



Secretariat,
International Seabed Authority
14-20 Port Royal Street
Kingston, Jamaica
(submitted via email to consultation@isa.org.jm)

October 11, 2019

RE: Working draft – Exploitation Regulations (ISBA/25/C/WP.1)

Sir/Madam,

Below, please find our Commentary on the (fourth) draft Exploitation Regulations issued in March this year.

As Group Leads, we submit on behalf of the **Deep-Sea Minerals Working Group of DOSI, the Deep-Ocean Stewardship Initiative**. The list of contributors is presented at the beginning of the document. Express Consent for sharing is granted.

Sincerely,

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COMMENTARY ON
“Draft Regulations on Exploitation of Mineral Resources in the Area”
issued 25 March 2019 by the ISA (ISBA/25/C/WP.1)

PREFACE

The **Deep-Ocean Stewardship Initiative (“DOSI”)** integrates science, technology, policy, law and economics to advise on ecosystem-based management of resource use in the deep ocean and strategies to maintain the integrity of deep-ocean ecosystems within and beyond national jurisdictions. DOSI gathers expertise across disciplines, jurisdictions and industrial sectors to foster discussion, provide guidance and facilitate communication. As a distributed network, DOSI has over 700 members from 40 countries.

- DOSI was granted Observer Status at the 22nd Session of the ISA in Jamaica in 2016.
- DOSI gives Express Consent to the ISA to make this submission publicly available.

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SECTION A. GENERAL COMMENTS

1. Standards and Guidelines are essential in the operationalization of many of the Regulations. DR 1(5) states that “these Regulations are supplemented by Standards and Guidelines,” but to date no such supplementary documents exist. It is not possible to understand the full contracting procedures and obligations without these documents. Some information is given in Parts IV and X, but the legal requirement for Contractors to adopt these Standards and Guidelines is not yet clear. We recommend that the significant issues in future Standards and Guidelines be addressed before the Regulations are adopted to ensure legal certainty.
2. We recommend that Standards and/or Guidelines for all specific environmental management measures are provided before any application for exploitation may be considered. If the adoption of Standards and/or Guidelines is delayed, there is a risk that applications for exploitation contracts will be considered that will not conform with Regulations.
3. To add to the above point, the process of developing Standards and/or Guidelines for Environmental Impact Assessments (EIAs) will likely require several iterations and input from a broad range of experts. This should be taken into account during the drafting process.
4. Standards and/or Guidelines will likely require further revisions or modifications once Regional Environmental Management Plans (REMPs) have been established and the full impact of the environmental planning processes can be addressed. This should also be taken into account during the drafting process.
5. We welcome reference to the REMPs in the Regulations, as regional environmental assessment and planning tools will be a fundamental component of any environmental policy designed to ensure effective protection of the marine environment. Yet, in the absence of a specific environmental strategy or policy document, it is unclear what is meant by ‘the Authority’s environmental policy’ (DR 2(e)). The development of the ISA’s environmental policy should precede the establishment of Regulations. Most importantly, it is here that the requirement for the development of Environmental Goals and Objectives should be included; these should be overarching for all resource types and regions, and be complemented by specific Environmental Goals and Objectives for each region and resource type. We recommend the establishment of a standardized approach to REMPs in the Area.
6. The draft Regulations refer to an Environmental Risk Assessment (ERA) on several occasions without the term being defined and without specifying the content and procedure for such an assessment.
7. As reported by the IPCC, climate change is happening now and is affecting all areas. This will include those targeted for seabed mining. Climate-degraded environments may prevent or slow recovery from mining disturbance, and climate may tip areas over habitability thresholds (e.g. in the oxygen minimum zone over the Clarion-Clipperton Zone). A responsible Mining Code should incorporate consideration and adaptation to climate change to the greatest extent possible. Consideration of climate change is required for effective management, baseline assessment and monitoring of deep-seabed mining.

However, there is currently no mention of climate change in the ISA Exploration Regulations or the ISA High Level Action Plan. The draft Exploitation Regulations mention climate only in the context of greenhouse gas emissions of mining activities, though the Regulations do not set any rules or thresholds for such emissions, and in Annex IV EIS listing climate change policy as other applicable legislation.

Strategies for incorporating climate change into draft Exploitation Regulations include:

- a. Recognizing climate change as one of the drivers of variation. It will be necessary to distinguish mining from climate impacts. Documentation of background multiyear variability is a key element of REMP design, baseline data collection, Environmental Impact Assessment (EIA), Environmental Management and Monitoring Plan (EMMP), and ERA. Key climate parameters to measure include: oxygen, temperature, calcite / aragonite saturation, particulate organic carbon flux (from euphotic zone to seabed), pH, salinity, and physical properties of the water column (e.g. current speeds, stratification). Derived climate metrics may include: climate uncertainty (historical vs future variability), climate hazards (climate change/historical variability), time of emergence (when climate change exceeds natural variability), and climate envelopes (areas of maximal and minimal change).
 - b. Recognizing climate change as a source of uncertainty and incorporating climate change into risk assessment and mitigation planning; quantifying mining contributions to enhancement/amelioration of climate change.
 - c. Considering climate change in the context of seabed mining to meet obligations of protection of the marine environment and promoting scientific research.
 - d. Building into ISA environmental objectives the goal of maintaining ecological integrity in the face of changing environments, especially given Article 145 of UNCLOS, which requires the ISA to adopt rules, regulations and procedures for “the prevention, reduction and control [...] of interference with the ecological balance of the marine environment”. ISA Environmental Regulations or REMPs could include an objective “to not exacerbate ecosystem vulnerability to ongoing climate change”.
 - e. Calling attention to ISA 2016 submission to UN climate conference.
8. The following often-used key terms “Serious Harm”, “Marine Environment”, “Good Industry Practice”, “Best Environmental Practices” and “Best Available Techniques” are explained in “Use of Terms and Scope,” but can be interpreted subjectively. Detailed and objective concrete definitions should be given. We recommend that there should be references to documents where these terms are defined and can be adapted as technology and knowledge progresses.
 9. We recommend that throughout the draft Regulations there should be greater attention to the need to revise plans should new information arise about damages, areas of particular environmental importance, new technologies, etc.
 10. A missing key step is the summary (and independent expert assessment) of the adequacy of Environmental Baseline Information by the applicant. Having adequate baseline information is a crucial precondition and should be a specific procedural safeguard.

SECTION B: ITEMIZED COMMENTS

Part I - Introduction

DR 2: It is unclear why a crucial obligation set out in article 145(b) of the Convention is omitted: ‘the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.’

DR 2(b)(vi): This introduces a new element (i.e., fair prices for consumers) to be balanced against the interests of land-based mining producers. This could undermine the interests of (mainly developing states) land-based producers, as protected by the 1994 Implementing Agreement (Section 7). Also, it is not clear how DR 2(b)(vi) would be balanced against (viii), which aims to protect developing states against serious adverse effects on their economies resulting from a reduction in mineral prices, which may well be in the interest of consumers. As a result, we recommend the removal of Reg 2(b) (which references the economic policies of UNCLOS Art 150) from this fundamental policy section, and include it elsewhere as one relevant consideration for the LTC / Council in the plan of work application review process.

