

# **First Report Of the CODE PROJECT**

**Developing ISA Environmental Regulations  
Annex 1: Annotated Draft of the Regulations**

**First Edition  
19 July 2017**

## Section II

### Possible working structure for the “Environmental Regulations”

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**Comment [CPI]:** An initial note on terminology: In the Environmental Regulations defined terms, we recommend changing references to a “**Strategic Environmental Management Plan (Regional)**” to “**Regional Environmental Management Plan**” in order to avoid confusion with any overarching strategic policies the ISA may adopt (see Annex VI).

We also recommend a three tier approach for the ISA within which an overarching Strategic Environmental Management Policy (SEMP) guides the conduct and implementation of Regional Environmental Assessments (REA) and associated Regional Environmental Management Plans (REMP). Project scale Environmental Impact Assessments (EIAs) then need to take into account the guidance of the SEMP and the requirements of the relevant REMP.

The SEMP would set out policies for the regulation and management of the whole Area in order to meet the requirements of Article 145 of the UN Convention on the Law of the Sea. The format could be a general policy adopted by the Assembly pursuant to Article 160(1), which can be updated regularly if needed and that applies equally to the ISA, all Member States, and contractors. It need not necessarily be developed pursuant to the Environmental (or the Exploitation) Regulations.

For additional discussion, see Part II*bis infra* and Issue Paper #4: Strategic Environmental Assessment.

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**Comment [CP2]:** We consider the term “Interested Person” to be flawed, as all persons can be considered to have an interest in the Area and its resources, which are the Common Heritage of Mankind. We recommend replacing the term with the term “Stakeholder” throughout the regulations and provide a definition in Schedule 1. For further discussion, see Issue Paper #8: Public Consultation.

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## Section III

### Tentative Working draft of the “Environmental Regulations”

#### Title

**Regulations on [Exploration and] Exploitation for Mineral Resources in the Area (Environmental Matters).**

#### Preamble

In accordance with the United Nations Convention on the Law of the Sea of 10 December 1982 (“the Convention”), the seabed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind, the Exploration and Exploitation of which shall be carried out for the benefit of mankind as a whole, on whose behalf the International Seabed Authority acts. The objective of this set of Regulations is to provide for the effective protection for the Marine Environment from the harmful effects of Exploitation Activities in the Area, particularly, to: -

- (a) ~~promote~~ provide guiding principles to the development, management and regulation of activities in the Area as they impact the Marine Environment.  
(a)bis minimise impacts on the Marine Environment through measures including the development and use of environmentally safe and cost-effective mining technology and techniques.
- (b) set out a process and procedure for the conduct of environmental assessment in the Area by the Authority and by Applicants for the approval of a Plan of Work.
- (c) set out a process and a procedure for the development and implementation of regional environmental management plans
- (d) ensure that environmental matters are integrated into and evaluated as part of the decision-making process in assessing an application for the approval of a Plan of Work.
- (e) provide for the preparation, relevant processes and evaluation of certain environmental documents submitted as part of the application for the approval of a Plan of Work under regulation 4 of the Exploitation Regulations.
- (f) provide for the subsequent review and modification of Environmental Plans.
- (g) provide for the environmental monitoring and management of activities in the Area.
- (h) provide for appropriate compensatory measures, where applicable; and
- (i) ensure that appropriate, procedurally fair Consultation is promoted and implemented.
- (j) ensure a transparent decision-making process, including access to all non-confidential information; and
- (k) ensure that decisions made regarding the common heritage of mankind do not foreclose options for future generations.

#### Part I – Introduction

##### Draft Regulation 1

##### Use of terms and scope

1. Terms used in the Convention shall have the same meaning in these Regulations. Where applicable, terms used in the Regulations and Standard Contract Terms on Exploitation for Mineral Resources in the Area shall have the same meaning in these Regulations.
2. In accordance with the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (“the Agreement”), the provisions of the Agreement and Part XI of the Convention shall be interpreted and applied together as a single

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instrument. These Regulations and references in these Regulations to the Convention are to be interpreted and applied accordingly.

3. For the purposes of these Regulations:

**[“Definitions”: a list of defined terms (indicative at this stage) can be found at Schedule 1 to this working draft. Definitions will advance as both the regulatory content evolves and / or a common approach toward terms based on internationally accepted definitions is established. The content of the draft should drive the formulation of definitions].**

4. These Regulations are subject to the provisions of the Convention and the Agreement and other rules of international law not incompatible with the Convention.



## Part II - General matters

### Section 1: General

#### Draft Regulation 2

##### The Authority's environmental duties and objectives for the Area

1. The Authority shall, in accordance with the Convention and the Agreement, establish and keep under periodic review environmental rules, regulations and procedures, including its guidelines and recommendations, to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area.
2. Additionally, the Authority will undertake the necessary strategic assessment and management planning in accordance with its policy and in conjunction with ~~Interested Persons~~ Stakeholders and to develop Environmental Objectives for the effective protection of the Marine Environment in accordance with Article 145 of the Convention.
3. Pursuant to its mandate under the Convention to ensure compliance by the contractors with the rules, regulations, and procedures of the Authority, the Authority shall not permit Exploitation Activities until such time as it has the capacity to effectively monitor compliance with its regulations and Environmental Effects in the Area in relation to such activities. This shall include independent monitoring and assessment from time to time.

**Comment [CP3]:** See UNCLOS Articles 153(4)-(5), 162(2)(z), 165(2)(h). A fully capacitated regulator is a necessary prerequisite of an effective environmental regime.

#### Draft Regulation 3

##### Applicant for the purpose of these Regulations

For the purpose of these Regulations an Applicant includes:

- (a) any entity under regulation 2 of the Exploitation Regulations applying for the approval of a Plan of Work; or
- (b) any entity holding an Exploitation Contract and where such entity proposes to conduct Exploitation Activities in a part of the Contract Area, being a proposed Mining Area, not previously subject to ~~assessment and evaluation~~ an approved Plan of Work under these Regulations.

**Comment [CP4]:** Draft regulation 4 appropriately provides that the objective of the regulations is to ensure the effective protection of the Marine Environment from harmful effects of activities in the Area. However, it would be clearer and more precise to stress the requirement for "giving full effect to" the principles set forth in Section 2, and not the vaguer term of "having regard" to them.

We strongly support the references in draft regulations 2, 4, 12, and elsewhere that emphasize the Authority's obligation to ensure effective protection of the marine environment, not just to prevent serious harm

For further discussion, see Issue Paper #1: Effective Protection.

### Section 2: Guiding principles

#### Draft Regulation 4

##### General

1. The object of these regulations is the effective protection of the Marine Environment from the harmful effect of activities in the Area ~~having regard~~ giving full effect to the principles set out in this Section 2.
2. All persons engaged in or connected with activities in the Area, in connection with the assessment, management, administration and regulation of those activities, as the case may be, shall ~~consider~~ apply the guiding principles in this Section 2 according to the Authority's guidelines on the basis of ~~internationally Recognized Standards~~ internationally agreed rules, standards and recommended procedures and practices.

**Comment [CP5]:** The term "internationally Recognized Standards" does not appear to be defined elsewhere, we suggest replacing with language from the Convention: "internationally agreed rules, standards and recommended procedures and practices."

#### Draft Regulation 5

##### Best Available Scientific Evidence

Best Available Scientific Evidence shall be applied to all activities undertaken and decisions made pursuant to these Regulations undertaken and decisions made pursuant to these Regulations. ~~All risk assessment and risk management undertaken in connection with environmental assessment and the~~

**Comment [CP6]:** The need for best available scientific evidence extends beyond risk assessment to all decisions taken and activities conducted in the Area.

~~proper management and response measures taken under or in accordance with these Regulations, shall be based on Best Available Scientific Evidence.~~

#### Draft Regulation 6

##### Ecosystem-based approach

1. The ecosystem approach shall be ~~considered~~ applied with respect to the management of activities in the Area that may have an Environmental ~~Impact Effect~~ on the Marine Environment.
2. The ecosystem approach will be based on Best Available Scientific Evidence about the marine ecosystem and its dynamics in order to identify, manage and take necessary measures to ~~minimize a prevent, reduce, and control the~~ risk of interference with the ecological balance of the Marine Environment, taking account of appropriate spatial and temporal scales and Indirect and Cumulative Effects.

#### Draft Regulation 7

##### Precautionary approach

All persons engaged in activities in the Area shall apply the Precautionary Approach, ~~as reflected in Principle 15 of the Rio Declaration, to the assessment and management of risk of harm to the Marine Environment from Exploitation to all~~ Activities in the Area ~~and~~ where scientific evidence concerning the scope and potential negative impact of the activity in question is insufficient but where there are plausible indications of potential risks ~~of Serious Harm to the Marine Environment to the Marine Environment~~.

#### Draft Regulation 8

##### Best Environmental Practices

1. ~~The best combination of environmental management and response measures shall be adopted in accordance with Good Industry Practice [and incorporating Best Available Techniques] All contractors shall employ 'Best Environmental Practice' at all times.~~
2. The development and application of environmental standards and protocols adopted, endorsed or issued by the Authority expressly for the purpose of elaborating Best Environmental Practice shall be continually reviewed by the Authority in order that Best Environmental Practice be progressively improved with regards to progressive improvements are made in the efficient and effective protection of the Marine Environment, ~~including the reduction of Pollution and waste at source, as such improvements become relevant and practicable through technological development through relevant and practicable technological developments~~ and advances in scientific knowledge, ~~and are economically feasible~~.
3. Where the application of Best Environmental Practice does not deliver acceptable results in accordance with environmental standards and protocols as adopted, endorsed or issued by the Authority for the purpose of the efficient and effective protection of the Marine Environment, additional or alternative measures ~~may be required and Best Environmental Practice redefined accordingly shall be considered by the Authority for the purpose of redefining Best Environmental Practice to ensure compliance with those environmental standards and protocols~~.
4. The Authority shall, when expressly requested by a Contractor, issue guidance on the meaning of Best Environmental Practice within a particular context. The resulting guidance and any subsequent amendments thereto shall be considered Best Environmental Practice and employed by all contractors where applicable to their Exploitation Activities.

#### Draft Regulation 9

##### Promotion of access to Environmental Information

**Comment [CP7]:** As with the other guiding principles (see DR 4.2), the ecosystem approach should be "applied", not just "considered".

**Comment [CP8]:** Suggest use of the term "effects" for consistency, as the term "impacts" does not appear in the Convention. One exception to this suggestion would be for terms already in common usage (e.g., Environmental 'Impact' Assessment/Statement or 'Impact' Reference Zone). We recommend this change be made throughout the draft regulations. For further discussion, see Annex VI re: Standard Contract terms and Issue Paper #2: Serious Harm.

**Comment [CP9]:** This broader formulation is more consistent with the guidance of the Seabed Disputes Chamber of the ITLOS concerning the application of the precautionary approach (see Case No. 17 AO, para. 131). For further discussion, see Issue Paper #2: Serious Harm.

**Comment [CP10]:** For a discussion of the Good Industry Practice, see DR 13.

**Comment [CP11]:** Schedule I of the *Draft Environmental Regulations* provides a definition of 'Best Environmental Practice' that appears inconsistent with the language here. For further discussion, see Issue Paper #7: Good Industry Practice; Best Environmental Practice.

**Comment [CP12]:** To clarify "environmental standards and protocols" and the obligations of parties with regards to reviewing such standards and protocols and the parameters within which such review would take place.

**Comment [CP13]:** These developments should extend beyond the reduction of Pollution and may incorporate other best practices useful to protecting the Marine Environment.

**Comment [CP14]:** The ISA may wish to consider amending the text to exclude references to economic constraint or feasibility, unless contextually necessary and/or appropriate. An economic qualifier here could potentially frustrate standard progression due to individual contractor and project financial flows. It is also contrary to the guidance of the Seabed Disputes Chamber of the ITLOS in advisory opinion - economic constraints do not constrain the obligation of due diligence. Nor is any economic qualifier incorporated in the duty imposed by Article 145.

For further discussion, see Issue Paper #7: Good Industry Practice; Best Environmental Practice.

1. The Authority and Sponsoring States shall promote and develop procedures to ensure the practicable and timely provision and publication of relevant Environmental Information to ~~Interested Persons Stakeholders~~.
2. ~~The Authority shall develop standard formats for the provision of data by Applicants and Contractors.~~
3. ~~Data shall be submitted by Applicants and Contractors according to the Authority's standards and procedures. The Authority shall promote a uniform format for the reporting of data and information in order that comparable data may be shared more meaningfully.~~
4. In the drafting of documents, guidelines and plans under these Regulations, Environmental Information shall be concise and clear.

**Comment [CP15]:** See discussion in Annex VI re: Standard Contract terms and Issue Paper #8: Public Consultation.

**Comment [CP16]:** Standardization of data is critical to management and requires a positive obligation. See DR 19 re: Environmental Baseline Study and accompanying discussion.

#### **Draft Regulation 10**

##### **Consultation in Environmental assessment, Evaluation and management**

1. The Authority shall ~~promote ensure~~ accountability and transparency in the assessment, evaluation, and management and periodic review of Environmental Impacts Effects from Exploitation Activities under these Regulations.
2. To ensure that assessments, evaluations, made and management are undertaken under these Regulations ~~are made~~ with the widest range of views and expert opinions, the Authority, through adequate procedures, shall encourage and promote Consultation with and between Interested Persons Stakeholders ~~in environmental assessment and management~~ under these Regulations, including, ~~where appropriate~~, the provision for open meetings of the Commission directly connected with environmental matters.

#### **Draft Regulation 11**

##### **Co-operation**

Applicants, Contractors, Sponsoring States and other ~~Interested Persons Stakeholders~~ shall cooperate with the Authority in the establishment and implementation of programmes to observe, measure, evaluate and analyze the impacts Environmental Effects of Exploitation Activities on the Marine Environment and to share the findings and results of such programmes with the Authority for wider dissemination, and that such co-operation and collaboration extends to the implementation and further development of Best Environmental Practices in connection with activities in the Area.

#### **Draft Regulation 12**

##### **Environmental Objectives: ~~protection and conservation of the natural resources~~**

1. In developing Environmental Objectives for the Area, the protection and conservation of the natural resources of the Area and the protection and preservation of the Marine Environment, including prevention of damage to biological diversity and interference with ecological ecosystem integrity, shall be a fundamental consideration This consideration shall incorporate the maintenance of the diversity and quality of ecosystems, including their functioning, structure, connectivity, resilience, and ability to provide ecosystem services.
2. In the development and implementation of a financial mechanism, the Authority shall consider incentive structures permitted under the provisions of the Agreement relating to the implementation of Part XI of the Convention, including market-based instruments, that facilitate delivery of relevant Environmental Objectives, Environmental Targets, promotes satisfactory Environmental Performance and supports technology development and innovation.

**Comment [CP17]:** For clarification to ensure that such incentive structures are not misinterpreted to include subsidies.

#### **Draft Regulation 13**

##### **Waste minimization**

In the conduct of activities in the Area, all reasonable and practicable measures in accordance with Good Industry Practice must be taken under a Plan of Work to minimize the generation of waste, whatever its source.

### Section 3: Restrictions and prohibitions

#### Draft Regulation 14

#### Restriction on Mining Discharges Exploitation Activities Except Where Permitted<sup>1</sup>

**Commentary:** "Mining Discharge" is defined under "Use of terms and scope" at Schedule 1 as "the disposal, Dumping and Discharge into the Marine Environment of SWOE, made as an integral part of, or as a direct result of activities in the Area or from shipboard processing immediately above a mine site of minerals derived from that mine site. SWOE is defined as sediments, wastes and other effluents [which, for the avoidance of doubt shall include mine tailings and water evacuated from the Minerals during shipboard processing]."

Para. 88 of the SDC Advisory Opinion states that activities in the Area and shipboard processing "are to be seen as part of the same kind of activities".<sup>2</sup> The distinction is relevant in relation to activities aboard the mining vessel (shipboard processing versus normal ship operation) and thus a matter of jurisdictional competence between that of the Authority (and/ sponsoring State) in connection with activities in the Area and those related to the normal operation of ships under flag State jurisdiction. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (and the 1996 London Protocol) does not apply to the disposal of wastes or other matter directly arising from, or related to the exploration, exploitation and associated off-shore processing of seabed mineral resources.

Mining Discharges and their related risk assessment (and clear identification of the different sources / origins of waste) should be part of the environmental impact assessment process and their treatment / management detailed in the environmental management and monitoring plan (and closure plan) for evaluation by the Authority.

A clear picture of jurisdictional competence on matters relating to "dumping" and "discharges" is needed.

Equally, does SWOE need a clearer definition? That is, what needs to be regulated by the Authority / sponsoring States and what is / will be regulated by flag States?

Draft Regulation 15 below refers to "Emergency Dumping". Again, there needs to be an understanding as to the Authority's / sponsoring State's jurisdictional competence / limits with regard to dumping.

1. No person ~~[operator] or entity engaged in activities in the Area~~ may undertake Exploitation Activities in the Area, including the Discharge of any SWOE into the Marine Environment where such Discharge is a Mining Discharge, except where ~~the Discharge is~~ such Activities are permitted in accordance with the requirements of:

- (a) these Regulations, including the recommendations of the Commission; and ~~for~~

<sup>1</sup> Requires an assessment framework e.g. London Convention and Protocol: *Guidance for the Development of Action Lists and Action Levels for Dredged Material*.

<sup>2</sup> See also Article 17(2)(f), Annex III, UNCLOS.

**Comment [CP18]:** This term is defined in the Draft Exploitation Regulations to include specific examples of regulatory guidelines. Consideration should be given omitting these examples. Several standards included under the listed instruments, particularly in the case of the ISO family and IFC Principles, may not be applicable in the case of marine mining. And though the definition is left open-ended by providing for the possible application of other standards not explicitly listed, this may also lead to a lack of legal certainty and differences in application.

An alternative approach would restrict required standards for 'Good Industry Practice' to those adopted, endorsed or issued by the Authority from time to time. It would also incorporate Best Environmental Practice into the definition, to avoid a disjunction or conflict between the two standards.

A proposed amended definition would be "**'Good Industry Practice'** means the exercise of that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected to be applied by a skilled and experienced person engaged in the marine mining industry, including the employment of 'Best Environmental Practice', and includes but is not limited to the guidance provided, as applicable, by the IFC Performance Standards, by the International Organization for Standardization standards, the International Marine Minerals Society, the performance requirements under these Regulations, the Recommendations made from time to time under these Regulations by the Commission and other International Recognized Standards, adopted, endorsed or issued by the Authority from time to time, the performance requirements under any rules, regulations and procedures of the Authority, or recommendations of the Commission, and any other standards that may be adopted or endorsed by the Authority expressly for the purpose of this definition from time to time.

For further discussion, see Issue Paper #7: Good Industry Practice: Best Environmental Practice.

**Comment [CP19]:** As restrictions on mining discharge are just one element that should be incorporated into a Plan of Work, it may be preferable to frame this prohibition more broadly.

**Comment [CP20]:** No Exploitation activities should be undertaken in the absence of an approved Plan of Work.

- (b) under an approved Plan of Work.
2. In connection with any Dumping or Discharge which is not a Mining Discharge, the provisions of [the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, done at London on 13 November 1972 and MARPOL] shall apply.

**[Draft Regulation 15  
Emergency Dumping and Discharges**

In connection with any vessel, installation and mining equipment connected with Exploitation Activities, the restriction on Dumping shall not apply where the safety of human life or of a vessel, installation and mining equipment in the Area is threatened by the complete destruction or total loss of the vessel, installation and mining equipment in the Area, or in any case which constitutes a danger to human life and if such Dumping appears to be the only way of averting the threat and if there is every probability that the damage consequent upon such dumping will be less than would otherwise occur. Such Dumping shall be so conducted as to minimize the likelihood of damage to human life or Serious Harm to the Marine Environment. The Authority shall in co-operation with relevant international organizations, including the International Maritime Organization, develop the necessary rules, regulations and procedures on Dumping and [other discharges] in the Area].

**Draft Regulation 16  
Exclusion areas**

No activities shall be permitted in an area:

- (a) disapproved for Exploitation by the Council, in cases where Substantial Evidence indicates the risk of Serious Harm to the Marine Environment; ~~and~~ OR
- (b) otherwise designated by the Council as an area in respect of which no Exploitation Activities shall occur according to the relevant ~~Strategic~~ Regional Environmental Management Plan ~~developed by the Authority and approved by the Council.~~

**Comment [CP21]:** Activities should be precluded under either circumstance.

**Comment [CP22]:** We propose that the ISA develop a Strategic Environmental Policy setting out policy objectives for the entire Area and separate Regional Environmental Management Plans for each region, which may include restrictions on exploitation in Areas of Particular Environmental Interest.

See the Table of Contents, Part II, Section 3*bis* and Issue Paper # 4: Strategic Environmental Assessment.

### Section 3bis – Regional environmental assessment and management

#### Draft Regulation 16bis

##### Regional Environmental Assessment and Management Plans

1. Notwithstanding any other provisions of these Regulations, a Regional Environmental Management Plan shall be adopted in accordance with Regulation [2quarter] for any portion of the Area subject to an Application for approval of a Plan of Work for Exploitation before such an Application may be approved.
2. Where an Application for approval of a Plan of Work for Exploitation includes any portion of the Area not yet subject to a Regional Environmental Management Plan, or such an Application seems likely in the view of the Secretariat, the Secretariat shall undertake a Regional Environmental Assessment and draft a Regional Environmental Management Plan for that portion of the Area.
3. In undertaking a Regional Environmental Assessment and developing a Regional Environmental Management Plan, the Secretariat shall engage in Consultation with Stakeholders and shall also engage Appropriately Qualified Experts as needed.
4. Should the Secretariat, following consultations with Stakeholders and engagement of Appropriately Qualified Experts, make a determination that it lacks information sufficient to undertake a Regional Environmental Assessment or develop a Regional Environmental Management Plan that is consistent with these Regulations, the Secretariat shall issue a request for Contractors and other Stakeholders to provide any specific additional information as may be required to complete the Regional Environmental Management Plan in accordance with this [Part I]bis].

**Comment [CP23]:** An REA has already been carried out for the CCZ leading to a REMP for that region, and a scientific assessment has begun towards the development of an REA in the North Atlantic. REMP development should involve the ISA, contractors, scientists, regional organizations, and other stakeholders. Ideally, REMPs should be in place before the award of exploration contracts but since many contracts have already been awarded it is more practical that they should be in place before the award of any exploitation contracts.

Compliance with the relevant REMPs should be required under the Exploitation Regulations and contracts. That way, REMPs could place specific regional requirements on the contractors operating in that region. The REMPs will also help inform development of EMMPs. The current EMP-CCZ does not attempt to require contractors to do anything, which is a shortcoming that may need to be addressed

For further discussion, see Issue Paper #4: Strategic Environmental Assessment.

#### Draft Regulation 16ter

##### Undertaking Regional Environmental Assessments

1. Prior to developing a Regional Environmental Management Plan, the Secretariat shall undertake a Regional Environmental Assessment in the relevant portion of the Area and prepare a Regional Environmental Report.
2. A Regional Environmental Report shall describe:
  - (a) the spatial boundaries of the portion of the Area to which it applies (the Region);
  - (b) the resources likely to be subject to exploitation in the Region and the nature of Exploitation Activities likely to be undertaken;
  - (c) the key features Marine Environment in the Region, including oceanographic information, biological diversity, including all faunal groups, the genetic connectivity of populations, biogeographic zones, subregional gradients, including seasonal and inter-annual variability, and any other features that may require attention in developing the REMP;
  - (d) the environmental status, issues, uncertainties, and vulnerabilities in the Region;
  - (e) Environmental Effects in the Region that are likely to be caused by Exploitation Activities and any changes in the marine environment likely to result from those Environmental Effects, including any cumulative effects arising from multiple mining sites and other activities;
  - (f) a description of existing activities in the Region;
  - (g) other pressures on the Marine Environment that are not caused by mining, their location, and their severity;
  - (h) the likely resilience and recovery of the Marine Environment in the Region during and following Exploitation Activities, including any thresholds at which resilience or recovery may be undermined and likely rates of recovery;
  - (i) potential mitigation measures and their likely efficacy;
  - (j) any criteria relevant for the identification of Vulnerable Marine Ecosystems in the Region that are not already elaborated pursuant to Regulation 54;

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- (k) the location and features of any known Vulnerable Marine Ecosystems, protected areas proposed or adopted pursuant to other international agreements, or other areas in the Region that may require protection from Environmental Effects; and
  - (l) likely Stakeholders in the Region.
3. The Secretariat shall make publicly available the Regional Environmental Report and all data collected in the course of the Regional Environmental Assessment.
  4. The Secretariat shall consult with the Commission throughout Regional Environmental Assessment Regional Environmental Assessment.

