragraph 2 lays out the purpose of the Environmental Impact Statement. I invite for other views on this.
- Regarding the proposed wording of paragraph 5 related to publication on the Authorities website, I note that during the meeting in November it was proposed to regulation 60 that the publication of a Closure Plan should be made available on the Authority's website for a period of at least 60 days and invite members of the Authority and Stakeholders to submit comments in writing. This has been inserted. I invite for a discussion on this with a view to align these regulations.

## Regulation 48

### Environmental Management and Monitoring Plan

~~s1—An Environmental Monitoring and Management and Monitoring Plan shall manage and confirm that the Environmental impacts eEffects meet the environmental quality objectives and environmental and archaeological performance standards for the mining operation] impacts of mining operation accordingly to the environmental standards in this regulation. effects meet the environmental [quality] objectives and [environmental performance] standards for the mining operation. The plan will contain any conditions included in the Environmental Impact Statement and will set out commitments and procedures on how the environmental impacts of the mining operation will be monitored, how the Mitigation measures, including pollution control and Mining Discharge in regulations 49 and 50, will be implemented, how the effectiveness of such measures will be monitored, what the management responses will be to the monitoring results and what reporting systems will be adopted and followed.~~

1. ~~Each applicant or Contractor for exploitation, as the case may be, shall prepare an Environmental Management and Monitoring Plan in accordance with this regulation and Annex VII.~~

2. ~~The purpose of an Environmental Management and Monitoring Plan is to manage and confirm that observed Environmental Effects meet Standards on environmental quality objectives and environmental performance for the mining operation. The plan shall address any issues that arise from the Environmental Impact Statement and will set out commitments and procedures on how the eEnvironmental Effects of the mining operation will be monitored and mitigated, including on pollution control and Mining Discharge in regulations 49 and 50.~~

3. ~~The Environmental Management and Monitoring Plan shall include all elements and matters in the form and deliver the contents~~ prescribed by the Authority in -Annex VII to these regulations and shall ~~be~~:

(a) ~~Be~~ based on the ~~E~~environmental ~~I~~impact ~~A~~assessment and the Environmental Impact Statement;

(b) ~~Be prepared~~ ~~in~~ accordance ~~and consistent~~ with the ~~—relevant applicable R~~regional ~~E~~environmental ~~M~~management ~~P~~plan, ~~including any thresholds set out herein; and~~

(c) ~~Be~~ ~~P~~prepared in accordance ~~and consistent~~ with the applicable ~~Standards Guidelines and thresholds of the Authority developed in accordance with Regulations 45 and 94, Good Industry Practice, Best Available Scientific Evidence, Best Environmental Practices and Best Available Techniques, taking account of the applicable Guidelines;~~

(d) ~~Be prepared in accordance~~ and consistent with other plans in these regulations, including the Closure Plan and the Emergency Response and Contingency Plan;

(e) ~~Incorporate site-specific environmental objectives and environmental performance standards, which are compatible with and designed to achieve the environmental policy and objectives of the Authority and applicable Standards;~~

(f) ~~Incorporate measurement criteria, internal thresholds and reflect its methodology to determine whether the environmental objectives are being met~~

and that the operation is compliant with applicable environmental Standards and other Rules of the Authority;

(g) Reflect any conditions recommended by the Commission, and approved by the Council, in its consideration of the Environmental Impact Statement, including will-set out commitments and procedures on;

- (i) how the environmental and archaeological impacts of the mining operation will be monitored in accordance with regulation 46ter and the Environmental Management Plan Standard,
- (ii) how the Mitigation measures, including pollution control and Mining Discharge in regulations 49 and 50, will be implemented,
- (iii) how the effectiveness of such measures will be monitored,
- (iv) how Preservation Reference Zones and Impact Reference Zones, designated in accordance with Annex [Xter], will be respected,
- (v) what the management actions and responses will be to the monitoring results and new knowledge -
- (vi) what management and reporting systems will be adopted and followed, and;
- (vii) how continual improvement will be promoted, including by testing assumptions and predictions made in the Environmental Impact Statement, improving environmental knowledge, and reducing residual uncertainties remaining from the environmental impact assessment process.

3bis. In addition to the Monitoring required to be performed by the Contractor, the Environmental Management Plan shall contain a supplementary monitoring programme for at least the first seven years of Exploitation, to be conducted by independent experts and in compliance with the applicable Standards. The Contractor shall conduct monitoring for the entire duration of exploitation and comply with any post-closure monitoring requirements.

4. The Contractor shall provide information in its annual report on the implementation of the Environmental Management and Monitoring Plan in accordance with regulations 38, paragraph 2(g), and 46ter, paragraph 43, for evaluation by the Legal and Technical Commission, as well as publicly release, in an accessible format, consistent with Best Scientific Practices monitoring data and information at monthly intervals at a regular basis to be determined in each project. Other monitoring data, for example pertaining to monitored variations in geochemistry or fauna, shall be released annually in the form of a written report.

5. The Contractor shall allocate sufficient resources and assign roles and responsibilities to implementation of the Environmental Monitoring and Management Plan in relation to the relevant risks and impacts.

**Explanation / comment**

- To ensure consistency with the previous regulation 47 on the Environmental Impact Statement, I have proposed to have the paragraph entailing the description of the purpose of the Environmental Management and Monitoring Plan placed as paragraph 2. I invite for other views discussion on this.
- Many proposals were received regarding how the paragraph (3) entailing the conditions and elements which the Environmental Management and Monitoring Plan should be worded. Many of these referred to the same conditions, but with different wordings. I have tried to merge all the incoming proposals into paragraph 3. I invite for a discussion on this.

- Some delegations requested the inclusion of a reference to respecting Preservation Reference Zones and Impact Reference Zones, designated in accordance with the newly (during our November meeting) adopted Annex [Xter]. I have sought to make such a reference in paragraph 3 (f) (iv). I invite for a discussion on this.
- It should be noted that some delegations also proposed deletions of many of the referenced conditions in paragraph 3. While acknowledging that removing some of the stated conditions could provide for a better overview and clarity, I also note strong support for listing all of these amongst many other delegations as the delegations have, as mentioned, submitted many proposals for the explicit wording of these.

## **Regulation 48bis**

### **Test mining**

1. A Contractor shall conduct a test mining study as a part of an exploration or exploitation contract, before commencement of commercial production, to provide evidence to substantiate the required information in accordance with Regulation 7:

- (a) If a Contractor has conducted test mining ~~B~~before applying for an approval of a Plan of Work, a Contractor has to provide evidence to substantiate the required information in accordance with Regulation 7. A test mining study in accordance with Annex IV shall be submitted with the application for the approval of a Plan of Work.
- (b) If a test mining is planned to be conducted as a part of exploitation contract, a Contractor shall include the relevant information in a Plan of Work and conducts a test mining according to the approved Plan of Work. A test mining study is submitted by a Contractor after completion of tests in accordance with Annex [IVter] together with the application for the reassessment of the environmental impact statement before commencing the Commercial Production.

2. The purpose of test mining is to ensure ~~that the mining equipment is technically appropriate, the operation economically efficient and that effective protection of the marine environment from harmful effects is ensured.~~ Test mining projects shall as a general rule provide evidence that appropriate equipment is available to ensure the effective protection of the Marine Environment in accordance with Article 145 and the duty to protect Underwater Cultural Heritage (specifically objects of an archaeological and historical nature) under Article 149.

3. Before Commercial Production may commence in accordance with Regulation 25, a Contractor shall obtain the approval by the Authority of the test mining study, in accordance with Paragraph 2. ~~provide evidence demonstrating its ability to ensure effective protection of the Marine Environment, if there has been a material change pursuant to Regulation 57.~~

4. Contractors should apply for the approval for test mining projects from the Authority in accordance with all relevant Regulations, Standards and Guidelines and the criteria set forth in Regulation 13(1)(g). The potential effects of test mining projects shall be assessed as part ~~in the form of an Environmental Impact Assessment in Regulation 46bis Environmental impact assessment.~~ Potentially affected States, international organisations and relevant Stakeholders shall be consulted in accordance with the relevant Standards and Guidelines.

5. A test mining study pursuant to Paragraphs 21 and 3 does not have to be submitted if the evidence required has been demonstrated through test mining during exploration phase or in the context of another approved Plan of Work for an exploitation project. The Contractor has to submit relevant information to the The Legal and Technical Commission. The Commission shall decide whether the submission of a test mining study pursuant to Paragraph 2 or 3 is required.

**ALT. Regulation 48bis**  
**Test mining**

1. Subject to this Regulation, an applicant shall conduct a test mining project prior to submitting an application for a Plan of Work for Exploitation. Information gathered through test-mining projects shall be compiled in a test mining report in accordance with Annex IV, and/or taking into account the relevant Standard or Guideline and shall inform on the Environmental Plans pursuant to Regulation 11.
2. The purpose of test mining shall be to provide evidence by information gathered through test mining projects to ensure that the proposed mining equipment is technically appropriate and that the Marine Environment is effectively protected from harmful effects, in accordance with Article 145 of the Convention.
3. Test mining projects require an approval by the Authority and shall be carried out in accordance with the rules, regulations and procedures for exploration and the recommendations for the guidance of contractors, in particular the assessment of possible environmental impacts arising from the exploration for marine minerals in the Area.
4. A new test mining project does not have to be undertaken if the evidence pursuant to Paragraph 1 has been provided through other test-mining projects by the applicant or in the context of another approved Plan of Work for Exploitation. In such a case, the applicant shall compile in its test-mining report the information already available, explaining why this is sufficient evidence, and the Commission shall assess whether the evidence pursuant to Paragraph 1 has been demonstrated in its review of the application and report to the Council pursuant to Regulations 11-15.
5. If a material change has been determined in accordance with Regulation 25 and 57 (2), the relevant ISA-organ of the Authority shall consider and determine whether and on which aspects an additional test mining project has to be undertaken in order to provide sufficient information pursuant to paragraph (42). In this case, paragraphs (21) and (3) apply.

**Explanation / comment**

- There are two suggested versions of regulation 48 bis listed. The first (regulation 48 bis) represents merger of a multitude of comments received, while the second (ALT. regulation 48 bis) represents two proposals merged as they had almost similar wordings. I would propose that we during our discussion on this regulation will use the latter (ALT. regulation 48 bis) as the basis for developing this provision, but I invite for views on this.
- To the first version (regulation 48 bis) there was a proposal to include references to articles 87 and 147 of the Convention in paragraph 4 regarding consultation of relevant stakeholders. I do not believe these provisions fully relate to thus wherefore these are omitted. I invite for comments on this.

- In the second version (ALT. regulation 46 bis) there was a proposal to refer to “ISA”. I have taken the liberty of replacing this with a reference to the Authority to ensure consistency.
- Finally, to ensure consistency with the previous regulations, I propose to place the paragraph relating to describing the purpose of test mining as the second paragraph of the provision.

### Section 3

#### Pollution control and management of waste

##### Regulation 49

##### Pollution control

A Contractor shall take ~~all~~ all the necessary and appropriate measures to protect and preserve and preserve the Marine Environment and coastlines, from harmful effects, including by preventing, reducing and controlling pollution and other hazards, including marine litter and underwater noise including marine litter and underwater noise, from its activities in the Area. This is to be done in accordance with the its Environmental Management and Monitoring Plan and all applicable-relevant Rules of the Authority, the relevant applicable Regional Environmental Management Plan, if any, and the applicable Standards and taking account of the applicable Guidelines. If a potentially polluting wreck is discovered and it is an object of an archaeological and historical nature, then the duty to protect such heritage must also be considered consistent with Article 149.

##### Explanation / comment

- Several delegations have forwarded proposals to reinstate previously deleted phrases, e.g. related to harmful effects and marine litter and underwater noise. I note to the latter re-inclusion of marine litter and underwater noise, that this would align with the current work of the International Maritime Organization to regulate these matters for shipping. I invite for further discussions on this.

##### Regulation 50

##### Restriction on Mining Discharges

1. A Contractor shall not dispose, dump or discharge into the Marine Environment any Mining Discharge, except where such disposal, dumping or discharge is permitted in accordance with:

- (a) The assessment framework for Mining Discharges as set out in the Standard; ~~and~~
- (b) The Environmental Management and Monitoring Plan; and
- (c) International applicable rules and regulations set out by the International Maritime Authority Organization.

2. Paragraph 1 above shall not apply if such disposal, dumping or discharge into the Marine Environment is necessary for the safety of the vessel or Installation or the safety of human life, provided that ~~all reasonable measures are taken to such disposal, dumping or discharge is conducted so as to all~~ minimize the likelihood of ~~damage-harm~~ to human life and ~~of prevent Serious~~ Harm to the

Marine Environment, ~~and If Serious Harm to the Marine Environment occurs as a result of disposal, dumping or discharge, the Contractor shall monitor and mitigate the impacts of such harm, if such harm has occurred, to monitor and mitigate its impacts, and such disposal, dumping or discharge and shall be reported forthwith to the Authority a Contractor shall report any about such disposal, dumping or discharge under this paragraph to the Authority, as soon as possible.~~

3. The disposal, dumping or discharge into the Marine Environment of any Mining Discharge that is ~~not permitted not in accordance with regulation 50(1) or 50(2) paragraphs 1 and 2 above~~ in accordance with ~~paragraphs 1 and 2 above~~ is considered an ~~Unauthorized~~ Mining Discharge and constitutes a Notifiable Event under regulation 34 and Appendix 1.

~~[4. This Regulation shall be, where applicable, interpreted and applied in a manner that is consistent with the obligations of the Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matters, 1972 and the 1996 Protocol thereto, where applicable, in particular Articles 4 and 10.]~~

54. The applicant or contractor must also keep a register of discharges that shall be reported annually to the Authority as part of the mandatory annual report that must be prepared throughout the operation.

#### **Explanation / comment**

- Several delegations have submitted different proposals for amending paragraph 2. I have merged these in the paragraph as they all represented the same onus, but with different wordings. I invite for comments on this.
- Some delegations proposed removing different phrases and paragraphs in this regulation, but given that several delegations, as mentioned, have forwarded proposals for amending these I have left them in.
- Furthermore, to this discussion on discharges and dumping from mining operations, I would like to bring to the attention of the delegations that when it comes to the discharge of some specific forms of waste (garbage), that this may also be covered by Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL) as this legislation, at the outset, applies to all ships and fixed and floating platforms pursuant to regulations 2 and 5 of MARPOL Annex V. I therefore propose to make a reference to this in paragraph 1 as this would also align with the reference in section 2.3 of “our” Annex IV (on the Environmental Impact Statement) to this specific Convention (MARPOL). It should be noted that the (force majeure) emergency situations described in paragraph 2 align with those mentioned in regulation 7 of MARPOL Annex V. Annex I (regarding discharge of oil) could also, to a certain extent, apply as this also applies to all ships, but with several more exceptions applying. I therefore propose to merely refer to applicable regulations from the International Maritime Organization as other legislation could apply in the future. I invite for comments on this.

- Finally, regarding the reference in paragraph 4 to the Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matters, 1972 and the 1996 Protocol (also known as the “London Convention”, it should be noted that Article III (1) (a) clearly states the provisions of the (London) Convention do not apply to dumping related arising from, or related to, the exploration, exploitation and associated off-shore processing from sea-bed mining activities. Therefore, I suggest removing this paragraph, also considering that the proposed insertion of a non-specific reference in paragraph 1, litra c to adhering to the applicable rules and regulation of the International Maritime Organization, which could also encompass the London Convention. This would also align with my proposed change to section 2.3 in Annex IV which, as mentioned, refers to rules of the International Maritime Organization, where I propose to remove the reference to the London Convention, as the list of Conventions in section 2.3 do not represent an exhaustive list, but merely examples. I invite for a discussion on this.

## Section 4

### Compliance with Environmental Management and Monitoring Plans and performance assessments

#### Regulation 51

##### Compliance with the Environmental Management and Monitoring Plan

A Contractor shall, in accordance with these regulations, implement and adhere to its Environmental Management and Monitoring Plan and these regulations, and shall:

- (a) Monitor continuously in accordance with the applicable Standard, release monitoring data publicly, in an accessible format consistent with best scientific practice, on a monthly basis and report annually under regulation 38 (2) (g) on the Environmental Effects of its activities on the Marine Environment, including a comparison between baseline data and monitoring data to document the actual effects on the Marine Environment and manage all such effects as an integral part of its Exploitation activities as set out in the relevant Standards and taking into account the relevant Guidelines referred to in regulation 45;
- (b) Apply best endeavours to improve ~~Implement all applicable~~ Mitigation and management measures to ensure the effective protection of the Marine Environment from harmful effects, as set out in the relevant Standards and taking into account relevant Guidelines referred to in regulation 45; and
- (c) Monitor compliance with, assess, and Mm ~~Mm~~ maintain the currency and adequacy of the Environmental Management and Monitoring Plan and Environmental Management System during the term of its exploitation contract including through management review under regulation 46, performance assessment under regulation 52, and with modification to the Plan of Work under regulation 57 where required in accordance the relevant Standards and with Best Available Scientific Evidence,

~~Best Available Techniques and Best Environmental Practices and taking account of the relevant Guidelines.~~

**Explanation/ comments**

- I believe that some words may be missing in the first sentence of the introduction which I have attempted to amend by referring to “these regulations”. I invite for any other views on this.
- Two different proposals for the wording of litra a where received, but I believe these can merged into the suggested paragraph 1 to reflect both comments. I invite for a discussion on this.

**Regulation 52**

**Review of the performance assessments of the Environmental Management and Monitoring Plan**

1. A Contractor shall conduct performance assessments of the~~ir~~ Environmental Management and Monitoring Plan. The Commission shall review the performance assessments of the Environmental Management and Monitoring Plan undertaken by a competent and independent auditor hired by a Contractor in accordance with the relevant Standards and taking account of the relevant Guidelines. In conducting such a performance assessment of the Environmental Management and Monitoring Plan, the Contractor shall ensure take into account:~~to assess:~~

- (a) The compliance of the mining operation with the plan;
- (b) The continued appropriateness and adequacy of the plan, including the management conditions and actions attaching thereto; ~~and~~
- (c) The conformity of the plan with the applicable Regional Environmental Management Plan, ~~if any~~
- (d) The accuracy of the findings of the environmental impact assessment as set out in the Environmental Impact Statement which informed the Environmental Management and Monitoring Plan.
- (e) The changes in knowledge, technology, mining patterns, monitoring techniques and detection capabilities are reflected;
- (f) ~~†~~The outcomes of management reviews of the environmental management system are conducted under regulation 46(2)(e); and
- (g) ~~‡~~Information and data derived from monitoring at the mine site and impact area as well as from any Exploitation by other Contractors is provided.

2. The frequency of a performance assessment shall be in accordance with the period specified in the approved Environmental Management and Monitoring Plan and shall occur at least ~~annually every [twenty-four] months [thirty-six months] years;~~

2bis. An ad hoc performance assessment may be requested by the Council following:

- (a) An Incident or Notifiable Event;
- (b) Receipt of an unsatisfactory annual report; ~~or~~
- (c) Issuance of a compliance notice ~~or~~
- (d) When deemed necessary by the Council in response to third-party or whistle-blower information submitted to the Council.

