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

September 30, 2018

RE: Working draft – Exploitation regulations (ISBA/24/LTC/WP.1/Rev.1)

Sir/Madam,

Below, please find our Commentary on the (third) draft Exploitation Regulations issued in July 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 the contributors is presented at the beginning of the document. Express Consent for sharing is granted.

Sincerely,

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DEEP-OCEAN STEWARDSHIP INITIATIVE
Deep-sea minerals

COMMENTARY ON
"Draft Regulations on Exploitation of Mineral Resources in the Area"
issued July 9, 2018 by ISA (ISBA/24/LTC/WP.1/Rev.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 leads in the USA, Mexico, Australia and the UK, and 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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A. GENERAL COMMENTS

1. It is a welcome development to see the presentation of the fundamental principles from the Convention in the Preamble and DR 2 to set the context for these Regulations… we note that a redraft is recommended by the LTC Note to Council.
2. The 'Standards and Guidelines' are essential in the operationalization of many of the Regulations. 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, nor is the timeline (or process) for developing these documents. We recommend that the significant issues in future standards and guidelines be addressed before the Regulations are approved to ensure legal certainty. Similarly, the Authority's overarching environmental policy has yet to be drafted (to our knowledge). Without parallel document development, it is difficult to envision the intersection with these Regulations and to ensure consistency.
3. A related point is the process of developing guidelines for Environmental Impact Assessments (EIAs), which likely requires several iterations and input from a broad range of experts. It is possible the Regulations will require modification once the full impact of the environmental planning processes is addressed. To that end, note that both DR 92 and DR 93 state that inconsistency with the 'Rules' of the Authority means the 'Standards and Guidelines' might not be adopted. Also, if guidelines for EIAs are delayed, there is a risk that applications for exploitation contracts will be submitted without guidance as to the EIA process and substantive requirements."
4. There is a large focus on complying with plans submitted and accepted, but little mention of the need to revise plans should new information arise about damages, areas of particular environmental importance, etc.
5. "Good Industry Practice" is a vague concept, and it appears in several places in the Regulations; it should be made more specific, e.g. by referring to a document that describes what constitutes Good Industry Practice, or reference to Schedule 1 where all the concepts are defined.
6. The lack of provisions for an EIA in the Draft Regulations is concerning. The Environmental Impact Statement (EIS) and Environmental Monitoring and Management Plan (EMMP) must be based on an EIA (see DR 46bis, 46ter) but there is no detail as to what the EIA entails and what procedure it must follow. We highly recommend that more details, including a scoping stage, be included in the Regulations.
7. Similarly, the Draft Regulations refer to an 'environmental risk assessment' on several occasions without the term being defined and without specifying the content and procedure for such an assessment.
8. Annex VII paragraph 2(c) requires Environmental Monitoring and Management Plans to include 'environmental objectives' and DR 46ter(1) speaks about 'environmental quality objectives' in EMMPs. Will there be any guidance or standards by the Authority to help applicants develop these objectives?

9. The Draft Regulations should specifically require that Contractor EMMPs address how they support and intersect with the regional environmental management plans as a prerequisite for granting exploitation rights. Currently, regional environmental management plans are only mentioned as a possibility, e.g.: be 'in accordance with the objectives and measures of the relevant regional environmental management plan, if any.' (see e.g. DR 46bis(3)(c)).
10. We would like to highlight Article 165(2)(d) of the Convention requiring the Commission to "prepare assessments of the environmental implications of activities in the Area." Additionally, Article 165(2)(f) highlights the need to take into account "assessments of the environmental implications of activities in the Area" when drafting rules, regulations, and procedures for the Council.
11. A key step missing 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.
12. Can the Authority consider a change in wording from 'mankind' to 'humankind' throughout all documents?
13. At present, the Draft Regulations do not seem to require environmental objectives for regional environmental management plans or the Area in general. We recommend the Authority establish environmental goals, objectives, thresholds, and targets applicable to (a) the entire Area that will inform environmental goals, objectives, thresholds, and targets for (b) regional and (c) project-level environmental management. This will then facilitate Contractors showing compliance with the goals, objectives and regional environmental management plans.