DR 2(b)(ix): “the development of the common heritage for the benefit of mankind as a whole” should elaborate on main types of benefits, such as: ecosystem services, marine genetic resources, increasing scientific knowledge, etc. This avoids any potential misinterpretation or narrowing down of benefits to financial proceeds.

DR 2(e)(iii) – There is no clear understanding about what is meant by “ecosystem approach”, as well as what it entails. Clarification on the matter may better guarantee compliance by Contractors regarding obligations relating to the Marine Environment.

DR 2(e)(iv): The polluter pays principle is a very welcome addition to the draft Regulations.

DR 2(g): Climate change considerations are essential for achieving this.

DR 2(h): Similar to 2(b)(ix), we recommend elaboration on the clear definition of common heritage promotion, or a cross reference to the definition. This avoids any potential misinterpretation or narrowing of benefits to financial proceeds.

DR 3(a) and (f): The addition of the terms “use their best endeavours” unnecessarily diminishes the standard of cooperation required. Data sharing through cooperation is fundamental to the ISA’s ability to incorporate best scientific evidence into decision-making, as required by DR 2(g). Suggest returning to previous wording (‘shall cooperate’).

DR3(f)(i) calls for members of the ISA to share environmental data. We recommend that the importance of data repositories and open-access databases in facilitating the data sharing and mobilisation be noted here.

DR 3(f)(iii) calls for the ISA and Contractors to collaborate with the scientific community to identify and develop best practices with regard to data collection and assessment. This is a welcome point but consultation with scientists should be initiated ahead of exploitation to set an initial standard for best practices. Most importantly, a standardized approach for entire regions is seen as necessary to obtain robust and comparable data within a region. We recommend that this is managed via REMPs. We recommend that standardised procedures for REMP development and review are adopted, including that a REMP expert committee responsible for identifying best practices is established. Work by the REMP expert committee should be externally reviewed following scientific standards for review.

- DR 3(f): The addition of DR 3(f)(vii) “Establishing a community which links the ocean data with data product users such as biogeographers, and ecologists” would be welcome.
- DR 4: This contravenes the precautionary approach by placing an unreasonable burden on coastal states, namely to identify when a threat of serious harm exists without the coastal state necessarily having access to the information on plume modelling, which the Contractor and the ISA have access to. This could be rectified by allowing concerned coastal states to access the modelling and relevant information on environmental effects of a Plan of Work held by the ISA.
- DR 4: The obligation to protect and preserve the marine environment beyond national jurisdiction is owed to the international community as a whole (*erga omnes* obligation) as confirmed by the 2011 Seabed Disputes Chamber’s Advisory Opinion at paragraph 180. In line with this status, the draft Regulations should include a provision parallel to DR 4 to enable any concerned state that suspects mining operations may cause (a threat of) serious harm to the marine environment to access information about the environmental effects of the mining operation and trigger the procedure set out in DR 4.
- DR 4(3) The expression “within a reasonable time” leaves a gap in how much time a coastal State may wait until a final response from the Contractor regarding the possibility of mining activities in the Area impacting the coastline. In that sense, a deadline for the Contractor and sponsoring State to examine the evidence, if any, and submit their observations thereon to the Secretary-General should be set. Similarly, a second deadline referring to the result of the analysis by the Secretary-General, together with the due measures should be stipulated.

Part II - Applications for approval of Plans of Work in the form of contracts

- DR 11(1)(a): We welcome the opportunity for public stakeholder comment on the Environmental Plans and hope every effort will be made to publicize when an Environmental Plan is open for comment. This is an important form of public consultation.
- DR 12(4) lists sources of information that the Commission will take into account when considering a proposed Plan of Work. Within this list, stakeholder comments are not included. This assumes that all comments on the Environmental Plans generated in the public consultation (DR 11(1)(a)) will be addressed. We suggest adding the point DR12(4)(e) “Any comments received following the publication of the Environmental Plans or the Commission's report on the Environmental Plans”.
- DR 13: To make it easier for the Commission to know whether a proposed Plan of Work covers an area of specific attention by another international organization, DR 13 could include a requirement for the applicant to provide a statement confirming whether the area(s) under consideration have received specific attention by another international organization or treaty regime. This could prevent repetition of the situation that occurred in 2017 where the Polish application covered parts of the Lost City site, which has been designated as an Ecologically and Biologically Significant Area (EBSA). This would support the ISA in meeting its strategic direction 1.5 to “[s]trengthen cooperation and coordination with other relevant international organizations and stakeholders in order to promote mutual “reasonable regard” between activities in the Area and other activities in the marine environment and to effectively safeguard the legitimate interests of members of the

Authority and Contractors, as well as other users of the marine environment’ (ISBA/24/A/10).

- DR 13: This should also require the Commission to assess each Plan of Work against the relevant REMP to ensure proposed environmental measures are in line with regional requirements.
- DR 13: The Commission should be required to check that a proposed Plan of Work does not overlap with an APEI.
- DR 13: The Commission should further be required to assess the adequacy of environmental baseline data from the applicant’s exploration phase.
- DR 13(1)(f): The Commission should also determine if the applicant has demonstrated the benefit to the common heritage of mankind of the mining project beyond “economic viability” e.g. environmental sustainability or viability.
- DR 13(3)(b): It is encouraging that the ability to comply with the EMMP and to conduct monitoring and adaptive management forms part of the requirements from the applicant. However, how this “ability” will be evaluated, and under what conditions it will be deemed insufficient is not laid out and thus, could fall short. Clarification is needed as to how “ability” will be evaluated and against what criteria.
- DR 13(3)(e) The type of information expected from applicants in order to satisfy “The capability to utilize and apply Best Environmental Practices” should be clarified.
- DR 13(4)(e): This now requires the LTC to assess environmental plans against the policies and principles listed in DR2, some of which should not have any bearing on environmental plans (e.g. production policies, growth of international trade, increased availability of minerals etc.).
- DR 15(2): This should also refer to APEIs and other areas of significance, e.g. areas containing human remains, objects or sites of archaeological or historical nature, as reasons for the Commission to not recommend approval for a proposed Plan of Work. Following the duty to protect such areas under Article 303 of the Convention, DR 15(2) could include an additional component whereby “The Commission shall not recommend approval of a proposed Plan of Work if part or all of the area covered by the proposed Plan of Work is included in: An area disapproved for Exploitation by the Council pursuant to article 149 of the Convention.”

Part III - Rights and Obligations of the Contractors

- DR 17(3): A deadline for making the contract and its schedules public through Seabed Mining Register should be stipulated.
- DR 18: The latest changes to DR 18(5) restrict the ISA’s powers to revise, suspend, or terminate a Plan of Work by subjecting such action to the terms of the exploitation contract instead of the Convention. This goes against advice that was already set out in the ISA’s Technical Study No 11 (2013), including for the ISA to reserve ‘substantial power and authority to manage, regulate and oversee the exploitation regime’ not least to enable a precautionary approach (p. 20). Given the dearth of scientific information on the effects of mining in these remote environments (or about most of the potentially-affected ecosystems), it is likely that unforeseeable outcomes will be encountered. Cumulative effects from mining,

climate change and other human pressures are one example. Please consider giving the ISA an 'out clause', perhaps based on its strategic environmental goals.