#### Draft Regulation 16quarter

##### Regional Environmental Management Plan Criteria and Adoption

1. The Regional Environmental Management Plan shall be prepared in accordance with this regulation and the Authority's policies, and be based on results of the Regional Environmental Assessment conducted pursuant to Regulation [2ter].
2. A Regional Environmental Management Plan shall include:
  - (a) the Regional Environmental Report;
  - (b) any specific environmental objectives that may applicable to the Region;
  - (c) a proposed network of representative and well-connected Areas of Particular Environmental Interest for the Region in which no mining shall occur and the rationale for their designation;
  - (d) any additional procedures necessary to ensure the effective protection of Vulnerable Marine Ecosystems in the Region; and
  - (e) such additional obligations as may be necessary to ensure the effective protection of the marine environment from the harmful effects of Exploitation Activities in the Region, including the avoidance of Serious Harm.
  - (f) a network of Areas of Particular Environmental Interest developed as part of an REMP must:
  - (g) ensure that sustainable, intact and healthy marine populations are maintained in the Region or any sub-regions that may be identified;
  - (h) take into account biophysical gradients, which affect the biogeography of marine biodiversity in the Region;
  - (i) protect a full range of habitat types found within the Region or any sub-regions which may be identified;
  - (j) maintain minimum viable population sizes, including any buffer zones that may be necessary to insulate these populations from anthropogenic threats;
  - (k) take into consideration any Vulnerable Marine Ecosystems, protected areas proposed or adopted pursuant to other international agreements, or other areas in the Region that may require protection from Environmental Effects; and
  - (l) to the greatest extent practicable, while complying with the other requirements of this paragraph, preserve equity among Contractors with existing exploration licenses in the Region.
3. The Secretariat shall prepare a draft Regional Environmental Management Plan for Stakeholder comment or issue a request pursuant to Regulation [16.4bis] not later than [1 year] following an Application in a Region. Should the Secretariat issue a request, it shall prepare a draft Regional Environmental Management Plan or issue a further request, if necessary, not later than 6 months from the receipt of a response. The Secretariat may issue further requests as needed to develop a Regional Environmental Management Plan that is consistent with these Regulations.
4. The Secretariat shall revise the draft Regional Environmental Management Plan to take account of Stakeholder comments. Once the draft is complete, the Secretariat shall transmit it to the Commission, which shall review the draft in light of these Regulations and shall provide a recommendation to the Council on the Regional Environmental Management Plan.

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5. Taking into account the Commission's recommendation, the Council shall either adopt the Regional Environmental Management Plan or request that the Secretariat and Commission further develop the plan in a manner consistent with any guidance the Council may issue.
6. The Council shall make such amendments to a Regional Environmental Management Plan as may be necessary to ensure the effective protection of the marine environment from the harmful effects of Exploitation Activities in the Region. At intervals of not more than [3] years following adoption, the Commission shall, with the assistance of the Secretariat, and after requesting Stakeholder comments, review the implementation of each Regional Environmental Management Plan and report on such implementation to the Council, including any amendments that the Commission may suggest.



### Part III – Environmental assessment

**Commentary:** this Part III is a first attempt to regulate an environmental impact assessment process for exploitation activities in the Area. It will, where necessary, need to be supported by relevant and appropriate guidelines. Albeit this Part III follows a logical step process, environmental impact assessment is an iterative process.

Environmental assessment guidelines will need to be developed by Authority to provide advice to applicants, experts and the public generally about specific procedures, methodologies and the minimum requirements for environmental management which the Authority would expect to be met by applications it receives and considers during the environmental impact assessment process.

The guidelines should be informative and aim to deliver a consistent approach in developing an EIA programme and delivery. However, they should not be overly prescriptive as the onus remains on the applicant to develop comprehensive, location-specific EIAs.<sup>3</sup> That is, guidelines should ideally set minimum expectations of content and quality.

Additionally, it may be helpful to apply a benchmark or statement to the effect (at least at this stage until the full mining code is developed) that the Authority in developing any guidelines (or these regulations) shall not apply standards which are less stringent than an international reference standard.

For example, in connection with environmental impact assessment and management, a number of stakeholders referred to the applicability of IFC Performance Standards and the Equator principles. Indeed, the MMDA at Clause 10.2 states:

"Where Applicable Law and regulations on environmental and social impact assessment and management, and pollution prevention are less stringent than the IFC Performance Standards, the Company shall undertake its activities in a manner consistent with the IFC Performance Standards. To remove any doubt, the Company and the State recognize that the IFC Performance Standards outline processes to be followed enabling site-specific environmental compliance limits to be developed, where required."

The definition of "Good Industry Practice" under the Exploitation Regulations does make reference to the IFC Performance Standards, but not to specific principles within those standards.

#### Section 1: General

##### Draft Regulation 17

##### Environmental assessment

1. Prior to submitting an Application for approval of a Plan of Work, an Applicant shall conduct ~~or has conducted~~, an Environmental Impact Assessment based on sound engineering and economic principles, ~~conducted and prepared~~ and according to Good Industry Practice, establishing an Environmental Baseline of existing environmental conditions ~~existing at [the date of the Application?]~~ in the Environmental Impact Area and assessing the likely Environmental Impacts Effects of Exploitation Activities on the Marine Environment.

**Comment [CP24]:** Clarifying, as the EIA has multiple documents and is not in itself "prepared."

**Comment [CP25]:** Environmental conditions described in the Environmental Baseline should account for and describe natural variability over time (interseasonal and interannual).

<sup>3</sup> The Gold Coast workshop in May 2016 highlighted that guidelines could deliver a certain ease of evaluation but there is a possible danger that it might become a "box-ticking exercise" (workshop report at para. 122).

- ~~2. Notwithstanding paragraph 2 above, Applicants may require the approval of~~ The Authority may require that Applicants obtain approval (prior environmental impact assessment) before conducting any preliminary investigations in connection with an Environmental Impact Assessment in accordance with the Commission's recommendations.

## Section 2: Environmental Baseline

**Commentary:** the Exploration Regulations require a contractor to undertake environmental studies in accordance with those regulations, taking account of the recommendations of the Commission. *Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area*,<sup>4</sup> provides recommended baseline data requirements together with activities requiring environmental impact assessment, notably the testing of collection systems and equipment (test mining). As highlighted by para.19: "It is important to note that these baseline, monitoring and impact assessment studies are likely to be the primary inputs to the environmental impact assessment for commercial mining".

Albeit the recommendations highlight the timing<sup>5</sup> of the submission of any "prior EIA" for test mining, no detailed procedure to date has been established for the review / approval mechanism of such prior EIA. The Commission noted at its 22<sup>nd</sup> Session that an environmental inception (scoping) report (EIR) had been received,<sup>6</sup> however, there is no defined process or procedure to review such EIR and thus review the adequacy of an intended EIA.

There is currently a gap in the exploration regulatory regime with regard to a clear defined process to handle EIRs and Prior EIAs for say test mining (an important component of the process to determine the impacts of commercial mining activities). The LTC's Recommendations (or guidelines prepared by the Secretariat) should incorporate such a process. This process could include a parallel scoping process (between a contractor and the Authority) resulting in the production of an EIR initially. Alternatively, these regulations could prescribe for the necessary process and procedures given the fundamental link between exploration and exploitation.

### Draft Regulation 18

#### Identification (delineation) of Environmental Impact Area<sup>7</sup>

**Commentary:** this will be challenging not least as regards indirect (secondary) impacts e.g. the plume. While a provisional impact area(s) could be identified, it is thought that the environmental assessment process itself will modify the area boundaries (iterative process). Technical assistance will be required in formulating the correct wording for this

<sup>4</sup> ISBA/19/LTC/8, 1 March 2013. See also *Standardization of Environmental Data and Information: development of guidelines*, Proceedings of the International Seabed Authority's Workshop held in Kingston, Jamaica, 25-29 June 2001.

<sup>5</sup> "The contractor will submit to the Authority a plan for such testing, including the details for monitoring the environment, at least one year before testing begins and at least three months in advance of the annual session of the Authority", LTC Recommendations at para. 52.

<sup>6</sup> See *Report of the Chair of the Legal and Technical Commission on the work of the Commission at its session in 2016*, ISBA/22/C/17, 13 July 2016 at para. 21.

<sup>7</sup> The word "area" has been used rather than "zone" so as not to confuse language with preservation reference zones and impact reference zones, being environmental management tools.

regulation, unless this should be dealt with more appropriately in relevant guidelines.

Technical thresholds will also be relevant in defining this area. For example, in connection with plumes and determining the boundary between areas where the plume has an impact and the boundary point at which any impact can be discounted.<sup>8</sup>

An Applicant shall determine the geographical limits of the Environmental Impact Area(s) of the Marine Environment likely to be affected by Exploitation Activities, ~~including the Direct Impact Area and Indirect Impact Area~~, according to the Authority's guidelines. Such impact areas shall be modified as necessary during the Environmental Impact Assessment process conducted by the Applicant.

#### Draft Regulation 19 Environmental Baseline study

**Commentary:** the Commission's recommendations relating to environmental assessment contain guidance relating to environmental baseline studies. However, what constitutes an "adequate" or "good" baseline? Ideally, from a legal (criteria) perspective, formulating criteria (on a sound scientific basis) would facilitate clearer expectations on baseline / data needs and requirements, though specific recommendations should be formulated (and be resource-specific). Whether these criteria should be addressed in these regulations or reflected in relevant recommendations / guidelines, requires consideration.

Furthermore, do current LTC Recommendation(s) provide for clear expectations as to baseline data needs for exploitation?

In terms of characterizing the areas likely to be impacted there is merit in looking at (and implementing) "marine evidence plans". These have been developed in the United Kingdom by the MMO. Aside from facilitating informed decision-making they aim to add value by enhancing the consistency and direction of marine research; to encourage integration of research efforts this maximizing resources and to provide clarity on the focus for planned and future research. Given the critical need for adequate baseline data, the development of marine evidence plans could give much needed direction to inform the baseline characterization process and, with stakeholder input, provide the necessary of confidence in baseline data.

**Recommendation:** Authority to review and consider the use of marine evidence plans as a more formal and informed process to directing information needs and requirements.

**Comment [CP26]:** Not necessary if the definition of the Environmental Impact Area includes both Direct and Indirect Impacts/Effects.

**Comment [CP27]:** Environmental baseline data are essential for the development of robust assessments of the potential environmental impacts of a deep-sea mining project as well as determining when 'harmful effects' and 'serious harm' are caused by measurement against the baseline. Given their importance, including with respect to the Authority's review of a Plan of Work, we recommend the following amendments in keeping with two overarching observations:

- That a review and approval of an Applicant's baseline data should be made a precondition of the review of their Plan of Work, either during the scoping phase or as part of a separate process.

- That specific guidance and recommendations will indeed assist in clarifying expectations, but the best means to ensure adequate baselines will be to facilitate their dissemination and transparent review by experts and Stakeholders.

For further discussion, see Issue Paper #5: Environmental Baselines and Scoping Reports.

1. During its Exploration Activities, and as necessary thereafter, an Applicant shall collect data sufficient to establish an adequate Environmental Baseline ~~of the~~ for each Environmental Impact Area(s) in which it intends to conduct Exploitation Activities against which to assess the characteristics of that area and the likely Environmental ~~Impacts~~ Effects of its Exploitation Activities and to determine the necessary measures, management objectives and responses for the effective protection of the Marine Environment from Exploitation Activities.

**Comment [CP28]:** Recognizing that, pursuant to DR 24, an Applicant may submit Plans of Work for multiple areas, or may consolidate multiple areas into a single plan where permissible.

<sup>8</sup> Also known as the "mixing zone boundary". Water quality thresholds / targets will be needed and a consideration of the spatial extent / limitations on plumes.

1bis. The Secretariat shall make available all Environmental Baseline data received as soon as practicable following its receipt through a means and in a format that facilitates their access and review by Stakeholders.

1ter. Prior to submitting an Application for Approval of a Plan of Work, an Applicant shall submit to the Authority

- (i) its complete Environmental Baseline data in the format and according to requirements prescribed by the Authority pursuant to [Draft Regulation 9.2];
- (j) (ii) an Environmental Baseline Report summarizing the Applicant's Environmental Baseline data and its satisfaction of the criteria listed in [Draft Regulation 19.4]; and
- (k) (iii) a report of an Appropriately Qualified Expert verifying the Environmental Baseline Report's contents and assessing its conclusions.

1quarter. An Environmental Baseline Report will be subject to a review process involving Stakeholders under Part VI of these Regulations.

~~An adequate Environmental Baseline study shall be conducted in accordance with the recommendations of the Commission.~~

2. In determining ~~the adequacy of an Environmental Baseline study (report / assessment) report~~, the following criteria shall be used, that:

- a. ~~the data collected is representative data and the number of samples collected are proportionate to the size of the likely Environmental Impact Area and the variability, spatial and temporal, in natural conditions and characteristics (intensity of sampling) of sufficient statistical power to allow future monitoring activities to resolve the temporal and spatial scale of mining impacts to the seabed and water column and distinguish natural spatial and temporal variability from impacts caused by mining activities.~~
- b. the data has been collected using standardized approaches based on Internationally Recognized Standards and protocols.
- c. the area is accurately mapped at a high resolution and all data stored using a Geographic Information System mapping.
- d. that any uncertainties in Environmental Baseline information are identified and quantified and are within generally accepted parameters.
- e. that the data collected is capable, within reasonable technical and economic constraints, of providing sufficient information for an Environmental Risk Assessment and Environmental Management and Monitoring Plan, including:
  - i. Identifying the existence and location of internationally and regionally recognized marine protected areas, other areas of special interest, other contractor licence areas and, where appropriate, Vulnerable Marine Ecosystems (VMEs);
  - ii. resolving seasonal variation, inter-annual variation, and other relevant, potentially episodic and extreme, events;
  - iii. assessing potential ore and sediment toxicity;
  - iv. determining existing levels of nutrient loading and pollution; determining the nature, magnitude and extent of existing effects and changes (e.g. from fishing, climatic change);
  - v. allowing the locations, size, number and spacing of impact reference areas and preservation reference areas to be determined, including buffer zones;
  - vi. establishing the geomorphology of the Environmental Impact Area(s);
  - vii. establishing characteristics of the benthic and pelagic species that may be affected by Exploitation Activities [species present / biodiversity, population sizes and biomass of

**Comment [CP29]:** Baseline data should be made available as it is collected in order to facilitate its ongoing review, critique, and utility. This should occur throughout the evaluation of mine site.

**Comment [CP30]:** If the scoping process is made mandatory, the Authority may wish to consider whether the formal review of baseline data by the Commission may be consolidated into this scoping process, assuming that such process incorporates sufficient transparency, expert review, and Stakeholder consultation.

It should be noted that this formal review is distinct from the ongoing provision of baseline data, which is also critical and should be preserved as a separate obligation.

**Comment [CP31]:** This is now captured in the criteria listed below.

**Comment [CP32]:** See Draft Regulation 8.2 and accompanying discussion.

- species, distribution of species and populations in space and time, ecosystem services], including data on connectivity and affected ecosystems;
  - viii. determining alien/invasive species present;
  - ix. establishing marine mammal and fish populations which may be affected by Exploitation Activities;
  - x. establishing currents, tides, eddies and other oceanographic data sufficient to assess potential effects;
  - xi. establishing the physical and chemical composition of the sediment which may be affected;
  - xii. establishing societal values placed on the Environmental Impact Area(s) or its resources; and
  - xiii. any other criteria that may be established by the Authority.
- f. the Environmental Baseline study has been conducted and prepared in all material respects with the recommendations of the Commission ~~and in Consultation with Interested Persons, particularly Appropriately Qualified Experts.~~

2bis. The Commission shall issue a report on its findings. Such report shall notify the Applicant of the Commission's determination that either (i) the Environmental Baseline data and report are adequate; or (ii) additional information is required, specifying the additional information that is required.

2ter. If the Commission notifies the Applicant that its Environmental Baseline data and report require additional information, the Applicant shall supply such additional information and shall resubmit its Environmental Baseline report. The Authority shall consider such additional information and resubmitted report in accordance with the process provided in this Regulation. This process may be modified by the Commission in its discretion with respect to any particular Environmental Baseline report following its initial review of that report.

### Section 3: Environmental scoping report

**Commentary:** a "typical" EIA process would involve an initial screening of a proposal with a regulator to determine whether an assessment is needed or the level of assessment required for a particular project. This working draft does not currently anticipate nor provide a procedure for a "screening opinion" by the Authority i.e. as to whether / what level of an environmental impact assessment is required for specific Exploitation Activities. That is, the expectation is that a comprehensive EIA will be required. As activities in the Area develop and mature, specific activities (impacts) *may* be excluded from the scope of an EIA following an appropriate screening procedure and as a result of known impacts considered as not requiring EIA.<sup>9</sup>

The next level of the EIA process is one of "scoping". This will aim to identify the relevant impacts for assessment and is effectively the "terms of reference" for an EIA. It has merit in its potential to reduce the length of an EIA / EIS such that the focus is on significant matters and not insignificant issues thus narrowing the scope of a EIA/ EIS. It also has merit for an applicant / contractor in providing a degree of certainty as to the scope of its EIA activity and, as a result of any relevant stakeholder input, add credibility to the EIA process.

This scoping regulation is drafted as a non-mandatory requirement and subject for further

<sup>9</sup> Note: the Commission's *Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area* ISBA/16/LTC/7 does provide (in an exploration context) certain activities as requiring / not requiring prior EIA.

**Comment [CP33]:** As recognised in the Working Draft, the Exploitation Regulations require greater clarity on what constitutes an "adequate" or "good" baseline. And the requirements need to be specific enough to be an enforceable obligation on the contractors.

Should the criteria for baseline studies be addressed in the regulations or reflected in relevant recommendations /guidelines? We recommend that a combined approach be taken. Defining the requirements for baseline studies requires a balance between raising the minimum standard and encouraging proactive responsible environmental management based on best-available scientific knowledge. Although sound baselines offer advantages to contractors, particularly in quantifying impacts, it may be challenging to encourage contractors to go beyond the minimum required for compliance.

For further discussion, see Issue Paper #5: Environmental Baselines and Scoping Reports.

**Comment [CP34]:** Not necessary in light of suggested procedural amendments.

**Comment [CP35]:** As above, these process elements may be combined into a mandatory scoping process.

stakeholder discussion as to its merits and appeal, pros and cons. Given the current uncertainties surrounding DSM impacts, the effectiveness of such a scoping mechanism should contribute to, and not weaken, a comprehensive EIA process. The content of the Environmental Impact Statement itself (together with guidelines (to be developed)) will set out the expectations of the EIA deliverable.

Note: there are many generic references to "the Authority" in this Part III. The functions to be performed relate principally to the Secretariat function (Environmental / EIA unit) which will need to take an active role in the EIA process in tandem with an applicant / contractor / sponsoring State, including EIA scoping.

**Draft Regulation 20**

**Environmental scoping report: preparation, review and opinion**

1. Following notification by the Commission that its Environmental Baseline data and report are adequate, an Applicant may shall submit a draft Environmental Scoping Report to the Authority for its consideration ~~and that~~ shall be prepared in accordance with the Authority's guidelines and in the format prescribed by Annex III.
2. An Environmental Scoping Report shall include the following information: -
  - (a) description of the proposed activities and its environmental objectives.
  - (b) description of the methodology applied to conduct the scoping.
  - (c) identification of the likely Environmental Impact Area(s).
  - (d) description of the existing status of the Marine Environment in the Environmental Impact Area(s).
  - (e) identification (preliminary) of the anticipated ~~environmental, social and cultural impacts~~ Environmental Effects, including potential Cumulative ~~Impacts~~ Effects, in the potentially affected area(s) and their potential environmental, social, and cultural consequences.
  - (e)bis. description of how the proposed mining activities will conform to the Regional Environmental Management Plan.
  - (e)ter. any predictions or assumptions made to support the Environmental Scoping Report and their longevity.
  - (e)quarter. any knowledge gaps and how they have been addressed.
  - (e)quinquies. An assessment of the uncertainty surrounding any information presented
  - (f) indication of possible alternatives to the proposed activities, including location alternatives and scale alternatives.
  - (g) identification and use of Mitigation measures.
  - (h) description of the most appropriate procedure to plan and develop the Exploitation Activities.
  - (i) description of ~~the any consultations previously undertaken by the Applicant with Stakeholders of Consultation with Interested Persons.~~
  - (j) description of the nature, scope and methodology of investigations and studies required in order to identify and predict the Environmental ~~Impacts~~ Effects.
  - (k) ~~identify the propose~~ Appropriately Qualified Experts ~~to provide a review of the scope, methodologies, findings and / or conclusions of the investigations and studies.~~
  - (l) ~~describe~~ description of the nature, scope, and methodology of further investigations and studies required in order to identify and predict the Environmental ~~Impacts~~ Effects.
  - (m) a timeline and milestones for completion of the Environmental Impact Assessment process and the development of the proposed Plan of Work.
  - (m)bis. an Environmental Baseline report summarizing the Applicant's Environmental Baseline data and its satisfaction of the criteria listed in [Draft Regulation 19.2]

**Comment [CP36]:** We strongly suggest that Environmental Scoping Reports be mandatory.

The Discussion Paper presents a clear outline of the role of a scoping stage and its importance. An additional reason for scoping (and its mandatory nature) is that scoping could be more effective than including further detail in the baseline data requirements in DR19.

For further discussion, see Issue Paper #5: Environmental Baselines and Scoping Reports.

**Comment [CP37]:** Assumes that the Authority's formal baseline review process as described above is not integrated into the scoping process.

**Comment [CP38]:** Submission may be made for multiple areas pursuant to DR 24.

**Comment [CP39]:** To conform to proposed revisions in definitions.

**Comment [CP40]:** As defined in the Draft Exploitation Regulations, the broad enough to accommodate regulatory developments while providing for requirements related to necessary expertise, as well as transparency and independence, thereby sufficiently qualifying the term. It is therefore submitted that the term need not be redefined or amended, nor additional dedicated guidance provided to the interpretation of the said term.

However, to provide for an additional layer of quality control, the ISA may wish to consider the inclusion of direct references to particular expertise and/or qualifications relevant to particular draft regulations, where appropriate.

For further discussion, see Issue Paper #7: Good Industry Practice; Best Environmental Practice.

**Comment [CP41]:** If not already provided pursuant to a separate process in DR 19.

~~(m)ter a report of an Appropriately Qualified Expert verifying its contents and assessing its conclusions.~~

3. The Authority may, within 60 days of the receipt of the report, request the Applicant to provide further information or to conduct further investigations regarding the report. The Applicant shall supply the Authority such information within 60 days of the date of the Authority's request or within such time as agreed between the Authority and the Applicant having regard to the nature of the request and the need for further investigations.

~~4. The Authority may seek the opinion of Appropriately Qualified Experts in respect of the draft Environmental Scoping Report.~~

5. The Authority and the Applicant shall, as necessary, prepare a revised Environmental Scoping Report which the Authority shall publish to its website for a period of 60 days and shall invite comments from ~~Interested Persons~~ Stakeholders under Part VI of these Regulations.