SECTION B: ITEMIZED COMMENTS

Preamble

The paragraphs in the Preamble are ″dangling”. There should be an opening or a closing sentence, e.g. for the latter: “the Authority, in consultation with State parties and Stakeholders has developed the following Regulations of mining activities in the Area”.

Part I

DR 1(4): What is the process for independent research in a Contract Area? How would a potential conflict between commercial and scientific activities planned to take place in the same area be managed?

DR 2: “Inter alia” is not descriptive enough. This should be more affirmative, i.e. should be a list of principles rather than a list of what the principles should do/ensure; e.g. “the fundamental principles are as follows….”.

DR 2(2)(a): Although the wording is copied from Article 150 of the Convention, this is a very weak statement with respect to environmental management and conservation, and the terminology is unclear; i.e. what is meant by “rational management” or “sound principles of conservation”?

DR 2(5): “…in accordance with the Authority’s environmental policy and regional environmental management plans, if any,…”

- This paragraph attempts to get to the principles of protecting the environment; several issues include the inclusion of “if any” following the “environmental policy and regional environmental plans” of the Authority. Does this mean that there may not be a policy or plans? And when and how will the Authority develop a policy and Environmental Plan? Their development should precede the establishment of regulations. The specifics that follow are a good start, but it is unclear where the actual policy is. 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: specific regional environmental management plans should be generated based on those overriding goals and objectives.

DR 2(5)(b): Suggest incorporating the standard of precaution which the Seabed Disputes Chamber’s Advisory Opinion specifically articulated for deep seabed mining, namely that precaution should be applied where there are plausible indications of potential risks.

DR 2(6): Good to see this explicitly stated.

DR 2(7): We welcome the inclusion of the common heritage of mankind principle in the provision on the fundamental principles. However, we suggest rephrasing to “Ensure the effective management and regulation of the Area and its Resources in a way that promotes the development of the common heritage for the benefit of mankind as a whole.”

DR 2(8): We welcome this statement, but it requires a prior list of principles, without “inter alia”.

DR 3: Many important requirements as part of the duty to cooperate are included here, all need specificity.

DR 4(1): “Nothing in these Regulations affects the right….”

- Suggest amending to “nothing in these Regulations shall affect the right….”

DR 7(3) and DR 11: We welcome that EIS, EMMPs and Closure Plan will be required, as well as the proposed transparent method for publication and review of the Environmental Plans.

DR 9(2): As there have been instances when an application for exploration has not been considered by the Commission because the application processing fee has reached the Authority with a delay, perhaps the following should be added: "and that the processing fee has been paid in due time". Also, is 30 days before a Commission meeting enough time to effectively "consider" an application? Additionally, the timeline is confusing for when the Commission begins considering an application: it should be clarified whether it is as soon as notified from the Secretary-General that it has been received (as stated in DR 9(1)), or as soon as the Secretary-General determines that the application is complete for further processing (DR 10).

DR 10(2): See comment for DR 9(2) above.

DR 11(1)(a): "Place the Environmental Impact Statement, the Environmental Management and Monitoring Plan and the Closure Plan on the Authority's website for a period of 60 Days, and invite members of the Authority and Stakeholders to submit comments in writing in accordance with the Guidelines;"

- What is the process by which members of the Authority and Stakeholders are notified of posting on the Authority's website?

DR 11(1b): Will the comments on Environmental Plans by members of the Authority and Stakeholders be made public, or only shared with the applicant?

DR 11(1)(c): "…Consult with the applicant, who may revise the Environmental Plans…"

- The statement suggests the applicant has the choice on revisions. We suggest a more direct phrasing such as "Consult with the applicant who may be directed to revise …".

