



Developing a Regulatory Framework for Mineral Exploitation in the Area  
Report to Members of the Authority and all stakeholders

Commentary by The World Wide Fund for Nature (WWF)

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

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Please find below WWF's submission with regards to developing a regulatory framework for mineral exploitation in the Area.

We expressly consent to make our personal details and submission publicly available.

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Yours sincerely,

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## GENERAL COMMENTS

In general, we welcome the consultation on “Developing a Regulatory Framework for Mineral Exploitation in the Area” (in the following referred to as the “regulatory framework”) and acknowledge the fact that substantial efforts have gone into its formulation.

We further acknowledge that the draft regulatory framework contains some positive aspirations towards environmental protection, e.g. public view of EIA/SEA, liability/sustainability funds, wording around an ecosystem-based approach, or acknowledgment of VMEs/MPAs.

WWF wishes to provide the following general comments and invites the Authority to take these into account when further developing the regulatory framework for exploitation of minerals in the Area:

In addition to these general comments WWF has also submitted more specific comments/recommendations in the body of the table provided which refer to specific sections of the proposed framework and will be provided in a separate document relating to the WWF submission in its entirety.

- (i) The draft regulatory framework refers to a situation where an exploration license holder will submit a Plan of Work for exploitation of mineral resources and issuing of contract. We believe that this framework should consider the stage before that assumption regarding the acceptability of marine mineral mining, for example by means of a strategic assessment and at present in the Clarion-Clipperton Fracture Zone, by implementing the Environmental Management Plan but also taking into account the future development of further EMPs in differing geographical regions.
- (ii) Given that almost all of the environmental damage will be done by the (then licensed) mineral mining activity itself, a process is needed to determine whether and if in the affirmative, deep seabed mineral mining of the different mineral types is politically, socially and environmentally acceptable, overall sustainable and responsible in view of the values to be safeguarded as the common heritage of mankind.
- (iii) The draft regulatory framework does neither elaborate sufficiently upon procedure within the Authority regarding future activities related to exploitation of mineral resources nor does it set mechanisms for co-operation with other competent international organisations. WWF however believes that this is of paramount importance even at this stage of development, especially considering the limited resources/capacity within the Authority, the need to ensure consistency with other ongoing conventions and processes related to the Area and to fully equip the Authority and its organs to cope with its specific regulatory function in a credible, transparent and accountable manner.
- (iv) In line with the above and to provide the foundations for adequately equipping the ISA for its regulatory remit, we firmly believe that the provision of good quality environmental baselines, comparable publicly available data - either managed by ISA or in cooperation with other relevant international organisations - is an essential prerequisite for the development of a regulatory framework.
- (v) In view of this and also again as an example of the need for procedural issues to be addressed up-front, we respectively suggest that license renewal/extension be specifically linked to performance criteria such as the transparent provision of any relevant environmental data.
- (vi) With regards to “transparency” (p. 3, para 5): As per the document it is stated that “The Commission recognises the importance of an open, transparent and inclusive process in developing the exploitation framework and welcomes further stakeholder feedback.” While we acknowledge the most recent consultation(s) conducted by the ISA, we are concerned that - in contrast with the much appreciated intention of the ISA to seek external feedback and advice - that the decision-making within the ISA, including in its LTC, remains highly intransparent. This is in contrast to the established principles of transparency as set out in the Aarhus Convention.
- (vii) The draft framework presented excludes issues around the mining inspectorate, revenue management by the Authority and the Enterprise. We believe these issues should be at

least referred to in this consultation and that their inclusion would benefit the continuing development of the framework.

- (viii) The glossary (p. 5) should provide a definition of terms rather than a simple explanation of acronyms. In cases where there is no consensus as yet to the specific definition of terms or processes, this should be elaborated and agreed over the period of developing the regulatory framework. Further, it has to be acknowledged that terms like e.g. “Environmental Impact Assessments”, “Management Plans”, “Strategic Assessments”, or “Best Environmental Practice” (might) have different meanings and implications in different parts of the world.
- (ix) An environment bond should be required from the contractor to ensure that contractors comply with regulations and best environmental practice. A Sustainability Fund should be established, to, for instance, carry out environmental research where it is not otherwise being carried out. Additionally, a Liability Fund should be established to address the gaps identified by ITLOS in the Seabed Mining Advisory Opinion, such as when a contractor is insolvent or otherwise unable to meet its obligations.
- (x) The ISA should ensure that Ecologically or Biologically Significant marine Areas (EBSAs) and Vulnerable Marine Ecosystems (VMEs), as well as other spatial measures adopted by relevant international organisations, including Marine Protected Areas, are adequately taken account of and identified as part of the environmental impact assessment process, and that an adequate environmental baseline is established. This process will enable the ISA to develop appropriate management responses; including establishing protected areas, strategies to avoid significant adverse impacts (SAIs) to EBSAs and VMEs and in so doing to avoid serious harm to the marine environment.
- (xi) With regard to Section 4 setting out “high level issues”: It remains unclear where the issues categorised as “high level issues” originate from and why they are assigned this level of prioritisation. Furthermore, the “high level issues” identified in section 4 are not the same as the “high level issues” set out in the Draft Action Plan (Section 5). Some of the “high level issues” in Section 4 have been omitted, for example:

In addition to the comments above, WWF wishes to draw the attention to a number of issues that we believe have so far not been (sufficiently) covered in the development of a regulatory framework for mineral exploitation in the Area:

#### 1. High-level debate prior to handling exploitation applications

Mining minerals in areas which are the common heritage of mankind will need to satisfy various requirements for justification. These should be addressed in a high-level, well-structured, transparent and integrative process addressing issues such as:

- The “preservation of the environment and its natural resources for future generations”. According to UNCLOS (Art. 145), the Authority has to take the necessary measures to ensure effective protection of the marine environment from harmful effects which may arise from mining-related activities. This includes
  - the prevention, reduction and control of pollution and other hazards to the marine environment including the coastline, and of interference with the ecological balance of the marine environment,
  - the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment,
  - consideration of the benefits for and needs of future generations.
- the wider implications of deep seabed mining on ecosystem functionality, delivery of ecosystem services, such as mitigating climate change, and societal benefits in terms of new biotechnology products from marine genetic resources;

## Developing a Regulatory Framework for Mineral Exploitation in the Area

- the overall sustainability of deep seabed mining in the Area, a balance between sharing of economic benefits now and in the future, should they occur, and losses of intergenerational environmental benefits;
- compensation for environmental harm as a consequence of environmental degradation and loss of ecosystem services, given that mineral mining by its nature will inevitably cause irreversible damage to the deep sea ecosystems in question, such a compensation mechanism will be needed for the benefit of future generations.

