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Harald Brekke
Chair of the Legal and Technical Commission
International Seabed Authority
Kingston, Jamaica

Email: oemmr-secretariat@isa.org.jm

Dear Harald Brekke,

The Pew Charitable Trusts, in its capacity as an observer to the International Seabed Authority (ISA), respectfully submits these comments in response to the stakeholder consultation initiated by the ISA on the draft regional environmental management plan (REMP) for the northern Mid-Atlantic Ridge (MAR). We thank you, and the members of the Legal and Technical Commission (LTC), for your work in developing this draft document and welcome the opportunity for consultation.

In recent ISA meetings, Council members have reiterated their broad support for the development of REMPs as a precondition for issuing mining contracts in the relevant region. This support for REMPs as an essential tool for marine protection is also reflected in the decision of the ISA Assembly to adopt the ISA's Strategic Plan for the period 2019-2023, which states in direction 3.2 that the ISA is to "develop, implement and keep under review regional environmental assessments and management plans for all mineral provinces in the Area where exploration or exploitation is taking place to ensure sufficient protection of the marine environment as required by, inter alia, article 145 and part XII of the Convention."

This support for REMPs recognizes that the deep-sea is not one homogenous place, but contains an overwhelming diversity of habitats, species, and ecosystems that require region-specific management measures. As REMPs will be key tools to protect the marine environment from the impacts of mining activities, it is critical that any REMP adopted by the ISA be fit for purpose and contain robust, well-defined, and enforceable region-specific management measures as well as a clear process for ensuring the plan is based on the best available science. *While the draft MAR REMP makes progress, it does not yet meet these criteria.*

The draft REMP includes several area-based and non-spatial management measures; yet, as the draft itself acknowledges, the development of these measures remains largely prospective. Among the incomplete measures in the REMP are a network of representative habitats, thresholds for the detection of activities which may cause serious harm, consideration of other marine users, and an account of knowledge gaps and uncertainties. Until work is done to resolve these issues, among others, the draft cannot be considered to provide a suitable basis for decision making in the region.

We also have serious concerns about how these management measures—both current and those to be developed—will be implemented and enforced. This stems from uncertainty in the draft REMP regarding the roles and responsibilities of the ISA, Sponsoring States and contractors. Throughout the draft it is unclear who is responsible for implementing management measures, how this will be achieved and how it will be verified. While we appreciate there is an implementation strategy, it only identifies priorities for future monitoring and research, and does not contain specifics or assign responsibility of implementation to an entity.

Lastly, we are concerned over provisions in the draft which imply that REMPs and management measures will need to consider the security of tenure that contractors enjoy over their contract areas. This applies to

existing *exploration* contracts, while REMPs would need to be established before *exploitation* of an area begins. Therefore, we query the relevance of this concept to the draft.

In light of these concerns, and others listed in our more detailed comments, we must recommend that significant revisions be made before this REMP is presented to the Council for its consideration. We also recall that in the development of this draft there would be consideration of the proposals submitted by Germany and the Netherlands, co-sponsored by Costa Rica, for a standardized procedure to develop, approve and review REMPs (ISBA/26/6/C) and a template with minimum requirements for REMPs (ISBA/26/7/C). It would be helpful to have information on how these proposals were considered, as several of the issues we have raised here would've been addressed if their content were incorporated into the draft REMP, or if an overarching REMP policy document were developed.

I thank you again for the opportunity to submit these comments. Please do not hesitate to reach out if further discussion with us would be useful.

Yours Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew Friedman", with a long horizontal flourish extending to the right.