DR 11(2): We welcome the explicit procedural safeguard, specifying that "The Commission shall not consider an application for approval of a Plan of Work until the Environmental Plans have been published and reviewed."

DR 12(4): An excellent addition as it speaks to the application of the common heritage of mankind to the application process. It would be useful to itemize other benefits from the seabed that the Commission will examine to determine net benefits (e.g., scientific research, ecosystem services, future uses, impacts on terrestrial mining revenues, etc.).

DR 12(5): Will the Commission also consider comments on the proposed Plan of Work from other Stakeholders?

DR 13(1): Should the Commission 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): Encouraging to see 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.

DR 13(4)(d): Suggest the following additional sentence be added: "The Commission shall determine if the proposed Plan of Work provides for the effective protection of the Marine Environment, including the role of the deep ocean in society beyond extractive services."

Additionally, terms such as "reasonable regard to other activities" are vague and need to be further elaborated if they are to inform the process.

DR 14(1 and 2): Independent review, i.e. not commissioned by the applicant, is essential for "effective" protection of the Marine Environment. Additionally, we recommend that the past performance of the applicant in regards to execution of the Environmental Plan and mitigating incidents, if any, be included for consideration.

DR 15(2): It is important to note that the submission of an alternative proposal does not require an additional application fee.

DR 16(2)(a): "A Plan of Work for Exploration approved…" Should "or Exploitation" be added?

DR 16(2)(c): What and who determines "eligibility" to work in a reserve area?

Part III

DR 19(1)(b): It is unclear whether "production" means mining, Commercial Production as defined in Schedule 1, or mining and post-mining on-board processing.

DR 19(3): "The Authority shall ensure that no other entity operates in the Contract Area for a different category of Resources in a manner which might interfere with the rights granted to the Contractor."

- A further reason that should impede exploitation of multiple resource types within a Contract Area is the possibility of causing more harm to the Marine Environment from cumulative impacts.

DR 21: Contracts for 30 years, renewable for 10 years: The rigidity of wording in this Draft Regulation makes no room for flexibility. 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 Authority an 'out clause', perhaps based on its strategic environmental goals.

DR 21(2): The creation of the Guidelines is of utmost importance, especially regarding the content of an application to renew an exploitation contract. Will this application to renew have the same requirements as the initial application? Will it include any additional information about the benefits to the common heritage of mankind that have accrued since the initial contract period, or report on the status of the Marine Environment following exploitation activity?

DR 23(4): "…which are widely accepted" is an ambiguous term.

DR 23(5), 24(6), 24(8)(c): Reference to DR 90, where the Seabed Mining Register development is defined, could be provided.

DR 25(3): As this explains what "change in control" means, recommend this paragraph be the first, rather than the last one, under this Draft Regulation.

DR 27(2)(c): How will independent assessment of the post-closure monitoring and management of residual environmental effects be incorporated?

DR 30: A period of reduction or suspension in production due to market conditions could provide a useful opportunity for environmental monitoring for "recovery".

DR 33(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.

DR 36: The Commission may wish to indicate when the Contractor is no longer under obligation to report to the Authority, e.g. no longer mining but on station? Underway but still in the Contract Area? Underway to port carrying seabed minerals?

DR 37: 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. In similar circumstances, the accepted protocol is that work is ceased until the site/finding can be assessed by archaeologists, paleontologists or those with other appropriate expertise.

DR 40: The regulations do not specify a process for the review of annual reports by the Authority or what action the Authority may take as a result of certain findings in an annual review.

DR 40(2)(g): Will minimal reporting standards be outlined?

DR 41: There is reference to the Authority's data and information management policy and also the Guidelines. Where are these and how can a stakeholder (including a Contractor) access them? When will they become available?