6. The Secretariat shall then convey the Applicant's Environmental Scoping Report, any submissions received from Appropriately Qualified Experts and Stakeholders, together with the Secretariat's own views on the adequacy of the Applicant's Environmental Scoping Report, to the Commission for its consideration. At its next available meeting, the Commission shall then consider any Environmental Scoping Report received at least three months prior to that meeting, the revised Environmental Scoping Report and taking into account any submissions received, from Interested Persons at its next available meeting. and may either:

(a) request further information from the Applicant;

(b) propose any reasonable amendments to the revised Environmental Scoping Report; and / or

(c) provide its opinion to the Applicant that it is satisfied with the revised Environmental Scoping Report.

6bis. If the Commission notifies the Applicant that its Environmental Scoping Report requires additional information, the Applicant may supply such additional information and resubmit its Environmental Scoping Report. The Commission shall consider such additional information and resubmitted report in accordance with the process provided for in this [Draft Regulation 20]. This process may be modified by the Commission in its discretion with respect to any particular Environmental Scoping Report following the Commission's initial review.

7. ~~The Commission's opinion that it is satisfied with an Environmental Scoping Report shall be provided as a preliminary indication only and shall not prejudice subsequent the review by the Authority of the Applicant's Environmental Plans. Where an Environmental Scoping Report is prepared and the Commission has given its opinion in respect of such report, the Authority shall not be obliged to reach any regulatory decision unless and until the Applicant has submitted an Environmental Impact Statement in accordance with these Regulations and the Exploitation Regulations, containing all of the information required by the Environmental Scoping Report.~~

Comment [CP42]: Not necessary in light of proposed procedural changes to Part VI.

#### Section 4: Environmental Risk Assessment and evaluation

**Commentary:** risk assessment (and management) are fundamental to the effective implementation of the Environmental Regulations / EIA process.

The purpose of this regulation is to outline a broad need for and the components of risk assessment. It is not intended to be overly prescriptive. Guidelines will deal more appropriately with relevant guidance on appropriate risk assessment methodologies (and

incorporated into an overall EIA process guideline). Work has already been performed in this area and can be built and expanded upon as necessary for activities in the Area.<sup>10</sup>

**Question:** Environmental risk assessment or Ecological risk assessment?

#### Draft Regulation 21

##### Environmental Risk Assessment and evaluation of likely Environmental **impacts** **Effects**

1. An Environmental Risk Assessment shall be undertaken by an Applicant in accordance with this regulation and the Authority's guideline document. The Environmental Risk Assessment shall be carried out in a scientifically sound manner and adopt internationally recognized risk assessment techniques.
2. An Environmental Risk Assessment shall:
  - a) identify all potential risks of Environmental Effects to the Marine Environment, including those which appear to be insignificant risks.
  - b) be based on Best Available Scientific Evidence and the application of the precautionary approach.
  - c) include an assessment of the scale, likelihood and consequences of the Environmental Effects, and thus the including any risk of Serious Harm to the Marine Environment and any possible risks to [Vulnerable Marine Ecosystems][protected ecosystems and habitats].
  - d) rank such possible risks in accordance with the Authority's guidance document as follows:
    - i. a potential significant risk;
    - ii. an uncertain risk;
    - iii. an insignificant risk.
3. Where a risk is identified as a potential significant risk or uncertain risk, further and appropriate sampling, data collection and monitoring may be required by the Authority so that more realistic assumptions and measurements can be made with a view to a more quantitative risk assessment and re-classification of risk categories.
4. Risks classified as potential significant risks are to be assessed as to whether they are Acceptable without further Mitigation. A risk of potential Serious Harm to the Marine Environment shall not be classified as Acceptable.
5. Uncertain risks shall, where practicable, be re-classified as either potential significant risks or insignificant risks, or assessed as to the risk posed by the uncertainty.
6. All risks, including insignificant risks shall ~~also~~ be documented and justified in the Environmental Impact Statement.
7. The burden of proof is on an Applicant to demonstrate that the risk of the Environmental **Impacts** **Effects**, and consequential Mitigation and management thereof, will meet the Environmental Objectives of the Authority and that the Plan of Work is environmentally Acceptable.

**Comment [CP43]:** Intended to better link the ERA to the EIS by keying both to "Environmental Effects."

**Comment [CP44]:** There should be a clear distinction throughout the regulations between "harmful effects," which are threshold for "effective protection" under Article 145, and "serious harm," which requires regulatory intervention and must be avoided. This distinction should also be reflected in an Applicant's risk reporting and management.

For further discussion, see Annex VI re: Standard Contract terms and Issue Paper #2: Serious Harm.

**Comment [CP45]:** This term is not defined in relationship to either "effective protection" or "Serious Harm." It would be helpful to clarify that Acceptable risks are those that provide for "effective protection" and avoid Serious Harm.

See Annex VI re: Standard Contract Terms.

**Comment [CP46]:** See DR 21.2(c) and accompanying discussion.

#### Section 5: Alternatives, Mitigation and management measures

##### Draft Regulation 22

##### Alternatives, Mitigation and management measures

1. An Applicant shall, based on the Environment Risk Assessment under Section 4 above, assess and determine: -

<sup>10</sup> For example: NIWA *Environmental risk assessment of discharges of sediment during prospecting and exploration for seabed minerals*, January 2014. See also NIWA *Preparing Environmental Impact Assessments: provisional guidelines for offshore mining and drilling in New Zealand*, September 2014.



- (a) the alternative risk prevention or management responses for potential **significant** risks that have been identified, quantified and qualified.
- (b) the management measures and responses for the potential **significant** risk including:-
  - i. [the Best Practicable Environmental Option].
  - ii. the management measures to be applied and their predicted long-term impact.
  - iii. assessment of the Residual Environmental **Impact Effect**, if any, following the successful implementation of the management measures.
  - iv. the timeframe and schedule for the implementation of the management measures.
  - v. the responsibilities for the implementation and long-term management of the measures (Closure Plan?).
  - vi. the monitoring programmes to be implemented to provide information and data to assess the **success of the implementation efficacy** of the management measures contemplated above.

**Comment [CP47]:** Not all risks may require a management response, but this determination should be made with respect to all risks. Their significance should determine the appropriate response, not whether or not they are evaluated.

**Comment [CP48]:** Proposed to clarify that the Applicant shall assess how effective the management measures are at addressing risks, not just whether they have been successfully implemented.

**Section 6: Matters to be taken into account in determining whether an activity (or component thereof) is likely to have a significant Environmental **Impact Effect****

**Commentary:** should these regulations provide appropriate criteria for determining the "significance" of the impact of an activity or is this better left to a guidance document, covering say risk assessment and the individual components of exploitation activities? Equally, can any impact thresholds or acceptable impact criteria be established at this stage? Or should this be a consideration for any strategic assessment process which duly informs project-level EIAs?

Many national jurisdictions do provide a list of criteria against which to assess whether a proposal has a significant effect on the environment. For example, Western Australia prescribes for a "significance test". Under that regime, the EPA will take the following matters into consideration:<sup>11</sup>

- (a) values, sensitivity and quality of the environment which is likely to be impacted;
- (b) extent (intensity, duration, magnitude and geographic footprint) of the likely impacts;
- (c) consequence of the likely impacts (or change);
- (d) resilience of the environment to cope with the impacts or change;
- (e) cumulative impact with other projects;
- (f) level of confidence in the prediction of impacts and the success of proposed mitigation;
- (g) objects of the Act, policies, guidelines, procedures and standards against which a proposal can be assessed;
- (h) presence of strategic planning policy framework;
- (i) presence of other statutory decision-making processes which regulate the mitigation of the potential effects on the environment to meet the EPA's objectives and principles for EIA; and
- (j) public concern about the likely effect of the proposal, if implemented, on the environment.

(The above matters do however relate to whether a particular proposal, that has been

<sup>11</sup> See *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2012* at clause 7.

referred to the EPA, should be assessed).

Draft Regulation 22bis

Evaluating Significance

1. The significance of a risk of an Environmental Effect shall be evaluated based on its potential to contribute to a significant adverse change in the Marine Environment. A significant change is one that meets any of the following criteria:
  - (a) it is not likely to be redressed through natural recovery within a reasonable period of time.
  - (b) it impairs the ability of affected populations to replace themselves.
  - (c) it degrades the long-term natural productivity of habitats or ecosystems.
  - (d) it results in a significant loss of species richness, habitat or community types, on more than a temporary basis.
  - (e) it meets other criteria for significance that may be reflected in an applicable Regional Environmental Management Plan.
2. Changes should be evaluated individually, in combination and cumulatively, taking into account the scale, intensity, duration and frequency of effects collectively.

**Comment {CP49}:** Certain significance criteria will necessarily be resource and region specific. Consequently, REMPs may incorporate additional, more specific criteria than those reflected here. Even still, the regulations should incorporate broad guidance on significance in order to guide the development of REMPs and provide a universally applicable set of qualitative standards against which significance may be evaluated

For further discussion, see Issue Paper #6: Significance of Environmental Impact.

## Part IV – Preparation of Environmental Plans

### Section 1: General

#### Draft Regulation 23

##### Applicant to comply with relevant guidelines and Regulations

An Application for approval of a Plan of Work for Exploitation shall be accompanied by the environmental documents listed in regulation 4(4)(b), (e), (g) and (h) of the Exploitation Regulations and be prepared in accordance with these Regulations and the Authority's [recommendations and](#) guidelines.

#### Draft Regulation 24

##### Authority's right to request separate Environmental Plans by Mining Area

**Commentary:** requires development of criteria based on characteristics relating to the physical, chemical, ecosystem, habitat and communities (receiving environment), scale of activities, proximity of areas etc. Where these are sufficiently similar, the Authority could permit a single set of plans (with each mining area described under separate chapter headings) with the onus on the applicant to demonstrate "sufficiently similar" in accordance with guidelines.<sup>12</sup>

**Note:** whatever approach is taken with regard to separate plans, a robust environmental impact assessment process is the primary requirement.

1. The Authority may, according to its application guidelines, accept a single set of Environmental Plans from an Applicant in respect of proposed mining activities at different ~~locations~~ [Environmental Impact Areas](#) within a proposed Plan of Work or may request separate Environmental Plans for each Mining Area detailed in a proposed Plan of Work. [The Authority shall, according to its application guidelines, request separate Environmental Plans for each Mining Area in respect of proposed mining activities at different locations within a proposed Plan of Work, unless the Applicant shows that a single set of Environmental Plans from an Applicant is appropriate according to the application guidelines.](#)
2. Where the Authority requires further information to determine the form of the application, the Authority shall within 30 days after the Application is made and by notice in writing require the Applicant to furnish such further information in writing.

#### ~~Draft Regulation 25~~

##### ~~Notice in respect of application for approval of Plan of Work~~

~~The Authority, in accordance with regulation 35, shall within 30 days of receipt of an application for approval of a Plan of Work for Exploitation, cause public notice of the Application on the Authority's website together with an outline of the evaluation process of the Environmental Plans, including the opportunity for Interested Persons Stakeholders to make submissions in accordance with these Regulations.~~

**Comment [CP50]:** We support the public notice provision outlined here. However, it seems to be captured in its entirety pursuant to Regulation 35, and should be broadened to apply to all Applicant Submissions as defined therein.

### Section 2: Environmental Impact Statement

<sup>12</sup> This should however become clear during any scoping process and discussions with the Authority as to specific requirements.

**Commentary:** Annex II will include the ISA EIS template as soon as this is finalized.<sup>13</sup> While that template will prescribe the detailed categories of data and information, this regulation should prescribe for the core components of the EIS. Furthermore, while the template shows the detailed categories, the level of detail required for each is unclear, including the appropriate methods and standards used / to be used to acquire data. The ISA will need to develop guidelines (or a best practice EIA manual) providing clear expectations for each item category.

**Draft Regulation 26**  
**Preparation of Environmental Impact Statement**

1. An Applicant shall prepare an Environmental Impact Statement in accordance with this Section 2.
2. The Environmental Impact Statement shall be in the form prescribed by the Authority at Annex II to these Regulations and shall:
  - (a) be in accordance with the Authority's guidelines.
  - (b) be based on the Environment Impact Assessment conducted according to Part III of these Regulations and, ~~where applicable,~~ in accordance with the Applicant's Environmental Scoping Report under regulation 20 above and its Environmental Risk Assessment under Regulation 21.
  - (c) be in accordance with the objectives and measures of the Authority's relevant **Strategic Regional** Environmental Management Plan.
  - (d) be prepared in accordance with Good Industry Practice and with regard to the guiding principles under Part II Section 2 of these Regulations.
  - (e) be prepared in plain language, being an official language of the Sponsoring State(s) together with, where applicable, an official English language version.
  - (f) provide relevant and sufficient information, as corresponds to the scale and potential magnitude of the Exploitation Activities and the associated Environmental **Impacts Effects**, to assess the likely **impacts effects**, including Cumulative **Impacts Effects**, of the proposed Exploitation Activities in the Environmental Impact Area(s) together with the necessary information to support conclusions and findings.
  - (g) be accompanied by the report of Appropriately Qualified Experts verifying its contents and assessing its conclusions.
  - (h) include a non-technical summary of the main conclusions and information provided to facilitate understanding of the nature of the activity, potential Environmental Effects, and any Mitigation and Monitoring by ~~Interested Persons~~ **Stakeholders**.
3. An Environmental Impact Statement will be subject to a review process involving **Interested Persons Stakeholders** under Part VI of these Regulations.

**Comment [CP51]:** Assumes that scoping report is made mandatory. See DR 20 and accompanying discussion.

**Draft Regulation 32**  
**Information requirements for the Environmental Impact Statement**

**Commentary:** The information requirements stipulated in this draft regulation need to be cross checked against the EIS template in due course. It is usual practice in most national jurisdictions to prescribe for the minimum information requirements in secondary legislation such as regulations together with the preparation of industry-specific guidelines.

<sup>13</sup> Further work was undertaken on the EIS template at the Gold Coast workshop in May 2016. A further review of the template is also an agenda item at the Berlin workshop in March 2017.

1. An Environmental Impact Statement shall include the following contents:

- (a) a description of the proposed Exploitation Activities covered by the Plan of Work including the location, phasing, duration and intensity of the proposed activities and Environmental Objectives.
- (b) an outline of the possible alternative locations for, or methods for undertaking the activity that may Mitigate any adverse effects studied by the Applicant, including the main reasons for the Applicant's choice of location and method, taking into account the technical ~~and economic~~ feasibility and Environmental ~~Impacts~~ Effects of any such alternatives.
- (c) a description of the initial Environmental Baseline reference point against which predicted ~~impacts~~ effects are to be compared [and a prediction of the future environmental baseline reference point in the absence of the proposed Exploitation Activities].
- (d) identification of the Environmental Impact Area(s)
- (e) an assessment of the Marine Environment likely to be ~~impacted~~ affected by the proposed Exploitation Activities as follows: -
  - i. Direct ~~Impacts~~ Effects.
  - ii. Indirect ~~Impacts~~ Effects.
  - iii. Cumulative ~~Impacts~~ Effects.
  - iv. Short-term, medium-term and long-term ~~effects~~ changes.
  - v. Permanent and temporary ~~effects~~ changes.
  - vi. Positive and negative ~~effects~~ changes.
- (f) a risk assessment of the nature, extent, duration, probability and significance of the identified potential ~~environmental~~ Environmental Effects, ~~social and cultural impacts~~ of the proposed Exploitation Activities, including Cumulative ~~Impacts~~ Effects, under (e) above ~~and their potential environmental, social, and cultural consequences~~, and evaluated in accordance with regulation 21.
- (g) a description of the methods and data used to forecast the Environmental ~~Impacts~~ Effects of the proposed Exploitation Activities including, where applicable, reference to the standards and protocols recommended and/or adopted by the Authority.
- (h) a determination of the appropriate Mitigation measures that are technically ~~and economically~~ feasible for each potentially significant adverse ~~impact~~ change of the proposed Exploitation Activities to prevent, reduce and offset such ~~impacts~~ change.
- (i) identification of the management and Monitoring measures, including appropriate Environmental Targets (environmental indicators<sup>14</sup>), to both Monitor the effectiveness of the Mitigation measures and to detect ~~unforeseen~~ Environmental Impacts Effects, ~~including unforeseen effects, and and that could~~ provide early warning of ~~Unforeseen potential~~ Serious Harm to the Marine Environment resulting from the Exploitation Activities as well as to deal promptly and effectively with likely Incidents.
- (j) details of the ~~quantity, nature and source of~~ proposed Mining Discharges including quantity, composition and variability, potential toxicity, temperature, salinity, and other physical attributes, during the period of the Exploitation Activities.

Comment [CP52]: See DR 8.2 and accompanying discussion.

Comment [CP53]: Suggest use of the term "change" as more appropriate - a "change" is the result of an "effect," which seems to be the intention.

For further discussion, see Annex VI re: Standard Contract terms and Issue Paper #2: Serious Harm.

Comment [CP54]: Monitoring should extend to all effects, not just those that are unforeseen.

<sup>14</sup> Environmental indicators would include setting targets / benchmarks for the physical, chemical or biological characteristics of the area to be impacted and appropriate monitoring against those benchmarks in IRZs and PRZs and action points determined. As knowledge of impacts and consequential effects advance, the nature and level of the activity can be used to set appropriate benchmarks.

- (k) ~~identification of unavoidable Environmental Impacts Effects and likely biological response.~~
- (l) consideration of the effects of the proposed Exploitation Activities on other users of the Marine Environment, including third parties undertaking or proposing to undertake Exploitation Activities in the adjacent areas.
- (m) details of the Consultation process followed with Interested Persons Stakeholders during the course of the Environmental Impact Assessment, a summary of issues raised and how such issues, if any, have been addressed.
- (n) details of the social impacts, socio-economic development factors and impacts, if any, on the cultural heritage.
- (o) details of the environmental policy and Environmental Management System adopted or to be adopted by the Applicant at the entity and operating levels.
- (p) details of the knowledge gaps and report on the adequacy of predictive methods, underlying assumptions and their longevity and uncertainties encountered in compiling the necessary information, including details of any evaluation based on theoretical approaches or research methods generally accepted in the scientific community.
- (q) in connection with any incomplete or unavailable information in evaluating a reasonably foreseeable significant Environmental ~~Impacts~~ Effects:
- i. identify further research or studies that are being undertaken and associated timeline for completion; and / or
  - ii. where such information is not obtainable without excessive cost or the means to obtain it are not known, make a statement that such information is incomplete or not available, and the reasons, and the potential consequences posed by the uncertainty.
- (r) demonstrate how, where applicable, the Precautionary Approach has been interpreted and applied in the conduct of an Environmental Impact Assessment and in the preparation of the Environmental Impact Statement, the rationale for its application and, where applicable, the precautionary measures proposed.
- (s) discussion of the methodologies used with reference to scientific, technical and other information in support of the information requirements above.
- (t) identification of further research or studies that are being undertaken and associated timeline for completion.
- (u) statement on how the objectives and requirements of the relevant Strategic Regional Environmental Management Plan will be addressed.
- (v) identification of ~~impacts effects~~ regulated by other bodies or agencies, including Sponsoring States, and flag States and international organizations and the details of any approval or compliance requirements satisfied or to be satisfied.
- (w) Description of effects on [Vulnerable Marine Ecosystems][protected ecosystems and habitats] and proposed mitigation of those effects.
- (x) Description of effects of noise and light on marine mammals, fish, and other organisms and proposed mitigation of those effects.
2. The Environmental Impact Statement shall provide for the full and fair discussion of the potential Environmental ~~Impacts~~ Effects. Such ~~impacts effects~~ shall be discussed in proportion to their significance. Where an Applicant considers an impact effect to be of no significance, there should be sufficient information to evidence such conclusion or a brief discussion as to why further research is not warranted.

Comment [CP55]: This would seem to have been captured by subparagraphs (e) and (f) and could therefore create confusion.

### Section 3: Environmental Management System

**Commentary:** this regulation sets the benchmark for an Environmental Management System equivalent to the principles of ISO 14001:2015 but will allow for the consideration of equivalent systems e.g. the EU Eco-Management and Audit Scheme (EMAS). The Authority may wish to list other acceptable national / regional equivalents for clarity.

Aside from an EMS being of an international standard, it should be capable of implementation at the operational / site-specific level, including that of agents and sub-contractors of a contractor.

#### **Draft Regulation 28 Requirements for Environmental Management System**

1. An Applicant shall demonstrate to the satisfaction of the Authority that it has adopted or will adopt and use an Environmental Management System that is in accordance with this regulation and the principles of Internationally Recognized Standards.
2. Environmental Management Systems shall be designed to achieve and maintain:
  - a. the Environmental Targets and the effective protection of the Marine Environment from the impacts Environmental Effects of mining activities and Pollution as identified in an Environmental Management and Monitoring Plan and Closure Plan.
  - b. a continuous improvement in Environmental Performance.
  - c. the delivery of the objectives and measures of the relevant Strategic Regional Environmental Management Plan.
3. Where an Applicant possesses or proposes to implement an Environmental Management System that is not equivalent to the principles of ISO 14001:2015, the Authority may, but shall not be obliged, to consider any alternative Environmental Management System provided that such system(s):
  - a. are in accordance with Good Industry Practice and Internationally Recognized Standards.
  - b. are capable of delivering site-specific environmental objectives and Environmental Targets in an Environmental Management and Monitoring Plan.
  - c. are capable of cost-effective, independent auditing by recognized and accredited international or national organizations; and
  - d. permit effective reporting to the Authority in connection with Environmental Performance.
4. The Authority may require verification by an Appropriately Qualified Expert that the Environmental Management System used or to be used by an Applicant is in accordance with the principles under paragraph 3. above.

#### **Section 4: Environmental Management and Monitoring Plan**

**Commentary:** The purpose of an EMMP is two-fold. First, it provides direction and focus to a contractor's environmental management of its exploitation operations. It is based on the outcomes of the EIA process (which must be dynamic as new learnings emerge). There should ideally be a standardization, and thus comparability, in assessment and monitoring. Secondly, it also provides a reference point for the Authority, as regulator, for inspection and enforcement purposes. An approved EMMP will form part of the Plan of Work and will be annexed to an Exploitation Contract.

There are 3 implementation stages of an EMMP: mitigation measures, monitoring the impacts of potential significance or uncertainty and an evaluation (and revision) process being a product of monitoring and assessment. This is particularly crucial for monitoring

cumulative impacts which may be uncertain or unknown at the time of the completion of the initial EIS / EMMP. The need for a regular (and prescribed review period) of an EMMP is paramount as is an Authority / sponsoring State-driven independent auditing process.

**Timing of delivery:** draft regulation 4(5) of the Exploitation Regulations states: "*The Commission may permit the delivery and submission of the Environmental Management and Monitoring Plan and Closure Plan at a date later to that of the original application.*"

This has drawn some concern in the stakeholder community that (i) an EMMP may not be in place prior to the commencement of mining activities and (ii) that an EMMP is not then subject to same level of public scrutiny as an EIS.

The draft wording above is to reflect a reality: that while an initial / draft EMMP may be prepared based on the EIA/EIS, it may be some time before a revised EMMP can be delivered as technology is further developed, constructed and further assessments conducted, including the likely full-scale testing of equipment prior to the commencement of commercial mining activities. (The same is equally true of a Closure Plan, though the finalization of this Plan will be some way down the line).

Furthermore, the regulations need to recognize the commercial realities. Investors / institutions are unlikely to commit funds for the bankable feasibility stage and construction until there is an approved Plan of Work in place.

This working draft (and the Exploitation Regulations will need to be harmonized accordingly) provides that no exploitation activities<sup>15</sup> will commence until approved plans are in place (see Draft Regulation 43(3)). One of the conditions attaching to any recommendation by the Commission / approval by the Council of a Plan of Work will be the delivery and approval of a revised EMMP / revised Closure Plan. It should be recognized that while the EMMP is a crucial document, much of its initial content will be derived from the EIA/EIS which will be the subject of detailed review and scrutiny.