We suggest that such a general debate could be initiated by the Assembly and be conducted in an open and transparent format involving relevant and interested stakeholders.

Rationale for decision making: Mining the mineral resources of the Area is an activity which has been included in the UN Law of the Sea (UNCLOS, Dec. 10, 1982), with a dedicated set of rules adopted in Part XI, and the related Implementing Agreement adopted in 1994. However, since then a number of international conventions and agreements have been developed and agreed, which complement and extends the UNCLOS framework with regards to the protection of the marine environment (Warner, 2014).

The responsibilities of ISA to date only relate to the effective protection of the marine environment from the harmful effects which may arise from mining, a uni-sectoral approach which has been overtaken by the development of new tools for management of human activities in the ocean. The ecosystem approach embraces new integrated thinking related to defined ecological spatial units such as defined in the Environmental Management Plan of the Clarion-Clipperton Zone. It embraces modern principles such as the application of the precautionary principle, strategic assessments and prior impact assessments, the designation of marine protected areas, marine spatial planning, transparency and consultation. An important component is the management of human activities towards agreed environmental quality objectives (could e.g. be the avoidance of significant adverse impacts sensu FAO, 2009) which requires the setting of impact thresholds (limits, precautionary and target), a mechanism which should also be implemented for the assessment of environmental acceptability of marine mining.

In view of the above and with the intention of considering and including such principles we commend the below principles of the CBD start plan as general guiding principles on which to frame the regulatory framework and ensuing discussion/development of its formulation.

- Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society (Strategic goal A, Convention on Biological Diversity, 2010);
- Reduce the direct pressures on biodiversity and promote sustainable use (Strategic goal B, Convention on Biological Diversity, 2010). In the lines of this goal, the UN General Assembly adopted a framework for responsible fishing in the marine ecosystem (2010) which could be very helpful in addressing the challenges posed to the environment from mineral mining;
- Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity (Strategic goal C, Convention on Biological Diversity, 2010);
- Enhance the benefits to all from biodiversity and ecosystem services (Strategic goal D, Convention on Biological Diversity, 2010);
- Enhance implementation through participatory planning, knowledge management and capacity-building (Strategic goal E, Convention on Biological Diversity, 2010).
- Employ an ecosystem approach to management of human activities, such as e.g. proposed by (Levin et al., 2009), including the scoping of critical ecosystem management drivers, indicator development, risk analysis, the evaluation of alternative management models, and monitoring and evaluation in an adaptive framework. Preferably, the evaluation should include ecosystem services such as proposed by (Atkins et al., 2011; Kelble et al., 2013).

## 2. Adjustment of the regulatory framework of the Authority

At present due to the lack of transparency of LTC activities and the fact that its recommendations can only be overturned by Council with a 75% majority, an additional step in the Council scrutinising the recommendations of the LTC could be considered, - in particular as the Council is the only forum where observers can play an active role in discussions, apart from giving input to stakeholder consultations at pre-defined times.

### 3. Advisory framework for the ISA

We recommend the ISA to set up an advisory framework which could support the work of the ISA by providing technical advice at different stages of the regulatory framework. Advisory services could be delivered with regards to, e.g., reviewing applications, assessing capabilities of envisaged contractors, or inspection of activities. In the current draft of the regulatory framework, only independent technical expert working groups/subcommittees are foreseen to aid exclusively during PoW approval procedures.

In addition, the Authority could benefit from being supported by an international group of scientific experts. This group could advise the Commission and the Council on crucial issues related to e.g. biodiversity protection, biodiversity monitoring and assessment results, new research, revising the terminology used by ISA and developing indicators and thresholds for “serious harm to the marine environment/significant adverse impacts“ from mining activities.

### 4. Transparency and public participation strategy

We recommend the ISA to design, develop and adopt a clear transparency and public participation strategy encompassing all levels of activity of the Authority and its organs. At present, public participation is restricted to public review of the project-based EIS and EMP.

### 5. Database and setting-up environmental baseline information

To provide the foundations for adequately equipping the ISA for its regulatory remit, we firmly believe that the provision of good quality environmental baselines, comparable publicly available data - either managed by ISA or in cooperation with other relevant international organisations - is an essential prerequisite for the development of a regulatory framework.

In particular in order to assist in enabling the regional environmental management plans to be useful instruments for identifying risks to the overall environment, and mitigation strategies to minimise impacts on fragile, unique ecosystems, habitats, species and genetic resources, a comprehensive, publicly available database and mapping system should be established and maintained containing an accountable compilation of information regarding regional oceanography, biodiversity and ecosystems, as well as existing and future human uses for any region/area that is subject to potential mining activities. Collation of environmental baseline reports from exploration contractors should be made publicly available as soon as received by the LTC. In order to be able to keep up with incoming baseline information from exploration applications, the ISA should strengthen and standardise its requirements on baseline information to be provided by contractors. Stipulation on timelines and frequencies for activities as well as quality requirements with respect to data generation and reporting are urgently required.

### 6. Assessment and decision-making framework

We recommend the ISA to design, develop and adopt an assessment and decision-making framework which covers a series of hierarchically ordered, mandatory steps, including:

- a. Development and implementation of Regional Environmental Management Plans (REMPs), covering ecologically meaningful units and pre-agreed review periods for assessing cumulative impacts and environmental quality status;
- b. Conduct of Strategic Environmental Assessments (SEAs) of deep seabed mining within the respective ecological regions and informing REMPs; from the SEA, a set of conditions

could be derived which would apply to all Plans of Work (PoW) applications in these areas.