Andrew Friedman

Project Lead, Seabed Mining

The Pew Charitable Trusts

TEMPLATE FOR COMMENTS

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General Comments	
<p>When preparing the general comments, stakeholders are invited to consider the following:</p> <ol style="list-style-type: none"> 1) The structure and layout of the draft REMP. 2) The level of detail of the draft REMP, while avoiding being too prescriptive. 3) The goals and objectives in the draft REMP in providing for long-term, effective protection of the marine environment in the Area of the northern Mid-Atlantic Ridge. 4) The management measures and their ability to achieve the goals and objectives in the draft REMP. 	
Key Elements Outstanding	
<p>The draft REMP should be acknowledged for making important progress. However, it should not be considered complete nor serve as a basis for evaluating exploitation contracts while key elements remain outstanding. These include:</p> <ol style="list-style-type: none"> 1) Thresholds – The draft REMP mentions the importance of developing precautionary thresholds to, inter alia, describe vulnerable ecosystem features, detect serious harm, and control the mining plume; it does not describe how these thresholds will be established or to whom this responsibility falls. Yet it is critical that thresholds be in place before exploitation begins and that contractors be required to apply all established thresholds, including those that may evolve over time. The absence of sufficient data to elaborate such thresholds evidences the absence of an ability to make evidence-based decisions about mining impacts. 2) Establishment of a network of representative habitats – Paragraph 31 notes the need for “additional expert discussion led by the LTC” on the application of a network criteria to ensure that protected areas in the region are adequately representative and connected. While further discussions with the scientific community may be needed, the REMP is not complete until these criteria are applied to confirm that an appropriate network is in place. Otherwise, there can be no confidence that protected areas are contributing to the REMP’s region-specific goals and objectives, or that those objectives will be achieved (e.g. “Prevent habitat loss to maintain ecosystem viability”, “ensure connectivity is maintained amongst populations”, “Maintain representativity of habitats at the regional scale”, etc.). 3) Process for designation and implementation of Area-based management measures (including areas in need of protection (AINPs), sites in need of protection (SINPs), and sites or areas in need of precaution (S/A-Precaution) – The section on area-based management measures requires more detail to explain how potential AINPs/SINPs can be identified, reviewed and, if appropriate, established. The current framework raises numerous questions: <ol style="list-style-type: none"> 1. Is the process of identifying, reviewing and establishing SINPs the same for AINPs? 2. Are any activities restricted while an area or site is being reviewed? Should a contractor submit information regarding a potential AINP/SINP as a precursor to an exploitation application? What is the process and timeline for review of such submissions? It is relevant in this respect, as a PMS deposit may be fully exploited in a matter of weeks or months. 3. What is the process for non-contractors to identify potential AINPs and SINPs? 4. What happens if a contractor neglects, knowingly or unknowingly, to report the identification of a newly discovered vulnerable or sensitive ecosystem? 5. What activities are permissible for a S/A-Precaution? Presumably the contractor should have to stop exploitation activities? 	

6. How are S/A-Precaution different from a “newly discovered vulnerable or sensitive ecosystem” (para. 41) used for identification of future SINPs/AINPs? Is there a different process for identifying these two terms and determining if they should be a SINP/AINP?
7. Who designs SINPs/AINPs once appropriate conditions are identified? Rather than Contractors, should it not be the LTC, in consultation with the scientific community?
8. Are baseline requirements sufficient to identify vulnerable or sensitive ecosystems during the exploration phase? Should baseline data be provided under a guideline or standard?

These questions along with the envisioned zoning scheme need to be further discussed to ensure these management measures achieve their intended functions: protecting ecologically important areas and sites from direct and indirect impacts of exploitation of mineral resources.

4) Defining Terms – The draft incorporates several unclear, yet consequential terms (e.g. key, important, significant, indicator species). For example, paragraph 49(c) provides:

“c) On key vulnerable/sensitive species, contractors will monitor significant communities of fauna within contract areas and in surrounding areas likely to be impacted by mining activities”

“Key vulnerable/sensitive species” or “significant communities” are both undefined and no criteria are offered for identifying these species or communities. Further elaboration will be required to clarify the conditions for compliance.

5) Consideration of other Human Activities – As suggested by Germany, Netherlands and Costa Rica’s proposal for standardized REMP content requirements (ISBA/26/C/7), every REMP should provide a section on the identification and mitigation of conflicts with other marine users, such as fisheries and submarine cables, including elaboration on specific measures to avoid potential conflict and consideration of how other marine users contribute to cumulative impacts in the region.

6) Consideration of Underwater Cultural Heritage - The northern Mid-Atlantic Ridge is an area of cultural significance due to its historic connection to the transatlantic slave trade. Objects and sites related to the slave trade may be discovered in the course of mining-related activities, which should be considered in this REMP. While the exploitation regulations are still subject to negotiation, it is worth noting that the prospecting and exploration regulations for polymetallic sulphides in the Area have explicit requirements when it comes to the discovery of “Human remains and objects and sites of an archaeological or historical nature” (Regs. 8 & 37, [ISBA/16/A/12/Rev.1](#)). The REMP should reference these regulations and elaborate on how they will be implemented in this region. (See Turner et al. MAR REMP consultation submission and article on Memorializing the Middle Passage on the Atlantic seabed in Areas Beyond National Jurisdiction. *Marine Policy*, 122, 104254)

7) Scenario Forecasting - Every REMP should also include forecasting of various mining scenarios, including multiple contracts, other industry pressures, and the effects of climate change, to assess the number of contracts that can be approved in the region before exposing the environment to unacceptable levels of harm (see ISBA/26/C/7).

8) Account of Uncertainties - Also noted in ISBA/26/C/7, the description of the baseline environment should include a section on existing gaps and uncertainties. These uncertainties should be described and incorporated in the REMP and when performing a regional environmental assessment.

9) Incorporation of Traditional Knowledge - Indigenous Peoples and local communities have traditional knowledge relevant to the Authority’s management of activities in the Area. At the March 2022 Council Session, there was overwhelming support for the use of traditional knowledge (TK) in decision-making, where applicable. Use of traditional knowledge should be included as a guiding principle and further elaborated in every REMP where applicable.