DR 41(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

Section 9: We suggest a change in the order of the Regulations, so that "Other Resource categories" (DR 43) will be first, followed by DR 45 "Compliance with other laws and regulations", followed by "Disclaimer" (DR 44) and then "Prevention of corruption (DR 42).

DR 46(a): Recommend application of the precautionary approach, not only to the assessment and management of risk of harm, but also to the regulation of the same. [Precaution is normally applied at all stages as well as at policy and project level.]

DR 46(b): "Ensure the application of Best Available Techniques and Best Environmental Practice in carrying out such measures;"

- Suggest amendment to read "Apply the Best Available Techniques and Best Environmental Practice in carrying out such measures;"

DR 46(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;"

- Suggest replacing the term "promote" with "ensure". Additionally "timely access" is too vague and could be replaced with "immediate".

DR 46(e): "…Develop incentive structures, including market-based instruments that support and enhance the environmental performance of Contractors, including technology development and innovation;"

- Suggest replacing the term "develop" with "apply".

DR 46bis(1): "…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 to "biological and abiotic".
- "Acceptable levels" must be defined here or in the Standards and Guidelines.

DR 46bis(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 46bis(3)(c): "…In accordance with the objectives and measures of the relevant regional environmental management plan, if any;"

- Please note General Comment above regarding 'if any'.

DR 46bis(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 46ter(1): "The purpose of an Environmental Monitoring and Management Plan is to manage and confirm that Environmental Effects meet the environmental quality objectives and standards for the mining operation."

- 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 46ter(3)(b): "….In accordance with the relevant regional environmental management plan…;"

- We welcome the explicit link between the EMMP and the relevant regional environmental management plan.
- Please note General Comment above regarding 'if any'.

DR 47: "A Contractor shall take necessary measures to prevent, reduce and control pollution and other hazards to the Marine Environment from its activities in the Area..."

- We welcome the inclusion of specific provisions on pollution and mining discharges.

DR 48(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 48(1)(b): Current wording suggests that the EMMP, prepared by an applicant, can permit the dumping of Mining Discharge. Suggest rewording.

DR 48(2): "However, the Contractor need not comply with the obligation in paragraph 1 above where action is necessary for the safety of life or the preservation of property from serious

damage, provided that any action shall be so conducted as to minimize the likelihood of injury to life or Serious Harm to the Marine Environment."

- 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.
- Additionally, it needs to be clarified what is meant by "life" e.g. human?

DR 49(a): "Monitor and report on the Environmental Effects of its activities on the Marine Environment, and manage all such effects as an integral part of its Exploitation activities;"

- Suggest a time frame, in which Environmental Effects are to be reported, be added.

DR 50(2)(c): "…As agreed to in writing by the Commission;"

- This implies an agreement with the Commission but the Commission is not a party to the contract, so this provision seems unsubstantiated; the Commission gives recommendations to the Council rather than to the Contractor.

DR 50(8): We welcome the clear procedural safeguard in this Draft Regulation, specifying the consequences of a failure to comply.

DR 53 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 Liability Trust 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.
- If the above suggestion is not amenable, a number of potential purposes and uses for the Environmental Liability Trust Fund are presented. 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?

DR 54(d): Would this provision include raising ad hoc funds to cover a situation where a liability gap occurs but the Environmental Liability Trust Fund has insufficient funds? This might be a particular risk in the early stages of exploitation, when environmental harm may occur but the Fund has not yet been able to raise sufficient funds.

Part V

DR 55: Suggest requiring consultation with environmental experts regarding modification of the Plan of Work.

DR 56(1): The decision of whether a Plan of Work requires modification should not rest with the Secretary-General alone but should involve the LTC at least. The statements that the Secretary-General "may review" and "discuss whether changes are desirable" renders the process non-transparent.

DR 56(2): "A review of activities shall be undertaken in accordance with the Guidelines. The Secretary-General or the Contractor may invite the sponsoring State or States to participate in the review of activities."