- c. Development and application of evaluation criteria for Plans of Work, including the non-admissibility of applications for the exploitation in areas and of habitats which have been designated or qualify as Marine Protected Areas (MPAs), Ecologically or Biologically Significant Marine Areas (EBSAs) or Vulnerable Marine Ecosystems (VMEs).
- d. Applications for approval of Plans of Work for exploitation from interested parties;
- e. Consideration of Plans of Work should be subject to increased transparency and consultation with a view to increase credibility and ensure plausible decision-making with reference to the best available science and expertise within the ISA. Additionally the role of the Council with regards to reviewing PoW should be strengthened.
- f. Development and implementation of mechanisms for contractor-independent surveillance and inspection of minimum environmental quality requirements. As PoW cover a multitude of issues this would contribute to ensure quality and compatibility and would further aid in identifying potential cumulative/synergistic impacts and identify potential mitigation measures before activities are undertaken, for example establishment of buffer zones regarding plume management which may also additionally aid in potential mitigation in reserved areas.

## 7. Regional Environmental Management Plans and Strategic Assessments

We recommend the ISA to design, develop and adopt Regional Environmental Management Plans (REMPs) for all those regions where exploration licenses have been issued. Any REMP needs to set out a vision, conservation objectives, management targets, as well as principles for adaptive management, ecological quality reporting and review.

Within these regions, at least 50 % of the area should possess corresponding environmental qualities comparable to the mined areas and should be reserved for ecosystem conservation and not be available for license applications.

Criteria for the design, management and monitoring of the contractors' Impact and Preservation Reference Areas have to be adopted and integrated into the spatial management approach. Additionally, if the current Areas of Particular Environmental Interest (APEIs) in the Clarion-Clipperton Zone are indeed to protect adequate representative species and habitats to allow continuing ecosystem functioning then there is a need to more formally protect and monitor/survey such areas. Strategic Environmental Impact Assessments should be carried out in the context of the REMPs against the conservation objectives set out. In that context, the development of indicators (e.g. Potts, 2006), the setting of impact thresholds as well as consideration of resilience (Hughes et al., 2005; Palumbi et al., 2009; Walker, 2005), the ecological functions of rare species (Mouillot et al., 2013), and ecosystem health (Tett et al., 2013) need to be considered.

## 8. Draft Action Plan

We believe that the organisation and hierarchy of the draft action plan would benefit from being subject to the same ordering by subject as the draft exploration contracts. For example, following the structure below:

- environmental protection (basic requirements, criteria, concepts, etc.),
- industry (standards, contract issues, closure, finances, etc.),
- public involvement, and
- contract operationalisation.

It would also be helpful if the table was supplemented by a column each for the type of action proposed and the relevant actor to carry out the action.

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**Part I Introduction..... 1**

**Part II Applications for approval of plans of work for exploitation in the form of contracts ... 1**

**Part III Contracts for exploitation..... 1**

**Part IV Protection and preservation of the marine environment ..... 1**

**Part V Confidentiality ..... 1**

**Part VI General procedures ..... 1**

**Part VII Enforcement, offences & penalties..... 1**

**Part VIII Disputes ..... 1**

**Part XI Resources other than [mineral category]..... 1**

**Part X Review ..... 1**

**Annex II Contract for exploitation..... 1**

Part I Introduction

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Use of Terms and scope	Definitions applicable to the exploitation regime.	The Exploration Regulations contain relatively few terms and definitions. It is likely that the Exploitation Regulations will include more comprehensive definitions to aid interpretation. These will include those already presented in the Exploration Regulations, save as amended to reflect current practice.	This section will evolve as the regulatory framework evolves.  Definitions should reflect internationally agreed and accepted definitions where possible.	C	should be priority A and be ongoing.  The same terms may stand for quite different concepts e.g. on both sides of the Atlantic. This needs to be elaborated and standardised -

Part II Applications for approval of plans of work for exploitation in the form of contracts

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
General	Defines the entities that may apply for a plan of work for exploitation.	Use wording identical to that contained in the Exploration Regulations.	Not applicable.		