10) Compliance with management measures –The most recent Facilitator's text for the informal working group on the protection and preservation of the marine environment calls for a contractor’s environmental plans (Environmental Impact Statement and Environmental Monitoring and Management Plan) and annual EMMP performance assessment to be in conformity with the objectives and measures of the relevant Regional Environmental Management Plan. Reinforcing these obligations, the REMP should instruct contractors to demonstrate their conformity with the REMP

through their environmental plans as part of their application for a Plan of Work and through their annual EMMP performance assessment.

11) Process for updating environmental information, regional environmental assessments, and management measures (see comment below)

Process for updating regional environmental baseline information, assessments, and management measures (area-based and non-spatial)

In the absence of a REMP policy document, this draft REMP needs to include specifics on how its environmental baseline data, regional environmental assessments, and management measures will be updated.

As suggested by Germany, Netherlands and Costa Rica’s proposal for a standardized procedure for the development, approval and review of REMPs (ISBA/26/C/6), every year there should be a report "[summarizing] new environmental data from all contractors, as well as new scientific literature data that are relevant to the regional environmental management plan and monitoring data and information". As further suggested, this report should be compiled by independent experts, and accompanied by their "recommendations as to the implications of the new knowledge" in the form of an updated regional environmental assessment, including any proposed changes to area based (AINPs, SINPs, and S/A precaution) and non-spatial management measures (thresholds).

The LTC should then "consider [and] review [the] report of the expert [group] to satisfy itself that the proper procedure has been followed in the review of the regional environmental management plan, in accordance with any relevant guidelines. The Commission [would then] recommend to the Council any proposed amendments regarding the plan and its contents, objectives and measures." The Council, in lieu of the LTCs recommendation, may then request a review, before the 5-year recurring review of the REMP, to incorporate the recommendations of the expert group and LTC into a revised REMP.

As further suggested by the above-reference proposal, “[e]vents that may lead the Council to request an earlier review may include:

- (a) Issue of an Authority emergency order that relates to a site within the region;
- (b) Request by another organ of the Authority;
- (c) Submission of substantial new environmental knowledge or data for the region;
- (d) A major environmental change in or affecting the region (e.g., a natural or anthropogenic disaster);
- (e) Relinquishment of areas previously under contract within the region;
- (f) Submission of a new application for a plan of work for exploitation in the region, when the exploitation would be for a new resource category in the relevant area"

Security of Tenure

The draft REMP presently incorporates the following references to Contractors’ rights and obligations:

“29. This REMP recognizes that contractors have security of tenure over contract areas, and any management measures prescribed in the context of this plan will need to take this into account.”

“40. Fully respecting the rights and obligations of contractors in the existing contracts for exploration, the following management measures will be applied for the 11 SINP:”

These references are vague, overbroad, and should not be interpreted to improperly limit the functioning of the REMP. Article 153(6) of UNCLOS provides that contracts issued by the ISA “shall provide for security of tenure” and accordingly “shall not be revised, suspended, or terminated” except as permitted under UNCLOS. To the extent this provision secures rights to Contractors, those rights are against the improper revision, suspension, or termination of exploration contracts, not future contract approvals or the ongoing management contract areas. Moreover, any rights implied by Article 153(6) are coextensive with other right and obligations under the Convention – including the ISA’s duty to protect the marine environment and the status of the Area as the common heritage of mankind.

If the REMP process (and indeed the contractor’s own data collection) identifies a site that requires protection, either within or in close proximity to a contract area, the existence of a contract should not preempt the execution of these parallel obligations. To avoid any confusion in this respect, these paragraphs should be deleted.

Roles and Responsibilities

It must be made clear that the ISA, not contractors, is responsible for establishing management measures and operational objectives. The draft REMP does not explain who is responsible for implementing operational objectives and management measures in the region outside contract areas and how this will be achieved (see Lines 217-246 and 380-398). This includes, but is not limited to, developing thresholds, determining “key” or “indicator” species, and monitoring direct and indirect impacts to the Area. In addition, the draft’s “implementation strategy” only identifies priorities for future monitoring and research, but does not say who will carry them forward. The REMP should identify the party (the Authority, Contractor, scientific community, etc.) responsible for each provision and should also outline how stakeholders will be involved in the process. Each objective should be cross referenced with the applicable provision in the implementation strategy.

Need for a REMP Policy document

The draft builds on the experience of the CCZ EMP and several workshops, drawing on the collective knowledge of the scientific and stakeholder community. These processes should now be formalized in a policy document outlining the steps for creating, reviewing, and updating REMPs. Such a document would enhance inputs by giving stakeholders an avenue for better prepared and more targeted inputs, and could also remedy some the discrepancies between this draft and the CCZ EMP, such as the differences in overarching purpose, principles and goals of a REMP (see specific comments below). It would also inform the and standardized the development of future REMPs, as is already underway in other regions.