- DR 20: Contracts for 30 years, renewable for 10 years: The rigidity of wording in this draft Regulation makes no room for flexibility and presumes towards renewal. It should be made clear that renewals cannot continue in perpetuity, and should give guidance as to when or how term lengths, including shorter than maximum terms, should be decided upon.
- DR 25(2): We are pleased to see that any Material Changes to the Environmental Plans will be fed back into DR 11 providing opportunity for stakeholder comment.
- DR 25(2) and 25(6)(a): To ensure transparency in the decision as to what constitutes a Material Change, documentation should be provided whenever a change is allowed to the Environmental Plans but not considered a Material Change. Stakeholders should be made aware of 1) what the change is and 2) the rationale of the Secretary General as to why it was not considered a Material Change. Additionally, determining whether or not there is a "Material Change" should be performed by the LTC, in particular if the finding is 'no Material Change'; or if it remains solely with the Secretary-General, then it must be endorsed by the LTC or Council.
- DR 26(3): The Guidelines for the Environmental Performance Guarantee are highly relevant, especially in view of the many unknowns. These should be drafted as soon as possible.
- DR 28(3): The Contractor shall temporarily reduce or suspend production "to protect the Marine Environment from Serious Harm or a threat of Serious Harm or to protect human health and safety." This Regulation should also refer to the need to protect human remains, objects or sites from disturbance as outlined in DR 35. DR 28(3) could be extended to read: "to protect the Marine Environment from Serious Harm or a threat of Serious Harm, to protect human health and safety or to protect human remains, objects or sites of archaeological or historical nature." See also relevant comments on DR 35 below.
- DR 31(1): In addition to submarine cables or pipelines in the Contract Area, Contractors should also exercise due diligence to ensure activities do not cause damage to scientific equipment (such as observatories or those installed long term) or fishery equipment. We recommend adding "or structures deriving from other marine uses" to encompass this.
- DR 32: This is unclear in the absence of Guidelines.
- DR 35: We recommend this Regulation be broadened to include any items of historical significance e.g. those of a paleontological nature, not just those of human origin. When such a finding is made, the accepted protocol is that work is ceased until the site/finding can be assessed by archaeologists, paleontologists or those with other appropriate expertise. Standards and/or Guidelines should be created that include a need for review by independent experts.
- DR 37: Consider adding "DR 37(4): The Training Plan presented by the Contractor must contain proposals of at-sea training as well as capacity building in other areas of relevance such as: Environmental Management, International Law (with a focus on the UNCLOS and the ISA Mining Code), Modeling, Statistics, Marine Spatial Planning, etc." Additionally, there should be details of measures in place to ensure the safety of trainees in DR 37(5).
- DR 38: The Regulations do not specify a process for the review of annual reports by the ISA or what action the ISA may take as a result of certain findings in an annual review.

DR 38(1) The Contractor shall submit an annual report to the Secretary-General, in such a format as may be described from time to time in the relevant guidelines. The wording “from time to time” is unclear.

DR 38(2)(g): “the actual results” – does this mean data? If so, the methodology should be included.

DR 38(3): Consider adding “DR 38(3)(n): Environmental data obtained and submitted via the Annual Report should be uploaded to the *DeepData* platform in order to be available to the general public, especially the scientific community, as soon as approved.”

DR 39(3): If the Contractor maintains the samples itself, the Standards and/or Guidelines should stipulate what happens to the samples upon termination of the exploitation contract. Every effort should be made to ensure samples are passed to a third party for future use (e.g., scientific researchers, museum collections) rather than being lost at the end of an exploitation contract.

DR 39(5): “A Contractor shall, subject to reasonable notice, permit full access by the Secretary-General to the data, information and samples.” The term “reasonable” is used; Recommend defining what “reasonable” is, e.g. weeks or years.

Part IV - Protection and preservation of the Marine Environment

Part IV: The draft Regulations should contain a provision on REMPs that inter alia:

- Clarifies the legal ramifications that REMPs have on ISA decision-making processes, as well as the relationship between REMPs and sponsoring states and Contractors.
- Specifies that a Plan of Work can only be submitted if a REMP is in place for the relevant region and resource type. Currently this is only implied by DR 47/48.
- Specifies a process for developing, reviewing, and overseeing REMPs, including relevant timelines.
- Specifies a commitment to cooperate with other international bodies that are already working in the relevant region.
- Affirms the protection of sites with established conservation measures in place, such as OSPAR MPAs.
- Provides information on the objectives and measures that should be included in REMPs. Examples noted in the 2019 Fifth Report of the CODE Project include:

“(a) Region-specific environmental objectives, targets, and thresholds;

(b) Region-wide monitoring programmes for both contract areas and APEIs;

(c) Special regionally-appropriate management measures (e.g., protecting specific habitats or restricting mine operations during the breeding season of key species);

(d) Regional limits on cumulative environmental impacts;

(e) Facilitation of scientific research in the region.”

- DR 44: Cognizance of climate change is required to effectively apply the Precautionary Approach, Best Available Techniques and Best Environmental Practices, Best Available Scientific Evidence, accountability, and transparency.
- DR 44(d): "...Promote accountability and transparency in the assessment, evaluation and management of Environmental Effects from Exploitation in the Area, including timely access to relevant environmental information;" We suggest replacing the term "promote" with "ensure". Additionally, "timely access" is too vague and could be replaced with "immediate".
- DR 45: Environmental Standards referring to DR94: such "Standards" will be important and legally powerful according to wording in DR 94 (legally binding to Contractors): have they been drafted? These should also be required for baseline studies. The environmental quality objectives shall be defined prior to the activity and cannot be limited to those stated. They also need to be achievable, and they need to be able to be monetized. See paper: <https://doi.org/10.1016/j.marpol.2018.11.010>.
- DR 45: The subject matter of the Environmental Standards should not be limited to those listed. Perhaps the text should read "shall include, but are not limited to, the following subject matters". As exploitation activities occur, the need for different Environmental Standards may become apparent.
- DR 45(a): Add the following: "(...) plume chemical composition, density and extent (...)". Additionally, more clarity is needed on what "biodiversity status" means.
- DR 46: The purpose of the Environmental Management System should be stated.
- DR 46: The draft Regulations should specify (or refer to Standards that specify) global environmental goals and objectives for activities in the Area. DR 46 seems to imply that Contractors set their own project-specific objectives, without specifying any higher-order goals and objectives that can inform project-specific planning.
- DR 46(1): There should be a reference to the Guidelines.
- DR 46(2)(a): Add the following: "(...) site-specific and regional environmental (...)".
- DR 46(2)(b): Pleased to see that the Environmental Management System is expected to include means for independent auditing.
- DR 47(1)(a): "...mitigates the biophysical, social and other relevant effects of the proposed mining operation." The term "physical" often refers to physical oceanography, not the physical habitat itself. It would be more accurate to change "biophysical" to "biotic and abiotic", or "biological and abiotic".
- DR 47(1)(b): The scoping process should include a review of the applicant's environmental baseline studies from the exploration phase.
- DR 47(1)(c): Includes an impact analysis to describe and predict the nature and extent of the Environmental Effects of the mining operation. Add: "including how climate change will affect those predictions".
- DR 47(1): Add the following: (e) clearly identify where scientific knowledge gaps exist and define to what degree these may influence the overall impact analysis and impact assessment.