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Form of applications</b></p>	<p>Defines requirement for a plan of work in a form to be prescribed in Annex I.</p>	<p>1. Wording in Exploration Regulations remains relevant, however:-</p> <p>2. Should a “<i>plan of work for exploitation</i>” cover multiple exploitation areas, within say the area covered under an existing contract for exploration?</p> <p>3. Each distinct area of exploitation may have different physical characteristics and environmental conditions.</p> <p>4. Options available to the Authority:</p> <p>a. (1) to request separate plans of work for exploitation where there are “material” differences between “exploitation areas” and / or</p> <p>b. (2) to request separate documents (Feasibility study, Environmental impact statement (EIS) and Environmental management plan (EMP)) for each exploitation area (as ultimately defined).</p>	<p>1. <b>Guidelines for the Preparation of a Plan of Work for Exploitation</b> need drafting, including a standard application form.</p> <p>2. Future development / licensing of an online application management system.</p> <p>3. <b>Thought to be given to “new ways of doing business” as highlighted by the Commission in the context of exploration and its impact(s) on exploitation applications</b></p>	<p>A</p> <p>C</p> <p>A</p>	<p>Question priority A? Possibly deal with other matters first In order to inform this?</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Certificate of sponsorship</b>	Defines the requirement for a certificate of sponsorship.	Use wording identical to that contained in the Exploration Regulations.	Not applicable.	1	shouldn't there be more strict requirements for sponsors of the exploitation of minerals???
<b>Financial and technical capabilities</b>	A key provision for the delivery of due diligence information about an applicant.	<ol style="list-style-type: none"> <li>1. Much of the wording reflected in the Exploration Regulation can be retained.</li> <li>2. However, a <b>greater level of detail</b> will be required to evaluate "financial capability" and "technical capability" in connection with the delivery of a plan of work for exploitation, including the capability to deliver approved development and production requirements and the delivery of EMP obligations.</li> <li>3. Evaluation criteria needed for the Commissions' assessment procedures.</li> <li>4. To consider how this regulation is to be applied uniformly across all contractor entities.</li> </ol>	<ol style="list-style-type: none"> <li>1. Further <b>best practice</b> to be developed from national regimes and suggestions in the Stakeholder Survey.</li> <li>2. <b>Guidelines for the Preparation and Evaluation of Information</b> relating to Financial capability and Technical capability to be drafted.</li> </ol>	A	<p>more <b>transparency</b> needed in all respects as to the capabilities of sponsors and contractors. This is CHM!</p> <p>Question why priority A?</p> <p>A certification scheme should set environmental standards and required qualifications for contractors and subcontractors working in the Area.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Previous contracts with the Authority</b>	Content of Exploration Regulation can be retained.	<ol style="list-style-type: none"> <li>1. Details of existing contract(s) for exploration is important in establishing a “preference and a priority” in an applicant’s plan of work for exploitation.</li> <li>2. <b>Any assessment process to consider that deliverables and obligations under a contract(s) for exploration have been observed.</b></li> </ol>	Not applicable.	1	<p>A transparent process to check on the exploration contractors’ delivery is a priority A, thought outside the development of the exploitation regulations.</p> <p>Here, a clear set of criteria needs to be included to allow for a transparent check of pre-conditions prior to delivery of a Plan of Work.</p>
<b>Undertakings</b>	Specific undertakings contained in Annex III, Article 4(6) of the Convention. <sup>7</sup>	<ol style="list-style-type: none"> <li>1. Use wording identical to that contained in the Exploration Regulation. However, this maybe an opportunity to modify or <b>clarify undertakings fundamental to delivery of plan of work / contractual obligations?</b></li> <li>2. Could be used to include specific and fundamental contract terms, for example in respect of unfair economic practices anticipated by Annex, Section 6(1)(b) of the Agreement<sup>8</sup>, including disclosure of anti-competitive practices and the obligation to pay fees and royalties etc.</li> </ol>	<ol style="list-style-type: none"> <li>1. Council could consider incorporating additional undertakings particularly in connection with uneconomic practices.</li> <li>2. A <b>technical working paper</b> requires preparation by an expert familiar with the international trade issues raised by Annex, Section 6(1)(b) of the Agreement and specific RRP’s drafted.</li> </ol>	C	<p>„obligations“, then these should not only cover economic practices, but also environmental standards.</p>
<b>Applications for approval of plans of work with respect to a reserved area</b>	Wording in the Exploration Regulations appears to suffice.	To consider wording in the light of the timing and operationalization of the <b>Enterprise</b> .	Not applicable (at this stage).	1	<p>Here, also a <b>revised definition of a developing state</b> could be elaborated to better reflect capability/capacity and to consider equity re the CHM.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Equity interest in a joint venture arrangement</b>	Wording in the Exploration Regulations appears to suffice.	Again, to consider wording in the light of the timing and operationalization of the Enterprise.	Action plan for <b>operationalization of the Enterprise</b> to be developed.	C	???