3. A Contractor shall hire a competent and independent auditor to compile and submit a performance assessment report to the Secretary-General in accordance with, and in the format set out in, the relevant Guidelines. ~~The report shall describe the assessment process undertaken by the Contractor, including who conducted it and which independent experts were engaged.~~

4. The Commission shall review a performance assessment report and any stakeholder comments received to it at its next available meeting, provided that the report has been circulated at least 30 Days in advance of such meeting. If the Commission does not possess sufficient expertise amongst its members, it shall consult independent experts to review the performance assessment. The Commission should, where necessary and appropriate, consult external experts to review the performance assessment. The Secretary-General shall publish the report and provide opportunity for Stakeholders to comment, and at the end of that consultation period shall transmit the report and any Stakeholders' comments to the Commission for review. The Secretary-General shall make public the report and the findings and recommendations resulting from the Commission's review.

5. Where the Commission upon review of the report and any Stakeholder comments received in relation to it, considers the performance assessment to be unsatisfactory or the report submitted to be inadequate, in relation to taking account of the applicable Standards, relevant Guidelines and the Environmental Management and Monitoring Plan, the Commission may require, after providing the Contractor with a reasonable opportunity to address any inadequacies, the Contractor to:

~~{(a) Repeat the whole or relevant parts of the performance assessment, and revise and resubmit the report;}~~

~~(ba)~~ Submit any relevant supporting documentation or information requested by the Commission including a revised report; or

~~(eb)~~ Appoint, at the cost of the Contractor, an independent competent person to conduct the whole or part of the performance assessment and to compile a report for submission to the Secretary-General and review by the Commission.

6. Where ~~a Contractor has previously submitted two successive an unsatisfactory performance compliance assessments or~~ the Commission has reasonable grounds to believe that a performance assessment cannot be undertaken satisfactorily by a Contractor ~~in accordance with~~ consistent with the Guidelines, the Commission may procure, at the cost of the Contractor, an independent competent person to conduct the performance assessment and to compile the report.

7. Where, as a result of paragraphs 5 and 6 above, a revised assessment and report is produced, paragraph 4 above shall apply to the revised assessment.

8. Where, as the result of a review by the Commission under paragraph 4 above, the Commission concludes that a Contractor has failed to comply with the terms and conditions of its Environmental Management and Monitoring Plan or that the plan is determined to be inadequate in any material respect, the ~~Secretary-General-Commission~~ shall:

(a) Recommend to the Council to ~~issue~~ a compliance notice under regulation 103 or;

(b) Require the Contractor to deliver a revised Environmental Management and Monitoring Plan, taking into account the findings and recommendations of the Commission. A revised plan shall be subject to the process under regulation 11.

9. The Commission shall report annually to the Council on such performance assessments and any action taken pursuant to paragraphs 5 to 8 by it or the Secretary-General. Such report shall include any relevant recommendations for the Council's consideration. Such report shall be published on the Authority's website.

~~10. The Secretary General shall effectively manage the information from a performance assessment of the Environmental Management and Monitoring Plan.~~

~~101. The Secretary-General shall inform the sponsoring State or States of any action taken pursuant to this regulation.~~

#### **Explanation/comment**

- Several proposals were submitted for the wording of paragraph 1. These have been merged. I invite for a discussion on this.
- Regarding the reference in paragraph 4 which refers to Stakeholder consultation, I would like to point out that the Authority has received requests from delegations calling for the development of a Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open manner with clear targets, implementation process and time limits. Discussions on stakeholder consultation, such as this one in paragraph 4, should therefore also take into account these general discussions, including the presentation to be made by the coordinator of the stakeholder consultation group at the opening of the meeting as the outcomes will benefit discussions on several provisions under the scope of the work for the group.

#### **Regulation 53 [50bis]**

##### **Emergency Response and Contingency Plan**

1. A Contractor shall maintain:

(a) The currency and adequacy of its Emergency Response and Contingency Plans based on the identification of potential Incidents and in accordance with Good Industry Practice, Best Available Techniques, Best Environmental Practices and the applicable Standards and Guidelines and shall be tested at least annually; and

(b) Such resources, training and procedures as are necessary for the prompt execution and implementation of the Emergency Response and Contingency Plans and any Emergency Orders issued by the Authority including on-vessel presence at all times of personnel authorised and trained to implement the Plan, for rapid emergency response.

~~2. Contractors, the Authority and sponsoring States shall facilitate the exchange of knowledge, information and experience relating to Incidents, using such knowledge and information to prepare and revise standards and operating guidelines to prevent, reduce and control pollution and other hazards to the Marine Environment, including the coastline, throughout the mining life cycle and shall cooperate with and draw on the advice of other relevant international organizations.~~

2. The Authority shall facilitate the exchange of knowledge, information and experience relating to incidents between Contractors and States, and shall draw on the advice of other relevant international organizations, so that such knowledge and information can be used to prevent, reduce and control pollution and other hazards to the Marine Environment by:

a. Contractors to meet their requirements, inter alia under regulation 53(1), and by

b. the Authority to prepare and revise relevant Standards and Guidelines where appropriate.

3. Following an Incident, a Contractor must submit a detailed report on whether the plan was adequate and to what extent it was complied with, including, among other aspects, expenses incurred, responsibilities and updating of the plan if necessary.

**Explanation / comment**

- One delegation proposed to reposition this regulation as regulation “50 bis” i.e. moving it to section 3 on Pollution control and management of waste after regulation 50 related to discharges from mining activities. I propose to keep it in this section (section 4 on Compliance with Environmental Management and Monitoring Plans and performance assessments) but I invite for a discussion on this.
- A proposal for a rewording of paragraph 2 was submitted. I believe it has great merit to it and have therefore included it. However, I have re-inserted the reference to “preventing, reducing and controlling pollution and other hazards” in the suggested new paragraph to be clear on the focus of the knowledge and information to be provided. I invite for a discussion on this.

## Section 5

### Environmental Compensation Fund

#### Regulation 54

##### Establishment of an Environmental Compensation Fund

1. The Authority hereby establishes the Environmental Compensation Fund. Referred to as “the Fund” in the following.

2. The rules and procedures of the Fund shall be established by the Council on the recommendation of the Finance Committee ~~before the commencement of Commercial Production~~ ~~[prior to the grant of an~~ the approval of a first plan of work for a exploitation contract under these regulations,

Those rules and procedures shall include:

- (a) A mechanism for financing the funds in accordance with regulation 56, including replenishment upon disbursement;
- (b) A description of how the funds and any interest generated will be managed and by whom;
- (c) The process for accessing the funds;
- (d) The type of damages and purposes eligible for claims against the funds;
- (e) The standard of proof required for claims against the funds;
- (f) A policy on refunds of Contractor payments into the funds;
- (g) A process for determining disbursements or refunds from the funds; and
- (h) The promotion of the participation of affected persons or other Stakeholders in decisions about disbursement of funds.

3. The Secretary-General shall, in consultation with the Finance Committee, within 90 Days of the end of a Calendar Year, prepare an independently audited statement of the income and expenditure of the Fund for circulation to the members of the Authority.

#### Explanation/comment

- Several proposals were submitted for the wording of paragraph 1. These have been merged. I invite for a discussion on this.

#### Regulation 55

##### Purpose of the Environmental Compensation Fund

The purpose of the Fund is ~~to finance the funding of or compensation for~~ the implementation of any necessary measures designed to ~~prevent, limit or remediate~~ ~~[designed to prevent, reduce and control and if appropriate and feasible, limit and remedy]~~ mitigate or compensate for any loss or damage to the marine environment of the Area or coastal states, arising from exploration activities in the Area, This includes the restoration and rehabilitation of the Area when technically and economically feasible and in accordance with Good Industry Practice, Best Environmental Practices and Best Available Techniques when the costs of such measures and efforts cannot be recovered from a Contractor or Sponsoring State, as the case may be for environmental damage outside of consented activity. Compensation shall include the costs for implementation of

any necessary measures designed to prevent, reduce, mitigate, limit, and remediate any damage to the marine environment and its resources.

2. Based on the precautionary principle the contractor shall pay for any necessary measure to limit, remedy and compensate any damage to the Area arising from the mining activities.

3. In cases where the contractor's payment is insufficient to limit, remedy and compensate any damage to the Area arising from the mining activities, the compensation fund may be used.

**Explanation / comment**

- Several proposals were submitted for the wording of paragraph 1 which have been attempted merged into one. These have been merged. I invite for a discussion on this. This includes keeping the reference to “the restoration and rehabilitation of the Area when technically and economically feasible” as there seemed to be support for this. I invite for a discussion on this.
- One delegation has proposed to include a new paragraph 2 referring to the polluter-pays principle and a paragraph 3 referring to when the fund may be used. I believe the inclusion of paragraph 2 will align with the incorporated reference to the same principle in regulation 56 which furthermore will, inter alia, align with art. 5(a) of the current draft-BBNJ and with the 2011 ITLOS Advisory Opinion which refers to this principle – restituto in integrum – (in para 194) being part of customary law, already acknowledge by the PCIJ in *Factory of Chorzów* in 1928. Regarding the third paragraph, I propose to omit this is stated and implied in paragraph 1, but I invite for any other views on this.

**Regulation 56**

**Funding of the Environmental Compensation Fund**

In The Fund shall adhere to the precautionary polluter-pays principle and the Fund will consist of, but not be limited to, the following monies:

(a) The prescribed percentage or amount of fees paid prior to the commencement of mining by Contractors or the Enterprise to the Authority;

(b) The prescribed percentage of any penalties paid by Contractors or the Enterprise to the Authority;

(c) The prescribed percentage of any amounts recovered by the Authority by negotiation or as a result of legal proceedings in respect of a violation of the terms of an exploitation contract;

(d) Any monies paid into the Fund at the direction of the Council, based on recommendations of the Finance Committee; and

(e) Any income received by the Fund from the investment of monies belonging to the fund:-

(f) An annual levy paid by Contractors or the Enterprise to the Fund; and

(g) The prescribed contributions paid by sponsoring States to the Fund.

**Explanation / comment**

- The discussions showed clear support for removing square brackets around “contractors”. This is now inserted.
- The discussions showed clear support for removing square brackets. Reference to precautionary principle inserted by referring to the polluter-paying. I note in that regard that inserting such a reference to polluter pays principle will, inter alia, align with art. 5(a) of the current draft-BBNJ and with the 2011 ITLOS Advisory Opinion which refers to this principle - restituto in integrum – (in para 194) being part of customary law, already acknowledged by the PCIJ in *Factory of Chorzów* in 1928
- It has been suggested to insert a direct reference to “the Enterprise”. I invite for discussions on this insertion.
- Concerns were raised by several delegations in relation to the availability of resources when the fund will become operational. It is noted that a suggestion has been put forward to add paragraphs f and g regarding annual levy and contributions by sponsoring States. This to provide funds in the initial years of operation which also reflects a common practice for The International Oil Pollution Compensation (IOPC) Funds. I propose to amend suggested paragraph f and g to include a reference to “the Enterprise” to align with previous incorporated suggestions. I also invite for discussions on this insertion.
- A general comment was made by a delegation entailing a wish to further define the compensation the fund can pay out when needed. I have not included this as it would be difficult to make such a definition in the regulations but propose it could be included in the Standard and Guidelines. I note that this could also include definitions of other principles and terms, for example “penalties”, “investment” etc. I propose that such definitions should align with the definitions (and preparatory work) made by the International Law Commission (ILC) on State Responsibility. I invite for discussions on this matter.
- One delegation raised the matter of how regulation 56 relates to regulation 103 on compliance notices. I do not believe that there is an issue with any discrepancies between the two regulations. However, I invite for discussions on this matter.
- One delegation has forwarded a written proposal to ensure that the income from fees and fund investments represent sufficient financing for the Environmental Compensation Fund to meet a reasonable worst-case scenario, also if this occurs within the early years of mining. I have incorporated the content of this suggestion into the existing regulation in littera’s a) and g). I invite for comments on this.

## Part VI

### Closure plans

#### Regulation 59

##### Closure Plan

1. A ~~Contractor shall develop a~~ Closure Plan ~~that shall, in accordance with regulation 7 (3) (i) and applicable environmental standards,~~ sets out the responsibilities and actions of a Contractor for the decommissioning and closure of activities in a Mining Area, including the post-closure management and monitoring of residual Environmental Effects, ~~in accordance with the applicable Standard~~. Closure also includes a temporary suspension of mining activities.

2. The objectives of a Closure Plan are to ensure that:

(a) The closure of mining activities is a process that is incorporated into the mining life cycle, including by ~~undertaking activities and the~~ scheduling of studies, ~~based on available baseline data,~~ to inform ~~about~~ Closure ~~before and~~ throughout the period of Exploitation and is conducted in accordance with ~~Good.Best~~ Industry Practice, Best Environmental Practices, Best Available Techniques and Best Available Scientific Evidence;

(b) ~~At the~~ date of cessation or suspension of mining activities ~~must be set,~~ ~~at which point~~ a management and monitoring plan ~~must also be is~~ in place for the period prescribed in a Closure Plan and in accordance with the ~~relevant~~ Standards and taking into account the relevant guidelines ~~and results obtained in previous monitoring activities;~~

(c) The risks relating to ~~residual~~ Environmental Effects are ~~identified,~~ quantified, assessed and managed ~~in accordance with best available technologies,~~ which includes the gathering of information relevant to closure or suspension;

(d) ~~Any All~~ health and safety ~~issues arising from requirements related to~~ closure activities ~~are identified, implemented, duly managed and complied with;~~

~~Alt (d) The necessary health and safety requirements related to closure activities are complied with;~~

(e) Any residual Environmental Effects continue to be monitored, identified, quantified and reported to the Authority, ~~including data to inform about recovery or lack thereof, over a period established in the closure plan,~~ and management responses are implemented ~~in a timely manner,~~ including plans for further Mitigation, or remediation where appropriate. ~~The collected monitoring data shall inform the Authority about the recovery, or lack thereof, over a time period required by the Closure Plan, in accordance with the applicable Standard and taking into account relevant guidelines;~~

(f) ~~Any necessary Required cleaning,~~ restoration ~~and or~~ rehabilitation commitments ~~are made and shall will~~ be fulfilled ~~by the contractor~~ in accordance with ~~the relevant Standards and taking into account the relevant Guidelines. predetermined criteria or standards by the Contractor;~~

~~(f) Any restoration or rehabilitation commitments will be fulfilled in accordance with predetermined criteria or standards;~~

(f)bis Requirements regarding the removal of any Installations and ~~its parts~~ ~~and~~ equipment, ~~as well as parts therefrom,~~ from the Mining Area, ~~including the explicit prohibition on any kind of- waste abandonment,~~ are addressed; and

(g) The mining activities are closed or suspended efficiently and safely.

2bis. Transparency shall be guaranteed during the Closure process and relevant stakeholders shall be consulted in the Closure Plan design.

3. The Closure Plan shall cover the aspects prescribed by the Authority in annex VIII to these regulations and in accordance with the relevant Standards and taking into account the relevant guidelines.

4. A Contractor shall maintain the currency and adequacy of its Closure Plan in accordance with Good Industry Practice, Best Environmental Practices, Best Available Techniques, Best Available Scientific Evidence and the ~~relevant~~ Standards and, taking account of the relevant Guidelines.

5. In the five years preceding the planned end of the period of Exploitation, the Closure Plan shall be updated annually and be finalized in accordance with regulation 60(1). Otherwise, ~~the~~ the Closure Plan shall be reviewed and updated taking into account the results obtained from monitoring post-closure activities and each time there is a Material Change in a Plan of Work, including new knowledge, technologies, devices and new scientific findings, change of contractor or sponsoring State, ~~or also~~, in cases where no such Material Change has occurred and no monitoring data and information or improved knowledge or technology has signalled a need for updates, every five years and at the end of the project and be finalized in accordance with regulation 60 (1).

#### **Explanation / comment**

- I have accepted the previously proposed changes to this regulation which there was consensus on.
- A comment was made to align the structure of paragraph 1 with e.g. regulation 103 to state the responsible entity first. This has been implemented. Also, references to regulation 7 (3,i) and applicable standards have been inserted in the first paragraph as suggested. I invite for discussion on this.
- A proposal was put forward to amend paragraph 2(a) with a deadline for mining activities. I took the liberty of inserting this in 2(b) as it would be better reflected there. I invite for discussion on this.
- A written proposal suggested to include a reference in 2 (b) to also take into account obtained results from previous activities. This has been implemented.
- It was noted during the last meeting that the term “suspension” in paragraph 2 (b) should be removed or defined. I believe that the term should be kept in the text as suspension is possible. However, this is something that should be laid out in the Standard and Guidelines. I invite for further discussions on this.
- It was highlighted that the “period” described in paragraph 2 (b) may not be enough, wherefore a scenario for extension of period should be included in the regulation, perhaps in regulation 61. I believe this matter should be regulated in regulation 59 as regulation 61 relates to post-closure monitoring. An extension would not be considered post-closure. I invite for further

discussions on developing a scenario for extension of period in regulation 59.

- The suggested wording of para 2 (d) reflects a merger between proposals given during the meeting and written proposals submitted afterwards. A proposed wording to paragraph 2 (d) was submitted by a delegation suggesting a shortened version which I believe there is great merit to. I have placed this as “alt d”. I invite for a discussion on the wording of this *litra* (d),
- It was suggested in paragraph 2 (e) to include a specific timeline for the implementation. I suggest that a reference to implementation in “a timely manner” is inserted and the accompanying guidelines will lay out this term further. It was also proposed to include a reference to collected data being submitted to the Authority and to inform of any lack of submission of data, in accordance with relevant standard(s). I invite for further discussions on the precise wording of this paragraph.
- Also, in regard to paragraph 2 (f), it was noted that it should be established what happen if the Contractor goes bankrupt (/insolvent/ closes or sells the firm), including a need for international insurance, as the costs from e.g. *Restoration* could total an inconceivable amount. I invite for further discussion on this.
- In paragraph 2(f)bis I have taken the liberty to clarify the text, as the requirement for removal of “parts” should not only refer to parts from installations, but also parts from equipment. Also, to provide a better reading.
- In paragraph 2 (g) it was noted that the term “efficiently” should be defined. I invite for further discussion on this.
- I noted to paragraph 5 that there was broad support for adopting a 5-year update clause. It was also suggested to (re-)include a reference to *reviewing* the plans alongside *update*. closure plans Some States further suggested to amend to ensure an update of closure plans if Contractor or Sponsoring State changes and when the project is finalized. These changes have been sought implemented. One member State also suggested to underline that these plans should be send to the Secretary-General. However, this is stated in regulation 60 which this regulation refers to, wherefore I propose to leave this unchanged. I invite for further discussions on these matters.
- One delegation submitted a written proposal to delete paragraph 2 (f) on restoration and rehabilitation of deep-sea ecosystems, as these have not yet been established as conservation tools. Also, the meaning of “predetermined criteria or standards” is stated not to be clear. I note to this that Standards and guidelines are being drafted which would have these clarified. Furthermore, restoration and rehabilitation are compulsory parts of Mine Closure as is in land based mining. I invite for comments on this.
- Finally, I would like to draw the attention to the proposed insertion of a new paragraph “2bis” referring to stakeholder consultation. I note in this regard that the Authority has received requests from

delegations calling for the development of a Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open manner with clear targets, implementation process and time limits. Discussions on stakeholder consultation when going through the regulation – especially when discussing point 2bis – should therefore also take into account these general discussions on aligning stakeholder consultation throughout the regulations and annexes as well in relevant Standards and Guidelines. This includes the presentation to be made by the coordinator of the stakeholder consultation group at the opening of the meeting as the outcomes will benefit discussions on several provisions under the scope of the work for the group.