DR 47(2): “An applicant or Contractor, as the case may be, shall prepare an Environmental Impact Statement in accordance with this regulation.” What timeframe is this expected to occur within?

DR 47(3)(d): “...Be prepared in accordance with the applicable Guidelines, Good Industry Practice, Best Available Scientific Evidence and Best Available Techniques.” It is difficult to evaluate how effective this will be without having access to the Guidelines.

DR 48: The EMMP cannot be submitted with the EIS but must be drawn up (preferably by an environmental company independent of that which carried out the EIS) and be dependent on both the REMP and the independently reviewed outcome of the EIS (as identified in the Annex, but not clear in this Regulation). (Most EMMPs are submitted, at the same time, by the same EAP as composed the EIA/EIS so are biased to not include the shortcomings of the EIS). An EMMP is effective only if it addresses risks and uncertainties that are either confirmed or further identified by independent expert opinion (refer to DR 52).

DR 48(1): Where will the environmental quality objectives and standards be defined? DR 92 mentions the recommendation of standards by the Commission, taking into account the views of experts, but it is not clear how these are going to be defined. In order to assess an EMMP, objectives and standards should be defined.

DR 48(3)(a-c): All of these should incorporate climate change considerations.

DR 50(1)(a): The effectiveness of this provision will depend entirely on the “assessment framework for Mining Discharges as set out in the Guidelines.” It is doubtful whether non-binding guidelines are sufficient, given that these will determine whether the operator can dump discharges into the Marine Environment. Legally-binding standards may be a more appropriate option.

DR 50(1)(b): Current wording suggests that the EMMP, prepared by an applicant, can permit the dumping of Mining Discharge. Suggest rewording.

DR 50(2): The property of a Contractor should not be considered more valuable than the Marine Environment of the Area, which is the common heritage of mankind.

DR 51: Given that climate change is likely to alter conditions during the period of an exploitation contract – all plans and practices including impact monitoring should take this into account and update accordingly.

DR 51(a): We suggest a time frame be added in which Environmental Effects are to be reported.

DR 51(c): The “relevant” Guidelines should be made available as soon as possible.

DR 51(c) or 52: This should specify that an EMMP needs to be updated when the relevant REMP is updated so as to ensure coherence between project-scale and regional-scale environmental management.

DR 52(4 to 6): We welcome the inclusion of this Regulation, but a performance assessment should be done in collaboration or in the presence of independent experts. Add the following:

4. (...) meeting. If the commission does not possess sufficient expertise amongst its members it shall consult independent experts to review the performance assessment. The secretary (...)
5. (c) (...) person / group of persons (...)

6. (...) person / group of persons (...)

DR 55 currently foresees the fund to be used to address environmental damage as well as research and training programmes in relation to environmental protection. We recommend dedicating the Environmental Compensation Fund to only address environmental damage in cases where the costs cannot be recovered from the Contractor or the sponsoring State, in line with the recommendations of the Seabed Disputes Chamber (*Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area* (Advisory Opinion) [2011] ITLOS Rep 10, paragraph 205). Using the fund also for research and training programmes, risks (a) not having sufficient funds to cover liability gaps, and (b) having diminished resources for environmental research and training in the case when a liability gap occurs. Additionally, these will require scientific input, but it is not stated who will provide this input and assessment. Will there be a committee of expert scientists that will evaluate the proposals?

Part V - Review and modification of a Plan of Work

DR 57: Suggest requiring consultation with environmental experts regarding modification of the Plan of Work.

DR 57(2): Guidelines need to be developed that advise what constitutes / does not constitute a Material Change. In addition, the guidelines should outline how the Secretary-General documents their decision making. Whenever a change is made that is not considered a Material Change, the requested change and the justification for this decision should be documented and the document made publically available. See also the points made above concerning DR 25 and 26.

DR 58(3-5): Again, there is no mention of input required from external environmental experts. Additionally, the timeline should be clarified.

Part VI - Closure Plans

DR 59(2)(b): We recommend there be a minimum period prescribed for the management and monitoring plan to be in place. This may be resource specific, the type of environment and the scale of impact. The length of the period of monitoring can vary widely. What if the impact needs to be monitored for decades? Would the Contractor be responsible for monitoring irrespective of time frame? If so, will the ISA take over if the Contractor is non-compliant?

DR 59(5): We are pleased to see a review period for the Closure Plan and the requirement for Contractors to maintain the Closure Plan in accordance with Best Environmental Practices, Best Available Techniques (DR 59(4)) as this is an important component for adaptive management.

DR 60(1): The submission of a final Closure Plan 12 months prior to the planned end of Commercial Production should occur regardless of whether a Material Change is needed or not. This will allow time for the Closure Plan to be reviewed prior to the scale down of operations. Currently, it appears that the submission of a final Closure Plan is only required if a Material Change is required. Request clarification on the wording so that submission of a final Closure Plan is required under all circumstances.

DR 60(2): Add the following sentence to: (...) If the commission does not possess sufficient expertise amongst its members it shall consult independent experts to review the Closure Plan.

Part IX - Information-gathering and handling

DR 89(2): Consider recommending that a log be kept of all individuals who access the Confidential Information, and the reason for doing so.

DR 89(3)(f): Our scientists agree that no environmental data should be withheld from public scrutiny for any time period. Such practice of withholding environmental data amounts to the privatization of information obtained from an area that belongs to all humankind. We recommend the data collected as part of the Contractor's fulfillment of the requirements of EMMPs should not be considered data that follow practices of delays in publication for academic reasons. Should academics be collecting data, these would be auxiliary to the Contractor obligations and clarified as such.

Part X - General procedures, Standards and Guidelines

DR 94: See general comments above. It would be important to know when Standards and/or Guidelines will be developed.

DR 94: Given that the Standards are "legally binding" (DR 94(4)), the Standards should be most reliable and updated appropriately. It is unclear how the Commission will take "into account the views of recognized experts, relevant Stakeholders and relevant existing internationally accepted standards" (DR 94(1)) and whether they have the capacity to examine and adopt the methods based on best available science. Regardless of the Commission's taking-into-account methods e.g., ISA's official Workshops, literature reviews or others, the adoption process of Standards should be transparent and equitable.

DR 94: Technologically high Standards could generate inequity in access to mining opportunities among ISA members and Contractors, and might need to examine the statement for technology transfer (i.e., DR (2)(b)(iv)).

DR 94(1): Add / replace the following in bold to: (...) on the adoption, revision and lack of standards (...). This DR needs to be revisited once the Standards and requirements have been finalized. Right now, under DR 94(1)(c), reference is made to DR 45 for the Protection of the Marine Environment; however, this is circular because DR 45 refers to DR 94 for specifics.

DR 94(3): We support that Standards "should be legally binding on the Contractors and the Authority" and that they should be reviewed at least every five years.

DR 95(1): Define "relevant Stakeholders". The use of the new term "relevant stakeholder" implies a narrower group than the previous term "stakeholder". Suggest returning to the previous wording to live up to the ISA's transparency aims set out in its Strategic Plan 2019-2023 (ISBA/24/A/10). "Taking into account views" sounds vague. More clarity is needed in terms of the definition, purpose, process and implementation of Guidelines.