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Data and information to be submitted for approval of the plan of work for exploitation</b></p>	<p>This <b>draft regulation should outline the documents, information and other data required for an application.</b></p>	<p>Documents that would typically be supplied in support of a plan of work for exploitation could include:</p> <ol style="list-style-type: none"> <li>1. Feasibility study (or report);</li> <li>2. Environmental impact statement (EIS);</li> <li>3. Environmental management plan (EMP);</li> <li>4. Social impact assessment / statement and action plan (this may be integrated into the EIS above);</li> <li>5. Financing plan;</li> <li>6. Closure plan;</li> <li>7. Training plan / programme;</li> <li>8. [Emergency response and procedures plan</li> <li>9. [Health, safety and maritime security plan: again this can be integrated into the EIS].</li> <li>10. See documents or separate plans of work.</li> <li>11. also “Form of applications” above concerning separate</li> </ol>	<p>See <b>Guidelines for the Preparation of a Plan of Work</b> for Exploitation above. See also individual document draft regulations following.</p>	<p>A</p>	<p>Apart from the type of documents to be delivered, the nature of the information and data to be supplied will be crucial. This information will need to enable regional strategic assessments and an overview of cumulative impacts.</p> <p>The documents listed only refer to project-based individual EIA needs to be prior EIA and elaborated.</p> <p>Monitoring plans may also be useful. But should be retrospective/additional and already operating re exploration as undertaken pre decision making re exploitation.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Feasibility study	Content and structure to be defined for exploitation activities.	<ol style="list-style-type: none"> <li>Content to be adequate to <b>assess commercial viability</b> of proposed exploitation activities by exploitation area.</li> <li>To be prepared in accordance with <b>good mining industry practice</b> and based on sound engineering and economic principles and accompanied by a report of an independent expert(s), including mining engineer.</li> <li>As part of the application process, <b>alternative</b> development or production plans may be requested to ensure the optimization (including timing) of proceeds of commercial production.</li> </ol>	<ol style="list-style-type: none"> <li><b>Guidelines</b> for the Preparation and Evaluation (criteria) of a Feasibility study to be drafted.</li> <li>Have any <b>“blueprint” feasibility studies</b> been developed for DSM activities that can be adopted by the Authority? (To ensure consistency and comparability in applications).</li> </ol>	A	<ol style="list-style-type: none"> <li>This type of feasibility study is exclusively directed at the commercial mining operation. However, given the UNCLOS requirements to safeguard the CHM resources and environment for future generations, the feasibility study could also be the point in time where the <b>overall sustainability</b> in view of the benefit for mankind is assessed.</li> <li>The feasibility studies should not only be in accordance with „good mining industry practice“, but be in line with <b>standards for „Responsible mining“</b> e.g. (Goodland, 2012).</li> <li>The alternatives considered should also be evaluated as regards their environmental impacts.</li> </ol>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Environmental impact statement (EIS)</b></p>	<p>Content of EIS to be further defined / finalised and be resource-category specific.<sup>10</sup></p>	<p>An EIS must be:</p> <ol style="list-style-type: none"> <li>Based on the Environmental impact assessment (EIA) and on “<b>sound engineering and economic principles</b>” and <b>good mining industry practice and verified by an independent environmental consulting firm.</b></li> <li>Prepared in a language to facilitate review by interested parties plus a non-technical summary.</li> <li>Establish baseline of environmental conditions (a key deliverable under the Exploration Regulations).</li> <li>An <b>assessment of project-related significant effects and impacts, including cumulative impacts.</b></li> <li>A draft EIS template can be found in ISA Technical Study No: 1011 but requires further development and finalisation.</li> <li>The EIA / EIS should endorse an interdisciplinary approach.</li> <li>The Stakeholder Survey highlighted a number of standards and resources for EIA / EIS preparation to be taken account of in developing a model EIS.</li> <li>The concept of an “<b>Environmental Impact Area</b>” may need to be developed to cover areas beyond the exploitation area(s), horizontally and vertically (and cumulative impacts) where significant impacts may occur.</li> </ol>	<ol style="list-style-type: none"> <li>Draft EIS template in Technical Study No.10 to be reviewed and updated.</li> <li><b>Guidelines for the Preparation and Evaluation of an Environmental Impact Statement</b> to be drafted. Should include simple rating criteria. Needs to be resource-category specific.</li> <li>It is recommended that the above be undertaken by an expert and a draft template and guidelines circulated for comment by interested parties.</li> </ol>	<p>A</p>	<ol style="list-style-type: none"> <li>The EIS could be based on best available techniques BAT, the responsible mining standards and be verified by a scientific, technical and economic advisory body to ISA, screening the applications according to pre-determined criteria for the CHM?</li> <li>The EIA process needs to be defined upfront, with specific guidelines being produced including monitoring/audit and the EIA should be in response to the SEA</li> <li><b>Environmental baseline:</b> this requires priority action in order to determine minimum requirements for delivery, in particular in terms of temporal and spatial coverage/connectivity (timing, location, size of mining, acute/chronic and cumulative impacts), as well as ecosystem components and functions described.</li> <li><b>Assessment</b> of significant effects including cumulative impacts: this requires <b>action:</b> definition of significant adverse effects in line with UN/FAO 2009, definition of particularly sensitive species, habitats and ecosystems, development of a process for determining temporally and spatially cumulative impacts, including those from other sectors and from e.g. climate and litter.  The project-specific assessment has to be evaluated in context with the regional pressures and impacts (see e.g. Clarion Clipperton Environmental Management Plan).</li> <li>The <b>Guidelines for the Preparation and Evaluation of an Environmental Impact Statement</b> urgently need to include an <b>assessment, decision-making framework and specific criteria to allow for the transparency/ accountability of decision</b></li> </ol>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Environmental management plan (EMP)</b>	Structure and content of EMP to be drafted / defined.	<p>An EMP must be / include:</p> <ol style="list-style-type: none"> <li>Based on the EIS and on “<i>sound engineering and economic principles</i>” and good mining industry practice (including IFC Performance Standards 1 and 614 and other relevant internationally recognized standards<sup>15</sup>) and verified by an independent environmental consulting firm.</li> <li>Prepared in a language to facilitate review by interested parties.</li> <li>Methodologies to be employed, sampling and archiving, location of monitoring stations, measurable criteria and threshold indicators.</li> <li>Should reflect parameters for and functionality of Preservation reference zones (PRZs) and Impact reference zones (IRZs).</li> <li>Measures / plans for monitoring, management, <b>conservation, remediation, restoration / rehabilitation<sup>16</sup> and control including those to avoid, minimise, mitigate, rehabilitate and offset, where appropriate, impacts on biological diversity within the impacted area and plans to prevent, minimise, mitigate impacts to water column.</b></li> </ol> <p>EMP to be supported by an approved environmental management system (see “Environmental management” below).</p> <p><input type="checkbox"/> Subject to inspection regime and frequent (say, every 2 years?) independent audit.</p> <p><input type="checkbox"/> Preparation (and delivery) to reflect Best</p>	<ol style="list-style-type: none"> <li>EMP template needs to be drafted.</li> <li><b>Guidelines</b> for the Preparation and Evaluation of an Environmental management plan to be drafted.</li> <li>Similar to EIS, it is recommended that the above be undertaken by an expert and a <b>draft template and guidelines</b> circulated for comment by interested parties.</li> <li><b>Guidelines for the design and monitoring of Preservation Reference Zones and Impact Reference Zones to be developed.</b> This may require an expert <b>working group</b>.</li> <li>Possible multi-stakeholder <b>workshops</b> post development of EIS and EMP templates.</li> </ol>	B	<ol style="list-style-type: none"> <li>see above for EIS, Independent expert input and at the very least 3rd party review.</li> <li></li> <li></li> <li>Preservation reference zones (PRZs) and Impact reference zones (IRZs) –definitions and criteria expert workshop to include all relevant stakeholders. Removal and damage/alteration of habitat, enough of a representative type of habitat should remain in order to facilitate potential recolonisation of representative species hence enough PRZ’s (quality and quantity) exhibiting similar characteristics should be in place to allow protection of this representativeness. Hence, criteria on the representative nature of the PRZ’s needs to be included.</li> <li>restoration, rehabilitation and offsetting are not scientifically plausible in the deep sea, neither on the seafloor, nor in the water column Cumulative impacts between mining activities (intra mining) and with other activities needs to be considered, for example noise impacts.</li> </ol>

