

Developing a Regulatory Framework for Mineral Exploitation in the Area – Review of draft framework

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General comments on the development of the regulatory framework.

1. There should be clear guidance from the ISA on the requirements for Environmental Impact Assessment. There should also be clear guidance about what is expected to be included in environmental impact statements and monitoring plans. A transparent expert-based review and revision process should be implemented. These processes or guidance could be developed and implemented by a panel of experts from multiple stakeholder groups.
2. The responsibilities and process for Strategic Environmental Assessment (also regional / multi-contractor assessment) should be explicitly covered in the regulatory framework. It will be important to establish a clear and fair mechanism for financing the strategic environmental assessment and management.
3. Data management is an important issue, particularly for monitoring and regional assessment. There is no provision for contractors to provide data in a format that integrates directly with the ISA data management infrastructure. Providing data as GIS data with appropriate metadata, for example, might facilitate the large job of data management by the ISA. Even if the infrastructure is not yet in place, it is important to clearly place the emphasis on data provision (including making sure it is the right format) onto the contractors.

Comments and / or suggestions referenced to the relevant part of the Report

Page	Section	Comment
8	Form of applications	<p>We suggest that a ‘plan of work for exploitation’ should be one document per mining block, even if it covers multiple exploitation areas. This will facilitate comparison of the areas and allow block-wide syntheses to be carried out, which will include reference to non-mined reference areas within the block. Furthermore, it avoids repetition of the common parts. If multiple exploration areas are covered there should be separate sections for each, clearly differentiated, within the overall document.</p> <p>As a result of expected local-scale variation in physical and environmental conditions we feel that each exploitation area should have its own</p>

		baseline survey, even if these are carried out on the same cruise. These should be evaluated in isolation and in combination in the Environmental Impact Assessment/Statement.
11	Data and information to be submitted for approval of the plan of work for exploitation	Baseline data should be included within the requirements to support a plan of work. This would provide a clear requirement for the contractor to submit all baseline environmental data at the application stage. This would facilitate external review and analysis of the data, as well as providing timely value-added work e.g. by researchers.
12	Environmental impact statement	<p>Where do the results of small-scale test mining fit into this process? At the moment it is unclear (to us) if this is part of the exploration permit or the exploitation permit. Test mining activities will provide a lot of additional information to support environmental assessment of mining activities. It will likely be a multi-stage process, with environmental assessment being required before and after test mining, before this is progressed to full-scale exploitation.</p> <p>The EIS should include information about release plumes – their particle content, how far they are likely to spread and their toxic effects. Sub-lethal effects may well be cumulative and/or far field – e.g. affecting spawning, recruitment or larval development. The crushing or grinding of nodules and crusts, respectively, may release toxins - the composition of which will be dependent on resource composition.</p> <p>Any toxicity released in plumes may enter the food chain thus spreading impacts further afield.</p> <p>Referring to bullet 1 point iii it will be necessary to set minimum standards for baseline data and these may differ by resource type.</p> <p>It may also be important to consider how the EIA will interact with and reflect the requirements of the relevant Strategic Environmental Management Plan e.g. for data sharing and collaboration amongst contractors in planning, for example, impact reference zones and preservation reference zones, and any applicable requirements with respect to the Areas of Particular Environmental Interest</p>
13	Environmental management plan	<p>The MIDAS project is working on this topic especially on determining monitoring strategies (both during and post mining), management plans, conservation, remediation, restoration/rehabilitation. Although the MIDAS work is focussed on benthic habitats we are also carrying out work on potential plume impacts and spread within the water column. This work is ongoing but we will willingly share our research findings with the ISA.</p> <p>The relationship between environmental management plans and strategic environmental impact assessments and strategic/regional management plans may need to be clarified.</p> <p>EMPs should take into account the combined impact of mining and other marine activities in a given area.</p>
15	Size and location of	At the moment the fine-scale management plan is not clear. At the broad scale of environmental management we have the APEIs as reserve areas.