Part XI - Inspection, compliance and enforcement

- DR 96-98: The draft Regulations should specify more detail about the inspection regime, such as what is to be inspected and what constitutes a conflict of interest of an inspector.
- DR 99(3): If instruction (and response) are not followed within a period of seven days, it is unclear what the recourse is. This must be repeated until instructions are followed?
- DR 100: The timing of regulatory action response is unclear if only annual reporting, and DR 101 “consider complaint as soon as practicable”. Monitoring that detects “serious harm” should have an immediate response.
- DR 100(1): We recommend the report also be posted publicly on the ISA website for transparency. However, this should only be after the Contractor has notified the Secretary-General that they will not send a rebuttal, or after any complaint has been dealt with.
- DR 101(1): We recommend a time frame be indicated for when a complaint can be made by the Contractor, and when it will be dealt with by the Secretary-General.
- DR 101(2): It is not clear what “reasonable action” entails. More information about this response could be provided. Additionally, more information should be provided regarding the consequences for the Contractor and/or ISA should the Contractor’s complaint be upheld or rejected.
- DR 103: Overall, draft Regulations do not seek any special committees focused on the review of non-compliance issues except for the Commission*. Especially in the enforcement process stated in DR 103, the decision-making process does not require the Commission’s recommendations: the Secretary-General issues a compliance notice and the Council decides on the termination and suspension of non-compliant Contractor’s activities. *DR articulates the Commission’s roles in reviews regarding Plans of Work (DR 11) and Environmental Assessment Performance (DR 52).
- DR 103(5): The Council “may” suspend or terminate the exploitation contract if the Contractor disregards notice by the ISA and continues activities in a way that results in harm. “May” should be “will”.

Part XIII - Review of these regulations

- DR 107(2): Contractors are provided the opportunity (through the sponsoring State) to request the Council to consider revisions of the Regulations if it becomes apparent that the Regulations are not adequate. We acknowledge that a request to the Council should be made through a State party but the opportunity to raise concerns that the Regulations are not adequate should also be granted to other Stakeholders, not just the Contractors.
- DR 107(3): What constitutes an amendment that “has no more than minor an effect” is vague and arbitrary and may provide a loophole to make changes without obtaining input from Stakeholders. This should be clarified or removed.

SECTION C: THE ANNEXURES

General Comments

1. As we have not seen the Environmental Standards and/or Guidelines, as well as environmental objectives, it is difficult to comment on some specifics here.
2. A prior ERA underpins many aspects of the EIS but there is little/no guidance (yet) on what that should involve, how risks should be evaluated and prioritized, or what format this should take. The Scope of the Environmental Impact Statement (Section 1.5.1) is to focus on high-risk activities, but it is unclear what steps should be taken to identify low vs. high risks. Advice from the ISA would be valuable to ensure consistency across Contractors. Risk assessments come in many different forms, and while useful, qualitative risk assessments will be less useful in accurately defining key risks. This needs further development.
3. Terminology for preservation reference zones needs to be updated to “control reference zones”.
4. Concerns that the ISA’s Guidelines are referred to in the EIS (e.g., Section 2.4, 5.4), the Emergency Response and Contingency Plan (Annex V) and the Closure Plan (Annex VIII) but their timeline for completion is uncertain. Without the Guidelines, some aspects of the EIS, the Emergency Response and Contingency Plan and the Closure Plan will be open for interpretation by Contractors.
5. All data relevant to the EIS (e.g., impact studies and prior ERAs) should be publicly available for download and independent assessment. The EMMP is to be verified by independent competent persons (Point 1b). We recommend this requirement apply to all aspects including the Environmental Impact Statement, the Emergency Response and Contingency Plan and the Closure Plan.
6. Climate change should be incorporated into the REMP conservation objectives and metrics used to design and review REMPs (and specifically for APEI, PRZ and IRZ design) via the following:
 - Climate projections to locate vulnerable areas (to be targeted for spatial protections).
 - Climate projections to identify areas with minimal climate change (to function as areas of climate refuge)
 - Areas of maximum variability (to assess climate resilience)
 - Cumulative impacts (to identify vulnerable areas). This can be done for individual climate metrics or for synthetic/cumulative climate metrics of hazard, time of emergence (see FAO 2019, DOSI Policy Brief). Preliminary applications to the CCZ and Mid-Atlantic Ridge show startling regional climate heterogeneity and significant change over the next 30-40 years.

Itemized Comments

Annex I - Application for approval of a Plan of Work to obtain an exploitation contract

- 18. While there is detail on needed attachments considering the financial information (Section IV), there is only very short mentioning of the “technical capability....to

Mitigate Environmental Effects”. There is no mentioning of the technical capability to monitor environmental effects.

- 26. We recommend to specify what attachments and annexes are needed, providing clarity for the applicant.

Annex II - Mining Workplan

- “A Mining Workplan, based on the results of Exploration (at least equivalent to the data and information to be provided pursuant to section 11.2. of the standard clauses for Exploration contracts)”. Please provide a clear reference to the document elaborating on “section 11.2.”
- (b) Does the chart of boundaries of the proposed Mining Area(s) include the areas of projected plume dispersion?

Annex IV - Environmental Impact Statement

- Overall, this template is quite comprehensive, however we are unsure how the Contractor will obtain the information on impacts, particularly since there has been no discussion of what constitutes an impact and the conditions under which what form of mitigation would be required. There are currently no goals, objectives or targets that the Contractor and the ISA can use as a guide to evaluate the EIS. Under this section, it is suggested that the EMMP is listed as a separate document, but that it can be used as an opportunity to highlight some of the key issues from the EIS to be addressed in the EMMP. The EIS and EMMP need to be tightly linked. The EIS should identify the parameters and activities that must be monitored and provide the metrics for both impact and mitigation; the EMMP needs to outline the implementation of a plan that will allow the obtaining of these metrics. The EMMP should directly refer to the EIS rather than to only key issues arising from it.
- Several sections list the need for defining mitigation measures, but there is no mention of testing mitigation measures or initial studies showing that certain measures are appropriate or effective.
- Within the EIS, each element requiring regional overview (e.g., Section 4.2, 5.2) and an assessment of cumulative impacts of the mining activity (e.g., 7.13, 8.7) should include specific reference to the REMP and assessing cumulative impacts at this scale.
- The EIA shall consider climate change as a source of uncertainty and shall be incorporated as: quantification of projected changes, inclusion in risk assessment, inclusion in mitigation planning, and quantification of mine project contributions to climate change.
 1. Preparation of an Environmental Impact Statement (p.74)

The Environmental Impact Statement for an individual Contractor should also take into consideration the region as a whole and the relevant REMP. Just as the Closure Plan (Annex VIII) is said to “be prepared and implemented in accordance with the Guidelines and the relevant regional environmental management plan,”, the EIS should be prepared in accordance with the relevant REMP. This could be addressed in 1(b) and would link to DR 47(3)(c) that calls for the EIS to be in accordance with the objectives and measures of the relevant REMP.
 2. Template for Environmental Impact Statement (p.74)

States that “this is a template only and is not prescriptive but rather a guide to format and populate the content of EIS”. Guidance is not legally binding. The template should set standards that are implemented by Contractors.