Specific Comments

Page	Line	Comment
5	76	The principles guiding the development and implementation of REMPs in the Area should be consistent across each REMP. The principles in this draft REMP differ from the guiding principles in the CCZ EMP and include the application of an ecosystem approach and incorporation of best available scientific evidence. We agree with the addition of these two principles but question the implication of the absence of these principles from the CCZ EMP. A policy document noting the overarching principles, goals and standardized content of a REMP would offer greater consistency. The LTC chair indicated during the March session of the ISA Council that in developing the MAR REMP that they would consider the Germany, Netherlands, and Costa Rica proposal (ISBA/26/C/7), which aimed to establish standardized content. Notably, this proposal includes additional principles not included here (e.g. “use of relevant traditional knowledge of indigenous peoples and local communities”, “use of best environmental practices and technologies”, and “international cooperation”). It would be helpful to know if these principles were considered and if so, why they were not included.
5	82-85	Proposed Text: Principle 15 of the Rio Declaration on Environment and Development specifies that w Where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing east effective measures to prevent environmental degradation. Comment: As noted by several Member States at the March 2022 Council Session, the reference to the Rio Declaration should be deleted to avoid placing unintended limitations on this approach, which continues to evolve.
5	90	Proposed Text: f) Incorporate traditional knowledge of indigenous peoples and local communities Comment: There was overwhelming support at the March 2022 Council Session for the use of traditional knowledge (TK) in decision-making, as such we believe it should be referenced here. To incorporate TK further in this plan we recommend reviewing recent textual proposals and references submitted by the Federated States of Micronesia: DR46bis-Schedule-micronesia.pdf (isa.org.jm) , Micronesia-AnnexIV-merged.pdf (isa.org.jm)

6	92	<p>Like the principles discussed above, the CCZ EMP lists a different set of goals than those listed in the draft REMP. The CCZ EMP may require revisions accordingly. It is also worth noting that the goals in this section are different from those reflected in ISBA/26/C/7. Notably that proposal provided more specific goals for protecting and preserving the marine environment (e.g. “preserving unique ecosystems”, “prevent species extinctions”, “prevent impacts on benthic and pelagic ecosystems, including on mid-water fish stocks”, and “preventing exacerbation of vulnerable ecosystems”) and included application of the precautionary approach corresponding to the level of knowledge gaps and risk, along with specific actions to be taken (e.g. “using all available environmental data to inform decision making”, “identifying and taking into account uncertainties, and applying adaptive management”). It also provided that REMPs should identify and mitigate conflicts with other marine users, including cumulative impacts from multiple contracts and sectors.</p> <p>The discrepancies between the principles and goals listed here and those listed in the REMP proposal from three Council members warrants further discussion.</p>
<p>ENVIRONMENTAL AND GEOLOGICAL SETTING AND THE EXPLORATION AREAS FOR PMS DEPOSITS</p>		
7-8	140-146	<p>We suggest adding an explanation of active/inactive/extinct vent sites and vent fields.</p> <p>Reference: Jamieson, J. W., & Gartman, A. (2020). Defining active, inactive, and extinct seafloor massive sulfide deposits. <i>Marine Policy</i>, 117, 103926</p>
8	182-187	<p>Existing text: “The complex geomorphology and high heterogeneity of habitats make it challenging to identify a representative network of sites or areas that can capture the full range of biodiversity and environmental gradients across the region. Distinct habitats and communities, such as active hydrothermal vent systems, occur at a much finer spatial scale, compared to abyssal plain and other deep-sea environments.”</p> <p>Comment: The seeming implication of this provision is that a representative network will not be identified for this REMP and that management will only be conducted at a “finer spatial scale”. However, section 31 of this draft REMP notes that applying network criteria for representativity and connectivity will be necessary going forward. Protecting spatially separated populations and communities should be a key part of this REMP. In order to be consistent with Section 31, this Section 23 should delete reference to the “challenging” nature of the task and instead emphasize the importance of achieving representativity and connectivity. (see also general comments “Key Elements Outstanding”)</p>
9	198-204	<p>Lines 198-199 note that “the surface area of known PMS deposits is measured at a scale of a few hundreds of meters” and lines 202-202 conclude that “the difference in surface extent of different mineral deposits likely results in different scales of the potential environmental impacts”.</p> <p>Best available science suggests that while the surface area of PMS deposits is measured at a scale of a few hundreds of meters, impacts could range far beyond that due to the population connectivity of metapopulations and metacommunities.</p> <p>We recommend adding a section noting the importance of protecting connectivity, metapopulations, and metacommunities and emphasizing that the indirect impacts of mining hydrothermally active ecosystems could extend beyond a few hundreds of meters.</p>
9	204	<p>Proposed Text: “Biological characterizations of hydrothermally inactive sulfide occurrences and metal-rich sediments in the region are very limited. It is not known to what extent these hard and soft substrata might support vent endemic taxa.”</p> <p>Comment: We suggest acknowledging the existing knowledge gaps for inactive and extinct vent systems.</p>