- Amend to "….The Secretary-General or the Contractor will invite the sponsoring State or States to participate in the review of activities."

DR 56(3-5): Again, there is no mention of input required from external environmental experts. Additionally, the timeline should be clarified.

Part VI

DR 57(2)(f): It is unclear when and where these criteria and standards were predetermined. Is "restoration" really what is meant here? … "rehabilitation"?

DR 58(2)(b): "….At the date of cessation or suspension of mining activities, a management and monitoring plan is in place for the period prescribed in a Closure Plan;"

- Recommend there be a minimum period prescribed for the management and monitoring plan to be in place. This may be Resource specific.

DR 58(3)(c): "….Reject the final Closure Plan in the event that the amendments are not made by the Contractor..

- It is unclear what the plan of action will be if the Commission rejects a Closure Plan.

DR 59: Who determines how long the closure period monitoring should take place for? This will be dependent on the type of environment and the scale of impact.

DR 59(2): 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 Authority take over if the Contractor is non-compliant?

Part VII

DR 72(2): Using "inter alia" implies some other aspects are in need of verification and may lead to misunderstandings as to what those unmentioned aspects are.

Part IX

DR 87: We welcome the detail on Confidentiality, especially around environmental matters. However, we recommend this regulation be revisited. In keeping with the text in this draft regulation, sections on Plan of Work, Closure Plan, EMMP, inter alia, can have a note that they will be publicly available.

- What is the basis for the 10-year limit on Confidential Information? This period could potentially be halved or shortened to provide for greater transparency?

DR 87(2): The definition of Confidential Information is too broad and thus open to wide interpretation. (2)(b) and (2)(d) should be sufficient to define Confidential Information. (2)(a), (2)(c), and (2)(e) are redundant and should be removed to enable transparency.

DR 87(3)(f): "…...provided that the Secretary-General may agree that such information is regarded as Confidential Information for a reasonable period where there are bona fide academic reasons for delaying its release".

- Our scientists agree that no environmental data should be withheld from public scrutiny for any time period. 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 from academia. Should academics be collecting data, these would be auxiliary to the Contractor obligations and clarified as such.

DR 88(2): Consider recommending that a log be kept of all of individuals who access the Confidential Information, and the reason for doing so.

DR 90(1)(i): "Any other details which the Secretary-General considers appropriate (save Confidential Information)."

- It is important to at least note that Confidential Information was submitted. That is, to log that Confidential Information was submitted, how many items, and what type (e.g. personal details, data, etc).

Part X

DR 92: See general comments above. It would be important to know when some of the key standards will be developed.

DR 94(6): Recommend including "harassment". Additionally, while DR 94(1-5) are very thorough, DR 94(6) does not detail what the consequences are for not conforming to the regulations, save being reported to the sponsoring/flag State. Recommend the consequence be made clear e.g. termination of the contract.

DR 96(1)(b): It should be noted that a "document" can also be raw data. Recommend amendment to "…including but not limited to a plan, book or data record...".

DR 97(3): Why is there a 7-day limit to the force of the instruction? Recommend this be amended to "a specified period".

DR 98: Recommend the report also be posted publically on the ISA website for transparency. However, this should only be after the Contractor has notified the Secretary-General that it will not send a rebuttal, or after any complaint has been dealt with (see DR 99 below).

DR 99(1): "A person aggrieved by an action of an Inspector under this Part may complain in writing to the Secretary-General, who shall consider the complaint as soon as practicable."

- 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 99(2): "The Secretary-General may take such reasonable action as is necessary in response to the complaint."

- 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 101: It would be useful to include what will happen regarding a compliance notice, fine, etc., so the link between the action and the consequence is clear.