Such a process follows land-based practices.

#### **Questions**

- Current drafting is on the basis of a single EMMP. However, is this correct or will there be a series of sub-plans (collectively an EMMP) dealing with specific components of the marine environment?
- Where environmental impacts have the potential to effect areas beyond the boundary of a Contract Area / Mining Area, what permissions should the Authority grant to a contractor to collect environmental data (monitoring) beyond its contract area? Or should there simply be an obligation placed on contractors to co-operate in both the collection of data and the reasonable placing of monitoring stations outside a contract area etc.?

<sup>15</sup> The definition of "Exploitation Activities" may need to be revisited / a definition of "Mining Activities" included so that it is made clear which activities may not commence until the necessary plans are in place. That is, "Exploitation Activities" includes "construction" and "other preparatory steps" which may not have environmental impact and need to progress.



### Draft Regulation 29

#### Preparation of Environmental Management and Monitoring Plan

1. An Applicant shall prepare an *initial* Environmental Management and Monitoring Plan in accordance with this Section 4 .
2. An Environmental Management and Monitoring Plan shall be in the form prescribed by the Authority at Annex III to these Regulations and shall:
  - (a) be in accordance with the Authority's guidelines.
  - (b) be based on the Environment Impact Assessment conducted according to Part III of these Regulations.
  - (c) be in accordance with the Authority's relevant **Strategic Regional** Environmental Management Plan.
  - (d) be prepared in accordance with Good Industry Practice and with regard to the guiding principles under Part II Section 2 of these Regulations.
  - (e) be prepared in plain language, being an official language of the Sponsoring State(s) together, where applicable, an official English language version.
  - (f) be verified by the report of Appropriately Qualified Experts **approved by the Authority**.
  - (g) include a non-technical summary of the main conclusions and information provided to facilitate understanding by **Interested Persons Stakeholders**.
3. The *initial* Environmental Management and Monitoring Plan will be subject to a review process by **Interested Persons Stakeholders** under Part VI below.
4. Where the Commission permits delivery of a final Environmental Management and Monitoring Plan at a date later to that of the original application under regulation 4(5) of the Exploitation Regulations, the Applicant shall deliver such final plan to the Authority at least 6 calendar months prior to the proposed commencement of mining activities in the relevant Mining Area.

**Comment [CP56]:** Expert qualification should be determined based on the standards set forth in definition of "Appropriately Qualified Expert." An approval mechanism for experts is not contemplated by the regulations.

For further discussion, see Code Project Issue Paper #7: Good Industry Practice; Best Environmental Practice

### Draft Regulation 30

#### Information requirements for the Environmental Management and Monitoring Plan

1. An Environmental Management and Monitoring Plan shall include the following contents:
  - (a) a description of the Marine Environment likely to be affected by the proposed Exploitation Activities.
  - (b) the environmental objectives.
  - (c) details of the Environmental Management System and the Applicant's environmental policy.
  - (d) an assessment of the potential **Impacts Environmental Effects** of the proposed Exploitation Activities on the Marine Environment, and any changes in the Marine Environment likely to result, including socio-economic conditions and cultural heritage, where applicable.
  - (e) a summary of the assessment of the significance of the potential Environmental **Impacts Effects** and the proposed Mitigation measures and management control procedures and responses to minimise **adverse the harm from** Environmental **Impacts Effects** consistent with the Environmental Impact Assessment and Environmental Targets.  
(e)bis a description of the Applicant's system for ensuring that it shall adhere to Good Industry Practice and a description of how such practices are reflected in the proposed Exploitation Activities.
  - (f) the planned Monitoring programme and performance assessment of the Environmental Management and Monitoring Plan, including environmental objectives set and the necessary risk assessment and management techniques to achieving the desired outcomes.

- (g) the location, and planned monitoring and management of Preservation Reference Zones and Impact Reference Zones.
- (h) a training programme for all persons engaged or to be engaged in activities in the Area by or on behalf of the Applicant.
- (i) details of the plan for review and environmental audit.
- (j) [A description of the Applicant's Environmental Management System, including any Environmental Targets that will trigger pausing, adjusting, and ceasing operations in accordance with \[Draft Regulation 49bis\].](#)

**Comment [CP57]:** This is consistent with an Adaptive Management Approach. See Regulation 49bis and accompanying discussion.

## Section 5: Closure Plan

### Draft Regulation 31

#### Purpose of Closure Plan

1. A Closure Plan shall set out the responsibilities of a contractor for the decommissioning and closure of activities in a Mining Area, including the post closure management and monitoring of Residual and Natural Environmental Effects. Closure also includes a temporary suspension in mining activities, such as the placing of an operation on care and maintenance.
2. The objective of a Closure Plan is to ensure that:
  - (a) at the date of cessation or suspension of mining activities in a Mining Area, a management and Monitoring plan is in place for the period prescribed in the Closure Plan.
  - (b) considerations relating to any such cessation or closure are made and a process is in place throughout the life of the mining activities.
  - (c) that the risks relating to Environmental **Impacts** **Effects** are quantified, assessed and managed including the gathering of information relevant to such closure or suspension.
  - (d) the necessary health and safety requirements are complied with.
  - (e) Residual Environmental Effects are identified and quantified.
  - (f) any Restoration or rehabilitation commitments will be fulfilled in accordance with predetermined criteria or standards.
  - (g) the mining activities are closed or suspended efficiently and cost-effectively; and
  - (h) Good Industry Practices are identified and developed for the benefit of future mining activities, the industry and mankind as a whole.

### Draft Regulation 32

#### Information requirements for the Closure Plan

1. An Applicant shall prepare an *initial* Closure Plan in the format prescribed by Annex IV to these Regulations, be in accordance with the Authority's guidelines and the relevant **Strategie Regional** Environmental Management Plan.
2. A Closure Plan shall contain:
  - (a) a description of decommissioning on the cessation of or suspension in mining activities.
  - (b) the environmental objectives for any such cessation or suspension.
  - (c) the on-going plan for the management and monitoring of the Marine Environment after such cessation or suspension.
  - (d) the management and monitoring of the Marine Environment following the temporary suspension of mining activities.
  - (e) the technical ~~and economic~~ feasibility of any restorative measures and rehabilitation of the affected area.
3. A Closure Plan shall specify the period during which the plan will be required. An Applicant shall determine such period in consultation with the Authority. The period shall be determined by

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reference to a specified day, on achieving a specified event or Environmental Target or compliance with specified standards.

4. The initial Closure Plan will be subject to a review process by ~~Interested Persons~~ Stakeholders under Part VI below.
5. The initial Closure Plan shall be reviewed and revised in accordance with Parts VIII and XII below during the term of the Exploitation Contract.

**Section 6: Emergency Response and Contingency Plan**

- *[In accordance with Exploitation Regulations but see Annex V]*

## Part V - Preliminary review of the Environmental Plans by the Authority

**Commentary:** the provision below is a procedural safeguard to ensure that an application is compliant with the Authority's RRP's. In practice the Authority (Secretariat) should work in parallel with an Applicant (and sponsoring States) so that when an application is made it has already been subject to scrutiny by the Authority.

### Draft Regulation 33

#### Review of Application for Approval of a Plan of Work: Preliminary review by the Authority

1. The Authority shall review the Environmental Plans within ~~60~~ up to 120 days of receipt of an application for approval of a Plan of Work and ensure that they conform to and have been prepared in accordance with these Regulations and the Authority's guidelines and that an Applicant has made all reasonable efforts to provide the information required.
2. The Authority may require the Applicant to provide any further information that it considers relevant to the plan(s) or where the Authority finds that the plan(s) do not conform to these Regulations, it shall notify the Applicant, indicating its reasons for any amendments to the plan(s). The Applicant may, within ~~45~~ 90 days, re-submit modified plan(s) to the Authority.
3. Once it considers that the Application is complete, the Authority shall forward the application to the Commission for consideration.
4. ~~The Authority may request the opinion of Appropriately Qualified Experts in connection with the submitted plans provided that such request is dealt with timeously and will not unduly delay the processing of the application for approval of a Plan of Work, is made with the knowledge of the Applicant and a copy of any opinion is supplied to the Applicant and made publicly available.~~

**Comment [CP58]:** This review, while preliminary, will nevertheless require the Secretariat to evaluate the completeness and usability of the information submitted by the Applicant. In light of this and noting the Secretariat may receive multiple applications in a short period of time, we believe 60 days is too short a timeline for this preliminary review. We also recommend allowing the Applicant more time to respond to ISA requests for additional information -- the emphasis should be on ensuring the receipt of quality information.

**Comment [CP59]:** This can be helpfully integrated into the consultation process in Part VI below.

## Part VI - Publicity and Consultation

**Commentary:** while the process below anticipates a formal and structured consultation process by the Authority, an Applicant should have undertaken appropriate levels of consultation with the “public” including experts during the EIA process. Details of such consultation should be reflected in the EIS.

This Part VI presents one option for consideration. The practicalities, logistics, cost and consequential effectiveness of a review process must be evaluated.

**Question:** Who pays for public participation? Should the Authority establish a fund to facilitate this?

**Comment [CP60]:** To facilitate timely and effective consultation, the consultative process should apply not only to Plans of Work, but should be expanded to include preliminary documents, including the Environmental Scoping Report [or Environmental Baseline Report if such report may be submitted separately]. This would also incorporate a more active role for Authority personnel in advising the Commission throughout the evaluation of these preliminary documents under Draft Regulation 38.

### Draft Regulation 34 General

1. Prior to the Commission's assessment of
  - (a) ~~[An Environmental Baseline data and report pursuant to [Draft Article 19 of the Environmental Regulations]]~~
  - (b) ~~[An Environmental Scoping Report pursuant to [Draft Article 20 of the Environmental Regulations]]~~
  - (c) ~~A Material Change to Environmental Plans under [Draft Regulation 48].~~
  - (d) Applicants under regulation 8 of the Exploitation Regulations,

~~(each an “Applicant Submission”)~~ the Authority shall ensure in accordance with its guidelines and pursuant to this Part VI, that ~~an-early~~ a timely and effective Consultation process is undertaken with ~~Interested Persons Stakeholders~~ on the ~~adequacy of the Applicant Submission and~~ possible effects of Exploitation Activities in the Area on the Marine Environment.

**Comment [CP61]:** Unless consolidated with the review of an Environmental Scoping Report.

2. Such Consultation shall include:
  - (a) the opportunity for ~~Interested—Persons Stakeholders~~ to be consulted in the environmental evaluation process and to whom comments, opinions or questions may be addressed.
  - (b) that when evaluation is made under these Regulations, due account is taken of the outcome of such Consultation with ~~Interested Persons Stakeholders~~; and
  - (c) that the Authority informs ~~Interested Persons Stakeholders~~ about the evaluation made, the reasons for any recommendations and the matters taken into consideration in making the evaluation including information relating to the Consultation process.

### Draft Regulation 35

#### Public notification of ~~application for approval of a Plan of Work and access to Environmental Plans~~ an Applicant Submission

1. The Authority shall, by way of a notice on its website and through other electronic media, make known that a ~~application for approval of Plan of Work including the Environmental Plans~~ Applicant Submission has been made to the Authority.
2. Such notice will: -
  - (a) provide details of the Applicant.
  - (b) ~~With respect to an Environmental Scoping Report or application for approval of a Plan of Work,~~ a statement of the nature, size and location of the proposed Exploitation Activities.

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- (c) invite ~~Interested Persons Stakeholders~~ to submit comments in writing in and in accordance with the review procedures reflected in this Part VI to these Regulations and the Authority's guideline on a Consultation process.
- (d) outline such process, including timelines.
- (e) prescribe the format of any submissions by ~~Interested Persons Stakeholders~~ to facilitate efficiency in the review of such submissions by the Authority.
- (f) provide information on access to copies of the ~~plans Submissions~~ and to other Environmental Information relevant to the ~~plans Submissions~~.
- (g) state that all submissions by ~~Interested Persons Stakeholders~~ will be made publicly available, unless a request for confidentiality is made.
- (h) provide relevant address and contact details for any submission.

**Draft Regulation 36**

**Review of the Environmental Plans by ~~Interested Persons Stakeholders~~ and Appropriately Qualified Experts**

1. Where the Authority is satisfied that ~~the plans are plans~~ an Applicant Submission is complete and satisfactory in accordance with ~~Part V to the relevant part of~~ these Regulations, the ~~plans Applicant Submission~~ together with other relevant Environmental Information will be made available for public inspection at the Authority's website for a period of ~~60 90~~ Days. During this period, comments, opinions, questions may be submitted by ~~Interested Persons Stakeholders~~ to the Secretary-General on behalf of the Commission.
2. The Authority shall, in its reasonable opinion, determine whether the submission or representation made is relevant to the plans according to its guidelines. If the Authority concludes that the submission or representation is not relevant to the ~~Application Applicant Submission~~, it need not have any further regard to such submission.
3. An Applicant shall, at any time during the review period, make known to the Authority any material changes to the plans as the result of new knowledge or information. The Authority shall evaluate such changes and, where appropriate, make such information publicly available.
4. ~~The Authority may request the opinion of Appropriately Qualified Experts in connection with the submitted plans provided that such request is dealt with timeously and will not unduly delay the processing of the application for approval of a Plan of Work, is made with the knowledge of the Applicant and a copy of any opinion is supplied to the Applicant and made publicly available~~

**Comment [CP62]:** The Authority should have the opportunity to engage expert advice with respect to all submissions that are subject to its review and should be encouraged to do so while it is building its own capacity.

**Draft Regulation 37**

**Applicant's response to submissions by ~~Interested Persons Stakeholders~~**

1. Following the close of the Consultation period, the Authority shall provide a copy of all relevant submissions to the Applicant.
2. In consultation with the Authority, the Applicant may make an arrangement to address the submission either directly with ~~Interested Persons Stakeholders~~ or to provide the Authority with such information as is reasonably required to adequately address the relevant submission. In either case, the Applicant shall take such action as is necessary to address the relevant submission made within ~~60 120~~ days of the date of the determination by the Authority.
3. The Applicant may clarify, review or modify its ~~Application for approval of a Plan of Work Applicant Submission~~ to address issues raised by ~~Interested Persons Stakeholders~~.

**Comment [CP63]:** It is important for the Applicant to respond to stakeholder comments; changing this to a flexible timeline of "up to" 120 days is not prescriptive and will allow Applicants to provide higher quality responses to comments.

**Draft Regulation 38**

**Authority's review and report on submissions**

A Discussion Paper on the development and drafting of *Regulations on Exploitation for Mineral Resources in the Area (Environmental Matters)*

1. The Authority shall review the relevant submissions from ~~Interested-Persons~~ Stakeholders together with the responses to such submissions and any ~~modified-plans~~ modifications submitted by the Applicant.
2. The Authority shall prepare an assessment report for the Commission containing:
  - (a) an overview of the ~~Application~~ Applicant Submission and a summary of pertinent issues including an assessment of the Environmental ~~Impacts~~ Effects and associated management and Mitigation measures.
  - (b) an assessment of the adequacy of ~~Environmental-Baseline-information~~ of the Applicant Submission with regard to the relevant criteria in these Environmental Regulations.
  - (c) an outline of the methodologies used by the Applicant, including, if applicable, its Environmental Risk Assessment methodology.
  - (d) an outline of any uncertainties in the ~~plans~~ Applicant Submission relating to lack of information or knowledge and how the precautionary approach has been applied by the Applicant together with any proposed precautionary measures, if applicable.  
(d)bis its views regarding the applicability of an Adaptive Management approach and any related conditions on such an approach;
  - (e) an outline of the public review process conducted by the Authority and a list of submissions received, categorized by stakeholder category.
  - (f) detail the issues raised by ~~Interested-Persons~~ Stakeholders and the Applicant's responses and information provided.
  - (g) advice or opinions received from Appropriately Qualified Experts engaged by the Authority.
  - (h) details of any proposed amendments to the application for approval of a Plan of Work following Consultation process.
3. The Authority shall complete the assessment report for the Commission at least 30 days prior to the next meeting of the Commission and shall make such report publicly available.

**Comment [CP64]:** This would include the adequacy of baseline data submitted either in a scoping report or separately.

## **Part VII - Consideration of the Environmental Plans by the Legal and Technical Commission**

### **Section 1: General**

#### **Draft Regulation 39 General**

The Commission shall examine and consider applications in accordance with regulation 7 of the Exploitation Regulations. For the purposes of this Part VII, such examination shall include the following documents: -

- (a) the assessment report prepared by the Authority [Secretariat] under regulation 38 above.
- (b) the Applicant's Environmental Impact Statement(s).
- (c) the Applicant's *initial* Environmental Management and Monitoring Plan.
- (d) the Applicant's *initial* Closure Plan.
- (e) the Emergency Response and Contingency Plan.
- (f) the submissions received following the review of the plans by ~~Interested Persons~~ Stakeholders under Part VI to these Regulations; and
- (g) other relevant information in connection with the plans in (b) to (e) above, including any advice received from Appropriately Qualified Experts.

### **Section 2: Process and procedure for recommendations relating to the evaluation of the Environmental Plans by the Commission**

#### **Draft Regulation 40 Facilitating involvement of ~~Interested Persons~~ Stakeholders in environmental decision-making**

**Commentary:** The Authority will need to develop appropriate rules of procedure for open meetings, the conduct of such meetings and who should attend such meetings. In terms of logistics and practicalities, observers to the Authority, representatives from Member States & Sponsoring States, the Applicant and Appropriately Qualified Experts involved in the preparation of the plans or providing opinions, should have access. The procedure should also govern the exclusion of confidential matters from open discussion. Equally, the procedure should afford an applicant a fair opportunity to respond to questions and points raised by the Commission and by others attending a meeting / hearing. Access to Environmental Information and the plans is a pre-requisite under the data management and data sharing mechanism / strategy.

The Authority shall make diligent efforts to involve ~~affected parties~~ Stakeholders in the evaluation process relating to the Environmental Plans and related Environmental Information pertaining to the Plan of Work and the Area, including timely access to relevant Environmental Information and timely notification of open meetings to be held by the Commission in respect of Environmental Evaluation.

#### **Draft Regulation 41 Matters to be taken into account by the Commission**

**Commentary:** it is self-evident from the complexity of evaluating a Plan of Work for exploitation, that there will need to be a re-think of the operational practices (including appropriate skill sets and resourcing) of the Secretariat, the Commission and the



Council.<sup>16</sup> How long will a Plan of Work take to complete? How long will a Plan of Work take to evaluate, assess and review? How many Plans of Work will be under evaluation at any one time? (And how will this translate into monitoring, compliance and enforcement?). What benchmarks can be set from land-based / O&G regimes?

Inherent in these regulations is an adequately staffed Secretariat and flexibility in the timings and meetings of the Commission<sup>17</sup>: the substance of the regulations needs to drive the form and functioning of the Authority.

Timelines are of significance in the application process and will need to be assessed, revised and harmonized across all sets of regulations in due course.

The Commission, in considering an Applicant's financial capability and technical capability and other matters prescribed by regulation 8 of the Exploitation Regulations, in particular that a Plan of Work provides for the effective protection of the Marine Environment, shall take account of the following in relation to an Evaluation of the adequacy of the Environmental Plans submitted as part of such Plan of Work and its implementation: -

- (a) the Rules of the Authority.
- (b) the guiding principles listed in Part II, Section 2 to these Regulations.
- (c) the relevant [Strategic Regional Environmental Management Plan](#).
- (d) the Environmental ~~Impacts~~ [Effects](#), Direct and Indirect, spatial and temporal, including Cumulative ~~Impacts~~ [Effects](#) (from the proposed Mining Area itself and in combination with other mining activities).
- (e) the importance of protecting [species richness](#), biological diversity and marine ecosystems, [including community structure, genetic connectivity among populations, ecosystem functioning, and ecosystem services on the seabed, at the sea surface, in midwater and in the Benthic Boundary layer.](#)  
[\(e\)bis. the importance of avoiding Serious Harm to the Marine Environment.](#)
- (f) the importance of protecting Vulnerable Marine Ecosystems and habitats [and protecting and preserving rare or fragile ecosystems as well as the habitat of depleted, threatened, or endangered species and other forms of marine life.](#)
- (g) the social impacts and cultural heritage.
- (h) current knowledge (Best Available Scientific Evidence), technology and the adoption of Best Environmental Practices.
- (i) the use and application of Internationally Recognized Standards, protocols and methodologies.
- (j) Good Industry Practice in relation to Exploitation Activities in the area.
- (k) the effect of measures, either in whole or part, to Mitigate any adverse effects on the Marine Environment.
- (l) submissions made by a Sponsoring State(s).
- (m) the relevant submissions made in respect of the Environmental Plans by ~~Interested Persons~~ [Stakeholders](#) and any resulting modifications to the plans.
- (n) any advice or reports sought from Appropriately Qualified Experts in respect of the plans to verify, clarify or substantiate the information provided, methodology used or conclusions drawn by the Applicant.

<sup>16</sup> The Article 154 highlights these matters particularly in connection with Recommendation Nos. 5, 10, 17, 18, 25, and 26.

<sup>17</sup> Recommendation No. 18 of the Article 154 review speaks specifically to the operational practice of the Commission and alternative ways of working.

(n)bis. the report prepared by the Authority pursuant to [Draft Regulation 38]

- (o) other users of the marine environment, including adjacent third party Exploration or Exploitation Activities.
- (p) any uncertainties or inadequacies in the data or information available, the application of the Precautionary Approach and relevant precautionary measures.
- (q) the use, where applicable, of an Adaptive Management approach.
- (r) the capacity of the Applicant to Monitor key environmental parameters and ecosystem components so as to identify any adverse effects of mining activities and to provide for the modification of management and operating procedures as may be necessary in the light of the results of Monitoring or increased knowledge of the receiving Marine Environment.
- (s) the adequacy of Environmental Management Systems to deliver the environmental objectives and Environmental Targets.
- (t) the technology and procedures necessary to provide for safe operations and compliance with the terms of the Environmental Management and Monitoring Plan and the Closure Plan.
- (u) the capacity of the Applicant to respond effectively to Incidents, particularly those with potential environmental effects in accordance with the Emergency Response and Contingency Plan.
- (v) where applicable, the previous environmental record of responsibility of the Applicant.
- (w) any further information supplied by the Applicant prior to and during the period of the Commission's evaluation; and
- (x) the recommended modification or amendment of the Plan of Work in accordance with regulation 9 of the Exploitation Regulations and Section 3 below and the extent to which such amendments and modifications (the conditions) will contribute toward Best Environmental Practices, the Precautionary Approach, Mitigation Measures, the Environmental Performance of the Applicant and the objectives of the Convention.

### **Section 3: Amendments, modifications (the conditions) attaching to the Plan of Work in respect of Environmental Matters**

#### **Draft Regulation 42**

##### **Amendments and modifications of the Environmental Plans**

1. The Commission may, in accordance with regulation 9 of the Exploitation Regulations, request an Applicant to amend or modify its Application or propose specific amendments for consideration by the Applicant with respect to such matters as contemplated by these Regulations or as considered necessary or expedient for the purposes of the effective protection of the Marine Environment in accordance with Good Industry Practice, having due regard to the state of development of activities in the Area.
2. The Commission shall give due regard to the reasonableness of any proposed amendment or modification (the condition(s)) and the technical ~~and economic~~ constraints of such amendment or modification.
3. Following the Commission's evaluation of the adequacy of the Environmental Plans, the Commission shall consider the following in connection regulation 41(w) above, unless such conditions have already been proposed by the Applicant and evaluated by the Commission: -
  - (a) obtain and maintain a specific category or specific amount of insurance.
  - (b) specific tests and / or environmental Monitoring to be conducted and specific reporting on the results of such tests and / or Monitoring.
  - (c) the appointment of an observer to monitor the Exploitation Activities and their effects on the Marine Environment.
  - (d) the provision of an Environmental Performance Guarantee in accordance with regulation 44 below.