## **Regulation 60**

### **Final Closure Plan: cessation of production**

1. A Contractor shall, at least 24 months prior to the planned end of Commercial Production, or as soon as is reasonably practicable in the case of any unexpected cessation, submit to the Secretary-General, for the consideration of the Commission, a final Closure Plan, ~~determined in accordance with the procedures established in Regulation 57,~~ taking into account the results of monitoring and data and information gathered during the exploitation phase and the applicable Regional Environmental Management Plan ~~if any.~~

1bis. The Secretary-General shall make the final Closure Plan submitted pursuant to paragraph (1) available on the Authority's website for a period of at least 60 days and invite members of the Authority and Stakeholders to submit comments in writing.

1 ter. The Secretary-General shall, within [seven days]/[2 weeks] following the close of the commenting period under paragraph 1bis, provide the comments submitted by members of the Authority and Stakeholders, to the applicant Contractor for its consideration and to the Commission. The Contractor shall consider the comments and provide responses to the comments and shall submit any revised plans and responses to the Commission.

2. The Commission shall examine the final Closure Plan ~~and any comments received pursuant to paragraph (1)bis and revisions and responses made pursuant to paragraph 1ter~~ at its next meeting, provided that these have been circulated at least 60 Days in advance of the meeting. ~~The Commission should, where necessary and appropriate to ensure sufficient technical expertise, consult external experts, identified in accordance with Annex VI, to evaluate the final Closure Plan.~~

3. If the Commission determines that the final Closure Plan meets the requirements of regulation 59, it shall recommend approval of the final Closure Plan to the Council.

4. If the Commission determines that the final Closure Plan does not meet the requirements of regulation 59, the Commission shall require the Contractor to make ~~and submit~~ amendments to the final Closure Plan as a condition for ~~recommendation of~~ approval of the plan ~~in accordance with paragraph 3 of this regulation.~~

5. The Commission shall give the Contractor written notice of its decision under paragraph 4 above and provide the Contractor with the opportunity to make representations or to submit a revised final Closure Plan for the Commission's consideration, within 90 Days of the date of notification to the Contractor.

6. At its next available meeting, the Commission shall consider any such representations made or revised final Closure Plan submitted by the Contractor when preparing its report and recommendation to the Council, provided that the representations have been circulated at least 30 Days in advance of that meeting.

7. The Commission and Finance Committee shall review the amount of the Environmental Performance Guarantee provided under regulation 26 and include the results of that review and any ~~relevant~~ recommendations in its report to the Council on the final Closure Plan.

8. The Council shall consider and take a decision on the report and recommendation of the Commission relating to the approval of the final Closure plan and the amount of the Environmental Performance Guarantee. Any reports and recommendations submitted to the Council and decisions made by the Council under this regulation shall be published on the Authority's Website by the Secretary-General within 7 days of a submission or decision being made.

9. Any reports and recommendations submitted to the Council and decisions made by the Council under this regulation shall be published on the Authority's Website by the Secretary-General within 7 days of a submission or decision being made.

#### **Explanation / comment**

- I noted that there was widespread support for deleting "if any" in paragraph 1. It was also suggested to remove the reference to regulation 57. This is reflected in the text.
- There was broad support among delegations for requiring final Closure Plan to be submitted to the ISA and making these available online for comments.
- Textual proposals were submitted for the addition of a "1bis" and "1ter" to paragraph 1 regarding such public consultation of final closure plans, wherefore I have implemented these. There is, however, a difference between some of the proposals relating to 1ter on the timeframe for the Secretary-General to provide received comments after close of the comment period, either 1 or 2 weeks. Both suggestions are noted in square brackets. I invite for further discussions on this matter.
- Paragraph 2 has been amended in accordance with a written proposal which refers to the comments received under the new 1bis.
- Some delegations referred to the need for more clarity in paragraph 4 for what happens if the pre-set conditions for a closure plan is not met. I have provided some mirror suggested additions to text to underline that the Contractor must make **and submit** a revised closure plan which the Commission must approve in accordance with paragraph 3. I invite for further discussion on this.

- I noted some questions to paragraph 7 in relation to whether the referenced authority entities involved with the review of the Environmental Performance Guarantee (EPG) is consistent with regulation 26. It was also questioned what will happen if the EPG cannot cover the liability of the Contractor. I believe that regulation 26 is in alignment with regulation 60 on the matter of it being the Commission and Finance Committee that performs the review of the EPG. Also, regulation 26 paragraph 8 states that the EPG does not limit the responsibility and liability of the Contractor. I therefore suggest keeping the current wording of paragraph 7 as it is consistent with regulation 26, also recalling the cross references in both regulations (reg. 26 and 60) to each other. I also suggest clarifying the scope of the Contractors liability beyond the EPG in the standard and guidelines that are to be developed. I invite for further discussions on this.
- Paragraph 8 amended in accordance with a written proposal to have the Council not only consider, but also make decisions on, e.g. the amount of the EPG. It was noted in the proposal that the reference to the EPG should be harmonized with regulation 26 which sets out the criteria for the EPG. I believe that the previous paragraph (para 7), which refers to the criteria of regulation 26, is sufficient to ensure harmonization, but I invite for further comments and discussions on this.
- I noted that there were suggestions to insert regulation on Stakeholder consultation with specific procedures and deadlines. The suggested regulation is descriptive and should be referred to the Standard and Guidelines.
- I also noted that some member States raised the question on what happens if a Contractor does not meet the conditions of an approved closure plan (i.e. not the scope of paragraph 4 which prior to approval). As one member State noted this clarification would be better covered under regulation 61, which I agree with where I propose an amendment. I invite for further discussion on this under regulation 61.
- A delegation has proposed the insertion of a paragraph 9 regarding publication of reports and recommendations on the Authorities website.
- Finally, I would like to draw the attention to the proposed insertion of a new paragraphs 1bis ,1ter and 9 referring to stakeholder consultation. I note in this regard that the Authority has received requests from delegations calling for the development of a Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open manner with clear targets, implementation process and time limits. Discussions on stakeholder consultation when going through the regulation should therefore also take into account these general discussions, including the presentation to be made by the coordinator of the stakeholder consultation group at the opening of the meeting as the outcomes will benefit discussions on several provisions under the scope of the work for the group.

## Regulation 61

### Post-closure monitoring

1. A Contractor shall implement the final Closure Plan and shall report to the Secretary-General on the progress of such implementation on an annual basis, including a summary of the results of monitoring, conducted in accordance to the applicable Standard and pursuant to the monitoring programme, under paragraph 2 below, and management actions taken in response to any adverse Environmental Effects identified through monitoring, until completion of as set out in the final Closure Plan.
2. The Contractor shall continue to monitor the Marine Environment for such period after the cessation of activities, as set out in the final Closure Plan and for the duration provided for in the ~~relevant~~ Standards and taking into account ~~relevant~~ Guidelines, ~~and release in~~ Monitoring data shall be released publicly ~~and~~ in an accessible format adhering to internationally recognized data principles, consistent with Best Scientific Practices, in at monthly intervals.
3. Upon completion of implementation of the final Closure Plan, the Contractor shall, in accordance with the procedure described in the Standard, hire a competent, ~~and independent~~ and reputed auditor, ~~to conduct a final performance compliance assessment and submit a final performance compliance assessment report in accordance with~~ taking into account the relevant Standards and taking into account relevant Guidelines to the Secretary-General to ensure that the closure objectives as ~~described contained~~ in the final Closure Plan have been met. Such report shall be reviewed by the Commission at its next meeting, provided that it has been circulated at least 30 Days in advance of the meeting. The Commission shall provide a report and recommendations on that performance assessment report to the Council for consideration, who shall decide whether the final Closure Plan has been satisfactorily delivered, which decision shall be relevant to the retention, release, forfeiture or use by the Authority of the Contractor's Environmental Performance Guarantee. The report shall be published on the website of the Authority-
4. If the Council decides that a Contractor has failed to meet the conditions of, or deadlines related to, the final Closure Plan and reporting hereon, it can reject approval of the plan until satisfactory mitigating measures have been made by the Contractor. Until the Closure Plan has been approved by the Council the Environmental Performance Guarantee is retained and will be forfeited if no satisfactory plan is submitted. Retention and forfeiture of the Environmental Performance Guarantee is carried out in accordance with the relevant Standards and Guidelines without prejudice to other liabilities the Contractor may incur in accordance with International Law, the Convention or other applicable rules.

#### Explanation / comment

- I noted that several delegations requested clarity on the term's "period" and "duration" in paragraph 2 regarding the Closure Plan and the Standards. Consistency should be ensured between the understanding and scope of these two phrases. I propose that this is addressed in the standard. Also, there was a comment to this paragraph referring to the release of data in accordance with the "FAIR data principles" This could also be addressed and ensured in the guideline. I invite for further discussion on these matters.
- To paragraph 3, several delegations requested the need to have clear guidelines on the hiring of a consultant, especially regarding

having a roster of approved, qualified consultants that meet predetermined criteria. I propose that the paragraph merely refers to the hiring on a consultant in accordance with a procedure that is specified in the standard. This will also set out the criteria and qualifications/level of expertise that the contractor must have. The standard will/could include a roster of possible consultants. I invite for further discussions on this,

- As I stated in the comments to regulation 60; some member States raised the question on what happens if a Contractor does not meet the conditions of an approved closure plan. I believe, like other member States that this matter is best addressed here under regulation 61. The addition to paragraph 3 relates to this but following the discussions further clarification on this matter could be needed. I have taken the liberty of drafting a new paragraph 4 on this matter which also refers to further clarification on this in the guidelines. If anything, it may perhaps be even better situated as new, independent regulation. I invite for further discussions on this matter.

## Annex IV

### Environmental Impact Statement

#### Explanation / comment

- It is proposed to include a new section1(d) (on *Preparation of an Environmental Impact Statement*) to ensure that the Environmental Impact Statement undergoes a peer review led by independent experts and that this review is made public, including mentioning of the names, qualifications, and comments of the experts. I invite for further discussions on this.
- One delegation suggested that the description of “alternatives analyzed”, “residual impacts” and “expected recovery rates” mentioned in points (a) and (d) of the Executive Summary should be dealt with in separate section. However, several delegations have made textual suggestions to the wording of points a and d wherefore I have included the new points as “Alt a bis”, “Alt d bis” and “Alt d ter”. I invite for views on these matters.
- I noted opposing views from delegations to have the word “national” included or excluded in the headline of section 2.2. I invite for a discussion on this.
- I propose to amend section 2.3, entailing references to different specific legislations from the International Maritime Organization, to include references to the Ballast Water Management Convention and the International Convention on the Control of Harmful Anti-fouling Systems on Ships. Also, regarding the existing reference in section 2.3 to the Convention on Dumping (the London Convention), it should be noted that Article III (1) (a) clearly states the provisions of the (London) Convention do not apply to dumping related arising from, or related to, the exploration, exploitation and associated off-shore processing from sea-bed mining activities. Therefore, I suggest removing this reference, also considering that the listed Conventions in section 2.3 do not represent an exhaustive list, but merely examples. I invite for other views on this.
- In section 3.3.2 – 3.3.5 one delegation suggested to delete the reoccurring reference to “Describing the energy requirements and emissions of the requisite machinery” while another delegation has suggested to amend these. I have sought to reach a comprise by removing the original wording and implementing the new suggested text. I invite for comments on this.
- Some delegations have proposed the insertion of a new section 3bis regarding Methodology for Description of the Marine Environment and Assessment of Impacts and Environmental Effects. I believe there is great merit to this suggestion and invite for comments on this.
- One delegation has suggested to move the new addition (staring from “*Provide a baseline description...*” and onwards) in section 4.5 to the Standard due to its detailed nature. Furthermore, to delete the additions made to points 4.7, 4.11, 5.4.3 and 5.4.4 due to it being difficult to provide the mentioned information with

available data and current technology and it might be difficult to reach consensus on the conclusions. I note to there should be a dynamic approach to anticipating emerging issues, irrespective of it being difficult to obtain all relevant information. I invite for views on this.

- One delegation suggested amending section 5.2 on “Regional overview”, so it aligns with section 4.2 (also related to Regional overview). I concur. This also follows the expressed wish from many delegations to have better alignment throughout the document.
- One delegation has put forward a suggestion for a new wording of section 5.4.4 based on the existing text needing more detail to allow contractors to understand what is expected of them. I have inserted the proposal as “Alt.5.4.4” and invite for discussion on this.
- Some delegations indicated that section 6.3 should include listing of sites of special biological significance. However, as this section refers to sites archaeological and historical significance, I propose to include such a reference under section 7. I invite for inputs to this suggestion.
- I noted a question from one delegation asking for a clarification of what is meant by the reference to “scientific research in the area” in section 6.2.4. I propose to look at how the term is applied in the Convention and have made a suggested amendment to the section (6.2.4) which aligns with article 243 of the Convention.
- One delegation suggested to make a reference to *ecological and biologically significant areas* under section 6.2.5 on “Sociocultural uses”. However, I propose to include this reference under section 7.a bis.
- Some delegations requested that section 7 should include description of post closure impact, including overview of the measures applied. I invite for further discussions on this.
- One delegation noted that section 7.5 and 7.6 are basically identical in nature wherefore the latter can be removed or merged with the former. While I concur with this point of view, I also noted that other delegations had specific and detailed comments to the wording of both points. Another delegation prosed to move section 7.9 to be merged with section 8.3. I invite for a discussion on the possibility of merging the mentioned points as suggested.
- Some delegations suggested the need for including a glossary and definitions of special key terms. I propose for this to be stated in the Standard and Guidelines but invite for further views on this.
- One delegation suggested deleting the listed litra’s a-e in the intro text of section 8 entailing explicit references to describing potential impacts etc. However, many delegations have commented on these litra’s indicating they see the value of this listing. I therefore propose to keep the litra’s but invite for other views on this matter.

- One delegation suggested deleting a part of section 8.2 relating to description of potential impact categories. However, many delegations have commented on this part of the section. I therefore propose to not delete the proposed lines but invite for other views on this matter.
- Some delegations suggested to remove section 9.4bis on assessing Gender Impact due to the lack of relevance. I propose to keep this insertion as this is an important component in any workplace and it is also becoming a guiding norm to make such assessments, see e.g. current BBNJ draft articles 11bis, 44, 47bis and 49 which refer to *gender balance* and *gender-responsiveness* as principles that should always be taken into account. I invite for other views on this.
- One delegation proposed to move the section on “area-based management tool” in section 9.2.1.5 to an independent section in 9.3. I agree to this move to provide better clarity in the text.
- Some delegations have proposed significant changes to section 7 (*Assessment of impacts on the physicochemical environment and proposed Mitigation*), section 8 (*Assessment of impacts on the biological environment and proposed Mitigation*) and section 9 (*Assessment of impacts on the socioeconomic environment and proposed Mitigation*). I give thanks for this extensive work. I believe these suggested changes have great merit to them and they also meet the general concerns and wishes raised by many delegations throughout the plenary discussions and in the subsequent written comments to have better alignment and clarity in this annex. Other comments were received to these points, and I have tried to include these in the proposed new changes to the extent possible. I invite for a further discussion on these proposed changes during the discussions.
- Several delegations stated clear support for the addition of points 9bis, 9bis1 and 9bis2 on Assessment of Uncertainty, while I only noted one suggestion to remove, wherefore I propose that this is accepted.
- One delegation proposed to move section 10 on hazards arising from natural, accidental and discharge events to a new section 4bis. I believe that this section should be kept as an independent section to provide better clarity and overview of the annex. Another delegation suggested to relocate the matters on Maritime Safety and Waste Management from section 7 to a subsequent place in the annex. I have suggested to add these as subsections to section 10, including a proposal from a delegation to address the matter of “Blast Water”. I invite for further discussions on section 10.
- Several delegations suggested to have an introduction to section 13 on consultation, including a definition of what consultation means and a reference to the need for transparency. I have tried to meet these requests, by adopting an introduction which aligns with the essences of draft article 18.1 of the current BBNJ draft which describes consultation and the need for transparency. Also, there is a reference to following the Standards and Guidelines which will

contain more details on the consultation process. Furthermore, several delegations supported a proposal to include a reference to describing criteria for Preservation Reference Zones and Impact Reference zones in section 13, which I have inserted. One delegation added that these criteria should be done early for baseline data over the 15-year period. I have suggested that this specification is included in the Standard and Guidelines to be developed. I invite for further discussion on this.

- I would like to draw the attention to all references throughout the document for stakeholder consultation, especially regarding section 13 which has a focus on this matter. I note that the Authority has received requests from delegations calling for the development of a Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open manner with clear targets, implementation process and time limits. Discussions on stakeholder consultation when going through the appendix – especially when discussing section 13 – should therefore also take into account these general discussions on aligning stakeholder consultation throughout the regulations and annexes as well in relevant Standards and Guidelines. This should also include the presentation to be made by the coordinator of the stakeholder consultation group at the opening of the meeting as the outcomes will benefit discussions on several provisions under the scope of the work for the group
- Throughout all regulations and annexes – but especially relevant for this annex IV – consistency is needed regarding how to refer to the Standard and Guidelines, including whether these should be referenced as “relevant” and/or “applicable”. I will make all needed corrections once consensus has been reached.
- Finally, given the many received proposals for amending the annex with new headlines, subsections etc. the “Contents” page will be updated after our discussions in plenary regarding these changes.

## 1. Preparation of an Environmental Impact Statement

The Environmental Impact Statement prepared under these regulations and the present annex shall:

(a) Be prepared in clear plain language and in an official language of the Authority together with an English-language version, where applicable;

(b) Provide information, based on data from, as a general rule, a minimum of 15 years of monitoring, in accordance with the relevant regulations, requirements of regional environmental management plans, and Standards and taking into account the relevant Guidelines and taking into account the relevant applicable regional environmental management plan, corresponding to the scale and potential magnitude of the activities, to assess the likely Environmental Effects of the proposed activities. Such effects shall be discussed in proportion to their significance. Where an applicant or Contractor considers an Environmental Effect to be of no significance, there should be sufficient information to substantiate such conclusion, or a brief discussion as to why further research is not warranted; and

(c) Include a non-technical summary of the main conclusions and information provided to facilitate understanding of the nature of the activity by Stakeholders.

(d) Be peer reviewed by competent independent experts, before submission and include a description of the experts, their qualifications, and the results of their review.