REGION-SPECIFIC GOALS		
9	206-215	As emphasized in our general comments, many, if not all, of these objectives need to be met before exploitation can occur. For example, a process for the identification and designation of areas and sites in need of protection needs to be established and available to contractors during the exploration phase to help inform baseline studies and applications for Plans of Work (EIA/EMMPs). Until these elements are included, this REMP cannot be considered complete.
9	209	This line should be changed to “Prevent habitat loss or degradation to maintain ecosystem viability”.
9	210	Connectivity should be maintained amongst populations and metapopulations and metacommunities to ensure source-sink dynamics are not disrupted (see previous comment, pg. 9 lines 198-204). As such, we suggest “ metapopulations and metacommunities ” be added to end of this subparagraph.
9	211	Proposed text: “ Maintain Ensure representativity of habitats at the regional scale by protecting representative habitat within each biogeographic management unit. ” Comment: We recommend the LTC and scientific community determine an appropriate representative percentage that should be protected.
9	215	Existing Text: “Ensure exploitation does not exceed cumulative impacts thresholds.” Comment: This line needs clarification – would the cumulative impacts thresholds refer to the direct and indirect impacts of multiple mines within an area, or would it also refer to other human impacts such as fishing and climate change, or all of the above?
OPERATIONAL OBJECTIVES		
10	231-232	Existing text: Identify feeding and breeding grounds for key species such as marine mammals and large nekton Comment: As noted in our general comments, the draft REMP uses “key” and “important” interchangeably throughout the document. These terms need to be defined.
10	240	Proposed text: "Establish a process for periodically updating environmental baseline data for the region annually " Comment: As noted in our general comments, the process for updating environmental baseline data should be included in this document, not postponed for a later date. In addition, we recommend deleting "periodically" and suggest that updates of environmental baseline information occur annually.
10	241-243	Proposed text: "Update regional environmental assessments following annual updates of environmental baseline data for the region as outlined in the Strategic Plan of the International Seabed Authority for the period 2019–2023, when appropriate as new scientific data and information are made available." Comment: Regional environmental assessments should be conducted after environmental baseline data have been updated thereby making the updated baseline information useful for environmental decision making. Also, there is no process contained in the Strategic Plan that informs how REAs should be updated. The Strategic Plan appears to include only two references to REAs. These state that REAs should be "develop[ed], implement[ed] and [kept] under review” and that their development should fully integrate the participation of developing States. Instead of citing the Strategic Plan, it would be better to elaborate on the process for updating REAs in this REMP, and provide specifics as to how developing States will participate.
10	248	This section is confusing as it conflates objectives for the contract areas with objectives for the region. We recommend adding an objective in Section 28 such as “Ensure all area-based and other management measures outlined in this REMP are adopted and applied within the contract area, and in adjacent areas as necessary”
10	251-252	Proposed text:

		<p>a) “Avoid harmful environmental impacts on active vent sites with significant megafauna communities, including loss of vent communities in areas around a potential mine site.”</p> <p>We suggest that this operational objective apply to all active vents, which would classify as SINPs. If this is retained, we recommend “significant” be defined and the process for determining significance to be described.</p>
10	253	<p>Existing text:</p> <p>b) “Ensure that sustainability is not compromised due to harmful environmental impacts on vulnerable/sensitive habitats and communities, including coral gardens and sponge aggregations”</p> <p>It is unclear what “sustainability” means in this context. This should be clarified.</p>
10	256-257	<p>Proposed text:</p> <p>c) “Avoid or minimize harmful environmental impacts on important species for the maintenance of ecosystem functioning and integrity”</p> <p>The term “minimize” and the phrase “important species” needs to be defined and the process through which they will be determined should be described.</p>
10	258	<p>Proposed text:</p> <p>d) “Avoid or minimize Manage harmful environmental impacts to ecologically important sediment systems.”</p> <p>It is unclear why only sediment systems are singled out. Harmful environmental impacts should be avoided or minimized in all ecologically important systems – we recommended listing out other ecological systems (e.g. pelagic, hard substrate) or indicating this is not an exhaustive list.</p>
MANAGEMENT MEASURES – Overall considerations		
10	261	As noted in our general comments, we recommend deleting the line recognizing contractors’ “security of tenure”.
11	270-271	If AINPs and SINPs have a reasonable chance to fall within the impact area of a contractor's operation (taking into account any buffer zones that may established), then the Contractor should be responsible for demonstrating in their Environmental Impact Statement that they have taken adequate measures to prevent direct or indirect impacts.
11	272-275	As noted in our general comment, the REMP should not be considered complete until a network of representative habitat is established.
11	276-282	<p>Proposed text: “It is noted that thresholds are needed for describing the occurrence of vulnerable ecosystem features in the application of the criteria for ABMTs, and for evaluating and controlling the impacts of mining activities. As such thresholds would be useful for consistent implementation of both area-based and non-spatial management measures and must be in place before mining may commence. These thresholds will need to be precautionary, with may need to be adaptive, and likely the ability to change as new data and information are collected on the impacts of mining activities and new knowledge of habitat and species responses becomes available. Periodic updates on appropriate parameters and thresholds should be done following the completion of the regional environmental assessments will be also needed.”</p> <p>Comments:</p> <ol style="list-style-type: none"> 1. Precautionary thresholds must be in place before the REMP can be considered complete and before any mining commences (see general comments “Key Elements Outstanding”) 2. There should be a clear process and timeline for reviewing information and making updates “on appropriate parameters and thresholds”. The proposal reflected in ISBA/26/C/6 calls for an annual report, summarizing new environmental data from all contractors, as well as new scientific literature