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<p><b>Social impact assessment and action plan (SIA)</b></p>	<p>Content / action plan to be defined for exploitation activities and socio- economic impacts in the Area.</p>	<ol style="list-style-type: none"> <li>1. Can be integrated with EIS.</li> <li>2. Given the remoteness of exploitation activities, no immediate communities or individuals potentially significantly affected by operations.</li> <li>3. Other users of the marine environment to be considered.</li> <li>4. Considerations for a social action plan could include contributions to marine research (e.g. the funding of research within Areas of Particular Environmental Interest (APEIs)) and incremental training programmes.</li> <li>5. See also Seabed Sustainability Fund under Part IV below.</li> </ol>	<p>Discussion to be advanced on a social action plan for the Area and a call to stakeholders to make contributions to this discussion.</p>	<p>B</p>	<p>this should be part of the <b>regional environmental management plan</b> to be adopted for all regions where licenses for exploration have been issued</p> <p>This must consider the Common Heritage of mankind, especially regarding equity of decision making.</p>
<p><b>Financing plan</b></p>	<p>Structure and content of plan to be developed.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> The financing plan will set out the details of how a contractor will finance the capital expenditure, working capital needs of the development and production phases and environmental management obligations.</li> <li><input type="checkbox"/> Regulations and / or contract to provide for a consent mechanism to any charge, mortgage or pledge where such security is required by a financial institution over the mineral resources / interest in a contract for exploitation.</li> </ul>	<p>Template Financing plan to be drafted.</p>	<p>C</p>	<ol style="list-style-type: none"> <li>1.</li> </ol>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Closure plan</b></p>	<p>Structure and content of plan to be developed.</p>	<ol style="list-style-type: none"> <li>1. A closure plan raises many issues. It is seen as a dynamic plan that requires regular review and updating and must anticipate potential closure of an exploitation area prior to the expiration of any plan of work.</li> <li>2. At this point it is difficult to assess the exact contents of a Closure plan for the Area, but may include:-               <ol style="list-style-type: none"> <li>a. “basic” decommissioning (removal of installations, plant and machinery);</li> <li>b. <b>Restorative obligations</b> at the time of closure?</li> <li>c. Need for a guarantee or bond?</li> <li>d. Post closure environmental management and monitoring obligations to be defined.</li> <li>e. Also to determine the period / duration of post closure monitoring – appropriate benchmark (years)?</li> </ol> </li> </ol>	<p>Template Closure plan and Guidelines for the Preparation and Implementation of a Closure plan to be drafted.</p>	<p>B</p>	<ol style="list-style-type: none"> <li>1. See decommissioning plans cradle to grave used by the oil and gas industry and as part of licencing requirements. These may include post decomission monitoring re drill cuttings impacts etc and the potential need for further remediation if impacts are observed after decomissioning. This may also inform the length of the required monitoring period.</li> </ol>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Size and location of exploitation area(s) covered by the plan of work</b></p>	<p>Guidance criteria for determining the size (and location) of exploitation area(s).</p>	<p>The Convention requires that RRP be established in accordance with objective criteria for the size of areas being: stated production requirements, the state of the art of technology and relevant physical characteristics of the areas...which “shall be neither smaller nor larger than are necessary to satisfy this objective”.<sup>18</sup></p> <p><b>Some stakeholders noted that such RRP should not simply be a determinant of size but also of location</b> and that the Authority reserve the right to determine mining block order<sup>19</sup> (adaptive management?<sup>20</sup>).</p> <p>Albeit, stakeholder comments regarding block order were directed at environmental considerations, the point is equally valid from the viewpoint of practices such as “high-grading”. What will the Authority’s policy, if any, be here? An average balanced grade? How will / should this be defined?</p> <p>The US Deep Seabed Hard Minerals Resources Act makes reference to both size and location and to a “<b>logical mining unit</b>” which includes economic and environmental considerations as criteria.<sup>22</sup></p> <p><b>Principles (“criteria”) for determining the size and location of the exploitation area</b> suggested in the framework could include (and reflecting stakeholder responses):</p> <ol style="list-style-type: none"> <li>1. The production requirements of the applicant (Convention) / the commercial viability of the exploitation area;</li> </ol>	<p>There are matters of policy to be addressed by the <b>Council</b>. Specific <b>guidelines then need to be drawn up to identify the criteria to be applied in assessing the size and location of exploitation area(s)</b>. It is likely that additional expert input is required here and / or initial thoughts of contractors as to their proposed exploitation areas and production requirements.</p>	<p>B</p>	<ol style="list-style-type: none"> <li>1. Such guidelines should then incorporate considerations of <b>exploitation patterns</b>. It has been proposed that for mining nodules, a particular pattern of mining-not mining would be advantageous.</li> <li>2. Several types of areas/ecosystems should be designated as <b>no-mining areas</b>, such as MPAs/ designated by other international organisations, VMEs protected from bottom fishing, EBSAs selected for their high ecological value and others. The guidelines for responsible mining (Goodland, 2012) incorporate such no mining areas.</li> <li>3. <b>The proximity to MPAs and VMEs is mentioned as a criteria for exploitation area size determination, however there is as yet no process to qualify these as no mining areas!</b></li> </ol> <p>This has to be elaborated and tested first. E.g. for nodule mining, sediment clouds and sedimentation will affect very large areas so that the areas right next to the mined strip will be particularly impacted. This also should be considered re potential impacts on reserved areas.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
		<ol style="list-style-type: none"> <li>2. The state of the art technology to be employed (Convention);</li> <li>3. The relevant physical characteristics of the area (Convention);</li> <li>4. <b>The environmental considerations including the location of the exploitation area(s) and the intensity of the exploitation operations;</b></li> <li>5. The proximity of the exploitation area(s) to adjacent exploration and / or exploitation areas covered under other third party plans of work / reserved areas;</li> <li>6. <b>The proximity of exploitation area(s) to marine protected areas (including APEIs) and vulnerable marine ecosystems;</b></li> <li>7. <b>The size and location of PRZs and IRZs (depending on design criteria – see “Environmental management plan” above);</b></li> <li>8. The proximity of exploitation area(s) to coastal States (including EEZs and deposits);</li> <li>9. The impact on other users of the proposed exploitation area(s);</li> <li>10. The proximity to submarine pipelines and cables.</li> </ol>			