## 2. Template for Environmental Impact Statement

The ~~recommended~~-required format and contents for an Environmental Impact Statement is outlined below. It is intended to provide the International Seabed Authority, its member States and other stakeholders with unambiguous documentation of the potential Environmental Effects based on the Best Available Scientific Evidence and Best Available Technology- Techniques on which the Authority can base its ~~assessment~~ decision, and any subsequent approval that may be granted. Further detail for each section is provided following the overview.

-This document is a template~~-only~~, and does not provide details of methodology or thresholds that may be resource- and site-specific. These methodologies and thresholds may also change over time in according to, for example, development of new technologies or new scientific data and -should will be developed as Standards and Guidelines to support the regulations.

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## Executive summary

One of the main objectives of the executive summary is to provide an overview of the project and a summary of the content of the Environmental Impact Statement for non-technical readers. Information provided in the executive summary should include:

(a) A description of the proposed project, its objectives ~~and, if any, a description of alternatives analysed, and a justification of the alternative chosen~~  
~~a description of alternatives analyzed;~~

~~Alt (a)bis A description of alternatives analyzed;~~

(b) ~~Anticipated~~ Economic, financial and other benefits to be derived from the project, ~~and the beneficiaries for each;~~

(c) A ~~description of anticipated and cumulative, impacts of the activity, as assessed by experts,- (e-g. related-including, but not limited to, oceanographic, geological, biological, socioeconomic and sociocultural) including the expected duration of impacts and cumulative impacts in relation to the identified baselines, and the expected recovery rates of the system to its original state),-including cumulative impacts;~~

(d) ~~Mitigation-m~~ Measures to ~~minimize to mitigate~~ anticipated and cumulative environmental impacts and a description of any ~~anticipated and cumulative residual impacts, that may occur despite Mitigation, noting how the mitigation hierarchy is being employed in assessing impacts;~~

~~Alt (d bis) A description of any residual impacts;~~

~~Alt (d ter) Expected recovery rate of the marine environment impacted;~~

(e) Linkages with ~~the Authority's global environmental policy and strategy and the applicable regional environmental management plan and the~~ development of the Environmental Monitoring and Management Plan ~~and the Closure Plan;~~

~~(e)bis Conformity with the Authority's global environmental policy and strategy and the applicable regional environmental management plan; and~~

(f) Consultation undertaken with other parties and Stakeholders.

## 1. Introduction

~~The purpose of the Introduction section is to set the scene for the Environmental Impact Assessment. This section should contain enough detail for a reader to form an overall impression of the proposed project and how it has developed and understand how the Environmental Impact Assessment is structured. As this section mainly provides a 'roadmap' to more detailed material in the Environmental Impact Assessment, it may be relatively short.~~

### 1.1 Background

Summarize briefly the project being proposed, including all main activities and locations.

### 1.2 Project viability

Provide information on the viability of the proposed development, its economic context and why the project is needed, ~~and include a description of the benefits to mankind.~~

Provide understanding of the policy on alternatives being followed by the applicant. The determination of project viability may include a summary of feasibility investigations related to geophysical, engineering, geotechnical, oceanographic, biological and other components of project operations.

### **1.3 Project history**

Summarize briefly the work undertaken up to the date the Environmental Impact Statement was finalized and ready to be submitted to the International Seabed Authority. This should include a brief description of the resource discovery, the exploration undertaken depth zones. and any component/ system testing conducted to date. The time, location, and parties involved in exploration work should be included. For the component/ system testing, provide a brief description of activities here. If applicable, include any report(s) related to results of component/system testing and Test Mining studies including any monitoring and assessment of the environmental impacts in an appendix.

### **1.4 Project proponent**

Summarize the credentials of the proponent, including major shareholders, other contracts or licences held (including in other jurisdictions), previous and existing contracts with the Authority ~~and the proponent's environmental record, etc.~~ The proponent's technological and environmental expertise, capacity and financial resources should be outlined, and the proponent's environmental record for this work and any previous comparable works should be summarised as well as how they intend to support commitments made elsewhere in the application.

## 1.5 This report

This section should constitute a guide for users of the Environmental Impact Statement on how to effectively use the information contained in the Environmental Impact Statement.

### 1.5.1 Scope

Provide detail as to what is and is not included, and which risks have been prioritised and which received less emphasis, in this Environmental Impact Statement, based on the Scoping Report and previous feedback from the Authority and Stakeholders. Link to other supporting information.

### 1.5.2 Report structure

~~Where the Environmental Impact Statement spans multiple volumes, this section should provide additional details not listed in the table of contents.~~

This subsection should refer to the prescribed structure of the template but should also indicate where to find information that is not obvious from the table of contents, for example in cases where the Environmental Impact Statement relates to a larger project covering several Mining Areas within the Contract Area or for an Environmental Impact Statement that contains a large volume of information (especially multiple volumes). Authorship should be provided for chapters.

### 1.5.3 Consultation overview.

Provide overview of mandatory voluntary stakeholder consultation process and consultations.

## 2. Policy, legal and administrative context

Provide information on the relevant policies, legislation, agreements, ~~S~~standards and ~~G~~guidelines that are applicable to the proposed mining operation.

### 2.1 Applicable ~~mining and environmental~~ national and international ~~legislation, policies and procedures, and instruments~~ rules, regulations and procedures of the Authority

Outline the national ~~and international~~ legislation, procedures and policies~~y~~, for example those adopted in accordance with article 209 of the Convention to prevent, reduce and control pollution of the marine environment from activities in the Area, as well as applicable rules, regulations, procedures, sStandards ~~or and G~~guidelines and as well as the Regional Environmental Management Plan of the Authority, ~~if any that is applicable to the proposed mining operation apply to the management or regulation of Exploitation in the Area, including any guidance provided for implementation how the proposed operation will implement them and how the proposed operation will comply with them.~~

### 2.2 Other applicable ~~national/national~~ legislation, policies and regulations

Outline any other legislation, policies, ~~or regulations~~ or Sustainable Development Bills that do not necessarily apply specifically to seabed mining or the environment, but may be relevant to the proposal (e.g., shipping regulations, maritime declarations, flag State laws research, climate change policies), ~~and how the mining activity will comply with them~~. This section should also refer to national regulations and laws that relate to the effects of Exploitation activities on coastal States, or other places where components of Exploitation (e.g., processing) could occur.

### 2.3 Applicable international and regional agreements

In addition to the United Nations Convention on the Law of the Sea and the 1994 Agreement relating to the Implementation of Part XI of the Convention, list the international and regional agreements applicable to the operation, (whether directly or via incorporation into domestic laws cited in section 2.2 above), such as relevant conventions, including annexes and Guidelines, of the International Maritime Organization related to protection of the environment, biodiversity and safety, ~~related conventions, applicable environmental and biodiversity conventions, and applicable regional agreements. These which includes~~ the International Convention for the Safety of Life at Sea (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL), the Ballast Water Management Convention (BWMC), the International Convention on the Control of Harmful Anti-fouling Systems on Ships, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), and the 1996 Protocol thereof and the Convention on Biological Diversity and the Convention on Migratory Species of Wild Animals; and describe how the proposed operation will comply with them.

### 2.4 Other applicable standards, principles and Guidelines

Discuss applicable standards and Guidelines, including those mandated by the source(s) of funding for the operations, that will be adhered to or aligned with throughout the operation, such as ~~the instruments~~ those of the International Seabed Authority not already included in section 2.1, the Equator Principles, the Environmental Management Standards of the International Organization for Standardization, the Code for Environmental Management of Marine Mining of the International Marine Minerals Society, the Performance Standards on Environmental and Social Sustainability of the International Finance Corporation and the Standards of the Extractive Industries Transparency Initiative.

### 2.5 National Processes related to sponsoring State permits

Describe any national processes followed and permits received from the sponsoring State in relation to the environmental impact assessment.

### 2.6 Ecologically and/or Biologically Significant Areas (EBSAs) and Area-based management tools

Describe any relevant area-based management established under subregional, regional or global processes and the scope, geographical coverage and objectives of such tools. Also describe any relevant area-based management in adjacent areas under national jurisdiction.

## 3. Description of the proposed project

Provide details of the proposed project and the area of influence of the project or impact area, including relevant diagrams and drawings. It is understood

that most projects will likely involve the recovery of minerals from the Area, with the concentrating process(es) occurring on land within a national jurisdiction (outside the jurisdiction of the Authority). While ~~it is expected that~~ this section ~~should provide a brief~~ description of the entire project, including offshore and land-based components, the Environmental Impact Statement should focus on those activities occurring within the Authority's jurisdiction (e.g., activities related to the recovery of the minerals from the Area up to the point of trans-shipment).

Details to be provided under this section should include the headings listed below.

### **3.1 Project area definition**

#### **3.1.1 Location**

Include coordinates of the project area, detailed location maps (drawn to scale), showing the relevant sites proposed as Contract Area and Mining Area and any other features that can be usefully marked upon the map at the time of application, including the locations of impact reference zones and preservation reference zones as well as locations of other nearby contract areas or known seabed infrastructure. Provide general location of the project on a regional map.

Areas of Particular Environmental Interest, Sites in Need of Protection, or other sites designated for particular status under the rules, regulations, procedures, Standards, or Regional Environmental Management Plans of the Authority. This may also include sites of other competent authorities, as well as information on any other known conservation or spatial measures and other uses of the marine environment (e.g. submarine cables and pipelines, long-standing scientific research sites and established fishing areas) in the vicinity of the project area. The map shall also identify the nearest coastal States and States that may be affected by mining activities, and any adjacent ISA contract sites. This map may be the same as the map supplied in Annex 1 Section II.

#### **3.1.2 Associated activities**

Describe the supporting activities and infrastructure required (e.g., transportation corridors, ports for disembarkation of vessels, ports for unloading of ore that are outside the direct mining site, anchoring areas for vessels and machinery).

### **3.2 Mineral resource**

Provide details of the type of resource proposed for extraction (e.g. sea floor massive sulphides, polymetallic nodules, ferromanganese crusts), the type, size, shape, tonnage, volume and grade of the mineral deposits, of commodity and its grade and volume Estimates of the inferred indicated resource and probable reserves should be provided on the basis of the international CRIRSCO reporting template or national accepted codes (NI 43-101, JORC Code) and the official ISA mineral classification (PMN, PMS and CFC).

### **3.3 Project components**

Provide background information on the proposal and the technologies and equipment to be employed, and include the subsections set out below.

#### **3.3.1 Project scale**

Provide an overview of the spatial (horizontal and vertical) and temporal (seasonal and annual) scales of the mining operation, including volumes, depth

of penetration into the seabed. Provide an overview of and physical, and chemical, geological and oceanographic properties of material to be recovered, dewatered and deposited or discharged into the water column or back to the seabed, and the target depth range for any such discharge. This should include an account of the area to be physically mined, directly impacted as well as the likely extent of any secondary impacts (e.g., sediment plumes, noise, light), which will be discussed in greater detail later.

### 3.3.2 Mining Equipment

Describe any equipment expected for mining and support operations (e.g., mining vessels/platforms, supply vessels, barges), including the anticipated frequency of vessel movements for these activities. Also, including a description of any specific technologies developed to reduce impacts should be included.

\_\_\_\_ Provide details of the technologies to be employed, including relevant diagrams and drawings, that address: the Mining Workplan, timelines and the general mining sequence, the technologies to be employed to recover the resource from the seabed, the depth of penetration into the seabed the specific technologies developed to reduce the direct impact of mining activities (e.g. noise, light, plumes) and other details of the mining activities subsea and on the surface. Describe the energy requirements of the requisite machinery.

### 3.3.3 Transport/materials handling

Provide a description of all methods to be used to transport the mineral-bearing ore, including from the sea floor to the surface, and any methods related to the trans-shipment of the mineral-bearing ore, including transfers at sea. Describe the energy requirements of the requisite machinery. Also, a description of any specific technologies developed to reduce impacts should be included.

### 3.3.4 On-site processing

Provide a description of the processing of the mineralized material that will occur within or above the Area, including water column activities (such as riser pipe transfer) and shipboard processing. Include a description of any methods to be used on the sea floor to separate the mineralized material from surrounding sediment and/or rock, as well as any dewatering and separation of the mineralized material at the surface. This section should also cover any disposal of seawater/fines.

Include a description of the waste management, transport, disposal and discharge of sediment, wastes or other effluents into the Marine Environment and the disposal of waste from general ship operations, including the specific technologies and methods to be adopted to reduce harmful impacts of such disposal to the marine environment. Describe the management of shipboard wastes to be transported to shore-based disposal facilities, including tThe handling and management of hazardous materials should also be described, together with a description of the nature of such material and its transportation, storage and disposal. Describe the energy requirements of the requisite machinery. Also, a description of any specific technologies developed to reduce impacts should be included.

### 3.3.5 Support equipment

\_\_\_\_ Describe any equipment expected for mining and support operations (e.g., mining vessels/platforms, supply vessels, barges). Describe the anticipated frequency of vessel movements for these activities. Describe the energy requirements of the requisite machinery.

### 3.4 Commissioning

Describe the pre-production activities that will take place with regard to the establishment and set-up of the site for mining operations. The management of this process (such as the establishment of safety zones around vessels) should also be described.

### 3.5 Construction and operating standards

Outline the design codes or certification standards to which the equipment will be or has been built, as well as the operating standards that will be applied to mining operations. This section should include subsections such as those set out below.

#### 3.5.1 Design codes

#### 3.5.2 Health and safety

#### 3.5.3 Workforce description

This section should also outline capacity-building objectives and commitments.

### 3.6 Decommissioning and closure

Describe the steps that will occur when the mining operation is completed or in the event of an emergency, including the decommissioning of offshore infrastructure or the temporary suspension of mining activities, under a Closure Plan.

### 3.7 Other alternatives considered

Provide an account of alternative options that were rigorously explored and objectively evaluated~~considered if any, including a no-action alternative,~~ that were considered and rejected in favour of the current proposal with justification as to why the alternatives were rejected. Aspects should include the selection of the mine site, mine production scenarios, equipment design and engineering decisions, including technologies selected to reduce the direct impact of mining activities, environmental impacts, financial feasibility, transport and materials handling, and shipboard processing and stakeholder support. A no mining scenario must be included.

#### 3.7bis Environmental management measures to mitigate impacts

Provide a summary description of reasonable measures taken to mitigate adverse impacts to the physical, chemical, geological, biological, and socioeconomic environment.

### 3.8 Development timetable (detailed schedule)

Provide a description of the overall timetable, from initiation and equipment construction the implementation of the mining programme, through to the decommissioning and closure of operations. The description should include the major phases of the operation as well as the milestone dates on which relevant tasks are expected to be completed. Information on the development timetable provided under this section should clearly communicate the different phases in the development proposal. For reasons of clarity, a flow chart or a Gantt or PERT (Programme Evaluation and Review Technique) chart should be used where appropriate. Information provided in this section should include the following:

(a) The funding arrangement for the proposed activity, or whether the availability of funds is subject to this or other approvals being granted;

(a) bis Timing of expected regulatory approvals

(b) Pre-construction activities including the development and testing of mining equipment, operations and systems in situ (if applicable);

(c) A construction schedule and staging timetable;

(d) An infrastructure development schedule;

(e) A monitoring schedule (during and after operations); and

(f) A closure schedule.

Whether the availability of funds is subject to approvals should be noted on the timetable.

**Section 3bis Methodology for Description of the Marine Environment and Assessment of Impacts and Environmental Effects**

**3bis.1 Studies completed**

Describe any prior research/Exploration that could provide relevant information for this Environmental Impact Statement and future activities. These should be detailed in the appendices.

**3bis.2 Methodology for Collecting Baseline Data**

For each of the baseline descriptions of the Marine Environment in sections 4 and 5 and socioeconomic environment in section 6, describe the methodology for collecting baseline data, including:

1. spatial and temporal extent of sampling;
2. spatial and temporal frequency of sampling;
3. gear used for sampling and any modifications or calibrations conducted to the gear;
4. results of power analysis;
5. limitations of sampling and how this may impact certainty of impact assessments; and
6. any cooperation with other research programmes in the Area, such as with the ISA, States, other Contractors, or non-governmental organizations.

Highlight any deviations from baseline data collection requirements provided in relevant Standards and Guidelines, and the Regional Environmental Management Plan.

Raw baseline data and computer code used to analyse and provide a description of the Marine Environment shall be included in the annexures of the Environmental Impact Statement or, if the data and/or code has been previously submitted to the Authority, the applicant may provide a link to the Authority's

database where the data and/or code is stored or other location where such information has been made available online.

### **3bis.3 Methodology for Summarizing Baseline Data**

Provide a description of the methodology used to summarize baseline data collected. This shall include:

- (a) a description and justification of transformations performed to the data and analyses used to summarize the data;
- (b) a list of program(s) used to analyze results; and,
- (c) any limitations associated with the results of the analysis.

### **3bis.4 Methodology for Assessments of potential environmental impacts and Environmental Effects to the Marine Environment**

For each assessment of potential environmental impacts and Environmental Effects in sections 7 and 8 and socioeconomic environment in section 9, describe the methodology used to assess impacts and Environmental Effects from proposed operations and alternatives considered in section 3.7.

Data, predictive models, and computer code used to analyse and provide a description of the Marine Environment shall be included in the annexures to the Environmental Impact Statement or, if the data, model, and/or code has been previously submitted to the Authority, the applicant may provide a link to the Authority's database where the data and/or code is stored or other location where such information has been made available online. Each description of methodology used to assess impacts shall include:

- a) a description and justification of analyses and models used to summarize the data; and
- b) any limitations associated with the analysis or results.

In accordance with Regulation 47quater, where predictive models have been used these shall be reviewed by competent independent experts and the relevant review reports shall be provided as annexures to the Environmental Impact Statement

## **4. Description of the existing physiochemical and geological oceanography oceanographic environment**

Give a detailed account of knowledge of the ~~environmental oceanographic~~ (physical, chemical and geological, ~~oceanographic~~) conditions at the stie and impact area, which should include information from a thorough literature review as well as from on-site studies. The Guidelines on baseline data collection shall guide the drafting of this section by providing information on the minimum amount of detail required for an acceptable baseline description. The account will provide the baseline description of the ~~physical, chemical, geological and~~

oceanographic conditions, including physical, chemical and geological oceanographic conditions, against which impacts will be measured and assessed. The detail in this section is based on a the prior environmental risk assessment that will have identified the main impacts, and thus the elements that need to be measured and assessed emphasized in the environmental impact assessment.

#### **4.1 Key messages**

Provide an overview of key content (this information can be provided in a box that contains up to 6 bullet points on either the main aspects covered or the main findings).

#### **4.2 Regional overview**

Describe the general baseline environmental conditions of the site and impact area, in accordance with the Standard on baseline data collection, including but not limited to the physical, chemical and geological—and oceanographic setting as well as known or suspected Underwater Cultural Heritage within a broader regional context and in accordance with ~~to~~ the applicable Regional Environmental Management Plan if any. This should be a brief section that includes a map. While intangible cultural heritage may not lend itself to a map, known intangible human connections to the area should also be acknowledged. A more detailed site-specific and impact area description will be provided in accordance with the sections below.