		<p>data that are relevant to the regional environmental management plan. Like this REMP draft, it then proposes a five-year review (unless the Council deems that a review is needed earlier). We propose that an annual report include updates to baseline information and be followed by a regional environmental assessments, which should include recommendations on management measures updates. (see general comments “Process for updating...”)</p>
<p>MANAGEMENT MEASURES – Area-based management measures</p>		
11	295-296	<p>Existing Text: “They will be protected from direct or indirect impacts from exploitation of mineral resources in the Area”</p> <p>Comment: How will these measures be implemented and who is responsible for monitoring these and other area-based management measures to ensure these areas/sites are not exposed to direct and indirect impacts? (see general comments “Roles and Responsibilities”) From footnote 16 in subparagraph d, it seems that this draft envisions the Contractors being responsible for monitoring protected areas outside of their contract areas. If so, it should be made explicit. Regardless of who is on the hook for monitoring impacts, there needs to be further detail on how monitoring should be conducted.</p>
11	298-302	<p>Existing Text: “For the management of AINPs, the LTC should develop a zoning scheme, where applicable. For example: (i) a core zone of full protection, (ii) a buffer zone of sufficient size to provide protection from indirect effects, (iii) and possibly other zones where activities compatible to the management purpose of AINPs can be allowed, when scientific information on the spatial scale of transportation of fine particles from mining plumes becomes available.”</p> <p>Comments:</p> <ol style="list-style-type: none"> 1. This REMP should be considered incomplete until these zoning schemes are put in place. Without established zones and clear rules on permissible activities in each of the zones these, and other area-based management measures, will not achieve their objectives. (see general comments “Key Elements Outstanding”) 2. We assume that no mining activities will be permitted inside the core zone or the buffer zone to ensure that the core zone will be protected from direct or indirect impacts. This should be explicitly stated to avoid any doubt.
11	303	<p>Existing Text: “ISA secretariat should promote and facilitate collaborative monitoring and scientific research efforts in the AINPs...”</p> <p>Comment: How will this be done? It would be helpful to elaborate on this in the implementation strategy section and cross reference that strategy here.</p>
11-12	309-312	<p>Proposed Text: “SINPs are fine-scale sites, where vulnerable ecosystems have been identified. They are described on an individual basis, using, the scientific criteria provided in Annex 4. Identification of such sites is intended with a view to managing activities that would have serious harmful effects on vulnerable marine ecosystems” (emphasis added)</p> <p>Comment: Managing SINPs with a view of only preventing serious harmful effects seems inconsistent with the objectives of these area-based management measures (see para. 40a). We recommend deleting “serious”.</p>
12	316-317	<p>Proposed text: “The management of SINPs should will aim to maintain ecosystem functions and associated features from the direct and indirect impacts of exploitation of mineral resources.”</p> <p>Comment: Disruption of ecosystem functions seems well beyond the level of harm that should be permissible. This proposed edit better aligns with the management objectives</p>