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Fee for applications</b>	Wording can be adapted from the exploration regulations.	<ol style="list-style-type: none"> <li>1. The actual costs of processing exploitation applications will be considerably higher than that under exploration applications given the more stringent documentation reviews and inspections. Equally, decisions will need to be made concerning the costs for independent evaluation processes (e.g. the EA / EMP) and who these are to be incurred by.</li> <li>2. Additional administration, revision, renewal and consent-type fees will likely arise under a contract for exploitation.</li> <li>3. Note: the 1994 Agreement requires the payment of an annual fee from the date of commercial production.<sup>24</sup> This will be reflected in the "Financial terms" Part of the regulations, when drafted.</li> </ol>	It will not be possible to set an application fee at this stage until the review, assessment and administration processes are fully defined.		
<b>Receipt, acknowledgment and safe custody of applications</b>	Wording can be adapted from the exploration regulations.	<ol style="list-style-type: none"> <li>1. No comment.</li> </ol>	Not applicable.		

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p>Public review of the Environmental impact statement and Environmental management plan [and Social impact assessment and Closure plan]</p>	<p>An open, inclusive and cost-effective decision-making process needs to be developed for the review of specific documents by interested parties.</p>	<ol style="list-style-type: none"> <li>Under the principle of transparency in decision-making on matters likely to have a significant impact on the environment (including socio-economic impacts), an-inclusive, open review process needs to be developed, particularly for the EIS / EMP, SIA and Closure plans.</li> <li>Public concerned / potentially impacted are not immediately identifiable but mankind as a whole has, arguably, a vested interest.</li> <li>While a public review and engagement process is common practice in many national jurisdictions, this requires much thought for activities in the Area, including the practicalities of any procedure, timings and costs.</li> <li>A number of alternatives have been put forward by stakeholders, including review mechanisms by independent experts and panels and the public availability of relevant documents and information for review.</li> </ol>	<p>A <b>working paper</b> needs to be drafted setting out the public participation options and procedures available, including independent expert review(s), based on stakeholder submissions and best practice regimes. The paper can then be circulated to stakeholders for comment.</p>	<p>A</p>	<p><b>this should be part of an overall transparency and public participation strategy</b> - as it stands, the public review foreseen only refers to EIS and EMP!</p> <p>Should be consistent with the Almaty guidelines on promoting the principles of the Aarhus Convention in International Forums.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Consideration by the Legal and Technical Commission</b></p>	<p>The content of this <b>regulation</b> (which can be adapted from the Exploration Regulations) together with evaluation guidelines is key for 2 contractors – element of certainty as to process, timings and evaluation</p>	<p>1 <b>A re-write of this regulation is likely required</b> to provide for all the necessary eventualities for the Commission’s consideration of a plan of work and its subsequent recommendation(s) to Council for approval or rejection of an applicant’s plan of work for exploitation.</p> <p>2 <b>Time limits and milestones</b> in the process will also be critical to contractors as well as the <b>evaluation criteria</b> on which the Commission will ultimately base their recommendations to Council. This could include any reasonable <b>conditions</b> proposed by the Commission to the Council as part of that recommendation procedure.</p> <p>3 An application for the approval of a plan of work for exploitation will require approval of all “documents” submitted and must ensure that the necessary review and public participation procedures have been followed and account taken of submissions received by the Commission from interested parties.</p>	<p>Detailed <b>guidelines</b> will be needed in respect of <b>evaluation criteria</b> to be used by the Commission.</p> <p>A <b>technical working paper</b> needs to be drafted to elaborate on the concept of sound commercial principles (see 1994 Agreement, Annex, Section 6(1)(a)).</p> <p><b>A technical working paper is required to elaborate on substantial evidence of risk of serious harm to the marine environment in the case of area(s) disapproved for exploitation.</b></p>	<p>B</p> <p>B</p> <p>B</p>	<p>1. Currently, LTC recommendations can only be overturned by Council with a 75% majority, no publicly available justification as basic information is provided, no transparency or external advice, consulted experts are industry-consultants and mining experts.</p> <p>2. <b>Evaluation criteria:</b> these should be as precise as possible and include environmental performance.</p> <p>3. <b>Technical working paper on „substantial risk of serious harm“ ...: this concept needs to be revised and alined with more modern considerations such as those re UNGA/FAO 2009 on vulnerable marine ecosystems and precautionary action to avoid unintended significant adverse impacts.</b></p> <p><b>This should be priority A, not only considering importance but also time needed to co-operate with other relevant international forums</b></p>

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<b>Consideration and approval of plans of work for exploitation by the Council</b>	Wording can be adapted from the Exploration Regulations.	To consider <b>whether Council should take an additional governance step</b> of satisfying itself, particularly where a public review process is required, that submissions from any review mechanism have been duly taken account of in the decision- making process and that the application conforms, to best of knowledge and belief at the time, that say Annex, Section 6 of the Agreement has been complied with.	Should any specific Council procedures and criteria be developed here?	B	An <b>additional step is required</b> . Currently, Council is the only forum where observers can make themselves heard, apart from giving input to stakeholder consultations at pre-defined times.
<b>Independent technical expert working group / sub-committees</b>	Consider setting up <b>expert working groups or sub-committees</b> to support the work of the Commission.	Given the pressures that applications for plans of work for exploitation will place on the existing assessment and decision-making structure, additional expert working groups or sub- committees may be required.	Should this be formalised under the regulatory framework?	omitted?	As in previous submissions: yes, an advisory body is required to get broader feedback and input to processes/procedures. Perhaps a model like IMO could be adopted with the ability to formalise working/drafting/intersessional contact groups etc when required to discuss specific elements of the POW's etc. However, there is a need to quantify who makes the decisions re the experts, is this by invitation or within ISA delegations? Who determines the breadth of expertise?

**Part III Contracts for exploitation**

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>The Contract</b>	Wording can be adapted from the Exploration Regulations.	<input type="checkbox"/> In addition to the standard clauses, specific conditions may be approved by the Council based on recommendations by the Commission and reflected in the relevant Schedule to the Contract.	<input type="checkbox"/> Not applicable.		

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<b>Rights of the contractor</b>	Wording can be adapted from the Exploration Regulations.	<input type="checkbox"/> It would seem appropriate to identify, as exhaustively as possible, what rights, including exclusive rights, are being granted here, unless it is felt clear that the definition of “exploitation” covers this? For example, the definition of “exploitation” does not include “exploration” but should be a right to explore in the exploitation area(s).	<input type="checkbox"/> Consideration to be given to this by the Secretariat.	B	
<b>Obligations of the Authority</b>	To provide clarity on any obligations of the Authority.	<input type="checkbox"/> To the extent that any duties of or obligations on the Authority are unclear or not dealt with elsewhere, a provision should be drafted to provide clarity, and reflected in the standard contract as appropriate.	<input type="checkbox"/> Consideration to be given to this by the Secretariat.	B	
<b>Legal title to minerals</b>	To provide that legal title passes on “recovery” but with any restrictions?	Are there any restrictions that can / should be placed on the transfer of title where the contractor is say in breach? For example, a prohibition on sale / disposal until all fees, royalties, profit-share etc. have been paid – or suitable arrangements made.	Consideration of the phrase “recovery in accordance with the Convention” requires a technical working paper to be drafted.	B	