- (e) specific Environmental Performance objectives and / or specific Environmental Targets.
  - (f) specific conditions on Mining Discharges.
  - (g) specific environmental auditing and verification requirements conducted by Appropriately Qualified Experts.
  - (h) the duration of any proposed amendments and timing of their review.
  - (i) where applicable, conditions relating to an Adaptive Management approach under Part IX Section 1 to these Regulations.
  - (j) the timing of any proposed review of the Environmental Plans.
  - (k) the delivery of, where applicable, a revised Environmental Management and Monitoring Plan and revised Closure Plan in accordance with regulation 43 below.
4. Where the Commission proposes any amendment to or conditions on the Environmental Plans, the Commission shall provide the Applicant a brief justification and rationale for such proposed amendment.

#### **Section 4: Delivery of a revised Environmental Management and Monitoring Plan and revised Closure Plan**

##### **Draft Regulation 43**

##### **Procedure for the delivery of the revised Environmental Management and Monitoring Plan and revised Closure Plan**

1. The Commission shall agree the date for the delivery of the revised Environmental Management and Monitoring Plan and revised Closure Plan together with the details of any further work to be performed by an Applicant or Contractor. Such date shall not exceed the period under regulation 29(4) above.
2. Within 30 days of receiving the final plans, the Authority shall: -
  - (a) determine the plans meet the criteria and requirements determined by the Council, based on the Commission's recommendations, and is approved.
  - (b) advise the Applicant that amendments are required; and / or
  - (c) advise the Applicant of a timeframe extension for further evaluation of the plan including possible assessment by Appropriately Qualified Expert(s); and / or
  - (d) place the final plans on its website for a period of 30 days and invite any comments from ~~Interested Persons~~ Stakeholder or Appropriately Qualified Experts in connection with the final plans.
- ~~3. A Contractor shall not commence mining activities in the Contract Area until such time that the Authority has approved, in writing, the revised Environmental Management and Monitoring Plan(s) and revised Closure Plan(s).~~

#### **Section 5: Environmental Performance Guarantee ("environmental bond")**

**Commentary:** the rationale for an environmental performance guarantee (or so-called "environmental bond") requires further elaboration. In a land-based context, such a bond aims to secure compliance for remediation, rehabilitation, removal of equipment etc. In the context of mining activities in the Area, vessels and equipment are mobile and the technical feasibility of restoration of the seafloor is not considered viable (currently).

However, there will be a need for monitoring impacts in the longer-term following the cessation (or suspension) of mining activities relating to loss of habitat, recolonization in preservation areas, impact of sedimentation and the potential for restoration, to the extent practicable, of any unexpected adverse impacts. Equally, for what period should, say, post closure monitoring obligations be the responsibility of a contractor versus

**Comment [CP65]:** As a matter of process, this should be keyed to the execution of a contract, a condition of which should be an approval in writing. This is a prerogative that would seem best left with the Council, subject to the Commission's recommendations.

responsibility under say the environmental liability trust fund?

**Note:** the rationale and content in this regulation has yet to be fully articulated across the stakeholder base. While in principle the provision of a bond is prudent and good practice under land-based regimes, the full payment regime package is under discussion<sup>18</sup> (together with the related development of the rules relating to responsibility and liability in the Area). Consideration of other market-related instruments / economic incentives is required and the mix as to what best suits the Area regime, discussed and adopted.

#### **Draft Regulation 44**

##### **Provision for a Financial Guarantee or Security**

1. The Council, based on the recommendations of the Commission and Good Industry Practice, may require an Applicant to lodge with the Authority a Financial Guarantee or Security (the Environmental Performance Guarantee) in favour of the Authority, the repayment of which is conditional on a Contractor taking specified action within a prescribed period to achieve compliance under these regulations including implementation of the Closure Plan.
2. The Council shall impose a condition requiring provision of an Environmental Performance Guarantee where such imposition is justified in view of:
  - (a) the degree of risk of Serious Harm to the Marine Environment associated with the mining activities contemplated under the Plan of Work.
  - (b) the likelihood of action being required by the Authority to make good any resulting damage to the Marine Environment.
  - (c) to secure fulfilment of the post closure monitoring obligations of a Contractor detailed in the Closure Plan; or
  - (d) in connection with Emergency Orders under Part XV to these Regulations.
3. A Contractor shall make provision for an Environmental Performance Guarantee by no later than [the Effective Date / Prior to the commencement of mining activities in the Contract Area], save that where the Commission recommends and the Council approves, the quantum of an Environmental Performance Guarantee may be provided by way of instalment over a specified period.
4. The quantum of an Environmental Performance Guarantee contemplated by this regulation shall be an amount that in the reasonable opinion of the Authority reflects the total of the likely costs (including those relating to contingency measures under regulation 80), expenses, loss and damage that may be incurred as a result of failure by a Contractor to satisfy the conditions of discharge or repayment of the Environmental Performance Guarantee and shall continue to be sufficient to ensure that all steps in the Closure Plan can be completed in a satisfactory manner should the Contractor fail to implement the Closure Plan.
5. The Environmental Performance Guarantee shall be in a form approved by the Authority according to regulation 10 of the Exploitation Regulations and on such terms and conditions approved by the Council according to the Authority's guidelines.
6. The quantum of the Environmental Performance Guarantee shall be reviewed and, where applicable, recalculated: -
  - (a) annually by the Contractor and based on any change(s) to the Environmental Management and Monitoring Plan and Closure Plan; and
  - (b) by the Authority and the Contractor at the time of the review of the Closure Plan under regulation 68.

<sup>18</sup> See Conference Report on the Deep Seabed Mining Payment Regime Workshop (San Diego, 17-18 May 2016). Available at <https://www.isa.org.jm/files/documents/EN/Pubs/2016/DSM-ConfRep.pdf>.

7. A Contractor shall be obliged, where applicable, to adjust the quantum of the Environmental Performance Guarantee within 30 days of a review date [or where there has been a fundamental change in the financial capability of a contractor to fulfil the requirements of these regulations] and to execute and lodge with the Authority a variation in the existing or new Environmental Performance Guarantee.
8. Where a Contractor fails to satisfy the conditions of discharge or repayment of an Environmental Performance Guarantee, the Council may determine that either whole or part of the Environmental Performance Guarantee is forfeited to the Environmental Liability Trust Fund.
9. Where the Authority or Contractor cannot agree on the quantum of the Environmental Performance Guarantee within a reasonable period, either party may apply for an administrative review under regulation 57 of the Exploitation Regulations,
10. The Environmental Performance Guarantee shall be released by the Authority on the expiration of [5] years after the expiry or termination of the Exploitation Contract provided that a Contractor has fulfilled the obligations in the final Closure Plan. To this end, the Authority may request a report from an Appropriately Qualified Expert that the obligations in the final Closure Plan have been satisfactorily fulfilled.
11. Where an Environmental Performance Guarantee is required by the Council under this regulation, a Contractor may not commence any mining activities unless it has provided for an Environmental Performance Guarantee in a form acceptable to the Authority and any conditions which guarantees the availability of sufficient funds for the due fulfilment of its obligation under the Exploitation Contract.
12. The provision of an Environmental Performance Guarantee by a Contractor does not limit the responsibility and liability of a Contractor according to the Rules of the Authority.

## **Section 6: Commission's recommendations to the Council on its evaluation of the Environmental Plans and conditions**

### **Draft Regulation 45**

#### **Factors to be considered by the Commission**

1. The Commission, in accordance with the Authority's evaluation criteria, and having taken due account of the matters to be taken into account under regulation 41, shall consider whether the Applicant: -
  - (a) has undertaken an Environmental Impact Assessment in accordance with these Regulations and the Authority's guidelines and Good Industry Practice, based on an adequate Environmental Baseline Study and internationally recognized risk assessment methodologies.
  - (b) has demonstrated that the planned mining activities will not cause ~~foreseeable~~ Serious Harm to ~~Vulnerable Marine Ecosystems to the Marine Environment~~ and that plans are in place to deal with any Unforeseen Serious Harm.
  - (c) has or will have access to and prior to the commencement of mining activities, the necessary technology, management practices and procedures to provide for the effective protection of the Marine Environment, including evidence of Best Available Technologies.
  - (d) has adequately described areas of scientific uncertainty in connection with the Environmental ~~Impacts~~ Effects and any changes in the Marine Environment likely to result and that plans are in place to acquire further data within reasonable technical and financial constraints
  - (e) has provided evidence that the precautionary approach has been, and will continue to be, integrated into the Applicant's risk assessment and management processes and determination of Protective Measures.

**Comment [CP66]:** Serious Harm is a threshold for the entire Marine Environment, not just VMEs.

For further discussion, see Issue Paper #2: Serious Harm

(f) has the necessary access to insurance products that are appropriate to the financing of exposure to environmental risk.

(g) has the financial capacity and technical capability: -

- i. to Monitor key environmental indicators and ecosystem components so as to identify, assess, manage and Mitigate the Environmental ~~Impacts~~ Effects of mining activities, particularly in the event that environmental Monitoring and protocols indicate that ~~Unforeseen~~ Serious Harm on the Marine Environment are developing or there is a risk of such effects developing.
- ii. to respond effectively to Incidents, particularly those that might cause Serious Harm to the Marine Environment, including compliance with Emergency Orders.

**Comment [CP67]:** Foreseeability should not be a threshold for avoiding Serious Harm, but assuming that a Plan of Work must avoid all Foreseeable Serious Harm, it is appropriate to monitor for such harm as may be unforeseen.

2. The Commission shall apply the guiding principles under Part II Section 2 in the conduct of its Evaluation under this regulation.

#### **Draft Regulation 46**

##### **Commission may obtain further advice**

1. Following the consideration of the matters under regulation 45 above, and prior to the preparation of an Evaluation Report to the Council, the Commission, in accordance with its Rules of Procedure and in discussion with the Applicant, may, on any matter under the Commission's consideration: -
  - (a) seek the views or opinions of Appropriately Qualified Experts; and / or
  - (b) seek the views of any persons directly affected by the proposed Plan of Work; and / or
  - (c) convene a further open meeting with ~~Interested Persons~~ Stakeholders to facilitate a further exchange of views and opinions on specific matters; and / or
  - (d) commission an independent review by a panel of Appropriately Qualified Experts.
2. Where, in the Commission's reasonable opinion, there is a material difference of opinion concerning:
  - (a) the basis for, or validity of scientific information, including its degree of certainty relating to an Environmental Impact; and / or
  - (b) the basis for, and effectiveness of any proposed management and Mitigation measures and responses; and / or
  - (c) the application of and criteria for an Adaptive Management approach,

and such difference of opinion relates to an environmental component of an Application that is of key significance to the outcome of the Commission's Evaluation, the Commission shall refer the matter for an independent review under paragraph 1(d) above. The Commission shall be obliged to take into account the findings of the independent review in its Evaluation of the Plan of Work.

#### **Draft Regulation 47**

##### **Evaluation Report to the Council**

1. The Commission, in the case of each recommendation on Plan of Work made to the Council in accordance with regulation 11 of the Exploitation Regulations, shall prepare and include an Evaluation Report<sup>19</sup> for the Council based on the Commission's Evaluation of the Environmental Plans containing, *inter alia*:
  - a) a statement on its opinion as to the adequacy of the Environmental Plans and the main reasons for its recommendations and conclusions.
  - b) an outline of the matters and information that the Commission took into consideration in evaluating the plans.

<sup>19</sup> Under Article 165(2)(b) of the Convention, the Commission is obliged to "base its recommendations solely on the grounds stated in Annex III and shall *report fully* thereon to the Council".

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- c) details of the Consultation processes undertaken by and between the Applicant, sponsoring States and the Commission with **Interested Persons Stakeholders**, including the dates and times of the open meetings held by the Commission and the results of such Consultations with a summary of the issues raised.
  - d) details of the alternatives considered by the Applicant and the Commission's response.
  - e) the main Environmental **Impacts Effects** of the proposed Plan of Work, including an assessment of Cumulative **Impacts Effects**.
  - f) any adverse Environmental **Impacts Effects** that cannot be avoided should the Plan of Work be implemented.
  - g) a description of the measures that will be taken by the Applicant to Mitigate the principal adverse effects of the mining activities and an assessment as to whether all practicable measures to Mitigate harm to the Marine Environment have been considered, within reasonable technical **and economic** constraints.
  - h) an outline of the Monitoring that will be conducted by the Applicant.
  - i) a description of the main areas of uncertainty and consequential environmental risk in the Plan of Work relating to scientific uncertainty, knowledge and information gaps.
  - j) details of any further studies, research and reporting proposed by the Applicant in consultation with the Commission to reduce the uncertainties and environmental risk under (i) above.
  - k) a summary of the opinions or findings of Appropriately Qualified Experts or panel of such experts engaged by the Authority or the Commission.
  - l) a statement on how the Precautionary Approach has been applied by the Applicant in the preparation of its Plan of Work and by the Commission in its Evaluation of the Plan of Work, including the rationale for, and any precautionary measures proposed as a result of, its application.
  - m) details of the Commission's recommendations on the modification(s) or amendment(s) to the Environmental Plans.
2. The Authority shall forward a copy of the Commission's Evaluation Report to the Applicant.
  3. The Applicant may, within 30 days request the Commission to annex any comments relating to the Commission's Evaluation Report, including comments relevant to: -
    - (a) any errors.
    - (b) the technical **and economic** feasibility of any modifications or amendments recommended by the Commission.
    - (c) the results of any further research or findings by the Applicant; and
    - (d) any other relevant information the Applicant considers relevant to the report.
  4. The Authority shall make the Evaluation Report, together with any comments made by an Applicant under paragraph 3 above, publicly available on its website.

**For consideration:** as part of the responses to the Authority's stakeholder survey in 2014, one stakeholder suggested the use of the US EPA's rating criteria for rating the impact of an action and the adequacy of an EIS.<sup>20</sup> These provide high level but easily understood evaluation criteria for non-technical readers. These could be of relevance to the Authority. An example of the criteria wording is as follows:

**Rating the Environmental Impact of the Action**

- **LO (Lack of Objections):** The review has not identified any potential [marine] environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the

<sup>20</sup> See <https://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria>.

proposed action.

- **EC (Environmental Concerns):** The review has identified [marine] environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections):** The review has identified significant [marine] environmental impacts that should be avoided in order to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative).
- **EU (Environmentally Unsatisfactory):** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the proposed action must not proceed as proposed. The basis for an environmentally unsatisfactory determination consists of identification of environmentally objectionable impacts as defined above and one or more of the following conditions: [ ].

**Rating the adequacy of the EIS**

- **(Adequate)**
- **(Insufficient Information)**
- **(Inadequate)**



## Part VIII – Modification and Periodic Review of the Environmental Plans [EMMP / Closure Plan]

**Commentary:** an assessment must be made as to what the triggers are / is for changes to EMMPs and Closure Plans i.e. Material Changes, once the original (or revised) plans have been approved. Guidelines should be produced and a process developed. Ideally, the change should be assessed against relevant criteria, including the significance of the proposed change and any consultations held. The drafting of this Part VIII presents a starting point for discussion.

What process and procedure needs to be adopted for any “material changes” to a Plan of Work that impacts the environmental plans?

Equally, what of the original EIA as the basis for the EMMP / Closure Plans? An EIA process is iterative.

### Draft Regulation 48

#### Modification of the Environmental Plans

1. A Contractor shall not modify the Environmental Plans forming part of a Plan of Work, except in accordance with regulation 18 of the Exploitation Regulations and this Part VIII.

1bis. A Contractor shall notify the Authority of all proposed changes to its Environmental Plans or deviations from its Environmental Management and Monitoring Plans. Such notice shall be made public by the Authority.

1ter. The Authority shall review any changes and within [10 days] may notify the Contractor of any change that it considers to be a Material Change. A Material Change must be approved by the Council and shall be considered to be an “Applicant Submission” subject to the provisions of Part VI.

1quater. In evaluating where a proposed change in a Material Change, the Authority shall consider whether the change is likely to increase the Contractor’s:

- (a) Environmental Effects
- (b) severity of Environmental Effects
- (c) potential for Serious Harm
- (d) scale
- (e) duration
- (f) Cumulative Effects

The Authority may consult Appropriately Qualified Experts to assist in determining whether a change is a Material Change.

1quinquies. Where a Material Change represents a deviation from the Contractor’s Environmental Plan that has already occurred, the Authority shall take such action under [Draft Regulation 72] as necessary to ensure the effective protection of the Marine Environment, pending further consultation between the Authority and Contractor regarding modifications to the Environmental Plans.

2. The Authority may, ~~in consultation with~~ require that a Contractor, ~~vary or amend the Environmental Plans where there is a Material Change relating to, arising from or~~ as a consequence of:

- (a) ~~a proposed change in the scale or intensity of mining activities;~~
- (b) ~~Environmental Incidents;~~
- (c) a required improvement in Environmental Performance resulting from any changes to the Authority’s rules and regulations; and.
- (d) Environmental audits; ~~and that demonstrate non-compliance with the Authority’s rules and regulations including the prohibition on activities that may cause Serious Harm in [Draft Regulation 50(1bis)].~~

**Comment [CP68]:** Modifications may emerge in one of three ways - at the request of a Contractor, as a matter of practice during operations, or at the instigation of the Authority. It will be helpful to distinguish between these three pathways in this provision.

For further discussion, see Issue Paper # 10: Modification and Periodic Review of EMMPs and Closure Plans.

**Comment [CP69]:** The Authority should be encouraged to consult such experts - or groups of experts - as it develops its capacity.

**Comment [CP70]:** The Authority needs a mechanism to ensure that Contractors remain current with the Authority’s rules and regulations as they may evolve from time to time. This may require that a Contractor consent to such amendments as a condition of its Contract. This determination turns on the Authority’s review and revisions of its

For further discussion, see Issue Paper # 10: Modification and Periodic Review of EMMPs and Closure Plans.

**Comment [CP71]:** These are now captured in the paragraphs above.

~~(e) the impact of mining activities on the Marine Environment as the direct result of increased scientific knowledge, information or experience, including that arising from the testing of collecting systems prior to the commencement of commercial mining activities.~~

**Comment [CP72]:** To ensure predictability, these evolutions should be captured in the Authority's rulemaking processes.

#### **Draft Regulation 49**

##### **Substantive review of Environmental Performance**

1. The Authority and the Contractor shall undertake a review of activities under a Plan of Work in accordance with regulation 19 of the Exploitation Regulations and paragraph 2 below.
2. Within 6 months of the start of the 2<sup>nd</sup>, 5<sup>th</sup> and 10<sup>th</sup> years following the date of commencement of mining activities under an Exploitation Contract, or at such other times and intervals agreed with the Commission at the time of the Application, the Contractor shall submit a substantive review of its Environmental Performance in accordance with the Authority's guideline document. The review report shall contain the following minimum information:
  - a) an assessment of Environmental Performance against the environmental objectives and Environmental Targets.
  - b) the spatial extent of the Direct and Indirect ~~Impacts~~ Environmental Effects associated with the Exploitation Activities to date.
  - c) the efficiency and effectiveness of the amendments (conditions) imposed on Exploitation Activities, together with an assessment of any variation to such amendments as may be necessary to ensure the effective protection of the Marine Environment.
  - d) any recommendations as to variations in Monitoring and / or Mitigation measures to ensure that effective environmental Monitoring and Mitigation Measures are maintained under the Environmental Management and Monitoring Plan.
  - e) details of any significant or unacceptable changes to the Marine Environment that have occurred or are likely to occur and that were not predicted originally in the Environmental Impact Statement, including likely Cumulative ~~Impacts~~ Effects.
  - f) details of any Incidents.
  - g) where applicable, details of Adaptive Management measures taken in the light of new knowledge, information and experience.
  - h) details of any Consultation held with ~~Interested Persons~~ Stakeholders and other users of the Marine Environment.
  - i) details of any new scientific information or knowledge and investigations undertaken or studies made.
  - j) details of any environmental audits conducted in the prior period.
  - k) [other].
3. The Authority shall make publicly available the findings and recommendations resulting from a review of Environment Performance, including any proposed modification(s) to the Plan of Work, which, to the extent such modification(s) is a Material Change to a Plan of Work, shall be approved in accordance with regulation 18 of the Exploitation Regulations.

## Part IX – Environmental Management and Monitoring

**Commentary:** This Part X is very tentative and requires a detailed discussion / more thought as to specifics. Equally, some of these provisions will more appropriately be reflected as part of the terms of the standard exploitation contract (or both). As identified by the Article 154 Review, recommendation no. 3: *Future contracts should be prescriptive with standard terms and conditions and detailed plans of work that set clear objectives, which can be monitored and enforced.* Annex VI also contains suggested clauses for the standard contract (again, tentative). While general adherence to the operational plans (EMMP, Closure Plan, Emergency Response and Procedures Plan) will be required (see Section 2.2 Standard Clauses for Exploitation Contract), what specifics (objectives, targets, thresholds etc.) will need to be prescribed for at the application stage is fundamental.

### Section 1: Adaptive Management Approach

**Commentary:** the application of an adaptive management approach was discussed at the Gold Coast workshop in May 2016 but no definitive conclusions as to its suitability and / or content reached.<sup>21</sup> AM requires a dedicated working group to explore the issues connected with its implementation. It would appear, as one generally accepted implementation of the precautionary approach and sound, good environmental management, that AM should be applied in a deep sea mining context. AM is one tool in combination with other environmental management responsibilities and practices anticipated under these regulations. A number of questions arise:

- When will AM will be applied (active) – what are the criteria?
- What will trigger an adaptive management response (exceeding an environmental threshold? Unexpected adverse impacts?)
- What level of information is needed to apply such an approach?
- What is its potential impact on the approval process?
- What is its potential impact on commercial mining operations?
- What is its likelihood of success in mitigating environmental impacts?
- What are the timeframes for an adaptive management response?
- What is the reporting / approval process for AM responses?
- What are the implications for the Authority / other contractors?

Once this approach has been fully discussed (including that in connection with the Authority's role), appropriate regulation(s), principles and criteria for the application of AM and related guidance can be drafted.

<sup>21</sup> See New Zealand Government, *New Zealand's experiences with adaptive management for seabed mining projects: A submission to the International Seabed Authority to support the development of a regulatory framework for the exploitation of seabed minerals*, January 2016. See also Canadian Environmental Assessment Agency, Operational Policy Statement, *Adaptive Management Measures under the Canadian Environmental Assessment Act*, 2009.