		of SINPs: “protecting from direct and indirect impacts of exploitation of mineral resources”
12	318-319	<p>Proposed text: “Fully respecting the rights and obligations of contractors in the existing contracts for exploration, the following management measures will be applied for the 11 SINPs”</p> <p>Comments: We suggest deleting the term “11”, as management measures shall be applied to all SINPs including those added in the future. Also, see general comment “Security of Tenure” for rationale behind other proposed deletion.</p>
12	320-324	<p>Existing text: “The SINPs will be protected from direct and indirect impacts of exploitation of mineral resources. Contractors operating in the vicinity of a SINP will be required to provide sufficient information and data that there would be no direct or indirect impacts on the SINP, including negative impacts on any subsurface fluid flow to active vent features, before any proposed exploitation activities can be approved”</p> <p>Comments:</p> <ol style="list-style-type: none"> 1. It isn't clear what "in the vicinity" means and how it relates to the proposed zoning scheme. Similar to comments above, it would be helpful for the LTC to define buffers zones for these areas as a matter of priority, define the activities (presumably only exploration activities) permitted in those buffer zones, and then indicate the monitoring information required of Contractors based upon the activities they are conducting within the various zones. 2. Does this provision apply to AINPs as well? As previously noted, it is not clear if the Authority or Contractors are responsible for monitoring impacts. It would make sense that Contractors also operating “in the vicinity” of AINPs should provide sufficient information to demonstrate no direct or indirect impacts.
12	325-337	<p>Proposed text:</p> <p>“b) Contractors will delineate as guided by tThe LTC will delineate the specific boundaries of these SINPs located within their respective contract areas to a sufficient resolution and precision to allow for management measures as outlined in paragraph 40 to be applied to protect intact habitats, species and ecosystem function of each site.</p> <p>c) For the management of SINPs, the LTC will develop and apply a zoning scheme, where applicable. For example: A SINP may include within its boundary (i) a core zone of full protection, (ii) a buffer zone of sufficient size to provide protection from external effects, (iii) and possibly other zones where activities compatible to the management purpose of SINPs can be allowed. Buffer zones may be asymmetrical in extent reflecting local oceanographic and site geography;</p> <p>d) The LTC will Contractors may prepare a clear description, through detailed mapping (including physical and biological features), of the different zones (core and buffer) in terms of their areal extent, based on the generic guidance developed by the LTC on the zoning scheme including identification of a set of different zones and the corresponding set of allowed and/or prohibited activities.”</p> <p>Comments:</p> <ol style="list-style-type: none"> 1. The LTC should be delineating the boundaries and developing the zoning scheme, including allowed activities for the SINPs, regardless of whether or not they are in contract areas. These decisions should be approved by the Council. We suggest that this language be consistent with the AINPs language.

		<p>2. As noted previously, until measures are put in place to ensure these vulnerable sites and areas are protected from direct and indirect impacts, such as a zoning scheme, this REMP should not be considered complete.</p>
12	338-350	<p>As noted in our general comments, there is a lack of clarity on the process/timeline for updating management measures, including area-based management measures. This section should be updated to clarify these ambiguities (see general comments).</p>
12-13	351-375	<p>Sites/Area in Need of Precaution (S/A-Precaution)</p> <p>It seems that if a S/A-Precaution is identified during the exploration phase, precaution suggests that an exploitation application would not be approved until the S/A-Precaution has been reviewed (as a priority if there is a pending application).</p> <p>If a S/A-Precaution is discovered during exploitation activities, it is not clear what will happen. To reiterate questions raised above:</p> <ol style="list-style-type: none"> 1. What activities are permissible while the site/area is being reviewed? Presumably the contractor should have to stop exploitation activities? 2. What happens if the S/A-Precaution becomes a SINP or AINP? Does the Contractor have to move operations, in compliance with the zoning scheme? 3. For the purposes of management, how are S/A-Precaution different from “newly discovered vulnerable or sensitive ecosystem” (para. 41) used for identification of future SINPs? Is there a validation process for formalizing a newly discovered area into a S/A of Precaution before they are assessed as a SINP/AINP?
12	368	<p>Existing text: “In the case of inferred active vents, contractors are encouraged to apply increased survey efforts to validate the existence of active vents.”</p> <p>Comment: As noted in our previous comment, all active vents should be considered SINPs. Therefore, a comprehensive survey over the proposed exploitation area should be required to ensure that all active vents are located. Suggest rephrasing this provision accordingly.</p>
<p>MANAGEMENT MEASURES – Other management measures</p>		
13	376-447	<p>As noted in our general comments, the REMP cannot be considered complete until thresholds are established. Also, it is unclear who (Authority or Contractor) is responsible for applying the non-spatial management measures listed in this section. Presumably at the “scale of contract areas” it is the Contractor, however “at the scale of the area covered under this REMP” it is less clear.</p>
13	377-379	<p>Proposed text: “Other management measures have been identified to complement area-based management measures, and to encourage sound ensure environmental management of exploration and exploitation activities in a way that is consistent with the goals and objectives of this REMP.”</p>
13	383-384	<p>Existing Text: “Apply a range of mitigation measures, as appropriate, to all major impacts from exploitation activities”</p> <p>Comments:</p> <ol style="list-style-type: none"> 1. We recommend expanding on what mitigation measures are envisioned here, with an understanding that measures listed are not exhaustive and better measures may be discovered later. This may be the place to include scenario forecasting for mining activities, as suggested in ISBA/26/C/7, to ensure managers are proactively considering stressors from multiple contractors and industries when reviewing new applications.