	<p>exploitation area(s) covered by the plan of work</p>	<p>Within the mining block there is additional spatial management, with the identification of Preservation Reference Zones (PRZ) and Impact Reference Zones (IRZ) mentioned in section VII.B of the Draft environmental management plan for the Clarion-Clipperton Zone (ISBA/17/LTC/WP.1). The idea behind each area (i.e. exactly what it is designed to achieve) is not made explicit nor is their relative size, location, number etc. within the mining block and specific exploitation areas. These need to be clearly defined in a more detailed or revised spatial management plan.</p> <p>Reference must be made to any toxins that may be generated by the mining/lifting processes and the impact of sub-lethal and cumulative impacts of these toxins.</p> <p>How will the licence block be equated with the impacted area? For example the released plumes may cause habitat loss in areas adjacent to the licence block. Is this what is meant by the exploitation area in the US code – hence the relevance of the lower order bullet points on page 15?</p> <p>These lower order bullet points on page 15 are all important criteria. The effect of cumulative impacts should be added.</p>
18	<p>Public review of the Environmental impact statement and Environmental management plan [and Social impact assessment and Closure plan]</p>	<p>Public review and engagement are a very important aspect of legitimacy and social license, and a fundamental element of sustainable development. The standards for public review should therefore reflect, at minimum, those of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters</p> <p>Independent assessment of the EIS and IAS throughout its development will be an important component. May wish to consider the model of the Antarctic Treaty's Committee for Environmental Protection which is charged with reviewing EIAs and other aspects related to environmental and conservation issues. This could be an important complement to the LTC which may be busy reviewing the reports etc of contractors.</p> <p>A working paper on public participation options may wish to consider the practices of the Convention on Biological Diversity and the International Maritime Organization. The CBD makes all meeting documents publicly available. The IMO enables all official observers, both industry and NGO, to submit proposals for consideration alongside government-derived proposals. The posting on the website is done well in advance of meetings, enabling time for public review and consultation.</p>
19	<p>Consideration and approval of plans of work for exploitation by the Council</p>	<p>The evaluation criteria on which the Commission will base their recommendations to Council on approval of workshops may wish to take into account some of the recent work on application of the precautionary approach in situations of uncertainty, ignorance and high risk of harm. The MIDAS project will be seeking to apply this in the context of seabed mining in conjunction with the latest scientific information coming from the various workpackages especially with respect to defining and elaborating on the term “substantial evidence of risk of serious harm”</p>
19	<p>Independent technical expert working group / sub-</p>	<p>Rather than, or in addition to formalization of new working groups/subcommittees in the Regulatory Framework, it may also be possible to develop recommendations following an overall review of the ISA functioning, as envisaged in article 154 of UNCLOS and the Part XI</p>

	committees	Implementing Agreement.
21	Duration of contracts	<p>Given that the environments are so poorly known provision should be made to terminate contracts that exceed predicted levels of impact e.g. excessive spread of plumes or levels of toxicity in plume material.</p> <p>Tying environmental provisions to the licence to operate is important to increase sustainability of operations and encourage environmental innovation. There should also be a provision for a mining contract to be lost for non-compliance or negligence in relation to the environment.</p>
22	Performance requirements	Rather than, or in addition to formalization of new working groups/subcommittees in the Regulatory Framework, it may also be possible to develop recommendations following an overall review of the ISA functioning, as envisaged in article 154 of UNCLOS and the Part XI Implementing Agreement.
24	Conservation of the natural resources of the area	<p>A major concern is that plumes generated by the mining process, the lifting process and transshipment to barges will significantly increase the area impacted by mining. Consideration should be given to how such plumes will be monitored during the mining activity and to how they can be limited by improved engineering.</p> <p>To address all the issues raised in column two, a policy in respect of waste management may also need to include powers to permit the Council to issue conservation measures to promote the conservation of the natural resources for future generations. Temporal aspects may be important in allocation strategies as well.</p>
25	Protection of submarine cables and pipelines	Prior consultation procedures may also need to be established. Due to the immobile nature of submarine cable assets, and their importance to communications, there may need to be a more proactive mechanism for notification and consultation. Mining activities may need to be conducted to avoid interference with the cables or their repair.
26	Periodic review of the implementation of the plan of work for exploitation	<p>More regular reporting would most certainly be required to ensure compliance with environmental rules, regulations and recommendations, and a process initiated for more rapid review upon indications of sub-standard performance.</p> <p>This review process will be a key requirement for effective adaptive management. Contracts will need to explicitly require contractors to implement any new requirements stemming from the review process.</p>
26	Termination of sponsorship	To enable effective adaptive management, more frequent reporting than every five years may be required to address inter alia, compliance with environmental rules, regulations and recommendations, and a process initiated for more rapid review upon indications of sub-standard performance. Contacts may need to explicitly require contractors to implement any new requirements stemming from such a review process
27	Protection and preservation of the marine environment	<p>The MIDAS project is investigating issues related to the second bullet point including toxic impacts and recovery potential. MIDAS will freely share its results.</p> <p>MIDAS is also investigating the question of the relationship between adaptive management, best environmental practices and the</p>