C. THE ANNEXURES

General Comments

- As we have not seen the Environmental Standards and Guidelines, as well as environmental objectives, it is difficult to comment on some specifics here.
- A prior environmental risk assessment underpins many aspects of the Environmental Impact Statement 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.
- Terminology for preservation reference zones needs to be updated to "control reference zones".
- Concerns that the Authority's Guidelines are referred to in the Environmental Impact Statement (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 Environmental Impact Statement, the Emergency Response and Contingency Plan and the Closure Plan will be open for interpretation by Contractors.
- All data relevant to the Environmental Impact Statement (e.g., impact studies and prior environmental risk assessments) should be publically available for download and independent assessment.
- The Environmental Management and Monitoring Plan 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.

Annex IV - Environmental Impact Statement

NOTE: We realize that we have provided a lot of detail below. Many suggestions are more appropriate to an EIA. However, without access to the guidelines for an EIA, it is difficult to know where the detail will emerge. We hope our suggestions will aid a developing process.

General

- The final paragraph in 2) on Pg. 70 states this is a template only and is not prescriptive but rather a guide to format and populate the content of EIS. Does this mean that this guidance can be ignored without consequence? The elements within should be required.
- 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.
- 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 mitigation would be required. There are currently no goals, objectives or targets that the Contractor and the Authority 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.
- This section also places the onus of an environmental policy on the Contractor; the Contractor then needs to meet the objectives of their own policy. Does this mean that if the Contractor has a management plan that allows them to implement a weak environmental policy, they will receive approval? Environmental policy is usually developed by the oversight authority. In this case, it should consist of broad strategic goals and objectives that apply to all resources and regions and more region- and resource-specific targets. Thus, the EMMP can address the ISA's objectives and targets.

Executive summary

- (d) 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 benefits and potential costs of a project.

1. Introduction

1.3 Project history

- Recommend the description of exploration activity and component testing also include a description of the environmental impacts observed during that activity.

1.4 Project proponent

- Recommend the term "proponent's environmental record" be clarified.

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.

- Recommend, for those relevant to the proposal in Section 2.2, 2.3 and 2.4, the Contractor also outline 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.
- 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

Is the prior environmental risk assessment the same as the scoping report mentioned in earlier regulation drafts?

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.

4.2 Regional overview

- Recommend comparing the geological and oceanographic conditions of the mine site with those of the broader region so that it is clear whether the site differs in some way from the broader region (e.g., higher oxygen concentrations than average, etc.)

4.3 Studies completed

- Providing the environmental baseline data also as an electronic or linked supplement would aid assessment.

4.5 Geological setting

- 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."

4.7 Chemical oceanographic setting

- Recommend spelling out the elements included in geochemistry (O_2, pH, H^2S, CH^4, trace metals), etc. Also recommend including fluxes and rates relevant to mining impacts.

4.8 Seabed substrate characteristics

- Should include sediment composition and hard-substrate (rock) composition.

4.10 Noise and light

- Recommend providing a description of ambient noise and light at depths of operation including the seafloor and water column.

4.11 Greenhouse gas emissions and climate change

- Should the level of emissions also be considered for activities above the Area (e.g., surface vessel emissions and support vessel emissions)?
- Recommend changing "gas and chemical emissions" to "gas and fluid emissions" as chemicals are contents of both.

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

If novel scientific results are included in the EIS, they need to be backed up by detailed methodological description, results and publically-available data. The most appropriate method for this is for the scientific results to be published in a peer-reviewed scientific paper and then referenced in the EIS. If this is not possible, then full descriptions could be included in scientific reports or an annex of the EIS.

"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. Recommend clearer terminology such as "Description of the Biology".

Surface, midwater and benthic are not very technical terms. It would be useful to define them here and link to the more technical terms used by scientists, e.g. surface (epipelagic < 200 meters), midwater = mesopelagic, bathypelagic and abyssopelagic = 200 meters to 50 meters above bottom), benthic = seafloor and demersal up to 50 meters above bottom.

5.1 Key messages

- Same comments as in 4.1 above.

5.2 Regional overview

- Recommend the regional overview specifying how the biological environment compares to regional biodiversity so that it is clear how the site differs from the broader region.
- 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.).