**Draft Regulation 49bis**  
**Adaptive Management**

1. Adaptive Management is an iterative approach that allows Exploitation Activities to be undertaken with their effects assessed and the Contractor's operations adjusted, discontinued, or otherwise regulated as appropriate on the basis of those effects.
2. A proposed Plan of Work may provide that an Applicant may make adjustments to their operations within the Environmental Targets set forth in the Environmental Management and Monitoring Plans while ensuring that Environmental Effects remain within these Targets.
3. Where an Applicant proposes an Adaptive Management approach, the Authority's recommendation on the suitability of such an approach, and any proposed amendments, including with respect to the conditions reflected in this [Draft Regulation 49bis], shall be reflected in the Authority's report to the Commission pursuant to [Draft Regulation 38]
4. On the basis of the Authority's recommendation and in accordance with factors and procedures reflected in [Part VII, Section 6], the Commission may consider whether an Adaptive Management approach is suitable. Where an Adaptive Management approach is deemed to be unsuitable, a Plan of Work shall not be approved.
5. The Commission shall recommend that an Applicant may incorporate an Adaptive Management approach into its Plan of Work only on satisfaction of the following criteria:
  - (a) For each phase of its Plan of Work, the Applicant shall identify in its Environmental Management and Monitoring Plan two types of Environmental Targets:
    - i. those which shall trigger reporting to the Authority; and
    - ii. those which shall not be exceeded.
  - (b) The Applicant shall demonstrate to the satisfaction of the Authority and Commission, respectively, that:
    - (i) the Environmental Targets are sufficiently precautionary so as to ensure the effective protection of the Marine Environment from Harmful Effects;
    - (ii) the Applicant shall monitor and communicate to the Authority, as part of its regular Performance Assessment under [Draft Regulation 53], the Environmental Effects of its Exploitation Activities in a manner sufficient to ensure that Environmental Targets are being properly reported or not being exceeded, as applicable;
    - (iii) the Applicant shall also monitor and communicate to the Authority any unexpected Environmental Effects or changes in the Marine Environment that may occur despite the Environmental Targets; and
    - (iv) the Applicant will communicate to the Authority data on such Environmental Targets and any exceedances within the timeframes required by the Authority.
  - (c) The Applicant shall provide notice to the Authority in advance of any anticipated change in its operations that it intends to make pursuant to its Adaptive Management approach. At the time of such notice, the Applicant shall certify to the Authority that such change either:
    - i. will not cause Environmental Effects exceeding the relevant Environmental Targets in the Environmental Management and Monitoring Plan, or
    - ii. is likely to result in a Material Change under paragraph 8.
6. In addition to the criteria listed in paragraph 5, the Applicant's Plan of Work may also limit the scale or duration of Exploitation Activities to ensure the effective protection of the Marine Environment from Harmful Effects until such time as effective protection of the Marine Environment can be ensured.
7. Pursuant to [Draft Regulation 71], the Authority shall independently verify compliance with the Program of Work as it relates to the Adaptive Management approach during Exploitation Activities.
8. Any notice given to the Authority pursuant to paragraph 6(c) above shall be made public in accordance with the provisions of [Draft Regulation X re: consultation] and Stakeholders shall be

Comment [CP73]: For further discussion, see Issue Paper #3: Adaptive Management.

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- invited to comment upon it. If the Authority determines, based upon Stakeholder comments or otherwise, that a proposed change is likely to result in Environmental Effects that exceed relevant Environmental Targets or cause Serious Harm, it may notify the Contractor and such adjustment shall be deemed a Material Change in accordance with [Draft Regulation XYZ re: Material Changes].
9. On a report that Environmental Effects have exceeded, or are likely to exceed, their relevant Environmental Targets or unexpected changes to the Marine Environment have occurred, or are likely to occur, [Draft Regulation 72 shall apply].
  10. Upon any such exceedance or unexpected change, the Authority will review relevant aspects of the Environmental Management and Monitoring Plan and relevant Environmental Targets, with the participation of the Contractor and Stakeholders in such review, applying Best Available Science, and will notify the Commission of its findings in writing at its next meeting.
  11. Any proposed change in Environmental Targets included in an Environmental Management and Monitoring Plan pursuant to an Adaptive Management Approach shall be deemed a Material Change in accordance with [Draft Regulation XYZ re: Material Changes].

## **Section 2: Protection of the Marine Environment from Harmful Activities - Obligations on the Contractor**

### **Draft Regulation 50**

#### **General**

12. A Contractor must not undertake an activity in the Area that Pollutes, or might Pollute the Marine Environment unless the Contractor takes all reasonable and practicable measures to prevent or minimize any resulting harm to the Marine Environment.
- 1 bis. A Contractor must not undertake an activity in the Area that may cause Serious Harm to the Marine Environment.
13. A Contractor shall undertake activities in the Area in accordance with the Rules of the Authority and shall take all reasonable and practicable measures to prevent or minimise any harm to the Marine Environment having due regard to:
    - (a) the nature of the activity and the sensitivity of the receiving Marine Environment.
    - (b) the current state of technical knowledge and the likelihood of success of the measures that could be taken.
    - (c) the economic implications of the measures that could be taken; and
    - (d) Good Industry Practice.
  14. The Authority, Contractors and Sponsoring States shall promote continuous advancements in standards, protocols and guidance in the light of new knowledge, information and experience, to ensure continuous improvement in marine Protection Measures.

### **Draft Regulation 51**

#### **Adherence to Contract – Compliance with Environmental Management and Monitoring Plan and Closure Plan**

1. A Contractor shall during the course of its Exploitation Activities consider, investigate, assess and communicate the effects of its Exploitation Activities on the Marine Environment and shall manage all such effects in accordance with the Environmental Management and Monitoring Plan and Closure Plan approved under these Regulations and with due regard to Good Industry Practice.
2. The Mitigation measures contained in the Environmental Management and Monitoring Plan shall be implemented at the correct time, in the correct way and at the correct place.
3. The Authority may require, at any time and with reasonable notice to a Contractor, require a Contractor to provide a certificate of compliance, certified by an Appropriately Qualified Expert approved by the Authority in respect of the following information:

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- a. the extent to which the conditions of the approval of the Environmental Plans have or have not been complied with;
  - b. the details of any failure to comply with the conditions and the reasons for any such failure.
  - c. any action taken, or to be taken, that will prevent the recurrence of such failure, if any.
4. A Contractor shall maintain the currency and adequacy of the Environmental Management and Monitoring Plan and Closure Plan during the term of the Exploitation Contract by reference to Best Environmental Practices.

**Draft Regulation  
Environmental Monitoring 52**

**Commentary:** specific monitoring and reporting guidelines (including relevant technical standards, monitoring areas and stations (incl. IRZs / PRZs) are required. E.g. *OSPAR Guidelines for Monitoring the Environmental Impact of Offshore Oil and Gas Activities*.

1. A Contractor shall implement and carry out Monitoring in accordance with the Environmental Management and Monitoring Plan and any conditions specified in such plan or Exploitation Contract.
2. A Contractor shall, on the commencement of mining activities, ensure that it has in place the necessary procedures to ensure that all Monitoring data is routinely reviewed and assessed.
3. A Contractor shall ensure that the reporting requirements of the Exploitation Contract are complied with including the provision of all Monitoring reports to the Authority within the specified period.

**Draft Regulation  
Performance Assessment 53**

The Authority will require regular performance assessment, and reporting on a Contractor's Exploitation Activities and their associated Environmental Effects in accordance with the Rules of the Authority and to verify progress against the Plan of Work. The Authority will set out the required content and format of such reporting, including the provision of a template to achieve consistency in reporting format. All Information provided in respect of such reports shall be treated as Environmental Information and shall be made publicly available order to promote accountability and demonstrate transparency to mankind.

**Draft Regulation 54  
Vulnerable Marine Ecosystems**

**Commentary:** the wording in this regulation is taken directly from regulation 31(4) of the PN Exploration Regulations. Such procedures as anticipated by this regulation have yet to be formulated including the criteria / characteristics for defining Vulnerable Marine Ecosystems.

The Commission shall develop and implement procedures for determining, on the basis of the Best Available Scientific Evidence and technical information, whether proposed Exploitation Activities in the Area would have serious harmful effects on Vulnerable Marine Ecosystems and ensure that, if it is determined that certain proposed Exploitation Activities would have serious harmful effects on Vulnerable Marine Ecosystems, those activities are managed to prevent such effects or not authorized to proceed.

**Comment [CP74]:** Existing VME Guidelines are not fully adequate for the deep sea context. Further work is needed to articulate how this concept should be applied to the deep sea.

For further discussion, see Issue Paper # 11: Vulnerable Marine Ecosystems.

**Draft Regulation  
Environmental Auditing 55**

1. The Commission may recommend as a condition of approval of the Environmental Plans that a Contractor procure, at intervals to be specified, an environmental audit and compliance programme, being a comprehensive evaluation of the Environmental Performance and compliance of a Contractor, conducted by an Appropriately Qualified Expert. Such evaluation shall include an evaluation of the management practices, production processes, technical systems adopted or used by a Contractor. OR
2. The Contractor shall within a period of [90] days after [2] years from the date of this Contract and each subsequent [2] year period, deliver to the Authority, an environmental audit and assessment

conducted by an Appropriately Qualified Expert for the purposes of determining the Contractor's compliance with the Environmental Management and Monitoring Plan and the state of its Environmental Management System. If any such audit and assessment identifies any failure to comply with the requirements of the Environmental Management and Monitoring Plan, the Contractor shall be obliged to remedy the situation at its own expense and within the timescale agreed between it and the Authority. The Authority may stipulate additional conditions that in its reasonable opinion are necessary in the circumstances to secure deliver of the approved Environmental Management and Monitoring Plan.

**Draft Regulation 56**  
**Pollution Control and Management of Waste**

1. A Contractor shall, in accordance with the Rules of the Authority and other relevant rules of international law, prevent, minimize and control Pollution and the production of waste in accordance with [the Rules of the Authority].
2. All and any Mining Discharges shall be discharged of in accordance with the Environmental Management and Monitoring Plan.

*What other specific obligations, if any, are required here – over and above adherence to and compliance with an Environmental Management and Monitoring Plan? E.g. Air quality, noise, vibration management and control? Management of Benthic and Surface Plumes?*

**Draft Regulation 57**  
**Vessel (installation) and equipment positioning**

1. All vessels (and installations) shall be fitted with an electronic monitoring system. Such system shall record the date, time and position of all mining activities.
2. The Authority [or Sponsoring State] shall issue a compliance notice to a Contractor under regulation 55 of the Exploitation Regulations, where it reasonably suspects from the data transmitted to it by such system that unapproved mining activities are occurring.

**Section 3: Environmental Incidents: contingency plans and emergencies**

**Commentary**

See Section 24 of Standard Contract Terms and definition of "Incident" means *a situation where activities in the Area result in...2. serious harm to the Marine Environment or to other existing legitimate sea uses, whether accidental or not, or a situation in which such serious harm to the Marine Environment is a reasonably foreseeable consequence of the situation.*

Other than the Authority, it is considered that sponsoring States and flag States will have specific duties and responsibilities here. Those States will also have to ensure that measures put in place to limit the consequences of any hazards and where such measures are insufficient, operations should not be allowed to commence by the Authority.

**Draft Regulation 58**  
**Duty on Contractor to keep an Environmental Incidents Register**

1. A Contractor shall keep and maintain an Environmental Incidents Register associated with Exploitation Activities in the Contract Area. Such register shall be maintained on the mining vessel



and transmitted to the Authority within 5 working days of any request in writing by a duly authorized official of the Authority.

2. A Contractor shall record the following information in such register:
  - a. the date, time and duration of the Incident and / or when the Incident was identified.
  - b. the severity of the Incident [*according to a particular scale*].
  - c. the location of the mining vessel and mining equipment and the nature of mining activities taking place, at the time that the incident occurred.
  - d. the cause or likely cause of the Incident and any factors, such as weather conditions, natural conditions that may have influenced its severity.
  - e. the nature and timing of any measures implemented by the Contractor to remedy or mitigate any adverse effects, if any, associated with the Incident.
  - f. the steps to be taken in future to prevent the recurrence of similar Incidents; and
  - g. any other relevant information.

#### **Draft Regulation 59** **Risk of Incidents**

The wording below is derived from the preamble to the EU directive on the safety of offshore oil and gas operations.<sup>22</sup> It may have some merit. The MIDAS project has looked into this issue of "as low as reasonably practicable". But its context needs consideration. ALRP seems more often applied to a health and safety context, than the environment. It is also subjective. It may be appropriate to formulate as an environmental policy objective?

*A Contractor shall reduce the risk of Incidents as low as reasonably practicable to the point where the cost of further risk reduction would be grossly disproportionate to the benefits of such reduction. The reasonable practicability of risk reduction measures should be kept under review in the light of new knowledge and technology developments. In assessing whether the time, cost and effort would be grossly disproportionate to the benefits of further reducing the risk, regard should be had to best practice risk levels compatible with the operations being conducted.*

#### **Draft Regulation 60**

**Emergency Response and Contingency Plans** (to be harmonized with the Exploitation regulations).

1. Contractors shall maintain the currency and adequacy of their Emergency Response and Contingency Plan(s) that are site-specific, based on the on the identification of potential Incidents and in accordance with Good Industry Practice.
2. Contractors shall maintain such resources<sup>23</sup> 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.
3. Contractors shall proactively manage their activities, including, where necessary, the ability to suspend mining operations without any intervention by the Authority.
4. Contractors shall ensure that the plan to prevent Incidents is appropriately monitored and, as the case may be, revised throughout the conduct of activities in the Area so as to ensure a high level of protection to the Marine Environment at all times. [*Reports and independent verification process?* +

<sup>22</sup> Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC.

<sup>23</sup> What emergency response resources and equipment should there be in place?

*reporting to other persons with jurisdictional competence for the relevant activity that may give rise to an Incident*].

5. Contractors, the Authority and Sponsoring States shall consult in relation to the exchange of knowledge, information and experience relating to Incidents or potential Incidents and to use such knowledge and information to prepare and revise standards and operating guidelines to control hazards throughout the mining life cycle.
6. Where the Authority becomes aware and in the light of new knowledge, information and experience, that plans are inadequate or insufficient to protect the Marine Environment, the Authority shall consult with a contractor or contractors with a view to the revision of such plans, having due regard to the technical ~~and economic~~ constraints of any proposed changes to the plans (proportionate measures). *[This wording may be more useful in a general context rather than specific to the ERCP]*.
7. The Authority shall [in accordance with the Seabed Mining Directorate Regulations] develop annual plans for the effective oversight, including inspection, of the major hazards and the effectiveness of the Emergency Procedures and Contingency Plan.
8. The Authority shall promote and facilitate in the development and implementation of regional emergency response and contingency plans and shall co-operate with and draw on the advice of other relevant international organizations and with Member States who are Coastal States accordingly.

#### **Section 4: Other**

##### **Draft Regulation 61 Unforeseen Serious Harm**

*[What protocols if any should be established here? Or dealt with as part of the Environmental Management and Monitoring Plan / Emergency Response and Contingency Plan?]*.

##### **Draft Regulation 62 Complaints**

1. A Contractor shall record any complaints received in connection with its activities in the Area in the Environmental Incident Register required under regulation 58.
2. Where such complaint relates to or is associated with a Contractor's non-compliance under the Rules of the Authority, the Contractor shall advise the Authority promptly, and no later than 5 working days after the receipt of any complaint, and shall provide detail of any investigation undertaken by the Contractor or other persons into such complaint, including the measures taken to remedy such non-compliance. The Authority may request such information as is reasonably required to determine any case of non-compliance by a Contractor or direct that further investigation be undertaken by the Contractor within a period to be agreed between the Authority and the Contractor.

##### **Draft Regulation 63 Training**

A Contractor shall provide such information, instruction, training and supervision as is necessary to ensure that its employees, sub-contractors and agents and any other persons engaged under its supervision, understand and are to comply with the Rules of the Authority in accordance with the undertakings set out in the Environmental Management and Monitoring Plan.

##### **Draft Regulation 64 Notifiable Events under an Exploitation Contract**

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**[Notification obligations and procedures: Threshold & operational triggers (Notifiable events)  
[Section 25 of the standard contract provides for Notifiable Events. These need to be identified for the purposes of environmental matters and reflected in Section 25].**

## **Part X - Social and cultural management**

**Commentary:** little attention or focus has been given to specific social and cultural considerations in the Area aside from technical assistance / capacity building and contribution to marine scientific research in the Area.

What other social and cultural management considerations are relevant and should be discussed / considered?

- Human remains and objects and sites of an archaeological or historical nature (see *Section 20 of standard exploitation contract*).
- Other social / cultural management aspects? Specific obligations relating to technical assistance or MSR (e.g. in APEIs)?

[*To be considered / completed as appropriate*].

## Part XI - Closure plans and post-closure monitoring

**Commentary:** at the point of termination / expiry of an Exploitation Contract, a number of provisions / obligations will continue in full force and effect, including on-going liability, post closure monitoring etc.

In connection with the execution and delivery of the obligations arising under a Closure Plan, specifically those relating to post closure management and monitoring, is which person(s) will undertake these activities? Will a contractor continue to directly supervise the delivery of a closure plan or will this responsibility be transferred to a third party? If the latter is the case, should the Authority impose a prior approval mechanism for this?<sup>24</sup>

### Draft Regulation 65

#### Suspension of / cessation of activities / care and maintenance (temporary suspension)

1. A Contractor shall, within [6] months of an expected cessation or anticipated temporary suspension of activities, or as soon as is reasonably practicable in the case of any unexpected cessation or suspension, submit for the approval of the Authority, a final Closure Plan which shall detail the post closure monitoring programme in accordance with the Authority's guideline document and relevant Strategic Regional Environmental Management Plan.
2. The Authority shall review the final Closure Plan within 30 days of its receipt and shall:
  - (a) approve the final Closure Plan in writing;
  - (b) request further information from the Contractor; and /or
  - (c) suggest amendments to the final Closure Plan in the light of new knowledge, information or experience available to the Authority and based on Good Industry Practice; and
  - (d) review the quantum of any Environmental Performance Guarantee provided according to regulation 44.

### Draft Regulation 66

#### Post-closure Monitoring and management

1. Upon cessation or temporary suspension of mining activities, a Contractor shall implement the final Closure Plan in accordance with the conditions of its implementation, including the required management and Monitoring of the areas defined by the plan [Mining Area / Preservation Reference Zone(s) / Impact Reference Zone(s) / Environmental Impact Area] and the delivery to the Authority of Monitoring reports, surveys and results, assessments and recommendations as agreed in the final Closure Plan.
2. The post-closure management and Monitoring obligations shall take place for a period after the cessation of mining activities, the length of which shall be agreed in the final Closure Plan [and / or, where applicable, according to the post-closure completion criteria listed in the final Closure Plan].
3. The Authority, in co-operation with the Sponsoring State, shall ensure that the final Closure Plan is implemented in accordance with its terms. *[Note: it would be usual, in land-based regimes for an inspection of a mining area to occur to ensure obligations have been fulfilled in regard to a Closure Plan. That is not practicable in a deep sea context. Aside from the submission of monitoring surveys*

<sup>24</sup> This question is posed as the South African *Mineral and Petroleum Resources Development Regulation* (23 April 2004) anticipate and stipulate the transfer of environmental liabilities to a competent person (including the responsibilities under an environmental management plan) and the requirements for such application to transfer respectively, including the qualifications of that competent person (see MPRD regulations 58 and 59). Is this something of relevance (potential) to activities in the Area?

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*and perhaps remote monitoring / surveillance technology, what other means are or should be available to the Authority / sponsoring State to ensure implementation and completion?].*

## Part XII – Compensatory measures

**Commentary:** "compensatory measures" are aimed at providing environmental compensation for those areas of environmental impacts that cannot be avoided, remedied or mitigated or in the case of the Environmental Liability Trust Fund, to plug a potential environmental liability gap.

**Comment [CP75]:** The Code Project agrees these are important elements of the draft regulations and merit further discussion.

### Section 1: Environmental Liability Trust Fund

**Commentary:** the concept of such a fund was mooted by the SDC Advisory Opinion to cover any environmental liability gap. The rationale for such a fund, its objectives and funding options will be a matter for further discussion (Legal Working Group on Responsibility and Liability and Payment Regime Workshop #3). Consequently, the wording below is provisional and discussion will benefit from precedents in other sectors (e.g. O&G) and the overall financial package under assessment.

#### Draft Regulation 67

##### Set-up of Environmental Liability Trust Fund

1. The Authority hereby establishes the Environmental Liability Trust Fund.
2. The rules and procedures of the fund will be established by the Finance Committee and subject to the approval of the Council.
3. The Authority shall, within 90 days of the end of a calendar year, prepare an audited statement of the income and expenditure of the Fund for distribution to the Members of the Authority.

#### Draft Regulation 68

##### Purpose of the Fund

The main purposes of the fund will be and in respect of which the Fund may be applied are:

- (a) the implementation of any necessary measures designed to prevent, limit or remediate any damage to the Area arising from activities in the Area, the costs of which cannot be recovered from a Contractor or sponsoring State, as the case may be.
- (b) the promotion of research into methods of marine mining engineering and practice by which environmental damage or impairment resulting from exploitation activities in the Area may be reduced.
- (c) for the purposes of education and training programmes in relation to the protection of the Marine Environment.
- (d) the funding of research into Best Available Techniques for restoration and rehabilitation of the Area.
- (e) the restoration and rehabilitation of the Area when technically and economically feasible.
- (f) the holding of any Environmental Performance Guarantee in trust.
- (g) [Other]

#### Draft Regulation 69

##### Funding

The fund will consist of the following money:

- (a) the prescribed [percentage / amount] of fees paid under the Rules of the Authority;

- (b) the prescribed percentage of any penalties paid under the Rules of 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 contravention of the Rules of the Authority;
- (d) any money paid into the Fund at the direction of the Council, based on recommendations of the Finance Committee;
- (e) any income received by the Fund from the investment of money belonging to the Fund;
- (f) [any money paid required to be paid into the Fund by way of any Financial Guarantee or Security provided under the Rules of the Authority].

**Commentary:** *Seabed Mining Sustainability Fund.* The draft legal framework issued by the Commission in March 2015 (and based on submissions to the Stakeholder Survey conducted by the Authority in 2014) proposed the concept of such a fund. The idea received general support. However, an action proposed at that time was to draft a working paper articulating the concept and objectives of such a fund and possible funding mechanisms. This has not yet been actioned however the fund is / will be considered as a part of the payment regime discussion.

Equally, one aspect that needs to be considered is the potential overlap between this fund and the Environmental Liability Trust Fund (and equally the existing Endowment and Voluntary trust funds). Though the rationale for their set-up is different, there may be some overlap in terms of the use of the fund monies. As regards running and administrative expenses, establishing one fund is preferable.

The following regulatory wording has been drafted in connection with this fund, but it has not been reflected as a "formal" regulation until the full merits of such a fund have been discussed and a policy decision made.

### **Seabed Mining Sustainability Fund**

#### **Set-up of Seabed Mining Sustainability Fund**

1. The Authority hereby establishes the Seabed Sustainability Fund (hereinafter 'the fund'), to be funded by the seabed sustainability fund levy in accordance with regulation [ ] of the Exploitation Regulations.
2. The rules and procedures of the fund will be established by the Finance Committee and subject to the approval of the Council.

#### **Objectives of the fund**

1. The main objectives of the fund are: -
  - (a) to facilitate research into, and comprehensive studies of, marine ecosystems in the deep-sea and to improve the evidence base of the nature, distribution and sensitivity of marine environmental resources relevant to exploitation activities;
  - (b) to increase the understanding of the effects, including cumulative impacts, of activities in the Area on the marine environment, including the physical loss of habitat, the physical alteration of the seabed, noise and their significance;
  - (c) the efficient and safe extraction of the resources and appropriate mitigation, monitoring and management programmes;
  - (d) the management and monitoring of areas of particular environmental interest and other marine spatial planning tools;
  - (e) to research and understand socio-economic issues associated with activities in



the Area;

- (f) to promote co-ordination and establishment of sustainable archives for the dissemination of research related to these aims to a wide range of interested parties;
  - (g) the development of technologies associated with the above;
  - (h) the provision of scientific and technical assistance to developing States in accordance with Article 202 of the Convention.
  - (i) to research into the technical and economic feasibility of restoration and rehabilitation techniques.
2. The Authority shall promote the institutional capacities of developing States, in connection with programmes established by the fund, in particular least developed, land-locked and small island developing States.
  3. The Authority shall, where practicable, co-operate with other international organizations or groups with similar funds and objectives in order that a collaborative and cost-effective approach may be obtained in delivering mutual objectives.
  4. The fund shall be held in trust in accordance with the Authority's rules and procedures.
  5. The fund shall be independently audited annually by an internationally recognized accounting and auditing practice.
  6. An annual report detailing the activities undertaken by the fund and against the objectives of the fund, together with audited financial statements of the amounts received and amounts disbursed, shall be published each year.
  7. The Council will undertake a strategic review, including a financial review, of the fund every 5 years. Where in the Council's reasonable opinion, based on recommendations of the Finance Committee and any interested parties, the fund has sufficient financial reserves to meet its immediate and foreseeable objectives, the Council may order a temporary suspension in the payment of the seabed sustainability fund levy.