States that “methodologies and thresholds may be developed as Standards and/or Guidelines to support the regulations.” The ‘Standards and Guidelines’ are essential in the operationalization. DR 1.5 says that “these regulations are supplemented by Standards and Guidelines”, but to date no such supplementary documents exist. It is not possible to understand the full contracting procedures and obligations without these documents.

Executive summary

- (c) “anticipated impacts of the activity (physicochemical, biological, socioeconomic)”. Add: “including expected recovery rates of the system to its original state”. Recovery rates differ between systems and should be clearly stated and acknowledged.
- (d) We recommend to include a brief evaluation of the effectiveness of mitigation measures, as well as highlight any residual impacts that may occur despite mitigation. The Executive Summary should outline both the potential benefits and costs of a project.

1. Introduction

1.5.1 Scope

- The scope should include the geographic scope of the EIS i.e. the mine area or project area or beyond Contractor area as needed. Identifying the spatial scope of the EIS is different from identifying the spatial extent of the project (Section 3.3.1).

2. Policy, legal and administrative context

- Section 2.1 requires the Contractor to outline “how the proposed operation will comply” with mining and environmental legislation, policies and agreements. Section 2.2, 2.3 and 2.4 require the Contractor to outline other applicable legislation, policies, regulations, international and regional agreements, as well as standards, principles and guidelines. However, Section 2.2, 2.3 and 2.4 do not require the Contractor to outline how the operation will comply with these policies. We recommend, for those relevant to the proposal in Section 2.2, 2.3 and 2.4, the Contractor also outlines how the proposed operation will comply.

3. Description of the proposed development

3.1.1 Location

- A broader scale location map should also be produced so that the location of the project area is understood in relation to adjacent claims and boundaries of national jurisdiction (i.e., Exclusive Economic Zones and Extended Continental Shelf Claims).
- In addition to defining the project area (recommend a clear definition), and the control reference zones, suggest a map of the expected impact area (including secondary plume and contaminant impacts) be provided.

3.3.1 Project scale

- If discharged into the water column, a target depth range should be given for the discharged material. Additionally, justification for this choice should be given.

3.3.5 Support equipment

- Description should include the anticipated routes of vessels so that any potential impacts of additional ship traffic can be evaluated with other marine activities.

3.7 Other alternatives considered

- The reasons for the selection and rejection of alternatives are important; recommend they be presented, ideally accompanied by a formalised decision-making process that takes into account key environmental considerations. Thus, if one option is shown to have better environmental or socioeconomic outcomes, the Contractor's reasoning for rejection would be clear.
- We recommend the alternatives considered explicitly include the alternatives for the mitigation of impacts with the benefit and cost of these mitigation options be detailed.
- How will the no-mining option be addressed?

4. Description of the existing physicochemical environment

- "Give a detailed account of knowledge of the environmental conditions at the mine site, which should include information from a thorough literature review as well as from on-site studies". Add: "following the Standards and/or Guidelines." Standard and/or Guidelines shall be given, for example, on what databases need to be used. In addition, any data gaps and uncertainties should be addressed.

4.1 Key messages

- As written, this gives the option of addressing in bullet points either the main aspects covered or the main findings. The "Key messages" sections in 4.1 (and 5.1, 6.1, 7.1, 8.1) should provide information about the main findings concerning environmental impacts, not an outline or overview of the report contents (aspects covered).
- Providing an overview of key content is useful but the Contractor should not be restricted to six bullet points if there are more findings that need to be summarized.

4.5 Geological setting

- We recommend including discussion of tectonic and geophysical stability.

4.6 Physical oceanographic setting

- Seasonal oceanographic variability should be demonstrated, supported by at least three years of monitored data, as this will incorporate interannual variability. As such, recommend rewording the second sentence to "Seasonal and interannual variability are important elements."
- Climate change projections should be included.

4.7 Chemical oceanographic setting

- We recommend spelling out the elements included in geochemistry (O₂, pH, H₂S, CH₄, trace metals), etc. Also recommend including fluxes and rates relevant to mining impacts. This should also include all major climate variables (e.g. temperature, oxygen,

salinity, pH, carbonate (calcite/aragonite) saturation), as well as projections of how and where they are likely to change over the next 50 years or time period of relevant to contract and subsequent post mining recovery.

4.9 Natural hazards

- Changing climate conditions should also be mentioned. Natural hazards should include metrics of climate hazard and cumulative climate hazard (climate change/variability) in the contract area.

4.11 Greenhouse gas emissions and climate change

- We recommend changing “gas and chemical emissions” to “gas and fluid emissions” as chemicals are contents of both.
- Effects of mining on ocean climate mitigation functions and services should be described (alteration of CO₂ uptake and sequestration and seafloor burial by the ocean; changes in nutrient cycling effects on wetland carbon uptake (shore-based operations).

4.12 Summary of existing physiochemical environment

- If special considerations are to be given to hydrothermal vents, seeps, seamounts, and fronts or eddies, these should have a separate section and not only be addressed in a one-page summary. The presence and location of these features should be identified. Their proximity to mining activity should be stated and depicted in a map. This summary should include particulate fluxes and organic carbon accumulation and burial rates, relevant to understanding the regulating services provided by the targeted environments.

5. Description of the existing biological environment

- “Biological environment” is not clear terminology. To most biologists, this would refer to the environment experienced by life in the ocean, not to the life itself. We recommend clearer terminology such as “Description of the Communities and Ecosystem Functions”.
- Instead of using the terms “Surface, midwater and benthic” more specific wording may be used such as surface seawater, epipelagic zone (< 200 meters), mesopelagic zone (200 - 1000 meters), bathypelagic zone (1000 - 4000 meters), abyssopelagic zone (4000 - 6000 meters), hadalpelagic zone (> 6000 meters), demersal zone (part of the water column near to and significantly affected by the seabed), and benthic zone. Additionally, all of these depths need to be included so consider removing ‘where appropriate’.

5.1 Key messages

- Same comments as in 4.1 above.

5.2 Regional overview

- We recommend specifying how the biological environment compares to regional biodiversity.
- We recommend including a requirement to note any special-interest areas identified by other regulatory or international bodies (including EBSAs, VMEs, PSSAs, MPAs, migration routes of endangered species, etc.).

5.4 Biological environment

- The first paragraph might reference the Standards and/or Guidelines so that the most up-to-date ecosystem indicators and best-scientific practices are used.

- What does community-level analyses refer to? If this is community composition (species-level taxonomy), please clarify. This is important because diversity, biomass, trophic relationships, etc., can also be community-level analyses.
- We recommend clarifying whether depth and depth zone in this section refers to water depth (as opposed to depth within sediments, etc.).
- Add the following: “(...) ecosystem function and services (...)’
- Climate change projections should be included. This could include changes in species distributions and habitat suitability for key or indicator species, changes in connectivity (due to circulation change), etc.

5.4.1 Surface

- We recommend including “microbes” in the statement “including microbes and plankton (phytoplankton and zooplankton).”

5.4.2 Midwater

- We recommend including “microbes” in the statement “and include microbes, zooplankton, nekton, mesopelagic and bathypelagic fishes and deep-diving mammals.”