5.3 Studies completed

- Environmental baseline data should be made available as an electronic downloadable supplement so that the data can be easily assessed.
- There is a lack of clarity on whose studies are included here (only the Contractor?) and what topics/types are covered.

5.4 Biological environments

- The first paragraph might reference the Standards and 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 (taxonomic), please clarify. This is important because diversity, biomass, trophic relationships, etc., can also be community-level analyses.
- Recommend clarifying whether depth and depth zone in this section refers to water depth (as opposed to depth within sediments, etc.).

5.4.3 Benthic

- 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. Information about species-specific life history and behavior should be included in the sections above. Recommend this section discuss emergent properties that arise when considering all the species together, e.g. productivity, habitat heterogeneity, food-web complexity, carbon and nutrient cycling, bentho-pelagic coupling, biodiversity, succession, stability, etc.

5.5 Summary of the existing biological environment

- Again, use of the term "biological environment" is unclear. Recommend using "Summary of biological properties".

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 biology 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)

7.6 to 7.12

- 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).

7.10 Greenhouse gas emissions and climate change

- Should the level of emissions also be considered for activities above the Area (e.g., surface vessel emissions and support vessel emissions)?

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, a 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.

<u>8. Assessment of impacts on the biological environment and proposed Mitigation</u>

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".

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

- Recommend impacts be described for all taxa, not just emphasized for commercially valuable species "such as tuna".

8.4 Midwater

- Recommend changing terminology from "biological environment" to "biology" or "biological properties".

8.5 Benthic

- Recommend changing "demersal fish" to "demersal fish and invertebrates".

8.6 Ecosystem/community-level

- An important example of linkages would be the potential toxicity effects of plumes and bioavailability of toxins. 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. This section should focus on emergent properties that arise when considering all the species together, e.g. productivity, habitat heterogeneity, food-web complexity, carbon and nutrient cycling, bentho-pelagic coupling, biodiversity, succession, stability, etc.

8.7 Cumulative impacts

- The impacts on the biological environment that may be inflicted 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 are known to occur within the potential area of impact**.**

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 (which still need to be clearly delineated) and with the environmental goals and objectives of the regional environmental management plan.

We received member comments on the role of independent assessment in the monitoring process itself – not just the Plan. 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.

12. Product stewardship

- The description should also address the meeting of standards for environmental management at the site of offloading, processing, and disposal of wastes and ore.

13. Consultation

Are any 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 recommend consideration be given to the independent nature of consultation and identifying the "key concerns". Comments given by Stakeholders should be available as data to download publically so anyone can check whether opinions were considered.

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 Assessment 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

NOTE: It would really 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 very hopeful that a process with full Stakeholder engagement will ensue to define aspects such as significant changes, harmful effects, etc. Similarly, standards for performance and indicators (triggers and thresholds) do not currently exist.

1b: Recommend the inclusion of independent verification of the EMMP by relevant experts.

2c: Recommend reference to the Authority's Guidelines so that the environmental objectives and standards to be met reflect the requirements set out in the context of the Authority's overarching environmental goals (TBD).

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: Recommend including an assessment of the potential longevity of environmental effects.

2f: Suggest 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: Adaptive management in the deep ocean remains theoretical, and likely very difficult to implement given long-term biological responses to impact, and difficulty to monitor scientifically. Suggest including the financial implications, and adding:
"…management techniques (process, procedure, timing, monitoring of response)…"

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.

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

2k and 2m: Unsure as to whether the correct legal term is Good Industry Practice or Best Industry Practice?

2l: The "Document Review and Updates" section 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, 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 Authority 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

1: The current language allows for a Closure Plan to be prepared without "the relevant regional environmental management plan". A regional environmental management plan should be in place prior to applications for exploitation and the Closure Plan should have to consider the relevant regional environmental management 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.

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