## **Section 2: Other compensatory measures**

### **Draft Regulation 70**

#### **Residual [*significant*] adverse change**

- [Offsets]

[To be considered / discussed].

**Part XIII - Data and information management**

**Section 1: Obligations on Authority**

**Section 2: Obligations on Contractor**

- Handling & archiving of biological samples

*[To be completed (or presented as a standard contract clause) in the light of the Authority's data management strategy together with any specific guidelines or recommendations relating to samples that are considered appropriate. Section 22 of the standard clauses for Exploitation Contract makes reference to "samples" but is a relatively basic provision].*

#### **Part XIV – Compliance, Supervision, Enforcement [and Penalties]**

**Commentary:** under Article 153(4) of the Convention, the Authority is obliged to “exercise such control...as is necessary” in order to secure compliance with the rules of the Authority. Equally, States Parties are also obliged to assist the Authority by taking “all necessary measures” as part of its responsibility to ensure compliance.

Article 153(4) provides the Authority the right “to take at any time any measures” under Part XI and the right to inspect all installations.

Again, there are issues of jurisdictional competence and overlap here and a matrix setting out duties and responsibilities is required.

Under Article 165(2) there are a number of obligations placed on the Commission as regards programmes, supervision and inspection:

- (c) supervise (on the Council's request) activities in consultation / collaboration with a contractor “or States or States concerned” (sponsoring States?).
- (h) recommendations to the Council as regards monitoring programmes and co-ordinate the implementation of such programmes. **Note:** this is specifically in relation to “the risks or effects of *pollution* of the marine environment resulting from activities in the Area” (see also Article 209).
- (k) recommendations to issue emergency orders (including suspension or adjustment of operations) to prevent serious harm
- (m) recommendations as regards the “direction and supervision of a staff of inspectors”.

As to an inspection mechanism, regulation 54 of the Exploitation Regulations outlines the basic requirements on contractors as regards inspection. However, a full inspection regime needs to be considered in conjunction / collaboration with sponsoring States.

This Part XIV identifies certain “measures” that *could* be taken by the Authority. However, the role of the Authority and that of a sponsoring State, and the necessary co-operation / collaboration between them must be clearly mapped out in due course.

#### **Questions:**

- Under Article 165(3), “[t]he members of the Commission shall, upon request by any State Party or other party concerned, be accompanied by a representative of such State or other party concerned when carrying out their function of supervision and inspection.” What does this mean / imply? Who is “other party concerned”?
- In connection with “pollution” arising from seabed activities, Article 209(1) requires international rules, regulations and procedures to be established to prevent, reduce and control pollution for activities in the Area: by the Authority / Member States? (See also Article 215 stating that the enforcement of these rules are to be governed by Part XI). What is categorized as “pollution” for the purposes of Authority / Sponsoring State jurisdiction: noise? oil leaks from mining equipment? ore spills on transfer from a mining vessel to a transportation barge? (versus waste categorized as Mining Discharges).
- Under Article 209(2) States are also to adopt laws and regulations relating to pollution from activities in the Area (being no less effective than those under art.

209(1)) "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". What are *vessels, installations, structures and other devices* contemplated here? Which regulatory body has jurisdiction over what tangible feature (or part thereof) and over category of pollution (and waste) arising from mining operations?

- Aside from the specific compliance and supervision measures prescribed by the Convention (e.g. emergency orders, supervision, inspection of installations etc.) how broad are the Authority's powers in connection with other compliance measures? What "necessary measures" should be taken by a sponsoring State? This Part XIV outlines other potential measures / action to be taken by the Authority. However, the legal basis for these measures needs to be considered, together with measures that would more appropriately be taken by a sponsoring State (as anticipated by the Convention) in its duty to assist the Authority.

## Section 1: General

### Draft Regulation 71

#### General

The [Authority] shall, in co-operation with Sponsoring States, monitor, evaluate and supervise, including a right to inspect under regulation 54 of the Exploitation Regulations, the Exploitation Activities under an Exploitation Contract on a continuous basis and shall develop and implement such monitoring<sup>25</sup> and supervision programmes, approved by the Council, to ensure the effective protection of the Marine Environment and the prevention, reduction and control of Pollution from such activities.

### Draft Regulation 72

#### Power of Authority to direct Contractor to take action to prevent or minimize Environmental Impacts Effects

Where, in the opinion of the Authority in consultation with a Sponsoring State, a Contractor is conducting Exploitation Activities in a way that results, or is likely to result in the breach of ~~an Environmental Target~~ under the Contractor's Environmental Management and Monitoring Plan, the Authority may, by way of a compliance notice under regulation 55 of the Exploitation Regulations, direct that the Contractor take such action as is necessary to comply with the specified requirements of the notice to prevent or minimize damage to the Marine Environment. Such notice issued may impose any reasonable requirement on a Contractor which may include, as the circumstances dictate:

- a) a requirement to cease or not commence a specified activity for a specified period or until such time and date as the Authority and Contractor agree.
- b) a requirement to undertake a specified activity in a specified way, and within a specified period or at specified times or in specified circumstances.
- c) a requirement to take necessary measures to prevent or minimize any damage to the Marine Environment.
- d) a requirement to undertake specific tests or monitoring and to furnish the Authority with the results or report of such tests or monitoring.

### Draft Regulation 73

#### Necessary measures to secure compliance

<sup>25</sup> Under Article 165(2)(h), the Commission are obliged to make recommendations to the Council as regards monitoring programmes and co-ordinate the implementation of such programmes.

**Comment [CP76]:** There may be breaches of the EMMP that are not directly related to Environmental Targets, but still require the Authority to intervene.

1. The Authority, in co-operation with a Sponsoring State, shall take necessary measures to secure Contractor compliance with the Rules of the Authority where specified actions or outcomes, identified by the reporting and Monitoring measures, on inspection by the Authority or Sponsoring State or by verifiable information from a third-party, are assessed as providing evidence of non-compliance, including, but not limited to:
  - (a) waste and pollution not being properly managed.
  - (b) Exploitation Activities being conducted outside the boundaries of an approved Plan of Work.
  - (c) Performance Assessments or reports not being submitted.
  - (d) Monitoring not being done in accordance with an Environmental Management and Monitoring Plan.
  - (e) mining methods being used which are likely to have significant Impacts Environmental Effects on the Marine Environment and where such methods were not assessed by an Environmental Impact Assessment.
  - (f) other material and un-notified deviation from the approved Plan of Work.
  - (g) [other].
2. Where it appears a Contractor is not in compliance with under paragraph 1 above, the Authority may issue a compliance notice according to regulation 55 of the Exploitation Regulations.

## Section 2: Emergency Orders

### Draft Regulation 74

#### Emergency Orders

**Commentary:** the wording in the next text box has been extracted *verbatim* from regulation 33 of the PN Exploration Regulations.

This entire wording needs a re-think as it is difficult to understand how the protocols and procedures will work in practice, particularly in relation to the remoteness of the activities (and what categories of incident the wording is attempting to address) as well as the involvement of many different levels / organs of the Authority.

An adequate Emergency Response and Contingency Plan (ERCP) (as anticipated by Section 6 *Standard clauses for exploration contract* and required as part of a Plan of Work for exploitation (regulation 4, Exploitation Regulations) is the pre-requisite here (together with an adequate safety and environmental management system). Section 24 of the standard exploitation contract terms (as currently drafted) obliges a contractor to implement the ERCP in connection with an Incident and to report to the Authority. An ERCP should also address other reporting protocols as necessary.

Annex V of the Exploitation Regulations needs further populating as to the minimum content and requirements of an ERCP in due consultation with other international organisations (e.g. IMO) not least as regards human health and safety aspects (e.g. search and rescue). (Annex III to this working draft populates some of the content of a "typical" ERCP to be dealt with under the Exploitation Regulations).

Additionally, and following appropriate consultation noted above, the Authority will need to formulate an internal emergency response plan which should be duly approved by the Council and implemented by the yet to be established mining inspectorate.

As a consequence of an Incident, its circumstances will require investigation and whether the Incident is contractor / site-specific or has ramifications for other third party

operations.

### **Regulation 33 Emergency orders**

1. A contractor shall promptly report to the Secretary-General in writing, using the most effective means, any incident arising from activities which have caused, are causing or pose a threat of serious harm to the marine environment.
2. When the Secretary-General has been notified by a contractor or otherwise becomes aware of an incident<sup>26</sup> resulting from or caused by a contractor's activities in the Area that has caused, is causing or poses a threat of serious harm to the marine environment, the Secretary-General shall cause a general notification of the incident to be issued, shall notify in writing the contractor and the sponsoring State or States, and shall report immediately to the Legal and Technical Commission, to the Council and to all other members of the Authority. A copy of the report shall be circulated to competent international organizations and to concerned sub-regional, regional and global organizations and bodies. The Secretary-General shall monitor developments with respect to all such incidents and shall report on them as appropriate to the Commission, the Council and all other members of the Authority.
3. Pending any action by the Council, the Secretary-General shall take such immediate measures of a temporary nature as are practical and reasonable in the circumstances to prevent, contain and minimize serious harm or the threat of serious harm to the marine environment. Such temporary measures shall remain in effect for no longer than 90 days, or until the Council decides at its next regular session or a special session, what measures, if any, to take pursuant to paragraph 6 of this regulation.
4. After having received the report of the Secretary-General, the Commission shall determine, based on the evidence provided to it and taking into account the measures already taken by the contractor, which measures are necessary to respond effectively to the incident in order to prevent, contain and minimize serious harm or the threat of serious harm to the marine environment, and shall make its recommendations to the Council.
5. The Council shall consider the recommendations of the Commission.
6. The Council, taking into account the recommendations of the Commission, the report of the Secretary-General, any information provided by the contractor and any other relevant information, may issue emergency orders, which may include orders for the suspension or adjustment of operations, as may be reasonably necessary to prevent, contain and minimize serious harm or the threat of serious harm to the marine environment arising out of activities in the Area.
7. If a contractor does not promptly comply with an emergency order to prevent, contain and minimize serious harm or the threat of serious harm to the marine environment arising out of its activities in the Area, the Council shall take by itself or through arrangements with others on its behalf, such practical measures as are necessary to prevent, contain and minimize any such serious harm or threat of serious harm to the marine environment.
8. In order to enable the Council, when necessary, to take immediately the practical measures to prevent, contain and minimize the serious harm or threat of serious harm to the marine environment referred to in paragraph 7, the contractor, prior to the commencement of testing of collecting systems and processing operations, will provide the Council with a guarantee of its financial and technical capability to comply promptly with emergency orders or to assure that the Council can take such emergency measures. If the contractor does not provide the Council with such a guarantee, the sponsoring State or States shall, in response to a request by the Secretary-General

<sup>26</sup> Could this wording anticipate information coming to the light of the Authority as a result of a whistleblower mechanism?

and pursuant to articles 139 and 235 of the Convention, take necessary measures to ensure that the contractor provides such a guarantee or shall take measures to ensure that assistance is provided to the Authority in the discharge of its responsibilities under paragraph 7.

1. A Contractor shall promptly report to the Secretary-General in writing, using the most effective means, any Incident arising from activities which have caused, are causing or pose a threat of Serious Harm to the Marine Environment.
2. Where an activity carried out by a Contractor poses an immediate danger to human health or significantly increases the risk of an Incident, the Authority [and sponsoring States] shall ensure that the Contractor takes suitable measures by issuing an Emergency Order [including required improvements] which may include, if considered necessary, suspending the relevant activity until the danger or risk is adequately controlled. The Authority shall ensure that where such measures are taken, the Contractor notifies the Authority accordingly without delay and no later than 24 hours after taking those measures.
3. The Contractor shall comply with Emergency Orders issued by the [Council / Mining Inspectorate] to prevent, contain or minimize Serious Harm or the threat of Serious Harm to the Marine Environment, which may include orders to the Contractor to immediately suspend or adjust any activities in the Mining Area.
4. If a Contractor fails to comply with the Emergency Order, the Authority, may in its absolute discretion, take any reasonable action required by such order. The reasonable costs and expenses incurred by the Authority taking action under this regulation may be recovered by the Authority as a debt from the Contractor who failed to comply with the requirements of the order and shall, where provided, be set-off against the Environmental Performance Guarantee. Such costs and expenses shall be in addition to any monetary penalties which may be imposed on the Contractor pursuant to the terms of the Exploitation Contract.

### **Section 3: Area Environmental Protection Measure**

#### **Draft Regulation 75**

#### **Environmental Protection Measure**

1. The Council may issue an Environmental Protection Measure for the purpose of securing compliance with the general duty to protect the Marine Environment from Serious Harm. Such Protection Measure may be issued generally and applicable to all contractors, a number of contractors or to a specific contractor.
2. The protection measure shall: -
  - (a) state the purpose for which it is intended.
  - (b) specify the Serious Harm that it is intended to prevent or minimize.
  - (c) the reasons for the protection measure including new information, knowledge or experience (*e.g. through Emergency Orders*).
  - (d) the date and time by which the measure shall take effect, taking account of a period for reasonable compliance in the circumstances of the case.
  - (e) details of the duration of any measure issued under this regulation.
3. An Environmental Protection Measure may require a Contractor(s) to which it is issued to:-
  - (a) discontinue or not commence a specified activity for the specified period.
  - (b) not to carry on a specified activity except as required under any special conditions of the measure.
  - (c) prepare a plan of action to prevent or minimize harm to the Marine Environment or to control Pollution or waste.

- (d) conduct specific tests or environmental monitoring and reports of such tests or monitoring be evaluated before any specified activity commences or be allowed to continue.
4. Any Environmental Protection Measure shall remain in force for the period specified in the written notice or until such time as the order is withdrawn in writing by the Council.

#### **Section 4: Compliance (remediation?) Notice**

**Commentary:** the steps to be taken in respect of a Compliance notice are contained in draft regulation 55 of the Exploitation Regulations. There is currently no specific obligation for a Contractor to restore or rehabilitate the marine environment (but for this to be considered in an EMMP on the basis of (future) technical and economic feasibility).

In the light of the Netherland's paper addressed to the Council regarding compensatory measures, would it be prudent at this point to include some form of "remediation notice" allowing the Authority (Council) to direct the taking of remedial (restoration) or compensatory (offset) measures, where feasible or the payment of a sum in respect of such remediation or compensatory measures?

This question is perhaps best tackled following any preliminary thoughts flowing from a legal working group on responsibility and liability, payment regime workshop(s) etc.

#### **Section 5: Power to take remedial action**

##### **Draft Regulation 76**

##### **Authority's power to recover costs in the event of remedial measures**

If a Contractor fails to comply with a compliance notice, the Authority may take such necessary and reasonable measures to remedy any damage to the Marine Environment and / or to prevent any pollution of the Marine Environment pursuant to regulation 56 of the Exploitation Regulations.

#### **Section 6: Penalties**

**Commentary:** Annex VIII to the Exploitation Regulations (Schedule of Contract violations and monetary penalties should reflect / list relevant violations relating to environmental matters. These could include:

- Failure to report (Annual and other reporting)
- Notifiable events; failure to notify
- Environmental Incidents
- Not achieving / exceeding Environmental Targets & thresholds
- Relating to Environmental Performance (SMART objectives / targets)



## **Part XV - Annual reporting obligations**

### **Draft Regulation 77. \_\_\_\_\_**

#### **Annual Reporting by Contractors**

1. Contractors shall produce an annual report in accordance with Section 19 of Standard Clause of Exploitation Contract in addition to any other reporting obligations under these Regulations. For the purpose of these Regulations, such report shall include a summary of the Mitigation measures deployed and Monitoring undertaken in the previous 12 months and the results of such measures and Monitoring and an assessment of the Environmental Performance of the Contractor against the Environmental Objectives and Environmental Targets, including a review of environmental Incidents. *[template / format required in due course but regulation should specific minimum requirements. Environmental Management and Monitoring / Closure Plan should specific reporting specifics].*
2. All and any Environmental Information contained in such annual report shall be made publicly available by the Contractor and the Authority.

*[Note: the wording of this regulation may be better reflected in standard contract terms].*

## **Part XVI – Other administrative matters**

### **Draft Regulation 78**

#### **Avoidance of duplication in procedures**

The Authority and Sponsoring States shall co-operate toward the avoidance of unnecessary duplication of procedures and compliance requirements under their respective rules, regulations and procedures.

### **Draft Regulation 79**

#### **Information discovery order**

The Council may issue an information discovery order by written notice to any person engaged in or connected with activities in the Area in order to facilitate the administration and enforcement of these Regulations. The Council may issue such an order under this regulation where it reasonably suspects that the person to whom the order is issued has knowledge of or information required by the Authority for the proper execution of its duties.

### **Draft Regulation 80**

#### **Public register**

The Authority shall maintain a public register containing, inter alia, the following information:

- (a) the recommendations made by the Commission in respect of the Environmental Plans.
- (b) the Environmental Plans considered under these Regulations, together with details of the amendments, modifications and conditions to a Plan of Work.
- (c) the result of any tests or monitoring or evaluation undertaken in compliance with the conditions prescribed in the approved Plan of Work.
- (d) the details and results of further environmental assessment work carried out in each Contract Area.
- (e) copies of each compliance notice issued by the Authority pursuant to regulation 55 of the Exploitation Regulations in respect of environmental matters and subsequent action and / or measures taken.
- (f) the details and results of environmental audits, inspection and compliance programmes.

### **Draft Regulation 81**

#### **Review and amendment of these Regulations**

1. These Regulations shall be reviewed in accordance with regulation 59 of the Exploitation Regulations.
2. The Authority shall develop and implement a process and procedure whereby a period of Consultation will be held with ~~Interested Persons~~ Stakeholders relating to any proposed amendments to the provisions of these Regulations.

**Environmental Scoping Report**  
*[Indicative only]*

**Contents**

1. Introduction
  - a. Project Overview
2. Purpose of the Development
3. Viability of the Project
  - a. Applicants Credentials
  - b. Feasibility Investigations
  - c. Compatibility with ISA Strategies and Plans
  - d. Compliance with existing law, including the Rules of the Authority
4. Description of the Proposed Development
  - a. Location and size of Mining Area(s)
5. Development Timetable
6. Biophysical Environmental Setting and Issues
  - a. Marine Environment
  - b. Marine Setting
  - c. Marine Issues
    - i. Issues at the Surface
    - ii. Issues in the Water Column (Pelagic)
    - iii. Issues Above the Seafloor (Demersal/Midwater)
    - iv. Issues Associated with the Seafloor (Benthic)
  - d. Proposed Studies
  - e. Review of available scientific publications
7. Socio Economic Issues
  - a. Setting
  - b. Issues
  - c. Proposed Studies
8. Availability of Baseline Information and Data
9. Assessment of natural hazards
10. Levels of Certainty / Uncertainty in Data
11. Application of the Precautionary Approach
12. Assessment of Relevant Risks
13. Proposed Stakeholder Consultation, including other users of the Marine Environment
14. Site Selection / Alternatives Considered
15. Appropriately Qualified Experts

A Discussion Paper on the development and drafting of *Regulations on Exploitation for Mineral Resources in the Area (Environmental Matters)*

## **Annex II**

### **Format / Content of an Environmental Impact Statement**

*[EIS template(s) to be inserted on finalization at Berlin workshop, March 2017].*

## Annex III

### Formal / Content of an Environmental Management and Monitoring Plan

[See also NIWA guidelines re specifics on monitoring categories.  
Consider IFC Performance Standard 6.  
Consider separate sub-plans

An Environmental Management and Monitoring Plan must include [*indicative*]:

#### A. Introduction and Background

1. Executive Summary
2. Description of project
  - (a) location
  - (b) overview of activities and assessment of impacts (physical, chemical, biological).
  - (c) outline of technology to be deployed.
3. Environmental Objectives: a description of the Environmental Objectives and site-specific objectives for the plan for:
  - (a) the management of identified Environmental Impacts to prevent, mitigate and, where applicable, offset the impacts on Biodiversity in the Environmental Impact Area;
  - (b) applicable socio-economic conditions and factors;
  - (c) historical and cultural aspects, where applicable.
4. Environmental policy.
5. Implementation schedule.
6. Approval and other regulatory requirements:
  - (a) Authority.
  - (b) Sponsoring State.
  - (c) Flag State.
  - (d) Other.

#### B. Environmental Management

7. Aims and objectives.
8. Management and key personnel:
  - (a) a list of key personnel and points of contact, including but not limited to personnel with specific environmental management responsibilities under the plan.
9. Environmental Management System: details of the EMS, at company / entity and mining project levels.
10. Relationship with Strategic Regional Environmental Management Plan.
  - (a) compliance with the relevant Strategic Regional Environmental Management Plan of the Authority, including the designation of the Impact Reference Zones and Preservation Reference Zones in accordance with the design criteria and guidelines issued by the Authority [for the primary purposes of ensuring the preservation of and to facilitate the monitoring of biological communities potentially impacted by exploitation activities. Impact reference zones should be designated within the mining area(s) actually mined. Preservation reference zones should be designated to include some occurrence of [mineral resource category] in order to be as ecologically similar as possible to the impacted mining area(s), and be spatially removed from potential mining impacts].
11. Management procedures: including, but not limited to:
  - (a) continued identification of potential Environmental Impacts and associated Environmental Risk Assessment.
  - (b) development of an environmental programme for the management of Environmental Impacts.

- (c) identification of roles and responsibilities, environmental and operations training requirements (environmental awareness programme), internal and external communication, documentation and document control.
  - (d) the management of and response to environmental Incidents, contingency planning, audit and review including standard operating procedures, as they relate to potential Environmental Impacts from: the mining vessel. mining equipment, waste management / policy, lighting, vessel and other operational noise, equipment loss at sea, hazardous substances management, mining operations, dealing with any spillages including of oil and hazardous substances and procedures for generally minimizing potential Environmental Impacts associated with mining activities.
12. Adaptive Management: requirements (process, procedure, response) for adaptive management approach, where applicable.
  13. Opportunities for the improved management and conservation of natural resources in the mining areas.
  14. Procedures to minimize greenhouse gas air emissions (as defined by the IPCC).
  15. Other procedures or actions necessary to comply with all of the conditions of the approval by the Authority and any other relevant regulatory or legislative requirements.
  16. Disposal of Mining Discharges.
  17. Relevant maps / co-ordinates identifying mining area(s), Environmental Impact Areas, Impact Reference Zones and Preservation Reference Zones, protected areas etc.
  18. Historical and cultural considerations and management where applicable.
  19. Socio-economic considerations and management.
  20. Details of Consultations proposed with Interested Person Stakeholders, including: Fisheries, Shipping, Submarine cables, Marine scientific research, Coastal States, third party contractors.
  21. Cultural heritage
  22. Assessment of any restoration / rehabilitation of the Marine Environment and the likely effectiveness of such techniques based on the technical and economic feasibility.
- C. Environmental Monitoring and Review**
23. Aims and objectives.
  24. Description of Monitoring programme, standards and protocols (e.g. BACI: Before, After, Control, Impact, for the execution of Monitoring programmes?).
  25. Technology to be deployed:
  26. Monitoring frequency of respective elements / components of the Marine Environment.
  27. Monitoring procedures required to implement the Monitoring programme: Monitoring objectives, Monitoring requirements, corrective actions and control of monitoring records (split: prior to commencement of mining activities? During mining activities?)
  28. Details of the environmental monitoring stations across the Environmental Impact Area.
  29. Details of the quality control and management standards (assessment methodology) (based on Internationally Recognized Standards to support the delivery of good, objective and comparable data and information and equivalent to [e.g. ISO-9001/9002]).
  30. Monitoring specifics e.g. water quality; sedimentation rates; sound; plume extent; etc. plus relevant Environmental Targets.
  31. Monitoring of Mining Discharges.
  32. Processes for Monitoring reviews and Environmental audits.
  33. Further research and studies.
- D. Environmental Reporting**
34. Details of reporting requirements and timing.
  35. Data sharing.