		<p>2. We also query what “major impacts” refers to and if “major” should be deleted. We don’t recall seeing that term elsewhere in this REMP, the draft Regulations, or in any of the draft Standards and Guidelines.</p>
13	386-390	<p>Proposed new text: “Develop multiple thresholds, which can enable timely detection of where impacts are approaching serious harm. Determining the thresholds for what would be considered “serious harm” will be done in consultation with independent experts prior to mining commencing can draw on existing frameworks and strategies and benefit from engaging with appropriate experts. The following thresholds together with their indicators and methodology for measuring these thresholds include, but are not limited to: will be developed”</p> <p>Comment: Determination of thresholds needs to be done in consultation with the scientific community. From our own consultations with scientists there are quite a few thresholds that could be added to this list:</p> <ul style="list-style-type: none"> - Levels of particle content and toxic contaminants in returned water <i>and at the extraction site</i> - Sediment deposition - Thresholds specific to vulnerable ecosystems and protected areas (AINPs and SINPs) - Cumulative impacts - Ecological tipping points
13-15	399-447	<p>The organization of this section is difficult to follow. From our understanding, contractors should apply all thresholds listed in the previous section. But, this section seems to restate some and not others. Suggest re-writing so it is clear which non-spatial measures, such as thresholds, are unique to the contractor scale.</p>
13-14	400-401	<p>How will the contractor show that it is compliant with these management measures? The Facilitator's text for the environment provisions states that the EIA, EIS, EMMP and EMMP performance assessment must be in conformity with the objectives and measures of the relevant Regional Environmental Management Plan. Therefore, we recommend that this section, or elsewhere in the document, instruct contractors to demonstrate their conformity with the REMP through their environmental plans as part of their application for a Plan of Work and through the EMMP performance assessment as part of the Contractors annual report.</p>
14	405-407	<p>Proposed text: “b) On vulnerable habitats including coral gardens, sponge aggregations, contractors will monitor any of such habitats likely to that may be impacted by their activities, including the habitats that lie in the vicinity outside their contract areas”</p>
14	408-409	<p>Proposed text: “c) On key vulnerable/sensitive species, contractors will monitor significant communities of fauna within contract areas and in surrounding areas likely to that may be impacted by mining activities.”</p> <p>Comment: what is meant by “key”, “significant”? What is the criteria for determining “key” species or “significant communities”? This terminology needs to be clarified and should not be left to the discretion of the contractor.</p>
14	415-417	<p>Proposed text: “e) To control exploitation activity to remain within impact thresholds, contractors should must apply the established thresholds and where relevant identify relevant environmental thresholds, e.g. for impact of particulates in plumes”</p> <p>Comments:</p> <ol style="list-style-type: none"> 1. Contractors should be required to follow established thresholds. 2. The LTC, in consultation with independent scientists, should elaborate thresholds; this sentence makes it sound like establishing thresholds would be the responsibility of Contractors.
14	424-425	<p>This para. seems duplicative of the intent of paragraph(e) (which we have tried to clarify in our comments above).</p>

14	429-436	Same comment as above. These paragraphs seem duplicative of paragraph (e). It would be best to have one list of thresholds and a requirement that Contractors must apply all of them.
14	432	Proposed text: “Control light on the seabed and on the surface, which from vessels that can attract marine species birds and disrupt their behavior” Comment: We suggest rephrasing to include impact of light on species in the water.
14	439-442	We recommend this para. be added to the regional scale section as well.
15	447	Proposed text: “q) Develop thresholds criteria for categorization of significant faunal communities” Comment: Suggest this paragraph be moved up to previous section. The criteria for categorizing significant faunal communities should be the same across the region.
IMPLEMENTATION STRATEGY		
15	448	It would be helpful to cross reference elements of this implementation strategy to the rest of the document, so it is clear how this strategy aligns with the objectives above. It would also be helpful to be specific about who is responsible for implementing specific elements (the Authority, the Contractor, scientific community?). See general comments on “Roles and Responsibilities”
16	500	Proposed text: “Better knowledge of SINPs , AINPs, and S/A-Precaution...” Comment: We suggest adding SINPs, as these are otherwise not covered
16	522-524	As noted in our general comments, many critical thresholds need to be in place before mining begins. There also needs to be a clear process describing when and how these thresholds will be developed, reviewed, and if appropriate, changed. This process must also be in a timeframe that is appropriate given the rate of mining activities in this region, as PMS mine sites may only be active for a few months to a year given their size.
32	620	The authors of the Evora Workshop report note that the list of scientific references in this appendix was prepared without intending to be exhaustive or complete in terms of editorial requirements in view of limited time available during the workshop and post-workshop editorial process. Therefore, further discussions may be needed to ensure that all the necessary criteria are listed.