#### **4.3 Studies completed**

Describe any prior research/Exploration studies (including methods used for completing the studies based on Best Available Techniques, including surveys of the seabed for Underwater Cultural Heritage) that could provide relevant information for this Environmental Impact Statement ~~and future activities~~. This research ese should be detailed in the appendices or in reports attached to the appendices, ~~and the environmental reference baseline data collected for the Authority, as outlined in the exploration contract conditions, should accompany the Environmental Impact Statement.~~

#### **4.4 Meteorology and air quality**

Provide a general overview of the local meteorology (e.g., wind directions and speeds, seasonal patterns and variability). Provide description of air quality, including chemical characteristics. This section may be most relevant to surface operations.

#### **4.5 Geological properties and habitat classification**

Provide a baseline description of ~~Describe~~ the nature and extent of the mineral resource and bedrock within a broader geological context. Describe the geological petrographic and geomorphological setting of the site, including sea floor mapping high resolution (bathymetry maps and backscatter), high-resolution sub-bottom profiling, and sedimentation rates, and refer to submarine features such as hydrothermal vents, ~~seeps and~~ seamounts abyssal hills and canyons as appropriate.

Provide habitat classification using an appropriate system as prescribed in the relevant Standard or Regional Environmental Management Plan.

Provide a baseline description of seabed substrate composition characteristics (to benthic subsurface layers), including specific gravity, bulk density, grain size, dissolved and particulate organic and inorganic carbon, nutrients, carbonate, physical and chemical composition of pore water, redox regimes, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability in

~~these characteristics. Substrate composition shall be described to a depth below the seafloor prescribed in the relevant Standard or Regional Environmental Management Plan.~~

#### 4.6 **Physical Oceanographic setting**

Provide a description of oceanographic aspects ~~such as including but not limited to~~ thermohaline conditions, optical properties and turbidity, currents regime, tides, waves, turbulence, and oceanographic fronts, ~~and eddies and climate change projections, including spatial variation at and above the site.~~ Seasonal variability is an important element. Detail is required on the regional setting, as well as the specific mining site and impact area, and should include changes in physical conditions and processes according to depth and horizontal distance from the proposed mine site to boundaries of the Impact Area~~(near field, far field).~~ Climate change projections should also be included.

#### 4.7 **Chemical oceanographic setting**

Provide a description of water mass characteristics at the site and above the site at various depths of the water column, including the structure and development of the oxygen minimum zone in particular near the sea floor (up to 200m above bottom), that includes nutrients, particle loads, temperature and dissolved gas profiles, vent-fluid characteristics if applicable, turbidity, etc.

Provide a description of chemical oceanographic properties at the site ~~and above the site throughout the water column~~ and horizontally from the proposed mine site, that includes nutrients, particle loads, temperature, oxygen, salinity, density, particulate and dissolved organic matter, pH, chemical composition, including concentrations of trace metals, dissolved gas profiles, depth range and characteristics of oxygen minimum zone, redox regimes, carbonate saturation, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability of these properties, and vent-fluid characteristics if applicable. ~~Provide projections of how and where these aspects are likely to change over the next 50 years (or time period relevant to the contract term and subsequent Closure period.)~~

#### 4.8 **Seabed substrate and sub-seabed characteristics**

Provide a description of seabed substrate and sub-seabed composition (to benthic subsurface layers), including, but not limited to, physical, ~~and~~ chemical, geological and oceanographic properties, specific gravity, bulk density, (e.g., sediment composition, physical and chemical composition of pore-water and pore-water profiles, grain size, sediment mechanics, dissolved and particulate organic and inorganic carbon, nutrients, carbonates, redox regimes, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability in these characteristics). Substrate composition should be described to a depth below the seafloor prescribed in the relevant Standard or Regional Environmental Management Plan.

#### 4.9 **Natural hazards**

Provide a description and trend analysis of variation related to applicable potential natural hazards for the site, including, but not limited to, volcanism, seismic activity, cyclone/hurricane, tsunamis, climate-related variability etc. and how these may vary in future, e.g. as a consequence of climate change.

#### 4.10 **Noise and light**

Provide a description of local ambient noise and light at the seabed, in the water column and at the surface, including, but not limited to, light intensity, backscatter, and attenuation, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability in these characteristics, indicating pertinence to fauna where known, ~~and the influence of existing Exploitation, Exploration and maritime activity~~

#### 4.11 Greenhouse gas emissions and climate change

Provide a description of the level of gas and fluid emissions from both natural and anthropogenic activities in the Area, as well as those affecting sea floor and water-column chemistry. Effects of mining on ocean climate mitigation functions and services should be described (including any anticipated alteration of CO<sub>2</sub> uptake and sequestration, or nutrient cycling) :

#### 4.12 Summary of the existing physicochemical environment

Summarize key findings and include notes on special considerations for rare or sensitive habitats hydrothermal vents, ~~seeps~~, ridges, seamounts and oceanographic fronts or eddies, abyss hills and canyons and other geological and oceanographic features described in this section. It is anticipated that this summary will be up to one page and be more extensive than the key messages section.

### 5. Description of the existing biological environment

Give a detailed account of knowledge of the biological communities' composition and structure and ecosystem functions in the site and its impact area, including information from a thorough literature review and baseline data collected from on-site campaigns, in accordance with the Regulations and applicable Standard and taking into account the relevant Guidelines. The description of the site should be divided by depth regime (surface, midwater and benthic, where appropriate) or otherwise as indicated in the relevant Regional Environmental Management Plan and provide a description of the various biological components and communities that are present in or utilize the area. The Guidelines on baseline data collection shall guide the drafting of this section by providing information on the minimum amount of detail required for an acceptable baseline description. The detail in this section is expected to be based on a prior environmental risk assessment that ~~will have identified the main impacts~~, and thus the elements that need to be measured and assessed emphasized in the environmental impact assessment.

#### 5.1 Key messages

Provide ~~an overview of the key messages content (overview of main findings, this information can be provided covered in six or fewer a box that contains up to 6 bullet points on either the main aspects covered or the main findings)~~.

#### 5.2 Regional overview

~~Provide general regional context, and include site specific issues and characteristics, existing Regional Environmental Management Plan if any, existing areas of particular environmental interest, ecologically or biologically significant marine areas and national areas of adjacent countries, if any. References to relevant technical data and previous studies should also be~~

included. This section should be brief, but provide broader context for the more detailed site specific description below.

5.2 Alt Describe the general baseline biological environmental conditions of the site and Impact Area, within a broader regional context and in accordance with the applicable Regional Environmental Management Plan.

Provide regional context for the baseline environmental conditions of the mining site and impact area, including but not limited to the general biological setting, in accordance with the applicable Regional Environmental Management Plan. This should be a brief section that includes a map. A more detailed site specific and impact area description will be provided in accordance with the sections below.

### 5.3 Studies completed

Describe any prior research/Exploration studies (including methods used for completing the studies based on Best Available Techniques) that could provide relevant information for this Environmental Impact Statement and future activity. This research ese should be detailed in the appendices, and the environmental reference baseline data collected for the Authority, as outlined in the exploration contract conditions, should accompany the Environmental Impact Statement.

### 5.4 Biological environment

Address- Provide a description of biological properties in the Impact Area, including diversity, abundance, biomass, life history parameters, relevant behaviour, including feeding rates, community-level analyses, connectivity, trophic relationships, resilience, ecosystem functions and services as well as seasonality and spatial (horizontal and vertical) and temporal variability. Any work on ecosystem models and appropriate ecosystem indicators, etc., should also be presented here. This section should span the size range from megafauna to microbial communities.

The description of the fauna is structured by depth range, as this enables a direct linkage to the source and location of an impact. For each depth zone, -(at least surface, midwater and benthic as below) there should be a description of the main taxonomic/ecological groups (e.g., plankton, fish, marine mammals, marine turtles, benthic microbial invertebrates, demersal scavengers), using the Authority's Guidelines.

The description -should include the size distributions of the fauna and their life history stages (such as larval and juvenile stages, which differ from the adult stage). Discussions of species should include considerations of whether they are endemic (restricted to just the site, resource substrate or region) or are known to be rare, threatened or endangered. needs to detail fauna communities in the water column down to the Mining Area, including migratory and highly mobile species, their relationship to the natural habitat, including the mineral resource, and the functional ecological relationships across groups to assess the scale of impacts to be expected if mining occurs.

Migratory and highly mobile species should be included where foraging ranges / migration pathways / management units have been noted as overlapping with proposed operations during scoping.

#### 5.4.1 Surface

Describe the biological communities from the surface to a depth of 200 metres, including microbes plankton (phytoplankton and zooplankton), surface/near-surface fish such as tuna, and seabirds, marine turtles and marine

mammals. ~~The description should also evaluate the temporal and spatial variability in distribution and composition. Address factors provided in 5.4, as well as spatial and temporal variability.~~

#### **Alt. 5.4.1 Surface**

~~Describe the biological communities and ecosystem functions, structured by depth ranges in accordance with relevant Standards and Regional Environmental Management Plan, which may encompass:~~

- ~~1. surface seawater~~
- ~~2. epipelagic zone (< 200 metres)~~
- ~~3. mesopelagic zone (200-1000 metres).~~
- ~~4. bathypelagic zone (1000 - 4000 metres).~~
- ~~5. abyssopelagic zone (4000 - 6000 metres).~~
- ~~6. hadalpelagic zone (> 6000 meters).~~
- ~~7. demersal zone (part of the water column near to and significantly affected by the seabed), and~~
- ~~8. benthic zone.~~

~~The description should evaluate the temporal and spatial variability in distribution and composition~~

#### **5.4.2 Midwater**

Describe the pelagic fauna and their habitat in the open water from a depth of 200 metres down to 50 metres above the sea floor, and include zooplankton, nekton, mesopelagic, ~~and bathypelagic~~ and abyssopelagic fishes and deep-diving mammals. ~~The description should also evaluate the temporal and spatial variability in distribution and composition. Address factors provided in 5.4, as well as spatial and temporal variability.~~

#### **5.4.3 Benthic**

Describe the benthic microbial, invertebrate and fish communities, including infauna, epifauna and demersal fish, up to an altitude of 50 metres above the sea floor. This should include considerations of species richness, biodiversity, faunal densities, community structures and connectivity, etc. Ecosystem functions, such as Bioturbation, habitat supply and elemental cycling etc. should also be covered in this section. ~~The description should also evaluate the temporal and spatial variability in distribution and composition. Address factors provided in 5.4, as well as spatial and temporal variability.~~

#### **5.4.4 Ecosystem/community-level description**

Summarize existing community and ecosystem studies that integrate elements of the above sections. The summary should consider productivity, habitat heterogeneity, food-web complexity, carbon and nutrient cycling, benthopelagic coupling, biodiversity, succession, stability, the potential toxicity effects of plumes, bioavailability of toxins, trophic relationships, ecosystem functioning,

benthic-pelagic couplings, ecosystem connectivity, early life-history stages, recruitment and behavioural information. Name any unique, rare and threatened elements, outline which habitats and communities can be considered representative and their distribution, indicate existence and connectivity to the same habitats and communities outside the mine site and the potential impact zone.

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#### **Alt. 5.4.4 Ecosystem/community-level description**

Summarize existing community and ecosystem-level studies. This should include integration of connectivity studies (e.g. life history and recruitment research), trophic interactions and the linkages between food energy and contaminants in the food chain (including benthic-pelagic couplings) and ecosystem functioning / services. Food energy linkages and the complexity of the food web should be included, giving consideration to the impacts that may result from contaminants or other disruptions to the food web. Understanding across depths should be provided. Emphasis might be placed on knowledge of trophic levels, the degree of interaction between benthic and pelagic communities, whether there are specialized predators that could be more vulnerable than generalists, and the complexity of the food web and species interactions, with a view to gaining an idea of the resilience of the system to disturbances. It is important to consider wider community relationships to enable assessments to move beyond community descriptions to incorporate potential changes in ecosystem function.

### **5.5 Summary of the existing biological environment**

Summarize the ~~key~~ findings focusing on key ecosystems and species determined above, with respect to the biological environment, including regional distributions, special faunal characteristics, etc. It is envisaged that this summary will be up to one page in length.

## **6. Description of the existing socioeconomic and sociocultural environment human activities**

This section should describe the socioeconomic and sociocultural environment aspects and impacts of the project based on the human activities. This may include consideration of the scale of effects (such as the creation of jobs and estimates of the risk of environmental impacts), extent of duration of impacts in time and space, intensity or severity of social impacts and an assessment of whether impacts are likely to be cumulative. It is important to consider the social equity or distribution of impacts across different populations: in other words, which groups are likely to be affected in which ways.

### **6.1 Key messages**

~~Provide an overview of key content (this information can be provided in a box that contains up to 6 bullet points on either the main aspects covered or the main findings). Provide key messages (overview of main findings, covered in six or fewer bullet points).~~

### **6.2 Existing uses**

#### **6.2.1 Fisheries**

Relevant fisheries shall be described here to further assess the socioeconomic impacts. This should include description of areas of significance for fish stocks, such as spawning grounds, nursery areas or feeding sites. Any closed fishery areas such as VME closures, MPAs, or voluntary closures must be

named and taken into consideration. Provide a 'heat map' showing important fishery areas in relation to proposed operations and note any areas of interaction or cumulative impact.

#### **6.2.2 Marine traffic**

This section describes the non-project-related marine traffic occurring within the ~~project-Contract area~~ and uses the Regional Environmental Management Plan to provide a summary of regional movements. Provide a 'heat map' showing densities of marine traffic in relation to proposed operations and note any areas of interaction or cumulative impact. Provide this per season if repeatable seasonal variation exists.

#### **6.2.2bis Submarine cables**

This section describes the in situ non-project-related submarine cables occurring within the ~~project-Contract area~~. Provide a map showing known submarine cables in relation to proposed operations and note any areas of interaction or cumulative impact.

#### **6.2.3 Tourism**

Describe areas used by cruise liners and for game fishing, sightseeing, marine mammal watching and other relevant tourism activities. Provide a 'heat map' showing densities of tourism in relation to proposed operations and note any areas of interaction or cumulative impact. Provide this per season if repeatable seasonal variation exists.

#### **6.2.4 Marine scientific research**

Outline the current scientific research programmes taking place in the area, studying the essence of phenomena and processes occurring in the marine environment and the interrelations between them.

#### ~~6.2.5 Area-based management tools~~

~~Describe any relevant area-based management established under subregional, regional or global processes and the scope, geographical coverage and objectives of such tools. Also describe any relevant area-based management in adjacent areas under national jurisdiction.~~

#### **6.2.5 Sociocultural uses**

List ~~the socio-cultural~~ human activities in uses of the project area (e.g., traditional navigation routes, migratory paths of culturally significant marine species, sacred sites and waters associated with ritual or ceremonial activities of Indigenous Peoples and local communities as well as known or suspected Underwater Cultural Heritage).

#### **6.2.6 Other**

List other uses of the project area that are not related to the above (e.g., other ~~mineral exploration~~, exploitation projects. ~~marine genetic resources, global-scale regulating and supporting ecosystem services~~).

#### **6.2.7bis Other mineral exploration**

#### 6.2bis Planned uses

Describe the planned uses of the area for which information is publicly available (e.g. other exploitation contracts, exploration contracts, fisheries, maritime traffic, tourism, marine scientific research, submarine cables, area-based management tools).

#### 6.3 Sites of an archaeological, historical significance nature or paleontological

List any sites of archaeological or historical significance ~~and paleontological nature~~ that are known to occur or may occur within the potential area of impact. Provide a map showing known archaeological and historical sites in relation to proposed operations and note any areas of interaction or cumulative impact. Known human connections to or uses of the area should also be acknowledged. Copies of surveys of the project area shall be submitted with notes about anomalies that may indicate the presence of objects of an archaeological and historical nature that should be subject to further research before any potentially destructive activities occur.

#### 6.4 Summary of existing socioeconomic and sociocultural environment

Summarize key findings regarding the socioeconomic and sociocultural environment. It is envisaged that this section will be up to a page in length, and more extensive than the key messages.

### 7. Assessment of impacts on the physical, chemical oceanographic and geological environment and proposed Mitigation

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the operation to components of the physical chemical ~~and~~ geological ~~and oceanographic~~ environment identified in section 4. This ~~may need to~~ should consider ~~effects that could happen during the entire lifespan of the project, i.e.~~ construction/development (pre-commissioning) of the mine site, operational and decommissioning phases, and following Closure of the site, as well as the potential for accidental events and natural hazards. The detail in this section is expected to be based on a prior environmental risk assessment prepared, reviewed, and revised in accordance with Annex IVbisH(gh). It should ~~The preferred approach for this template is to~~ include for each component a description of:

(a) The source (action, temporal and spatial duration) and nature of the disturbance;

(a)bis The nature, duration and extent of any actual or potential impact, including cumulative impact effects and taking into account ecological and biologically significant areas;

(a)ter The methods used to determine impacts (including the assumptions and limitations of any impact modelling or other analysis undertaken);

(b) Measures that will be taken to avoid, remedy or prevent, mitigate and manage such impacts; and

(c) The unavoidable ~~(residual)~~ impacts that will remain, including their expected longevity.

(d) The extent to which any potential impacts and Environmental Effects may occur in areas under a State's national jurisdiction.

~~It is important that these sections make clear the expected longevity of unavoidable effects.~~

~~\_\_\_\_\_~~ The detail in this section is expected to be based on ~~a prior~~ the environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

## 7.1 Key messages

Provide an overview of the key content covered in section 7.

## 7.2 Description of potential impact categories

Provide an overview and description of the categories of potential impacts caused by the proposed mining operation. ~~This should introduce the major types of effect potential impacts, such as habitat removal, the creation of sediment plumes, noise and light, etc. and be used in the subsequent descriptions and evaluations of potential environmental impacts and Environmental Effects from the proposed operation and alternatives considered to components of the physical, chemical, geologic, and oceanographic environment identified in section 4.~~

Key elements that need to be included are:

~~\_\_\_\_\_ (a) The major types of potential impacts, such as habitat removal, variations in communities' composition, the creation of sediment plumes, dewatering plumes, noise, light, etc.;~~

~~(ba)~~ Descriptions of impact studies carried out during exploration (e.g., component testing and the resulting observations from the associated monitoring);

~~\_\_\_\_\_ (b bis) Descriptions of test mining studies undertaken prior to the application;~~

~~(cb)~~ Descriptions of the results of any environmental risk assessments, which should be included as separate reports or appendices where appropriate; and

~~(de)~~ Descriptions of the methods applied to describe and quantify impact categories and assessment ~~from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);-~~

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### **7.2 bis Description of impact pathways**

~~The preferred approach for this template is to include for each receptor descriptions of:~~

~~\_\_\_\_\_ (a) The methods used to determine the pathway from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);~~

~~\_\_\_\_\_ (b) The source(s) of impact~~

~~\_\_\_\_\_ (c) The nature, spatial extent and temporal extent of potential impact(s), including cumulative impacts;~~

~~\_\_\_\_\_ (d) Measures that will be taken to avoid, minimise or mitigate such impacts; and~~

~~(e) The unavoidable (residual) impacts that will remain, including their expected longevity and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds,~~

and indicators in accordance with these regulations and the applicable Standard, and taking into account the relevant Guidelines.