**Appendices**

A Discussion Paper on the development and drafting of *Regulations on Exploitation for Mineral Resources in the Area (Environmental Matters)*

Maps

Technical reports

Data sources

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## Annex IV

### Format / Content of a Closure Plan

A Closure Plan must include:

1. a description of the closure aims and objectives and how these relate to the mining activity and its environmental and social setting.
2. a plan with co-ordinates showing the area(s) subject to the closure objectives.
3. a summary of the relevant regulatory requirements, including conditions previously documented.
4. details of the closure implementation and timetable, including description of the decommissioning arrangements for vessels, plant and equipment.
5. arrangements for temporary closure / suspension in mining activities ('care and maintenance').
6. information relating to baseline conditions for Monitoring measures.
7. an updated Environmental Risk Assessment together with details of the identifiable Residual Environmental Effects.
8. details of post closure Monitoring: benthic ecology and seabed sediment surveys
9. details of the management measures to Mitigate the Residual Environmental Effects.
10. details of the persons or entity that will implement the management measures under 5. above and their qualification(s) and experience.
11. details of the quantum of the Financial Guarantee and Security provided under the Regulations / condition of approval.
12. reporting / handling of data and information post closure.
13. details of Consultations with ~~Interested Persons~~ Stakeholders.
14. details of any progressive remediation or rehabilitation, where applicable / directed by the Council.
15. [details of any compensatory measures agreed or proposed to achieve the agreed closure objectives].
16. [technical documents or reports to be annexed to Closure Plan].

**Note:** a Closure Plan will be a dynamic document and process. As data is collected during the life of a mining project, a Closure Plan will be updated and its objectives and implementation requirements refined.



## Annex V

### Content of an Emergency Response and Contingency Plan

The plan shall include:

1. the overall aims and objectives and arrangements for controlling the risk of Incidents.
2. relevant codes, standards and protocols.
3. organisational structure and personnel roles and responsibilities.
4. details of individuals authorized to initiate response mechanism(s)
5. details of control mechanisms in place during the course of normal operations.
6. details of the emergency response equipment.
7. details of the safety and Environmental Management System to be integrated into the overall management system of the Contractor.
8. description of the mining operations and equipment, including emergency response equipment.
9. description of all foreseeable Incidents and likelihood and consequences assessed and associated control measures.
10. the number of persons that can be present on the mining vessels at any time.
11. description of the arrangements to protect persons on the mining vessel, and to ensure their safe escape, evacuation and rescue.
12. details of arrangements for the maintenance of control systems to monitor the Marine Environment in the event of an Incident.
13. details of the safety and Environmental Management System.
14. details of the emergency response plan.
15. details of the known natural marine environmental conditions that may influence the efficiency of response equipment or the effectiveness of a response effort.
16. information and measures relating to the prevention of Incidents which could result in Serious Harm to the Marine Environment.
17. assessment of Pollution hazards and the measures to prevent or reduce such hazards.
18. assessment of Mining Discharges and measures to control such discharges.
19. details of the warning mechanism to the Authority and [other] together with the type of information to be contained in such warning.
20. details of arrangements for co-ordinating any emergency response.
21. details of training programmes for personnel.
22. description of monitoring of performance under plan.
23. details of audit and review processes.
24. [other hazards / harmful substances; oil spills, leaks etc. from normal operation of mining vessel].

**Note:** this plan is to be developed further under these Regulations and the Exploitation Regulations and in conjunction with other international organizations, sponsoring States and other entities with relevant jurisdictional competence as regards specific components of the plan.

## Annex VI

### Standard Contract Terms: Environmental management, monitoring and reporting

[See also comments under Part IX – Environmental Management and Monitoring]

The following standard terms and conditions shall be incorporated into Section(s) [ ] of the Standard Contract Terms annexed to the Exploitation Regulations:

xx. The Contractor shall at all times give effect to the Environmental Objectives of the Authority as regards the protection of the Marine Environment and, shall:

- (a) manage all aspects of the Exploitation Activities in accordance with the Environmental Management and Monitoring Plan and Closure Plan as an integral part of such Exploitation Activities.
- (b) [other]

xx. The Contractor shall, in the case of the temporary suspension of or cessation of mining activities, comply with the Closure Plan, and conditions attaching thereto, as required to management, monitor and where applicable Mitigate, any Residual Environmental Effects.

xx. The Contractor shall co-operate with other contractors, entities, national and international scientific research agencies, sponsoring States and other persons engaged in Exploration and Exploitation Activities in the Area, with a view to, and in respect of Environmental Impacts:

- (a) sharing, exchange and assessment of Environmental Information for the Area;
- (b) co-operating in research activities designed to identify gaps in scientific knowledge and the development of targeted and focused research programmes to address such gaps;
- (c) collaborating on the development and standardization of Best Available Techniques for Exploitation Activities;
- (d) undertaking joint Consultation and educational awareness programmes for Interested Persons Stakeholders relating to activities in the Area;
- (e) facilitating the implementation of contractor management and monitoring programmes to Mitigate the Environmental Impact of Exploitation Activities in the Area;
- (f) contributing to longer-term research programmes and management response strategies targeted at the management of any significant Residual Environmental Effects, including environmental rehabilitation and remediation techniques;
- (g) collaborating with the Authority and scientific community to identify and develop best practices, improve existing standards and protocols with regard to the collection, sampling, standardization, assessment and management of data and information; and
- (h) in conjunction with the Authority, promoting the advancement of marine scientific research in the Area for the benefit of mankind as a whole.

xx. The Contractor shall assure the readiness and effectiveness of resources, including equipment, under its Emergency Response and Contingency Plan and that response procedures are regularly tested in accordance with such Plan.

## Schedule 1

### Use of terms and scope

**“Acceptable”** in relation to a risk, means a level of risk for which the time, cost or effort of further reducing it would be grossly disproportionate to the benefits of such reduction. In assessing whether the time, cost or effort would be grossly disproportionate to the benefits of further reducing the risk, regard shall be had to best practice risk levels compatible with the Exploitation Activities being undertaken.

**“Adaptive Management”** is a planned and systematic process for continuously improving environmental management practices by learning about their outcomes. Adaptive management provides flexibility to identify and implement new Mitigation measures or to modify existing ones during the life of a mining project.

**“Areas of Particular Environmental Interest”** means areas designated for the protection of the deep sea environment, where mining activities are not permitted in accordance with an approved [Regional Environmental Management].

**“Benthic Plume”** means a stream of water containing suspended particles of sea floor sediment, abraded manganese nodules and macerated benthic biota that emanates from the mining collector as a result of collector disturbance of the sea floor and spreads in a zone close to the sea floor.<sup>27</sup>

**“Best Practicable Environmental Option”** means, for a given set of Environmental Objectives, the option that provides the most benefits or least damage to the Marine Environment, as a whole, at acceptable cost, in the long term as well as the short term.]

**“Best Available Scientific Evidence”** means the best scientific information and data accessible and attainable that, in the particular circumstances, is of good quality and objective, within reasonable technical and economic constraints and based on Internationally Recognized scientific practices, standards, technologies, and methodologies.

**“Best Available Techniques”** means the latest stage of development, state of the art processes, of facilities or of methods of operation that indicate the practical suitability of a particular measure for the prevention, reduction and control of pollution and the protection of the Marine Environment from the harmful effects of Exploitation Activities.

**“Best Environmental Practices”** means the application of the most appropriate combination of environmental control measures and strategies, [including Best Available Techniques] and the adoption of the Precautionary Approach.

**Commentary:** the requirement for BEP and its application is paramount under a Plan of Work and must be assessed fully at the application stage and applied throughout the mining life cycle. Its application has temporal aspect and will change over time as scientific knowledge grows, technology advances and changes in social and economic factors. [The above definition has tentatively incorporated BAT, is this acceptable?].

**Comment [CP77]:** In the Draft Exploitation Regulations, it is clear that a precautionary approach is explicitly prescribed *in addition to* best environmental practices. This implies that a precautionary approach should *not* necessarily be read into the scope of ‘Best Environmental Practices’ in certain circumstances.

For further discussion, see Issue Paper #7: Good Industry Practice; Best Environmental Practice.

**“Biodiversity”** means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.

<sup>27</sup> ISBA/19/LTC/8 at 30.

**Closure plan** means a plan required to be produced and submitted to the Authority under these regulations.

**“Consult” and “Consultation”** means

- (a) provide appropriate access to up-to-date and comprehensive Environmental Information in accessible terminology and format.
- (b) provide reasonable opportunity for those consulted to raise enquiries and to make known their views.
- (c) record those views in written form and, where appropriate, provide that record to **Interested Persons Stakeholders**.
- (d) consider those views in the Authority’s administration and management of Exploitation Activities; and
- (e) continue or repeat these processes, as appropriate, if the subject matter of a prior Consultation substantially alters (including as a result of prior Consultation).

**“Cumulative Impact Effect(s)”** is the **impact effect** on the Marine Environment resulting from the incremental **impact effect** of Exploitation Activities when added to other past, present or reasonably foreseeable activities in the **Area Marine Environment** and can include individually minor but collectively significant activities occurring over a period of time.

**["Cumulative Impact Assessment** [see IFC’s Guidance Notes: *Performance Standards on Environmental and Social Sustainability*].

**“Direct Impacts Effects”** means **impacts effects** caused as a direct result of Exploitation Activities **and occurring at the same time and location**, such as ~~loss of habitat and populations owing to~~ removal of substrates or other materials **or increases in noise, temperature, or turbidity and occurring at the same time and location**.

**“Discharge”** includes any release, disposal, spilling, leaking, pumping, emitting, or emptying, but does not include Dumping.

**“Dumping”** has the meaning set-out in Article 1(1)(5) of the Convention.

**“Environmental Evaluation or Evaluation”** means the evaluation of the Environmental Plans in accordance with these Regulations by the Authority on the basis of an assessment of the Environmental Impacts in connection with a Plan of Work submitted under the Exploitation Regulations.

**“Environmental Effect”** ~~includes any positive or negative effect, any temporary or permanent effect, any past, present or future effect, any cumulative effect that arises over time or in combination with other effects, any potential effect of high probability and any potential effect of low probability that has a high potential impact~~ **means any likely impacts consequences in the Marine Environment arising from the conduct of Exploitation Activities, including social, cultural and historic considerations and human health, being positive, negative, direct, indirect, temporary or permanent, or Cumulative Impacts Effects arising over time or in combination with other mining impacts effects.**

**“Emergency Response and Contingency Plan”** means a planned course of action developed and documented by an Applicant and based on Good Industry Practice to respond quickly to and Mitigate the impact of Incidents or accidents that may arise and which may cause imminent danger of damage to the Marine Environment or human health and safety.

**“Environmental Objective”** is an overall environmental goal, consistent with an environmental policy, that the Authority sets to achieve.

**“Emergency Order”** means an environmental protection notice issued under these Regulations.

**Comment [CP78]:** Exploitation Activities may create cumulative effects that are not limited to the Area. Article 145 requires the effective protection of the marine environment as a whole.

**Comment [CP79]:** These may be more properly categorized as "changes" based on revised definitions.

**Comment [CP80]:** For consistency with the Convention, suggest substituting the definition of “Environmental Impact” to define “Environmental Effect” and deleted “Environmental Impact,” which does not appear in the Convention. .

For further discussion, see Issue Paper #2: Serious Harm.

**Comment [CP81]:** These may be more properly categorized as "changes" based on revised definitions.

**“Environmental Baseline”** means the starting point (a certain date or state) against which the changes in the condition of a variable or a set of variables are measured.

**“Environmental Impact Assessment”** is the identification and systematic study of the baseline of existing environmental conditions, and identifying, predicting, evaluating the significance of and Mitigating the Environmental ~~Impacts~~ Effects, taking into account interrelated socio-economic, historic, cultural and human health impacts, both beneficial and adverse, and in Consultation with ~~Interested Persons~~ Stakeholders. The results of such assessment to be compiled in a document known as the Environmental Impact Statement.<sup>28</sup>

~~“Environmental Impact” means any likely impacts on the Marine Environment arising from the conduct of Exploitation Activities, including social, cultural and historic considerations and human health, being positive, negative, direct, indirect, temporary or permanent, or Cumulative Impacts arising over time or in combination with other mining impacts.~~

Comment [CP82]: See definition of "Environmental Effects" and accompanying discussion.

**“Environmental Impact Area”**<sup>29</sup> means that area of the Marine Environment where Environmental ~~Impacts~~ Effects (Direct, Indirect, Cumulative and/or interactive) are likely to occur as a result of Exploitation Activities, including the Mining Area, adjacent, surrounding and far-field areas as documented in the Environmental Impact Statement.

**Commentary:** the Environmental Impact Area will need to be identified / assessed prior to the conduct of an environmental impact assessment. Further investigation during an EIA process may modify this area. Equally, consideration should be given to any social / cultural impacts as may modify such areas.

**“Environmental Impact Statement”** means a document, the content and format of which is prescribed by and to be approved under these Regulations to detail the likely Environmental ~~Impacts~~ Effects of Exploitation Activities based on an Environmental Impact Assessment.

**“Environmental Liability Trust Fund”** means a fund established by regulation [ ].

**“Environmental Management and Monitoring Plan”** means a plan to document the methods and procedures to be implemented in order to monitor, manage and Mitigate the Environmental ~~Impacts~~ Effects identified in the Environmental Impact Statement.

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

**“Environmental Offset”** means an action or actions taken in accordance with these Regulations, after all reasonable Mitigation measures have been applied, to compensate or counterbalance significant Residual Environmental Changes resulting from Exploitation Activities in the Area, by replacing or providing substitute resources or environments in the Area.

**“Environmental Performance”** means the extent to which a Contractor has achieved the Environmental Objectives, Environmental Targets and other Monitoring and management deliverables under an Environmental Management and Monitoring Plan and Closure Plan.

**“Environmental Plans”** means collectively the Environmental Impact Statement, the Environmental Management and Monitoring Plan, the Closure Plan and the Emergency Response and Contingency

<sup>28</sup>See also ISBA/20/C/13 at 6.

<sup>29</sup>This also needs to be considered in the context of strategic planning and management by the Authority and the cumulative impact of aggregate exploitation operations.

Plan (as it relates to the Marine Environment) to be prepared and approved in accordance with these Regulations. [Note: harmonize with definition in Exploitation Regulations].

“**Environmental Risk Assessment**” means the risk process for evaluating the likelihood and consequence of Environmental Impacts using International Recognized Standards.

“**Environmental Target**” means a qualitative or quantitative statement on the desired condition of the different components of the Marine Environment in respect of the areas impacted by Exploitation Activities, established in accordance with these Regulations and the Authority’s guidelines<sup>30</sup> and, where practicable, be specific, measurable, achievable, realistic and time limited.

“**Evaluation Report**” is a report prepared by the Commission on the outcome of its consideration of environmental matters relating to a proposed Plan of Work, its evaluation of the adequacy of the Environmental Plans together with its recommendations to the Council.

“**Exploitation Regulations**” means the Regulations and Standard Contract Terms on Exploitation for Mineral Resources in the Area

“**Impact Reference Zones**” means areas used to Monitor the effect of activities in the Area on the Marine Environment; must be representative of the environmental characteristics (physical, chemical, biological) of the Mining Area.

“**Indirect Impact Effect**” means **impacts effects** on the Marine Environment that are caused by Exploitation Activities, and are later in time or farther removed from a Mining Area **but are still reasonably foreseeable** [or as a result of a complex pathway (physical, chemical and biological)]. May be referred to as secondary impacts.

**Comment [CP83]:** Foreseeability may influence regulatory disposition, but should not be incorporated into a definition.

“**Indirect Impact Effect Area**” means [ ]. May be referred to as secondary impact area].

“**Interested Person Stakeholders (s)**” means a natural or juristic person or an association of persons **having an interest of any kind in the Area, including but not limited to, academic institutions and non-governmental organizations promoting or involved in environmental protection or marine scientific research and meeting any requirements under ISA procedures that, in the opinion of the Authority, is directly affected by the carrying out of Exploitation Activities in the Area or who has relevant information or expertise.**

**Comment [CP84]:** The Authority may determine the value to be placed on particular Stakeholder input, but should not decide for itself in the first instance who is and is not affected by Exploitation Activities. Better to define Stakeholders broadly and evaluate input as it is received.

“**Marine Scientific Research**” means, for the purposes of these Regulations, scientific activities undertaken in the Marine Environment to enhance scientific knowledge regarding the nature and natural processes of the seas and oceans, the seabed and subsoil thereof [conducted in accordance with international law].

“**Material Change**”<sup>31</sup> means a change, not being a minor or administrative change, to the basis on which the original report, document or plan, including a Plan of Work, was accepted or approved by the Authority including, inter alia, physical modifications, availability of new knowledge or technology and operational management changes, according to the Authority’s guidelines.

“**Mining Discharge**” means the disposal, Dumping and Discharge into the Marine Environment of SWOE, made as an integral part of, or as a direct result of activities in the Area **including from the transfer of materials between vessels in the Area** or from shipboard processing immediately above a Contract Area of minerals derived from a Mining Area.

**Comment [CP85]:** This is likely to be standard practice under most exploitation contracts and should be covered

<sup>30</sup> Annex IV of Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) provides an indicative list of characteristics to be taken into account for setting environmental targets.

<sup>31</sup> Needs to be “harmonized” with draft regulation 18 of the Exploitation Regulations.

“Mitigate” and “Mitigation” includes:<sup>32</sup>

- a) avoiding an **impact effect** altogether by undertaking taking or not undertaking a certain activity or parts of an activity.
- b) minimizing **impacts effects** by limiting the degree or magnitude of the activity and its implementation.
- c) [rectifying the **impact effect** by repairing, rehabilitating or restoring the affected Marine Environment].<sup>33</sup>
- d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the mining activity.
- e) Environmental Offset.

“Monitor” or “Monitoring” means the systematic sampling and assessment of the Marine Environment in order to observe, study, detect or measure the Environmental Effects against, where practicable, quantitative and qualitative Environmental Targets.

“Natural Resources of the Area” means [to be defined in the context of Article 145(b) of the Convention but excluding the Resources of the Area??].

“Natural environmental **impact effect**” means any environmental **impact effect** that may result from natural events or disasters.

“Pollution” shall have the same meaning as Article 1(4) of the Convention.

“Preservation Reference Zones” means areas representative of the Mining Area, but in which no mining shall occur and **which shall be** used to Monitor changes in the biological status of the Marine Environment caused by or likely to be caused by mining activities.

“Protection Measures” means the necessary measures taken or to be taken to Mitigate Environmental Impacts.

“Residual Environmental **[Impact-/ Effect] Effect**” means the Environmental **[Impact/Effect] Effect** remaining after the cessation, or suspension, of Exploitation Activities in the Mining Area.

“Restoration” includes the process of assisting the recovery and management of the ecological integrity of marine ecosystems affected by Exploitation Activities in the Area.

“Seabed Mining Sustainability Fund” means a fund established by the Authority under regulation [ ]].

“Seabed Mining Sustainability Fund Levy” means a payment to be made by [ ] to the Seabed Sustainability Fund in accordance with the Exploitation Regulations].<sup>34</sup>

“Sediment” means the organic and inorganic material extracted from the seabed by Exploitation Activities, and includes tailings.

“Surface Plume” is a stream of water containing suspended particles of sea floor sediment, abraded manganese nodules and macerated benthic biota resulting from the separation, on board the mining vessel, of the nodules from the water carrier and spreads in a zone closer than Benthic Plume to the ocean surface].<sup>35</sup>

<sup>32</sup> See §1508.20 *Mitigation, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*.

<sup>33</sup> Though restoration *may* be possible / plausible, it is considered highly uncertain as an effective measure currently. Further research is required.

<sup>34</sup> Further work is required on the rationale for and consequential funding mechanism for this Fund.

<sup>35</sup> ISBA/19/LTC/8 at 30.

“SWOE” means sediments, wastes and other effluents including mine tailings<sup>36</sup> and water evacuated from the Minerals during shipboard processing.

“**Serious Harm to the marine environment**” *for purposes of these Environmental Regulations*, means any **effect** *Environmental Effect* from activities in the Area on the Marine Environment which, *taking into account any Cumulative Effects*, **represents results in a Significant Adverse Change** *significant adverse change* in the Marine Environment determined according to the rules, regulations and procedures adopted by the Authority, on the basis of **Internationally-Recognized Standards** *internationally agreed rules, standards and recommended procedures and practices*.<sup>37</sup> *In the absence of other information, the following may be considered evidence of Serious Harm.*

**“Significant Adverse Change”** *[means important harmful changes in ecosystem diversity and integrity, the productivity of the biological communities within the Marine Environment; or the threat to human health through direct exposure to pollutants, or through consumption of exposed aquatic organisms; or important loss of aesthetic, recreational, scientific, or economic values].*<sup>38</sup>

“**Strategic Regional Environmental Management Plan (Regional)**” means a plan prepared by the Authority **to manage, monitor, mitigate, assess and evaluate** *in accordance with [Part IIbis]* with the objective of the effective protection of the Marine Environment from Exploitation Activities within a defined area of the Area.

“**Substantial Evidence**” means Best Available Scientific Evidence, consisting of relevant, adequate and well-informed studies and research conducted and assessed by Appropriately Qualified Experts qualified to evaluate Environmental **Impacts and Effects** in the Area, *taking into account the precautionary approach*, **and where it can reasonably be concluded by such experts, on the basis of such evidence and reasonable scientific confidence, there is a risk of Serious Harm to the Marine Environment.**

“**Unforeseen Serious Harm**” means Serious Harm that is not reasonably foreseeable at the time of any evaluation by the Commission.

“**Vulnerable Marine Ecosystem**” means any marine ecosystem identified as such in accordance with the criteria and guidelines adopted by the Authority in accordance with these Regulations and based on internationally accepted principles.<sup>39</sup>

**Comment [CP86]:** The potential for Serious Harm should be defined to incorporate effects which may contribute cumulatively to Serious Harm.

**Comment [CP87]:** This is a slight, but significant departure from the definitions included in the Exploration Regulations, meant to link "effects" with "changes."

For further discussion, see Issue Paper #2: Serious Harm.

**Comment [CP88]:** Serious Harm and Significant Adverse Change will ultimately be defined in relation to factors included in the regulations themselves, and so a separate definition of Significant Adverse Change is not needed.

**Comment [CP89]:** We recommend updating this definition to avoid confusion with any overarching strategic environmental policies the ISA may develop.

**Comment [CP90]:** Substantial evidence should not be defined in terms of risk of serious harm, but should account for the precautionary approach. Expertise described should be included in "Best Available Scientific Evidence."

<sup>36</sup> In the case of PN, this would include the spreading and deposition of sediments from mining activities at the seafloor.

<sup>37</sup> The operationalization of "serious harm" is a Priority Deliverable.

<sup>38</sup> The related criteria for SAC will need to be developed through an expert working group. To formulate a meaningful definition is too simplistic. The term is potentially resource and site-specific, depending on the criteria to be adopted. There is no scientific basis for "significant adverse change". The resilience of marine ecosystem(s) to mining activities and the development of thresholds or tipping points (and indicators) are of much greater relevance to science. Other definitions exist e.g. *Council Regulation (EC) No 734/2008 of 15 July 2008 on the protection of vulnerable marine ecosystems in the high seas from the adverse impacts of bottom fishing gears*: "significant adverse impacts" means impacts (evaluated individually, in combination or cumulatively) which compromise ecosystem integrity in a manner that impairs the ability of affected populations to replace themselves and that degrades the long-term natural productivity of habitats, or causes on more than a temporary basis significant loss of species richness, habitat or community types

<sup>39</sup> Characteristics to be used in identifying vulnerable marine ecosystems have been defined in connection with other regimes e.g. including the UN FAO *International Guidelines for the Management of Deep-Sea Fisheries in the High Seas*, FAO 2009.