		<p>precautionary approach.</p> <p>May also be important to ensure that the regulations convey sufficient and timely authority to the ISA to respond where there are "plausible indications of potential risk", a threshold for action indicated in the Advisory Opinion of the Seabed Disputes Chamber.</p>
28	Environmental management	<p>The OSPAR Guidelines for monitoring the environmental impact of Offshore Oil and Gas Activities have some room for improvement. They are relatively old and formulated for the shallower, more well-known environments associated with oil and gas activity, rather than deep-water poorly known mining areas. This is particularly important as even if the methods are comparable, faunal densities are lower and diversity possibly higher – resulting in differing sampling strategies. They are also focussed on the fine-scale (point source disturbance) sources of disturbances from oil drilling, rather than the broad-scale environmental impacts of mining (polygon of disturbed area).</p> <p>Re bullet point 4 contractors will also need to indicate how the EMP and SEA and SEMP interrelate, and any responsibilities for implementing requirements of the SEMP.</p>
29	Strategic environmental management plan	<p>It will be important to establish a mechanism for financing the strategic environmental assessment and management planning. This is likely to be expensive and should be explicitly mentioned in the later sections dealing with financing. It could be covered in the seabed sustainability fund or linked to the interest from an environmental bond.</p> <p>To reflect current best practice in the Environmental Management Plan for the Clarion Clipperton Zone, the Strategic environmental management plan may also need to include specific provisions for the design and implementation of a system of no-mining areas (APEIs?) to assist in the maintenance of biodiversity, ecosystem structure and functioning across the region. Such provisions may also wish to ensure recognition and protection of important long term scientific research and monitoring sites.</p> <p>May also wish to include work on Strategic Environmental Impact Assessments.</p>
30	Environmental bonds and performance guarantees	<p>If a precautionary approach is to be implemented then requiring contractors to have some form of environmental assurance bonds is key.</p>
31	Restoration and rehabilitation of the marine environment	<p>Restoration is unlikely to be feasible / practical and may result in additional impacts. Other options including instruments such as biodiversity offsetting should be considered, but it is difficult to see how they could work in the deep-sea.</p> <p>Some engineering design work may be possible to improve the potential for natural recovery e.g. by reducing compaction of the seabed in nodule areas</p>
31	Adaptive management	<p>Adaptive management should be specifically aimed at reducing harmful impacts to the environment with time.</p> <p>The MIDAS project will be studying the relationship between the</p>