## **7.2 ter Receptors and impacts**

Receptors for which this will be done include:

- \_\_\_\_\_ (a) Meteorology and air quality
- \_\_\_\_\_ (b) Geology
- \_\_\_\_\_ (c) Physical oceanography
- \_\_\_\_\_ (d) Chemical oceanography of the mine site and impact area
- \_\_\_\_\_ (e) Seabed substrate characteristics

Impacts to be considered include:

- \_\_\_\_\_ (a) Sediment plume generation,
- \_\_\_\_\_ (b) discharge of water
- \_\_\_\_\_ (b)bis Energy flow pathways (such as hydrothermal fluid);
- \_\_\_\_\_ (c) Noise and light
- \_\_\_\_\_ (d) Greenhouse gas emissions and climate change emissions (including estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate)

Effects to be considered include:

- \_\_\_\_\_ (a) changes in temperature and salinity of water,
- \_\_\_\_\_ (b) optical characteristics / water clarity
- \_\_\_\_\_ (c) turbidity / particulate loading
- \_\_\_\_\_ (d) sediment characteristics (including changes in the sediment composition, grain size, density and pore-water profiles)
- \_\_\_\_\_ (e) discharge plumes (frequency, spatial extent, composition and concentration, etc.)
- \_\_\_\_\_ (f) primary sediment plume (frequency, spatial extent, composition and concentration)
- \_\_\_\_\_ (g) dissolved gas levels
- \_\_\_\_\_ (h) nutrient levels
- \_\_\_\_\_ (i) For a sea floor massive sulphide project, the modification of vent-fluid discharges, if present, should be addressed.

## **7.3—Meteorology and air quality**

**Provide a description of potential impacts and Environmental eEffects on air quality and components of meteorology from the surface or subsurface operations.**

### **7.3.1—Potential impacts and Environmental Effects and issues to be addressed**

### ~~7.3.2 Environmental management measures to mitigate impacts and effects~~

### ~~7.3.3 Residual impacts~~

## ~~7.4 Geological setting~~

~~Provide a description of impacts the mining operation may have on the geomorphology of the site or its sedimentary and geological characteristics.~~

### ~~7.4.1 Potential impacts and issues to be addressed~~

### ~~7.4.2 Environmental management measures to mitigate impacts~~

### ~~7.4.3 Residual impacts~~

## ~~7.5 Physical oceanographic setting~~ ~~Provide a description of the effects on the current speed/direction, etc. A regional oceanographic model will be relevant to this section.~~

~~Provide a description of the impacts (e.g., sediment plume generation, discharge water) and their effects on the oceanographic settings (e.g., changes in temperature and salinity of water, optical characteristics and turbidity, etc.).~~

~~A regional oceanographic model will be relevant to this section. Characteristics of sediment and discharge plumes (their frequency, spatial extent, composition and concentration, etc.) should be described (or a reference is made to subparagraph 7.6)~~

### ~~7.5.1 Potential impacts and issues to be addressed~~

### ~~7.5.2 Environmental management measures to mitigate impacts~~

### ~~7.5.3 Residual impacts~~

## ~~7.6 Chemical oceanographic setting~~

~~Provide a description of the effects such as sediment plume generation (frequency, spatial extent, composition and concentration) and the clarity of water, particulate loading, water temperature, dissolved gas, and nutrient levels etc., in all relevant levels of the water column. A regional oceanographic model will be relevant to this section. For a sea floor massive sulphide project, the modification of vent fluid discharges, if present, should be addressed.~~

## ~~7.7 Seabed substrate characteristics~~

~~For example: changes in the sediment composition, grain size, density and pore water profiles.~~

## ~~7.8 Accidental events and Natural hazards~~

~~Discuss any impacts of accidental events and the cumulative effects of the mining operation in relation to any on natural hazards that could occur, including, but not limited to, volcanism, seismic activity, cyclone/hurricane, tsunamis, etc. and plans to the measures that will be taken to avoid, remedy or mitigate those impacts deal with these hazards.~~

## ~~7.9 Noise and light~~

Provide a description of ~~the expected emissions of noise and light potential impacts and Environmental Effects~~ from the proposed operation ~~from, n~~ Noise and light above existing levels and any potential environmental effects, especially ~~the any~~ impacts of noise on avoidance, masking and availability of prey (e.g. on marine mammals) and fish. Provide a description of the measures that will be taken to ensure compliance with applicable environmental quality objectives and quantitative thresholds for noise and light levels for relevant fauna, in accordance with these regulations and the applicable Standard, and taking into account the relevant Guidelines.

#### **7.10 Greenhouse gas emissions and climate change**

Provide an assessment of gas and chemical emissions from proposed operations, relative to emissions both natural and anthropogenic activities, . Subsections should include estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate. Effects of mining on ocean climate mitigation functions and services should be described (including any anticipated alteration of CO2 uptake and sequestration, or nutrient cycling.)

#### ~~7.11 Maritime safety and interactions with shipping~~

~~Provide a description of predicted maritime Include project safety issues and potential interactions with other vessels from the proposed activities.~~

#### ~~7.12 Waste management~~

~~Provide a description of proposed yVessel waste management, with reference to compliance with relevant conventions, legislation and principles, and methods of cleaner production and energy balance.~~

#### **7.13 Cumulative impacts**

Provide a description of the source of nature and extent of any interactions between various potential environmental impacts and Environmental Effects across the environment. Where they may have cumulative effects, they must be considered on both spatial and temporal scales over the lifetime of the proposed mining operation and in the post-Closure period and alternatives considered.

##### **7.13.1 Proposed operations impacts**

Cumulative within the mining site and Impact Area of the mining proposed herein.

##### **7.13.2 Regional operation impacts**

Cumulative between activities, actions, or natural phenomena, where known in the region.

#### **7.14 Other issues**

Outline here other, more general issues, as applicable.

#### **7.15 Summary of residual effects**

Summarize key findings on potential environmental impacts and Environmental Effects, environmental management measures, ~~residual effects~~, and any potential impacts and effects to areas under any State's national jurisdiction. A table may be a useful summary format to pull together the above elements in a simple visual mode. The table should include a column outlining the measures that will be taken to address potential environmental impacts and manage residual effects and ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these regulations and the applicable Standard and taking into account the relevant Guidelines.

## 8. Assessment of impacts and Environmental Effects on the biological environment and proposed Mitigation

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the proposed operation and alternatives considered in section 3.7 to the biological environment components identified in section 5 in the mine site and Impact Area. Consider impacts and effects that could happen during the entire lifespan of the project i.e. construction/development (pre-commissioning), operational and decommissioning phases and following Closure of the site, as well as the potential for accidental events and natural hazards should be considered.

The detail in this section is expected to be based on a prior environmental risk assessment prepared, reviewed, and revised in accordance with Annex IVbisH(gh). The description shall be structured by the depth ranges described in section 5 and shall ~~The preferred approach for this template to include ff~~ for each component, provide a description of:

(a) The source (action, temporal and spatial duration) and nature of the disturbance;

(a)bis The nature and extent (temporal and spatial) of any actual or potential impact, including cumulative ~~impactseffects~~;

(a)ter The methods used to determine impacts (including the assumptions and limitations of any impact modelling or other analyses undertaken);

(b) Measures that will be taken to ~~M~~prevent, mitigate and manage such impacts with reference to the submitted Environmental Management and Monitoring Plan; and

(c) The unavoidable (~~residual~~) impacts that will remain, including their significance and expected longevity.

(d) An description-evaluation of the impacts and effects against the applicable environmental goals and objectives and, indicators ~~[and threshold values]~~ as identified in the in relevant environmental standards and Guidelines and in the applicable Regional Environmental Management Plan, ~~if any~~.

(e) The extent to which any potential impacts and Environmental Effects may occur in areas under a State's national jurisdiction.

~~It is important that these sections make clear the expected longevity of unavoidable (residual) impacts and whether or not the biological environment is expected to recover, and in what time frame, following disturbance.~~

The detail in this section is expected to be based on a prior ~~the scoping~~ environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

### 8.1 Key messages

This section should provide an overview of the key content covered in section 8.

#### 8.1bis Description of the key sources of environmental impacts

This section should describe the key sources of impacts on the marine environment from the mining operation.

### 8.2 Description of potential impact categories

~~Provide This section is~~ an overview and description of the categories of ~~general-potential~~ impacts caused by the proposed mining operation and alternatives considered. This ~~is not expected to be detailed, but rather to should~~ introduce the major types of impacts and their effects, such as habitat removal, the crushing of animals, the creation of sediment plumes, noise and light, etc. and be referred to in subsequent descriptions and evaluations of potential environmental impacts and Environmental Effects from the proposed operation and alternatives considered. A description should be included of any lessons learned from activities during the exploratory phase of the programme (e.g., mining system component tests).

Key elements that need to be included are:

(a) Description of the major types of potential impacts, such as habitat removal, the biological effects of sediment plumes and dewatering plumes, noise, light, etc. These impact categories should be used in subsequent descriptions and evaluations of potential environmental impacts and Environmental Effects from the proposed operations.

(b) Descriptions of impact studies carried out during exploration (e.g., component testing and the resulting observations from the associated monitoring);

(b bis) Descriptions of test mining studies undertaken prior to the application;

~~(a) — Descriptions of the results of any environmental risk assessments, which should be based on the initial environmental risk assessment conducted in accordance with Regulation 46 quarter and included in the Scoping Report, and may be~~ included as separate reports or appendices where appropriate; and

~~(de) Descriptions of the methods applied to describe and quantify impact pathways categories and assessment of associated effects that have not previously been described in section 3bis.~~

### **8.2 bis Description of impact pathways**

The preferred approach for this template is to include for each impact pathway an overarching description of:

(a) The methods used to determine the pathway from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);

(b) The source(s) of impact

(c) The nature, spatial extent and temporal extent of potential impact(s), including cumulative impacts;

(d) Measures that will be taken to avoid, minimise or mitigate such impacts; and

(e) The unavoidable (residual) impacts that will remain, including their expected longevity and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these regulations and the applicable Standard, and taking into account the relevant Guidelines.

### **8.2 ter Receptors and impacts**

Receptors for which this must be done include:

- (a) Microbial communities
- (b) Phytoplankton / zooplankton / nekton
- (c) Meiofauna (infauna / epifauna)
- (d) Macrofauna (infauna / epifauna / demersal fish)
- (e) Megafauna, including surface/near-surface fish such as tuna, and seabirds, marine turtles and marine mammals

As appropriate, these receptors are to be considered:

- (a) at the surface (from the surface down to a depth of 200 metres)
- (b) midwater (from a depth of 200 metres down to 50 metres above the sea floor)
- (c) up to an altitude of 50 metres above the sea floor, including zooplankton, nekton, mesopelagic and bathypelagic fishes and deep-diving mammals.

Impacts to be considered include:

- (a) Sediment plume generation,
- (b) discharge of water
- (c) Noise and light
- (d) Greenhouse gas emissions and climate change emissions (including estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate)

Effects to be considered include:

- (a) changes in temperature and salinity of water,
- (b) optical characteristics / water clarity
- (c) turbidity / particulate loading
- (d) sediment characteristics (including changes in the sediment composition, grain size, density and pore-water profiles)
- (e) discharge plumes (frequency, spatial extent, composition and concentration, etc.)
- (f) primary sediment plume (frequency, spatial extent, composition and concentration)
- (g) dissolved gas levels
- (h) nutrient levels
- (i) For a sea floor massive sulphide project, the modification of vent-fluid discharges, if present, should be addressed.

### **~~8.3 Surface~~**

~~—— Description of potential effects on the biological environment from the surface down to a depth of 200 metres, including any impacts on plankton (phytoplankton and zooplankton), nekton, surface/near surface fish such as tuna, and seabirds, marine turtles and marine mammals.~~

~~8.3.1 Potential impacts and issues to be addressed~~

~~8.3.2 Environmental management measures to mitigate impacts~~

~~8.3.3 Residual impacts~~

~~8.4 Midwater~~

~~Description of the potential effects on the biological environment from a depth of 200 metres down to 50 metres above the sea floor, including zooplankton, nekton, mesopelagic and bathypelagic fishes and deep diving mammals.~~

~~8.4.1 Potential impacts and issues to be addressed~~

~~8.4.2 Environmental management measures to mitigate impacts~~

~~8.4.3 Residual impacts~~

~~8.5 Benthic~~

~~Description of the potential effect on benthic invertebrate and fish communities, including infauna, epifauna and demersal fish, up to an altitude of 50 metres above the sea floor.~~

~~8.5.1 Potential impacts and issues to be addressed~~

~~8.5.2 Environmental management measures to mitigate impacts~~

~~8.5.3 Residual impacts~~

**8.6 Ecosystem/community level**

Describe estimated effects on the ecosystem or where linkages between the various components above are known.

**8.6.1 Potential impacts and issues to be addressed**

**8.6.2 Environmental management measures to mitigate impacts**

~~8.6.3 Residual impacts~~

**8.7 Cumulative ~~impactseffects~~**

The nature and extent of any interactions between various impacts where they may have cumulative effects must be considered. This should include an evaluation of the spatial and temporal intensity of mining and its effects on other impacts including existing uses considered in the Assessment and described in Section 9 of the Environmental Impact Statement as well as an evaluation of the resulting cumulative effects to nature and spatial and temporal extent of any potential and actual interference with the ecological balance of the marine environment, including the spatial and temporal extent of such effects. Describe how spatial and temporal cumulation will differ between faunal groups and different habitats.

**8.7.1 Proposed operations ~~impactseffects~~**

Cumulative effects within the scope of the mining proposed herein.

**8.7.2 Regional operation ~~impactseffects~~**

Cumulative effects between activities, where known in the region.

**8.8 Summary of residual effects**

Summarize key findings on potential environmental impacts and Environmental Effects, environmental management measures, residual effects, and any potential

impacts and effects to areas under any State's national jurisdiction. Information on potential recovery times following disturbance and the longevity of residual effects should be included. This will give readers an understanding of the temporal component and efficacy of proposed mitigation measures. A table may be a useful summary format to pull together the above elements in a simple visual mode. The table should include a column outlining the measures that will be taken to address potential environmental impacts and residual effects and ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these regulations and the applicable Standard and taking into account the relevant Guidelines.

## **9. Assessment of impacts on the socioeconomic and sociocultural environment and proposed Mitigation**

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the operation to the socioeconomic and sociocultural components identified in section 6. This should include projections on the potential impacts in national waters outside the mining area and should also ~~This may need to consider effects that could happen during the entire lifespan of the project i.e. construction/development (pre-commissioning), operational (including maintenance) and decommissioning phases, as well as the potential for accidental events. A description of the benefits to mankind may be included. Attitudes towards, and perceptions of, the proposed project are among the variables that should be considered in determining the significance of impacts. The potential for accidental events should also be considered.~~ The preferred approach for this template is to include for each component a description of:

~~(a) The source, nature and temporal (seasonal and annual) extent of any actual or potential impacts and effects from the proposed operation and alternatives considered, including cumulative impacts;~~

~~—— (a)bis — The methods used to determine impacts (including the assumptions and limitations of any impact modelling undertaken);~~

~~—— (b) Measures that will be taken to avoid, remedy or mMitigate and manage such impacts within acceptable levels from the proposed operation.~~

~~—— (c) The unavoidable (residual) impacts that will remain~~

### **9.1 Key messages**

This section should provide an overview of the key content covered in section 9.

#### **9.1 bis Description of potential impact categories**

Provide an overview and description of the categories of potential impacts caused by the proposed mining operation. Key elements that need to be included are:

—— (a) the major types of potential impacts, such as habitat removal, the creation of sediment plumes, noise, light, etc. These impact categories should be used in subsequent descriptions and evaluations of potential environmental impacts and Environmental Effects from the proposed operations.

—— (b) Descriptions of impact studies carried out during exploration (e.g., component testing and the resulting observations from the associated monitoring);

(c) bis Descriptions of test mining studies undertaken prior to the application;

(d) Descriptions of the results of any environmental risk assessments, which should be included as separate reports or appendices where appropriate; and

(e) Descriptions of the methods applied to describe and quantify impact pathways and assessment.

### **9.1 ter Description of impact pathways**

The preferred approach for this template is to include for each impact pathway an overarching description of:

(a) The source

(a)ter The methods used to determine impacts (including the assumptions and limitations of any impact modelling undertaken);

(a)bis The nature, spatial extent and temporal extent of potential impacts, including cumulative impacts;

(b) Measures that will be taken to avoid, minimise or mitigate such impacts, including a comparative analysis of how measures taken may differ across alternative operations considered;

(c) The unavoidable (residual) impacts that will remain, including their expected longevity. The detail in this section is expected to be based on the scoping environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment; and

(d) The extent to which any potential impacts and effects may occur in areas under a State's national jurisdiction.

## **9.2 Impact identification**

### **9.2.1 Existing uses**

For each of the following marine uses, describe:

(a) Potential impacts and effects and issues to be addressed;

(b) Environmental management measures to Mitigate impacts and effects;

(c) Residual impacts and effects; and

(d) Potential impacts and effects in areas under any State's national jurisdiction.

#### **9.2.1.1 Fisheries and biological conditions**

A description of potential impacts ~~and issues to be addressed~~, e.g., effects from light and noise on fisheries and biological conditions, with proposed management measures and a description of residual impacts.

#### **9.2.1.2bis Submarine cables**

A description of potential impacts on non-project-related submarine cables occurring within the project area, along with proposed management measures and a description of residual impacts.

#### **9.2.1.3 Tourism**

A description of potential impacts and issues to be addressed, along with proposed management measures and a description of residual impacts.

#### 9.2.1.4 Marine scientific research

A description of potential impacts and issues to be addressed, along with proposed management measures and a description of residual impacts.

#### ~~9.2.1.5 Area-based management tools~~

~~A description of potential impacts and issues to be addressed, along with proposed management measures and a description of residual impacts.~~

#### 9.2.1.5bis Sociocultural uses

A description of potential impacts and issues to be addressed pertaining to sociocultural uses of the area (e.g., traditional navigation routes, migratory paths of culturally significant marine species, sacred sites and waters associated with ritual or ceremonial activities of Indigenous Peoples and local communities), along with proposed management measures and a description of residual impacts.

#### 9.2.1.5ter Ecosystem Services

A description of potential impacts of the operation on any ecosystem services, for example, carbon burial and sequestration.

#### 9.2.1.6 Other

List other potential impacts that are not related to the above (e.g., submarine cables, other mineral Exploration or Exploitation projects).

#### 9.2.1bis Planned uses

Describe the potential impacts on planned uses of the area for which information is publicly available (e.g. fisheries, maritime traffic, tourism, marine scientific research, submarine cables, area-based management tools).