5.4.3 Benthic

- We recommend including “microbes” in the statement “Describe the benthic microbial, invertebrate and fish communities”
- We recommend including an assessment of those organisms that may temporarily interact with the seabed for feeding and reproduction. There are many demersal invertebrates (that reside within the 50 metres above the bottom so recommend changing “demersal fish” to “demersal fish and invertebrates”. In addition to bioturbation, other biological properties that influence ecosystem services (solute fluxes, POC fluxes, carbon burial) or influence resilience and recovery (life histories), should be included.

5.4.4 Ecosystem/community-level description

- This section is a focus on levels above the species – communities and ecosystems. We recommend this section discuss emergent properties that arise when considering all species together, e.g. productivity, habitat heterogeneity, food-web complexity, carbon and nutrient cycling, benthic-pelagic coupling, biodiversity, succession, stability, etc.

5.5 Summary of the existing biological environment

- Again, use of the term “biological environment” is unclear. We recommend clearer terminology such as “Summary of the Communities and Ecosystem Functions”.

6. Description of the existing socioeconomic environment

6.1 Key messages

- As in 4.1 above.

6.2.1 Fisheries

- While the discussion of fisheries (catch, value, fishing locations, etc.) is appropriate here, the discussion of fish abundance, spawning grounds, nursery areas and feeding sites should be included in the previous section (5.4).

6.2.6 Other

- What is missing from the entire EIS is characterization of the global-scale regulating and supporting ecosystem services (carbon burial and sequestration, nutrient cycling). This is certainly an ‘other use’, but needs to be included in its own section as these are some of the services that will be disrupted in the mining footprint and it is critical that they be quantified. Similarly, the genetic resources present in the project area are not mentioned but merit attention in the EIS.

6.3. Sites of an archaeological or historical nature

- This section should also consider other international agreements and whether any sites relating to cultural property or cultural heritage are known to occur within the potential area of impact. Additionally, please broaden to include findings of a paleontological nature.

7. Assessment of impacts on the physicochemical environment and proposed Mitigation

- The language of 7(b) should mirror the mitigation hierarchy, i.e., “measures that will be taken to avoid, minimize and remediate such impacts” and the language included in Section 8, which states that “it is important that these sections make clear the expected longevity of unavoidable (residual) impacts and whether or not the biological environment is expected to recover, and in what time frame, following disturbance”.
- It would be useful to indicate explicitly the spatial and temporal scope of modelling. This is particularly important as many impacts may be long-lasting and cover broad areas. The spatial extent may need to be greater than that of the project (as stated in Section 3.3.1).
- This section should address the likelihood that mining impacts may exacerbate climate-induced changes to the physicochemical environment and ecosystems, and vice versa. Climate change is a cumulative impact.

7.5 Physical oceanographic setting

- Climate change should be incorporated into modelling.

7.6 Chemical oceanographic setting

- Add “(...) loading, particulate and dissolved toxic chemicals, (...)”.

7.7 Seabed substrate characteristics

- Add “(...) to the expected excavation depth (...)”.

7.6 to 7.12

- We recommend each of these sections also include the subsections 7.3, 7.4 and 7.5 (i.e., 1) potential impacts and issues to be addressed; 2) environmental management measures to mitigate impacts; 3) residual impacts).

7.13 Cumulative impacts

- While the inclusion of cumulative impacts is welcomed, we recommend specifying whether the applicant should account for the cumulative impact of a) several mining operations, b) activities other than mining, or c) both. In any event, the question is whether and how an applicant will get access to the relevant information.
- Cumulative effects should be understood for longer than the duration of the mining operation.

- It would be helpful here to provide examples of cumulative-effects categories and the space and timescales of interest.
- The ISA should consider conducting (or commissioning) an assessment of cumulative impacts at regional level at the planning stage.

7.14 Other issues

- Impacts on ecosystem services should be addressed here or in its own section.

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

- Who will define the evaluation criteria as this will determine the need for mitigation? Currently, whether mitigation is needed or not is open to the Contractor's opinion and interpretation of impact.
- The language of 8(b) should mirror the mitigation hierarchy i.e., "measures that will be taken to avoid, minimize and remediate such impacts."
- This section should address the likelihood that mining impacts may exacerbate climate-induced changes to the physicochemical environment and ecosystems, and vice versa. Climate is a cumulative impact.

8.1 Key messages

- The "Key messages" section should provide an overview of the impacts and their mitigation, not the content covered.

8.3 Surface

- We recommend including "microbes" in the statement "including any impacts on microbes, plankton (phytoplankton and zooplankton)..."

8.4 Midwater

- We recommend including "microbes" in the statement "above the sea floor, including microbes, zooplankton, nekton, mesopelagic and bathypelagic fishes and deep-diving mammals."
- We recommend changing terminology from "biological environment" to "biology" or "biological communities".

8.5 Benthic

- Marine mammals should also be included here.
- We recommend including "microbes" in the statement "of the potential effect on benthic microbial, invertebrate and fish communities."

8.6 Ecosystem/community-level

- An important example of linkages would be the potential toxicity effects of plumes and bioavailability of toxins. We recommend including this example to give clarification.
- This section should focus on levels above the species – communities and ecosystems. Information about species-specific life history and behavior should be included in the sections above. Functions and linkages that arise when considering all the species together, e.g. primary productivity, habitat heterogeneity, food-web complexity, carbon and nutrient cycling, benthic-pelagic coupling, succession, stability, etc., should also be considered.

8.7 Cumulative impacts

- The impacts on the biological communities and ecosystem functions that may occur during the construction/development, operational and decommission phases may not be cumulative, but are more likely to interact together, which, based on multiple stressors studies, are very likely to be synergistic.
- The interacting impacts from the different factors of deep-sea mining also need to be considered among other stressors, such as climate change, which can influence responses and tolerance levels to the mining operations. Focusing only on mining impacts will not provide a reasonable estimate of impact responses and losses.
- These synergistic effects must also be considered at spatial and temporal scales for all mining operations.

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

- The language of 9(b) should mirror the mitigation hierarchy i.e., “measures that will be taken to avoid, minimize and remediate such impacts.”

9.1 Key messages

- The “Key messages” section should provide an overview of the socioeconomic impacts and their mitigation, not the content covered.

9.2.1.6 Other

- This section could also consider whether any sites relating to cultural property or cultural heritage, as well as exploration for genetic resources, are known to occur within the potential area of impact.

9.3 Sites of an archaeological or historical nature

- Human remains and objects of an archaeological or historic nature may not be known at the time of an EIS but may be uncovered during exploitation operations. Here, the Contractor should also address what management measures will be implemented if a site of archaeological or historical nature is discovered during operations.

11. Environmental management, monitoring and reporting

- In addition to reflecting the proponent’s environmental policy, this section should demonstrate compatibility with the Authority’s strategic overarching environmental goals and objectives for the Area and with the environmental goals and objectives of the REMP.
- The role of independent assessment in the monitoring process itself, not just the Plan, is also important. We encourage the Authority to consider the transparency of this process in environments so remote from human interactions. Such an approach would support the integrity of the organization.

13. Consultation

- Are any Standards and/or Guidelines provided as to how a Contractor should conduct a Stakeholder consultation?