		<p>precautionary approach and adaptive management.</p> <p>Would suggest an expert workshop with participation from a range of stakeholders could be a useful way to further elaborate this element.</p> <p>This final bullet point on the adaptive management is unclear. The Seabed Disputes Chamber Advisory Opinion would suggest that the highest environmental standards are consistent with the principles of sustainable development.</p> <p>The concept does indeed require further elaboration with interested parties including all stakeholders. Given the large uncertainties, high risks and deep levels of ignorance, the slow scaling up of a very few operations would seem to be a logical way forward.</p>
32	Seabed sustainability fund	<p>This could become a very important fund that could provide information for basin-scale environmental management plans. Repeated and independent monitoring of recovery of ecosystems will be required and these could be funded directly by the contractors, or through this fund, which may give greater impartiality.</p> <p>Given the uncertainties, risks and ignorance on the deep sea environment, this would suggest a need for the fund to focus first on addressing both basic and applied research questions regarding deep sea ecosystems rather than focus on the development of technology.</p> <p>May be useful to note that States also have an obligation to promote international scientific cooperation, and to utilise the seabed sustainability fund as a mechanism to promote and encourage such cooperation.</p>
32	Environmental liability trust fund	<p>An Environmental Liability Fund would seem to remain necessary as it would have a different purpose from the suggested Sustainability Fund. It would be needed, for example, when a Contractor or a State unexpectedly turned out not to have the financial capacity to perform all closure and rehabilitation requirements, or to fully compensate for environmental damage.</p>
33	Confidentiality of data and information & procedures to ensure confidentiality	<p>'Confidential information and data' needs to be very carefully defined. If there is an assumption that everything will be public except confidential information, the key part is the definition of 'confidential'. All environmental data should be freely available as soon as possible after its collection.</p>
34	Duty to cooperate	<p>A general and a specific duty to cooperate already exists under the relevant provisions of UNCLOS Part XI. What may be needed are operational provisions to spell out specific expectations on how that duty to cooperate is to be manifested. This includes data and information exchange, national mechanisms to ensure compliance, and in marine scientific research.</p>
43	10. Internationally recognized standards" and their	<p>Existing standards may also have to be updated and improved to reflect higher environmental performance requirements under UNCLOS for activities affecting the Area than may exist for the high seas or in national waters in general.</p>

	significance in exploitation activities	While the importance of significant industry input in developing standards is clear, it may also be useful to secure significant input from scientists to reflect the best available scientific and technical information. Many of the MIDAS results will be relevant here.
48	Conservation of the natural resources of the Area	Policy in respect of waste management also may need to address issues of waste prevention and waste reduction through recycling/reuse, as Nautilus is currently proposing for sulfide mining May also wish to address temporal issues regarding conservation of natural resources, including conservation of resources for future generations. This may need to be developed more urgently than as a "C" as it relates to the process for approving applications for contracts for exploitation.
50	Confidentiality of data and information & Procedures to ensure confidentiality	Unclear why confidentiality is considered a "C" issue if it is considered by many to be a high level issue. It is also relevant to the contracts for exploration and development and utility of baseline studies. The transparency working group involving various MIDAS partners' would be interested in providing input here.
51	Information and data – what we know, what we don't know, what we need to know	May wish to consider an additional component here- a strategy to obtain information and data to inform measures necessary to ensure effective protection from harmful effects , and to identify what needs to be known in order to ascertain the absence of a risk of "serious harm" or "significant adverse change"
51	"Internationally recognized standards" and their significance in exploitation activities	Again, MIDAS would suggest that the development of standards would benefit from close collaboration and input from scientists to determine the goals, objectives and indicators the standards are to be geared to achieve. MIDAS is aiming to develop some recommendations on standards through such a collaborative approach as part of the larger project.

Supporting documents accompanying your submission, together with website links where applicable.

MIDAS Project Website

www.eu-midas.net

Consent

We provide express consent to make our personal details and submission publicly available. We do not object to the Authority referencing our comments against specific Sections and parts of the framework for ease of reading by all stakeholders.

We are interested in future contact by the Authority and / or being part of a stakeholder group. We have already indicated this as part of the stakeholder survey.

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On behalf of the MIDAS (Managing Impacts of Deep-sea Resource Exploitation) Project.

Closing date

The closing date for submissions is Friday, 15th May 2015 at 1800hr (EST).

Submission details

Submissions should be sent by post or electronically as follows:

Report to Stakeholders (ISBA/Cons/2015/1)

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