#### ~~9.3.1.5 Area-based management tools~~

~~A description of potential impacts and issues to be addressed, along with proposed management measures and a description of residual impacts.~~

### 9.3 Sites of an archaeological or historical nature

Describe, as applicable, potential impacts to sites of archaeological, paleontological or historical significance that are known to occur within the potential area of impact, along with proposed management measures and a description of residual impacts.

#### ~~9.4 Socioeconomic and sociocultural issues~~

~~This section will provide a description of socioeconomic and sociocultural benefits or impacts, including any applicable social initiatives.~~

#### 9.4 bis Gender Impact analysis

Assess and analyse how the proposed operations may impact on gender roles and relationships.

#### ~~9.54 Socioeconomic and sociocultural issues~~

This section will highlight and provide a description of socioeconomic and sociocultural benefits or impacts, including any applicable social initiatives.

#### **9.5.1 Summary of socioeconomic and sociocultural environment**

Summarize key findings on ~~potential impact and effects~~, management measures, residual effects, and any potential impacts and effects, ~~{to areas under any State's national jurisdiction}~~ (including to sociocultural conditions). A table may be a useful summary format to pull together the above elements in a simple visual mode. Potential cumulative effects should also be included.

#### **9.5bis. Assessment of Uncertainty**

##### **9.5bis.1 Uncertainty Assessment**

Provide a detailed description and evaluation of any uncertainties in the assessments described in section 7, 8, and 9. This uncertainty assessment shall:

- (1) Identify any relevant areas of uncertainty and gaps in knowledge and their implications for the environmental impact assessment and its findings; and,
- (2) Describe the measures taken in the environmental impact assessment to reduce uncertainty in its findings to as low as reasonably practicable.

##### **9.5bis.2 Addressing Significant Uncertainty**

Where significant uncertainty exists despite the efforts described in 9bis.1(b), provide a detailed description of environmental monitoring and management measures for managing and reducing uncertainty during the proposed operations, to be incorporated into the Environmental Monitoring and Management Plan and describe how these will enable the applicant to ensure compliance with relevant Rules of the Authority.

#### **9.6 Accidental events and Natural hazards**

Discuss any impacts of accidental events and the cumulative effects of the mining operation and natural hazards, and the measures that will be taken to avoid, remedy or mitigate those impacts.

##### **9.6.1 Potential impacts and issues to be addressed**

##### **9.6.2 Environmental management measures to mitigate impacts**

##### **9.6.3 Residual effects**

Provide a description of any residual impacts that may remain following the application of mitigation measures, including the expected longevity of those impacts, and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these regulations and the applicable Standard, and taking into account the relevant Guidelines.

### **10. Accidental events and natural hHazards arising from natural, accidental and discharge events**

~~Environmentally hazardous discharges resulting from accidental and extreme natural events are fundamentally different from normal operational discharges of wastes and wastewaters.~~ This section should outline the possibility/probability of accidental events and natural hazards occurring, an

assessment of the impact they may have, to the mine site and impact area, the measures taken to prevent or respond to such an event and an assessment of the residual impact should an event occur. This should include an overview of potential eEnvironmentally hazardous discharges resulting from accidental and extreme natural events as these are fundamentally different from normal operational discharges of wastes and wastewaters. Reference should be made to the ERCP.

For each component include:

- (a) The nature and extent of any impact;
- (b) Measures that will be taken to avoid, mitigate or minimize such impact; and
- (c) Residual impacts.

#### **10.1 Extreme weather**

For example: hurricanes/cyclones.

#### **10.2 Natural hazards**

For example: volcanic eruptions, seismic events.

#### **10.3 Accidental events**

For example: leakage or spillage of hazardous material, fires and explosions, and collisions, including potential loss of equipment.

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#### **10.4 Maritime safety and interactions with shipping**

Provide a description of predicted maritime safety issues and potential interactions with other vessels from the proposed activities with reference to compliance with the relevant conventions.

#### **10.5 Emergency response and contingency plan**

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Provide a description of an emergency response and contingency plan.

#### **10.6 Waste management**

Provide a description of proposed vessel waste management, with reference to compliance with relevant conventions, legislation and principles, and methods of cleaner production and energy balance.

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#### **10.7 Blast Water management**

Provide a description of proposed vessel blast water management where applicable, with reference to compliance with relevant rules and principles, and methods of cleaner production and energy balance.

## 11. Environmental management, monitoring and reporting

Provide sufficient information to enable the Authority to anticipate possible environmental management, monitoring and reporting requirements for an environmental approval. Information listed include a description of the applicant's environmental management system and should reflect the proponent's environmental policy and the translation of that policy to meet the requirements of this section and previous sections during different stages of the project life (i.e., from construction to decommissioning and closure and the post-closure period).

The Environmental Management and Monitoring Plan is a separate report from the Environmental Impact Statement, but this could be a useful opportunity to highlight some of the key issues from the Statement that will be addressed in the full Environmental Management and Monitoring Plan. Information detailed in this section should include the headings set out below.

### 11.1 Organizational structure and responsibilities

This section should show how the Contractor's environmental team fits into its overall organizational structure. Responsibilities and professional qualifications of key personnel should be outlined. Data should be disaggregated by gender.

### 11.2 Environmental management system

A full environmental management system shall exist at the time the Environmental Impact Statement is submitted. The applicant has to demonstrate that it will be capable of managing appropriate relevant environmental questions and outline the standards that will be considered and/or aligned with when developing the system for the project.

### 11.3 Environmental Management and Monitoring Plan

An Environmental Management and Monitoring Plan will be submitted as a separate document for the Authority's approval prior to the commencement of mining operations. This section should provide an overview of what the Plan would entail. With reference to, the headings set out below and Annex VIII of the Exploitation Regulations of the Authority. Alternatively, the applicant may prefer to submit the draft Environmental Management and Monitoring Plan alongside this EIS and use this section to cross refer.

#### 11.3.1 Mitigation and management

Summarize the mitigation and management measures that will be taken, based on the impact minimization and mitigation analysis undertaken as part of the environmental impact assessment. and as described in the environmental impact statement in Sections 7, 8, and 9.

#### ~~11.3.2 Monitoring plan~~

~~Summarize the monitoring plan approach and programme.~~

##### ~~11.3.2.1 Approach~~

##### ~~11.3.2.2 Programme~~

~~Provide an overview of the envisaged monitoring programme (further detail will be provided in the Environmental Management and Monitoring Plan).~~

#### 11.3.3 Closure Plan

A Closure Plan will be submitted as a separate document for the Authority's approval prior to the commencement of mining operations. However, this section should provide an overview of what the Closure Plan will entail, including decommissioning, continued monitoring and rehabilitation measures, if applicable. Alternatively, the applicant may prefer to submit the draft Closure Plan alongside this EIS and use this section to cross refer.

#### **11.4 Reporting**

Outline how data collected at the mine site and impact area will meet reporting requirements and best scientific practices outlined in Annex VII on the Environmental Management and Monitoring Plan.

##### **11.4.1 Monitoring**

Outline how the results of monitoring studies will be reported to the Authority, as well as the frequency and format of data releases in accordance with the regulations and any relevant Standards and taking into account any relevant Guidelines.

##### **11.4.2 Incident reporting**

Outline how Incidents will be reported and managed.

### **12. Product stewardship**

Provide a brief description of the intended use of the mineral-bearing ore once it leaves the Area. The description should also address how the Contractor will minimize health, safety, environmental, and socioeconomic effects of the intended product or products to the meeting of standards for environmental management, and should address the following potential impacts:

(a) Energy and materials consumption;

(b) Waste generation;

(c) Toxic substances;

(d) Air and water emissions.

The intention is not to provide a full and highly detailed account, but, where information is known about environmental impacts, these impacts should be described briefly here.

### **13. Consultation**

Consultations shall be inclusive, transparent and open to all relevant stakeholders, including States, global, regional, subregional and sectoral bodies, as well as civil society, the scientific community, indigenous peoples and local communities.

#### **13.1 Consultation methods**

Provide a Description of the nature and extent, participation and outcomes of consultation(s) that have taken place with relevant Stakeholders, and how their comments have been addressed in the Environmental Impact Assessment.

##### **13.1 ~~13.1 Consultation methods~~**

This includes ~~D~~describing the mechanism(s) used to consult with different groups and how this aligns with ~~any the~~ relevant Standards and Guidelines, also incorporating criteria for Preservation Reference Zones and Impact Reference zones.

### 13.2 Stakeholders

List Stakeholders that have been consulted and explain the process by which Stakeholders were identified. This should include a brief description of the Stakeholders and a historic overview of any previous activities conducted by the Stakeholders in The Area.

### 13.3 Public consultation and disclosure

Provide a description of the goals and consultation workshops/meetings that occurred prior to the preparation of the report. including outlining ~~Include a description of the any~~ concerns and comments ~~identified made~~ by ~~s~~Stakeholders and how these will be addressed, and, if not, describe the reasons for that decision.

#### 13.3bis Commission consultation

Summarize the Legal and Technical Commission's recommendations on the Scoping Report and proposed Terms of Reference for the applicant's environmental impact assessment submitted to the Commission, and justification for any deviation either from those submitted Terms of Reference, or from the Commission's recommendations.

#### 13.3 ter Stakeholder and coastal State Consultation

Describe how comments received under Stakeholder consultation have been or will be taken into account, or why they have not been taken into account, and the reasons for that decision.

### 13.4 Continuing consultation and disclosure

Outline any further consultation with ~~s~~Stakeholders that has been deemed necessary and is being planned.

## 14. Glossary and abbreviations

Include a glossary of terms, acronyms and abbreviations used throughout the document. The glossary should include definitions for and key terms defined in the regulations so as to ensure that users of the Environmental Impact Statement, including the decision-makers and relevant stakeholders, have a clear understanding of the intention behind the use of certain terms in the Environmental Impact Statement. The glossary should be included in the table of contents for the Environmental Impact Statement and referenced in the introduction section.

~~Explain the relevant terms used in the Environmental Impact Statement (e.g., terms under different legislation, technical terms) and provide a list of acronyms and their definitions.~~

## 15. Study team

Outline the people involved in carrying out the environmental impact assessment studies and in writing the Environmental Impact Statement. If independent scientists or other experts were involved in any of the work, they should be listed. The names, occupational qualifications and their role in the generation of the Environmental Impact Statement of such people should also be included. Any conflict of interest must be identified, disclosed in detail in this section including the way it was and continues to be reported and managed.

## 16. References

Evidence obtained from outside sources should be documented throughout the Environmental Impact Statement, with the use of footnotes or other suitable reference mechanism. In addition, all sources used in preparation of the Environmental Impact Statement (including those specifically referenced in the body of the document) should be listed in bibliography format, with full details of the source (including website addresses, if applicable). This enables users of the Environmental Impact Statement to review the supporting documentation independently

~~Provide details of reference materials used in sourcing information or data used in the Environmental Impact Statement.~~

## 17. Appendices

The appendices section should include a list of all the technical reports carried out for parts of the environmental impact assessment or that are used in support of any aspect of the environmental impact assessment (such as prior risk assessments or monitoring activities conducted as part of exploration contracts). Copies of these reports should be provided as appendices to the Environmental Impact Statement, with clear indications as to which section(s) the document is being provided to support and the Environmental Impact Statement.

## Annex (IV<sup>H</sup> bis)

### Scoping Report

#### Explanation / comment

- I noted that there was majority among delegations to have this annex included wherefore the initial draft presented will serve as a basic for further discussions on this.
- Some delegations suggested to reflect this in the Standards instead of in the regulations (annex). However, as mentioned, there was consensus amongst a vast majority of delegations to include this as an annex I invite for a discussion on this.
- Several delegations noted that such an annex should be harmonized with the other annexes on Environmental Impact Statement and Environmental Management Plan regarding content and structure, but also in terms of timing, for example when it is to be submitted compared to the other statement and plan. I have, in that regard, included a reference to the scoping report also including a brief description of the socioeconomic and sociocultural aspects of the project as this aligns with Annex IV. I invite for discussions on this suggested insertion and, in general, on how to further align the structure, subject matter and the submittal cadence of this annex compared with the other relevant annexes.
- Several delegations noted that *regulation 46bis* should be amended to include reference to the scoping report. I agree and have tried to include a reference to the scoping report in regulation 46 bis.
- One delegation raised the question on whether the annex should be placed as *Annex IV bis* instead of *III bis*. I would propose to accept this suggestion as Annex III pertains to the “*Financial Plan*” and Annex IV to the *Environmental Impact Statement*. I invite for any views on this matter.
- One delegation suggested that this annex – alongside the other relevant annexes (IV, VII, VIII) – should be included in the standard to avoid having to cross-check when looking into regulation. I invite for further discussions on this suggestion.
- It was suggested to look at the BBNJ text on Environmental Impact Assessment for inspiration. Especially regarding *scoping* in draft article 30 which also holds references to references to the traditional knowledge of indigenous peoples. I agree and have therefore tried to include a similar wording in *litra d* and *p* and invite for further discussion on this matter.
- Finally, I would like to draw the attention to *litra k* regarding including a preliminary Stakeholder list. I note that the Authority has received requests from delegations calling for the development of a Standard or Guideline to Stakeholder consultations throughout the regulations to ensure a clear and consistent process that effectively consults all Stakeholders in a transparent and open

manner with clear targets, implementation process and time limits. Discussions on litra "k" should therefore also take into account these general discussions on aligning stakeholder consultation throughout the regulations and annexes as well in relevant Standards and Guidelines.

[A Scoping Report should be submitted to the Authority in accordance with the ~~relevant~~ Standards and taking into account the relevant Guidelines, and should include:

- (a) A brief description of the proposed Exploitation activities and any ancillary features, including what is known or anticipated about where the mining will occur within a Contract Area and the mining machinery to be used.
- ~~(a)(b)~~ A description and overview of tentative timelines and deadlines for the proposed Exploration and any associated activities.
- ~~(b)(c)~~ A description of what is known about the environmental setting, including Underwater Cultural Heritage, for the project (Contract Area and regional setting),
  - (c bis) A description of information for the project that is not yet known but must be, or should be known, including baseline data, and a plan for gaining that information prior to commencement of the exploitation activities;
- ~~(ed)~~ Summary of existing environmental baseline studies, and, where available, relevant traditional knowledge of indigenous peoples and local communities including a description of methodology for collecting and analyzing the baseline data,
  - (d)bis -Summary of gaps in environmental baseline including description of methodology for collecting and analyzing additional baseline data to inform the Environmental Impact Assessment
- ~~(de)~~ Description of the technical, spatial and temporal boundaries for the Environmental Impact Assessment,
- ~~(ef)~~ A list of any assumptions relied upon and identification and quantification of the uncertainties at this stage of the Environmental Impact Assessment, how they are being addressed, and assessment of their implications to the environmental risk assessment findings
- ~~(fg)~~ A preliminary impact analysis which ~~ranks—categorizes~~ the importance of issues into high-risk, medium-risk and low-risk for the Environmental Impact Assessment to address and evaluates the need for further information, taking into account the environmental risk assessment.
- ~~(gh)~~ An environmental risk assessment, which includes:
  - ~~(i)~~ The identification of potential hazards,
  - ~~(ii)~~ The environmental consequence for each identified potential impact(s) (the magnitude of the impact(s), the duration of the impacts, and the receptor characteristics),
    - (ii bis) A description of the cumulative effects of the project, combined with other authorized, anticipated, or expected activities, actions, or natural phenomena,
  - ~~(iii)~~ The likelihood of the consequence occurring;

(~~ivii~~) ~~T~~he confidence levels of experts, in order to account for uncertainty and a precautionary approach;

(~~hi~~) A description of the methodology employed in the environmental risk assessment

(~~ij~~) A description of the results of the environmental risk assessment, including identification of high priority risks for local and regional ecosystem functioning over short and long term, requiring particular focus in the subsequent impact assessment phase of the Environmental Impact Assessment;

(~~jk~~) A preliminary Stakeholder list that proactively identifies likely Stakeholders, and an indicative schedule and methodology for engagement with key Stakeholders throughout the Environmental Impact Assessment process, taking into account to not to publish personal information of identified stakeholders;

(~~kl~~) A report of consultations undertaken during scoping;

(~~lm~~) Consideration of ~~feasible-reasonable~~ alternative means of carrying out the project that will be examined in detail in the Environmental Impact Assessment, including a no-action alternative, and any others that have been not carried forward for further analysis discounted at this stage, and the reasons for that selection;

(~~mn~~) A draft Terms of Reference for the Environmental Impact Assessment, which identifies the activities and studies planned for the Environmental Impact Assessment, and any additional baseline data that will be required;

(~~no~~) Explanation for how the activities and studies planned for the Environmental Impact Assessment will be sufficient to determine likely environmental impacts, and to propose Mitigation and management strategies and monitoring methodology;

(p) A brief description of the socioeconomic and sociocultural aspects of the project, including sociocultural uses of the project area (e.g., traditional navigation routes, migratory paths of culturally significant marine species, sacred sites and waters associated with ritual or ceremonial activities of Indigenous Peoples and local communities);

(~~oq~~) A note describing and explaining any divergence from relevant ISA Guidelines.

## Annex VII

### Environmental Management and Monitoring Plan

#### Explanation / comment

- One delegation asked for clarification on what the term “regularly reviewing and updating the Environmental Management and Monitoring Plan entails. I invite for views on this.
- One delegation noted that the text should not just reference Preservation Reference Zones but also Impact Reference zones in section 1.2(b). Another delegation proposed to delete this reference, but I deemed it relevant to have included given the adoption of the inclusion of a new annex (Xter) on this matter.
- One delegation proposed to delete section 2bis as this is described in section 2 of Annex IV wherefore a link to this could be inserted instead. I invite for a discussion on this.
- I have proposed a wording to paragraph 2, litra o – regarding a reference to relevant rules on discharge issued by the International Maritime Organization – which aligns with previous references in these regulations and annexes.

1. The Environmental Management and Monitoring Plan prepared under these regulations and this annex VII shall be:

(a) Prepared in clear language and in an official language of the Authority, together with, where applicable, an official English-language version;

(a)bis Prepared in accordance with the relevant Regulations and Regional Environmental Management Plan, taking into account applicable Guidelines, on the basis of Best Environmental Practice, Best Available Scientific Evidence, and Best Available Information; and

(b) Verified by the report of independent competent persons appointed by the Authority.