13.3 Public consultation and disclosure

- Comment coding for consultations is highly subjective, thus we recommend consideration be given to the independent nature of consultation and identifying the

“key concerns”. To allow for transparency, comments given by Stakeholders should be available as data to download publicly.

15. Study team

For preparers of the EIS, it will be important to clearly identify their activities that could reflect potential conflicts of interest.

Annex V - Emergency Response and Contingency Plan

- In Section xvii and xviii, there are assessments of pollution hazards and Mining Discharges. There should be a parallel section that includes assessments of environmental impacts (surface, midwater, benthic) created by the emergency, as well as measures to prevent or reduce such hazards. These would encompass harmful effects and serious harm.
- An additional section should be included addressing “Accountability and Liability” for environmental damage (harmful effects, serious harm) resulting from the Emergency.

Annex VII - Environmental Management and Monitoring Plan

- It would help reviewers to understand the full process around the Authority’s plans for developing the environmental objectives, targets and metrics, as well as expected standards. We are hopeful that a process with full Stakeholder engagement will define aspects such as significant changes, harmful effects, etc. Similarly, standards for performance and indicators (triggers and thresholds) do not currently exist.
- 1b: “verified by the report of independent competent persons”. A reference should be provided to a document elaborating on the definition of “competent persons” and a document on such a report structure.
- 2c: “The environmental goals, and targets to be met,”; We recommend to explain the terms “environmental goal” and “environmental target” in “Use of Terms and Scope”. In addition, we recommend rewording to “The environmental goals, and targets to be met, consistent with the regional environmental management plan” We note that such goals, objectives and targets are not yet defined.
- 2d: The roles and responsibilities of personnel should be outlined in the EMMP. This section could outline a chain of command and include the roles and responsibilities of personnel in relation to implementation, management, and review to accomplish the following:
- Provide names, positions, and contact information of personnel involved with ensuring the proper implementation of the EMMP (note if positions unassigned).
 - Discuss the roles and responsibilities of the proponent, Contractors, and Subcontractors identified and the interrelationships between these entities. Particularly important in this is to demonstrate that environmental considerations are included in decision making at all levels within the company.
 - Provide organizational flowcharts or other diagrams of key personnel.
- 2d and 2e: We recommend stringent review by independent experts. The Contractor must demonstrate capacity in place for monitoring the required parameters.

2d or 2k: It is common in EMMPs to include an environmental commitments section for the proponent to outline their specific environmental commitments (which become a key management tool during implementation of the project). This could include:

- Adherence to all outcomes and obligations of the EMMP
- Proposed mitigation measures and monitoring activities against all residual impacts, unexpected releases, and anything that compromises worker safety
- The nature of the work to be undertaken
- The objectives to be met
- Who is responsible for the environmental commitments?
- Who will undertake the operation?
- Who is responsible for monitoring and recording that the EMMP environmental commitments are properly fulfilled?
- Who is responsible for reporting that the EMMP environmental commitments are met?

2e: We recommend including an assessment of the potential longevity of environmental effects.

2f: Suggest that this should reflect the mitigation hierarchy so that the mitigation measures to avoid, minimize and remediate the harm from environmental effects are clear. Also emphasize the importance of clarifying any potential residual impacts.

2g: Suggest including the financial implications, and adding: "...adaptive management techniques (process, procedure, timing, monitoring of response)..."

2g: This should instruct, in detail, on how Contractors should measure their periodic performance for the Plan (DR 50). The performance assessment is required to contain the assessment of three compliance obligations (1. monitoring environmental effects, 2. implementing measures, 3. good industrial practices; DR 49, 50). None of these aspects is explained in this clause (2g).

2g: It may be useful to include a reference to the Emergency Response and Contingency Plan. Specifically listing the actions that are covered under "normal operations" (i.e. under the EMMP) and "emergency actions" (i.e. under the Emergency and Response Contingency Plan). This may include the requirement for a contingency plan under the EMMP.

2g: The DRs 49 and 50 and this Annex (VII(2g)) do not clarify whether the ISA seeks for compliance-oriented performance (standards- or process-focused) or environmental effects-oriented performance (result-focused). It would be helpful for Contractors (and independent competent persons to verify the assessments) that suggests the ISA's priority for the performance assessments. This will relate to the review (DR 56) of the performance assessments or Environmental Performance Guarantee (DR 27).

2j: Refer to the Authority's Guidelines so that the Standards and indicators (trigger and threshold points) used reflect those within the Guidelines.

2l: The review should establish procedures for the periodic review of the EMMP to ensure that the plan's contents are correct and that it is being properly implemented. It may be important to include the opportunity for independent review of how the Contractor is meeting its obligations. These reviews will ensure that—should conditions arise that alter the plan's contents or requirements—the EMMP remains updated to reflect these changes. The information provided in this section should, at a minimum, accomplish the following:

- Demonstrate how the proponent intends to maintain the EMMP as a “live” document, capable of modification during the project’s life cycle and as circumstances dictate.
 - Indicate who will regularly review, update, and develop the EMMP as the mining project progresses.
 - Outline procedures for the periodic review of the EMMP to ensure that its contents are correct and that it is being properly implemented.
- 2l: A new section is required that details how the Environmental Performance of the proponent will be audited. This may require details on who will audit, how frequently, and how corrective actions will be implemented and actions for non-compliance. This is distinct from the point above and the current text (which refers to assessment by the proponent) in being carried out by an independent third party.
- 2n: The training section should be more specific and require information on the proponent’s systematic program to ensure that employees are aware of the environmental issues surrounding the project, the EMMP itself and other environmental requirements.
- 2p: There should be a requirement to outline the procedure for dealing with complaints from external entities, particularly those from other users (e.g. other Contractors, fishermen, etc.). This should also include the details for dealing with regulatory actions from the ISA e.g. how quickly responses will be made, what will happen after the complaint (e.g. shut down of operations until complaint resolved), etc.
- 2p: There should be additional specific requirements for how the EMMP will be transparently implemented, for example when stakeholders will be informed, what information will be made public, how frequently, etc.

Annex VIII - Closure Plan

- 1g: In addition to details on residual Environmental Effects within an updated environmental impact assessment, the data relating to residual environmental impacts should be publically available.
- 1i and 1j: Details on any anticipated residual impacts even after restoration activities/mitigation measures need to be provided. A timetable for how long the mitigation measures and restoration activities are anticipated to take would also be useful to understand the practicalities of mitigating residual environmental effects.
- 1k: Information should be given on how data will be archived and made available post-closure.
- 1o: We are pleased to see that Stakeholders are expected to be consulted in respect to the Closure Plan. This will be an important consultation component to ensure any residual impacts are adequately compensated for and that impacts post-exploitation are adequately monitored. We acknowledge that the level of detail in a Closure Plan will differ between a temporary suspension and final mine closure, but some Guidance should be developed to set expectations for Stakeholder Consultations. This Guidance should then be referred to within Annex VIII(1)(o).

Appendix I

- Notifiable Events: Given the awareness by many international organizations of marine mammal concerns, as well as efforts to reduce negative interactions (see IWC and IMO, among others), we suggest that marine mammal fatality or evident distress be a notifiable event.

END