2. An Environmental Management and Monitoring Plan shall contain:

(a) A non-technical summary of the main conclusions and information provided to facilitate understanding by members of the Authority and Stakeholders;

(a)bis Outline the guiding principles which apply to the monitoring approaches;

(b) A description of the project and the area likely to be affected by the proposed activities. Include detailed location maps showing proposed impact reference zones and preservation reference zones as well as locations of other nearby contract areas or known seabed infrastructure the Preservation Reference Zones, the Impact Reference Zones and the surrounding area with reference to the Regional Environmental Management Plan;

~~— (b)bis A description of relevant legal and administrative frameworks applicable to the proposed Plan of Work, including: the rules, regulations and procedures of the Authority; the applicant's own environmental policy, regulations of the Sponsoring State, and other relevant policy or legal instruments to which the applicant may be subject (e.g. environmental or sustainability requirements from funders);~~

~~(b)ter A description as to how the Environmental Management and Monitoring Plan has been prepared; and a list of Stakeholders~~

(c) The project-specific environmental objectives, indicators and thresholds based on baseline environmental data and relevant standards ;

~~(c)bis A description of the environmental baseline data, including baseline studies for Underwater Cultural Heritage, measured baseline values for parameters at the site, a characterization of the area proposed to be mined, adjacent areas that could be affected by mining, and areas that will be avoided due to their environmental value.~~

(d) Details of or cross-references to the Contractor's Environmental Management System documentation; including allocation of roles and responsibilities {and the training programme} for

(i) implementing the measures reflected in the Environmental Management and Monitoring Plan,

(ii) monitoring, recording and reporting fulfilment of the Environmental Management and Monitoring Plan, and

(iii) regularly reviewing and updating the Environmental Management and Monitoring Plan to ensure that it complies with rules, regulations, and procedures of the Authority;

(e) An assessment of the ~~potential {possible} predicted~~ Environmental Effects of the proposed activities on the Marine Environment, including how long they will last, and any significant changes likely to result, consistent with the environmental impact assessment and the Environmental Impact Statement;

(e)bis A description of uncertainties identified from the environmental impact assessment and the plan to reduce or manage these;

(f) An assessment of the significance of the potential Environmental Effects to receptors identified in the Environmental Impact Statement, their key uncertainties, proposed monitoring approach and objectives and proposed mitigation measures and management control procedures and responses to minimize prevent, reduce and control the harm from Environmental Effects consistent with the environmental impact assessment and the Environmental Impact Statement;

(g) A description of the planned monitoring programme, with reference to the applicable Standard on Monitoring, and the overall approach, standards, protocols, methodologies, procedures and performance assessment of the Environmental Management and Monitoring Plan, including the necessary risk assessment and ~~management~~ techniques for managing these risks, including the use of monitoring data to validate predictive models and reduce uncertainties, and adaptive management techniques, if appropriate, needed to achieve the desired outcomes Each component should be described separately in a manner consistent with sections 7-10 of Annex IV. This section should also include monitoring targets and actions that will contribute to an understanding of regional and cumulative effects and inform the Authority's Regional Environmental

Management Plan. Monitoring methodology/results should provide a sufficient degree of confidence that conclusions in the Environmental Impact Statement can be validated and that agreed performance standards are being met (monitoring should have the statistical power to detect changes in environmental state).

(h) Details of the proposed monitoring stations across ~~and beyond~~ the contract area, including the frequency of monitoring and data collection, the spatial and temporal arrangements for such monitoring and the justification for such arrangements, including how in situ validation of modelled results will be carried out;

(i) The location and planned monitoring and management of ~~P~~reservation ~~R~~eference ~~Z~~ones and ~~-i~~Impact ~~R~~eference ~~Z~~ones designed in accordance with the criteria contained in Annex [Xter], ~~or~~ as well as other spatial management planning tools if any;

(i)bis The location and boundaries of planned or established long-term protected areas within the Contract Area as determined in the applicable Regional Environment Management Plan;

(i)ter Details of any plans outside of the Contract Area to increase scientific knowledge and other knowledge/information in the relevant region, including in collaboration with other contractors or via international cooperation efforts, as well as in collaboration with Indigenous Peoples and local communities;

(j) A description, with threshold levels, of the applicable environmental performance Standards and indicators (trigger and threshold points) to be monitored, including decision rules based on the results of the monitoring of these indicators;

(k) A description of a system for ensuring that the plan shall adhere to Good Industry Practice, Best Available Techniques, Best Environmental Practices and Best Available Scientific Evidence, and a description of how such practices are reflected in the proposed Exploitation activities;

(l) Details of the quality control and management standards, and how the effectiveness of management measures will be monitored, assessed and reviewed, including list of reporting deliverables to the Authority and time schedule, plans for real-time reporting of environmental data to the Authority, internal and external auditing and reporting of environmental performance, and including the frequency of the review of the performance of the Environmental Management and Monitoring Plan for the purposes of Regulation 51;

(m) A description of the monitoring technology and system to be deployed, in accordance with Good Industry Practice and Best Available Techniques, reflecting the types of data and formats to be collected and monitored, the use of remote monitoring technology and the types of data available in realtime together with a description of the procedures for providing the Authority and the sponsoring State or States access to the monitoring system and data for the purposes of monitoring compliance with the Environmental Management and Monitoring Plan and collection of data;

(n) Details of the training programme for all persons engaged or to be engaged in activities in the project area;

(o) ~~Details of Mining Discharges, including a waste assessment and prevention audit~~ Details of discharges, including those as defined and regulated by relevant rules and regulations issued by the International Maritime Organization/IMO conventions, within the project area;

(p) Details of ongoing consultation with other users of the Marine Environment;

(p)bis Details of arrangements made or planned with other marine users, with the aim to ensure due regard to each other's rights and activities.

(q) Details of any practicable restoration and rehabilitation of the project area;

(r) A plan for further research and studies;

(r)bis Detail of the process and measures to be taken in case of non - compliance with the Environmental Monitoring and Management Plan.

(r)bis A description of the measures that will be taken to address non-compliance with the Environmental Monitoring and Management Plan, including reporting, recording and response action protocols;

(r)ter A description of the document control system that will be used for environmental management documentation;

(s) Details of reporting requirements and timing including details of the methodology to be applied to ensure that monitoring data submitted are provided in an accessible and interpretable format consistent with best scientific practices; and

(t) An overview program (list) of all proposed activities

## Annex VIII

### Closure Plan

#### Explanation / comment

- Several delegations asked for clarification on what the term “specified duration” in point 1 (b) entails. I agree that there is a need to have this clarified. I invite for views on this.

1. The Closure Plan or Final Closure Plan shall be prepared and implemented in accordance with regulation 7, the Environmental Management System, Standards and taking into account the relevant Guidelines and the relevant regional environmental management plan and shall include the following information:

(a) A description of the closure objectives to ensure that the closure of mining activities is a process that is incorporated into the mining life cycle, any measures agreed or proposed to implement these, and how these relate to the mining activity and its environmental, socioeconomic and ~~social~~ sociocultural setting;

(b) The period during which the plan will be required, which shall be determined by reference to a specified duration, achievement of a specified event or target indicator or compliance with specified terms agreed with the Authority and shall relate to the objectives of the Environmental Impact Assessment;

(c) ~~A plan with e~~Coordinates showing the area(s) subject to the closure objectives accompanied by a map;

(d) A summary of the relevant regulatory requirements, including conditions previously documented, e.g. baseline conditions;

(e) Details of the closure implementation and timetable, including descriptions of the arrangements for the temporary suspension of mining activities or for permanent closure as well as decommissioning arrangements for vessels, Installations, plant and removal of any equipment (where applicable);

(f) Summary of Data and information relating to baseline conditions for monitoring measures;

(g) ~~A~~ summary of the Environmental Impact Statement entailing an updated environmental impact assessment for the activities that will be undertaken during closure, if any, together with details of the identifiable residual Environmental Effects, including any relevant technical documents or reports;

(h) Details of monitoring to be undertaken during and after closure that specify the sampling design (spatial and temporal sampling), the methods to be used and the duration of the post-closure activities;

(i) Details of the management measures to mitigate, prevent, reduce and control the residual Environmental Effects;

(j) Details of the restoration and remediation objectives and activities building on those detailed in the Environmental Impact Statement and the Environmental Management and Monitoring Plan;

(j)bis Details of any anticipated residual impacts that may remain even after Mitigation measures;

\_\_\_\_(k) Information on reporting and management of data and information post-closure including information on how data will be archived and made available post-closure, and how the formatting of submitted datasets and reports will be consistent with best scientific practices;

(l) Details of the persons or entity (subcontractor, consultant(s)) that will carry out the monitoring and management measures under the Closure Plan or Final Closure Plan, including their qualification(s) and experience, together with details of the budget, project management plan and the protocols for reporting to the Authority under the Closure Plan or Final Closure Plan;

(m) Details of the amount of the Environmental Performance Guarantee provided under these regulations; and

~~(n) Details of any measures agreed or proposed to achieve the agreed closure objectives; and~~

~~(n)~~ Details of consultations with Stakeholders in respect of the plan.

2. The level of detail in the Closure Plan or Final Closure Plan is expected to differ between cases involving a temporary suspension of mining operations, cases involving unplanned abandonment of work, and cases involving final mine closure. The content of the Closure Plan or Final Closure Plan is to be commensurate with the nature, extent and duration of activities associated with the level of closure and maturity of the project.

## Annex Xter

### Design Criteria for Impact Reference Zones (IRZs) and Preservation Reference Zones (PRZs)

#### Explanation / comment

- During the last meeting in November, several delegations noted that the design criteria for Impact Reference Zones (IRZs) and Preservation Reference Zones (PRZs) should be established to ensure contractors collect sufficient baseline data. Possibly in an annex
- Several delegations have forwarded drafts for an annex entailing design criteria for Impact Reference Zones (IRZs) and Preservation Reference Zones (PRZs). It is noted by one of the submitting delegations that some of the mentioned criteria build on the current LTC Recommendations on Exploration (ISBA/25/LTC/6/Rev.1, 30 March 2020) which again builds upon the ISA's Technical Study no. 21 and the work done at the ISA's 2017 workshop (on the Design of IRZs and PRZs in Deep Sea Mining Contract Areas). Although there are similarities and overlaps between the suggested criteria in both annex drafts, there are also differences. I have therefore included both annexe drafts as "Annex" and "Annex Alt." and recommend a discussion on this matter, including what criteria the final annex should entail.

#### Annex

Contractors must establish impact reference zones (IRZs) and preservation reference zones (PRZs) in order to monitor the environmental impacts of their activities. The following parameters shall be followed in the designation of IRZs and PRZs.

1. IRZs and PRZs must be situated within the Contract Area (and the Contract Area may need to be selected around the need for appropriate IRZ/PRZs, especially where multiple or large zones are required).
2. IRZs must be sites where direct impacts from mining are likely to occur.
3. For each type of impact identified in the environmental impact statement, there must be at least one corresponding IRZ which will enable the Contractor to monitor that impact. This is likely to require multiple IRZs (or a very large IRZ).
4. PRZs will be important in identifying natural variations in environmental conditions against which impacts will be assessed. Their species composition, habitat types, and occurrence of mineral resource, must be comparable to that of the impacted areas.
5. PRZs must be areas that will not be impacted by mining activities, including impacts from operational and discharge plumes.

6. If a Contract Area consists of several disjunct sub-areas that are isolated from each other, then each of those areas would require a corresponding PRZ.
7. Use of multiple PRZs should be considered for increase in statistical rigour, and chance of detecting effects and adding redundancy in case of unexpected variation/plan changes.
8. The area of the PRZ needs to be sufficiently large to contain (and buffer) sufficiently large populations to guarantee long-term survival.
9. In theory, all species within the IRZ and PRZ will need to be monitored to quantify impacts. In practice, some representative set might suffice. To establish an adequate baseline and find suitable indicator species (e.g. the sensitive species that will suffer most from an impact) it will be necessary to catalogue as many species as reasonably possible in the IRZ and PRZ in question. This will require an extensive sampling effort to collect sample numbers and volumes that allow for a meaningful comparison (i.e., with high statistical power)
10. The longevity of PRZs is important. The duration of post-mining monitoring should until no measurable difference between IRZ and PRZ can be detected anymore.
11. Isolation of PRZs is important: any PRZ will by definition have to remain unimpacted throughout the post-mining monitoring period.
12. To designate representative IRZs/PRZs requires characterisation of pelagic and benthic communities within all sub-habitats that may be impacted by mining operations, and determination of regional distributions and patterns of connectivity. Temporal variation must also be evaluated annually over multiple years (for at least one test-mining site, and the PRZ site).
13. A Contractor will need to be able to demonstrate a general knowledge of ecosystem functioning and of the ecology of the present species; an average population density alone will not suffice.

#### **Annex Alt.**

Applicants must establish suitable and effective Impact reference zones (IRZs) and Preservation reference zones (PRZs) in order to monitor the environmental impacts of their activities. The following parameters shall apply in the designation of IRZs and PRZs.

1. IRZs and PRZs must be situated within the Contract Area (and the Contract Area may need to be selected around the need for appropriate IRZ/PRZs, especially where multiple or large reference zones are required).
2. The applicant needs to demonstrate that the IRZ/PRZs are ecological similar before the commencement of mining.
3. IRZs must be zones where direct impacts from mining are predicted to occur once mining commences.
4. For each type of impact identified in the environmental impact statement, there must be at least one corresponding IRZ which will enable the Contractor to monitor that impact. This is likely to require multiple IRZs (or a very large IRZ).

5. The area(s) of the IRZ(s) needs to be sufficiently large and representative to allow adequate assessment of recovery of populations and environmental conditions after the mining activities, in accordance with the relevant Standards, taking into account relevant Guidelines.
6. PRZs will be important in identifying natural variations in environmental conditions against which impacts shall be assessed and must be comparable to that of the impacted areas, in accordance with the relevant Standards, taking into account the relevant Guidelines. The abiotic and biotic baseline data include but are not limited to the quantity and quality of mineral resources, species composition and habitat types.
7. PRZs must be areas that will not be impacted by mining activities from any contractor, including impacts from operational and discharge plumes and including during the post-closure period. PRZs must also be free from impacts of other industrial activities.
8. Where a Contract Area consists of several disjunct sub-areas that are isolated from each other, then each of those areas would require a corresponding PRZ and IRZ.
9. Use of multiple PRZs and IRZs should be considered for increase in statistical rigour, and chance of detecting effects and adding redundancy in case of unexpected variation/plan changes.
10. The area of the PRZ needs to be sufficiently large to contain sufficiently large populations to guarantee long-term survival. The PRZ will also require a buffer zone around it to protect the populations and ensure maintenance of natural environmental conditions in the PRZ.
11. Abiotic and biotic parameters, within the IRZ and PRZ will need to be monitored to quantify impacts. This includes but is not limited to monitoring species diversity and function. To establish an adequate baseline and to find suitable indicator species (e.g., the sensitive species that will suffer most from an impact, key-stone species that are crucial for ecosystem processes, or species which abundance indicates a disrupted ecosystem functioning), it will be necessary to catalogue most species in the IRZ and PRZ in question and unravel their functions. This will require sufficient sampling effort to collect sample sizes that allow for a meaningful comparison (i.e., with high statistical power).
12. The longevity of PRZs is important. The duration of post-mining monitoring should last until no measurable difference between IRZ and PRZ can be detected anymore.
13. Isolation of PRZs is important. Any PRZ will by definition have to remain unimpacted throughout the post-mining monitoring period.
14. To designate representative IRZs/PRZs requires characterisation of the pelagic and benthic environment including all sub-habitats that may be impacted by mining operations, and determination of regional distributions and patterns of connectivity of communities. Temporal variation must also be evaluated over multiple years.
15. An applicant will need to be able to demonstrate knowledge of species' ecological requirements (e.g. for successful reproduction); an average population density alone will not suffice.

## Schedule

### Use of terms and scope

#### Explanation / comment

- One delegation has forwarded a suggestion to align the definition of “Environmental Risk Assessment” with the definition hereof in the Draft standard and guidelines for the environmental impact assessment process (ISBA/27/C/4).
- Other delegations have proposed to have “Impact reference zones” (IRZ’s) and “Preservation reference zone” (PRZ’s) defined, given that these are now described in the new Annex Xter. I propose that this is discussed.
- One delegation has also submitted proposals to define “Intangible Cultural Heritage”, “Underwater Cultural Heritage” and “Best Archaeological Practices.
- I noted that there seemed to be a repetition of the definition of “Environmental Effects”. This has been amended.
- I invite for further discussions on these proposed changes.

**“Environmental Effect”** means any material consequences in the Marine Environment, including baseline studies for Underwater Cultural Heritage, arising from the conduct of Exploitation activities, ~~whether-being~~ positive, negative, direct, indirect, temporary or permanent, or cumulative environmental effect arising over time or in combination with other effects or impacts. stressors and activities in the same area, including those not regulated by the Authority.

**“Best Environmental Practices”** means the application of the most appropriate combination of environmental control measures and strategies, that will change with time in the light of improved knowledge, understanding or technology, as well as the incorporation of the relevant traditional knowledge of Indigenous Peoples and local communities, taking into account the applicable Standards and Guidelines.

**“Best Archaeological Practices”** means (as defined by the 2001 UNESCO Convention) those practices designed to: encourage responsible and non-intrusive public access to underwater cultural heritage in accordance with Articles 2.5 and 2.10 of the Convention; increase public awareness, recognition and protection of heritage; promote the Convention and the establishment of national legal frameworks for protection; support scientific research in accordance with the Convention and the Rules concerning activities directed at underwater cultural heritage annexed to it, and capacity building in this regard; and promote the appropriate conservation of heritage.

**“Environmental Management System”** means the part of the overall management system implemented by a Contractor that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining environmental policy, including a survey of the seabed to identify objects of an archaeological and historical nature, objectives and environmental performance.

**“Environmental Risk”** means the chance of something happening that will have an adverse effect measured in terms of the environmental consequences and the likelihood of those particular consequences occurring.

**“Environmental Risk Assessment”** means the process to identify, analyse and evaluate the nature and extent of activities and the level of risk to characteristics of the environment. It is suggested to unify the definition process for identifying and evaluating Environmental Risk using a generally accepted risk assessment methodology.

**“Synergistic Impacts”** means joint effects caused for the interaction of two or more simultaneous activities that result in a combined effect that is greater than the sum of individual and isolated effects.

**“Environmental Effect”** ~~means any consequences in the Marine Environment arising from the conduct of Exploitation activities, whether positive, negative, direct, indirect, temporary or permanent.~~

**“Cumulative environmental effect”** means any consequences in the Marine Environment arising over time from the conduct of Exploitation activities or in combination with other mining impacts stressors and activities in the same area, including those not regulated by the Authority.

**“Impact reference zone”** (or “IRZ”) means a zone designated within the Contract Area [in accordance with Annex XX to these regulations] that is representative of the environmental characteristics of the Contract Area, is predicted to be impacted by mining activities, and will be used to assess the effects of the Exploitation on the marine environment, including by way of comparison with the Preservation reference zones.

**“Preservation reference zone”** (or “PRZ”) means a zone designated within the Contract Area [in accordance with Annex XX to these regulations] that has been identified as having similar ecological characteristics to an Impact reference zone, and within which no mining impacts are predicted to occur, which will be used to show a representative and stable ecosystem from the sea surface to the benthic subsurface layers, and can be used to form a comparison with an Impact reference zone.

**“Intangible Cultural Heritage”** means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage (as defined by the UNESCO 2003 Convention ~~of~~ for the safeguarding of the Intangible Cultural Heritage).

**“Underwater Cultural Heritage”** means all traces of human existence having a cultural, historical or archaeological character (as defined by the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage) including, but not limited to all objects of an archaeological and historical nature found in the Area (which must be treated in accordance with Article 149 of the Convention), and Intangible Cultural as well as paleontological objects (fossils).