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<p><b>Duration of contracts / renewal</b></p>	<p>This draft regulation relates to security of tenure and a key contractual term for contractors.</p>	<ol style="list-style-type: none"> <li>1. The Convention prescribes limited objective criteria:               <ol style="list-style-type: none"> <li>a. The economic life of the mining project – depletion of ore, the useful life of mining equipment and processing facilities and commercial viability;</li> <li>b. To permit commercial extraction; and Reasonable time for construction of commercial-scale mining and processing systems.</li> <li>c. But (important wording): <i>“the total duration of exploitation, however, should also be short enough to give the Authority an opportunity to amend the terms and conditions of the plan of work at the time it considers renewal in accordance with [RRPs] which it has adopted subsequent to approving the plan of work”.</i></li> </ol> </li> <li>2. Duration will likely be resource category specific.</li> <li>3. The Stakeholder Survey identified periods of tenure ranging from an initial 10-year period to a general consensus range of 15-25 years and renewal (extension) periods of 5-10 years (at least in the case of polymetallic nodules).</li> <li>4. Duration is also relevant to the development and revision of a financial payment mechanism.</li> </ol>	<p>Further understanding of contractor development, production and economic models and plans is required here.</p> <ul style="list-style-type: none"> <li>• A balance needs to be established between the commercial requirements of contractors and the ability of the Authority to amend terms and conditions in accordance with revised RRP.</li> <li>• A working paper needs to be developed for circulation to stakeholders.</li> <li>• Guidelines need to be developed for the following:               <ul style="list-style-type: none"> <li>• Criteria for contract duration – resource-specific.</li> <li>• Application and evaluation criteria for a substantive review.</li> <li>• Application and evaluation criteria for renewal of an exploitation contract.</li> </ul> </li> </ul>	<p>A</p>	

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
		<p>5. It is suggested (from the Stakeholder Survey) that a substantive review period occur at approximately 5 years into the contract term. The specific conditions attached to that review should be established at the time of the initial application for a plan of work for exploitation.</p> <p>6. It may be possible to <b>approve stages of exploitation operations</b>. In the early phases of this industry, the nature of the deposit may require a gradual procession to commercial production. If it subsequently comes to light that the deposit extent is less than originally forecast, the duration (or size of area) needs to be adjusted. Uneconomic production and recovery is to be avoided.</p> <p>7. <b>Commencement of mining</b>: as soon as possible but a logical development of production areas within the exploitation area <b>leading to maximum economic recovery</b> plus development of infrastructure and transporting and processing construction.</p> <p>8. As to <b>periods of renewal / extension</b>, thought will need to be given as to whether this should be treated as a “fresh” application and subject to identical rules of process and procedure as the original application? Bearing in mind the inclusive and participative approach being taken.</p> <p>9. A starting point for the regulations could be:</p> <ul style="list-style-type: none"> <li>a. Specify a maximum initial period;</li> <li>b. Define the parameters of any renewal against specified criteria (depletion of ore, commercial viability, contractor not in material default) and documentation needs;</li> </ul> <p>10.</p>			<p>5. conditions to include environmental requirements</p> <p>7. ... mining.... leading to maximum economic recovery <b>and minimum environmental damage</b> (to be added) ...</p> <p>8. <b>renewal / extensions require an environmental audit and be subject to any ongoing potential damage or harm. Assessment to be based on all available knowledge, and carried out by a contractor-independent entity.</b></p> <p>9. <b>Renewal should be linked with perceived benefit to the Common Heritage of Mankind (CHM), e.g. if the licence has elapsed its full period without good quality publicly available environmental data being produced then the licensee has not proven it has the ability to explore the value/potential impact of mining activities, therefore a licensee who has this ability may be better placed to explore and produce data to benefit plausible science based decision making and hence to the benefit of the CHM.</b></p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Performance requirements</b></p>	<p>This draft regulation should specify the production obligations under a plan of work.</p>	<p>c. Provide for a substantive <b>review period</b> at the end of first 5 years based on pre-determined performance and other criteria and included in the contract – with the ability of the Authority to adjust terms etc.</p> <p>d. And other review periods at pre-defined timeframes or triggered on the happening of specific events.</p>			<p>An adaptive management response is required</p>
		<p>1. Under the Convention, the Authority is obliged to “<i>establish a maximum time interval, after the exploration stage is completed and the exploitation stage begins, to achieve commercial production</i>”. Allowance here is to be given for construction time and unavoidable delays.</p> <p>2. Then following commercial production, “<i>the Authority shall within reasonable limits and taking into consideration all relevant factors require the operator to maintain commercial production throughout the period of the plan of work</i>”. Need to elaborate on taking into consideration all relevant factors. That is, in practice, what factors will potentially delay, halt or suspend commercial production? Technical and economic conditions will be one factor.</p> <p>3. The mining plan and estimated date of commercial production will be assessed during the evaluation phase (Feasibility study). The approved Feasibility study locks the contractor in to the production undertakings in that study.</p>	<p>Guidelines for the evaluation of Production performance requirements under a contract for exploitation to be drafted. To include key performance criteria and indicators.</p> <p>Council to consider as a matter of policy, in discussion with relevant stakeholders, a cut-off point for commercial inactivity.</p>	<p>C</p>	

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
		<ol style="list-style-type: none"> <li>4. A cut-off point needs to be adopted where no commercial activity has taken place and to afford other operators the opportunity of developing the resources in that area. The US Deep Seabed Hard Minerals Act provides a cut-off point of 10 years, unless a contractor can show just cause. Equally, for any periods of inactivity, should the contractor be required to pay a surface rent? Arguably, yes but at what rate / level?</li> <li>5. Also provision should be made for a contractor to apply for a suspension in commercial production due to say economic conditions (see also Revision clause in the contract).</li> <li>6. Performance requirements expected of the contractor are key and arguably form fundamental terms of the contract. Flowing from the Feasibility study, key performance criteria and indicators should be established. Guidelines will be needed. For example, the Feasibility study should provide production estimates for the mining operation; where recovery falls below such agreed estimates by a pre-determined percentage, the Authority should be in a position to require the contractor to improve the efficiency etc. of the mining operation.</li> <li>7. From a commercial perspective, a contractor should be permitted to make minor changes to an approved programme of activities without recourse to the Authority. However, any material changes should require the Authority's prior approval. The distinction between minor and material should be discussed and agreed during the application and approval process and also reflected in any guidelines.</li> <li>8.</li> <li>9.</li> </ol>			

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
		<ol style="list-style-type: none"> <li>8. It is usual in a land-based mining context that an operator is required to undertake capacity tests of the mining equipment. Again, this needs to be considered.</li> <li>9. The following could also be included in this section:                             <ol style="list-style-type: none"> <li>a. Production takes place in accordance with <b>sound commercial principles</b> (see “Consideration by the Legal and Technical Commission” above)</li> <li>b. <b>No subsidization of activities;</b></li> <li>c. No discrimination;</li> <li>d. Stipulate Council’s powers to investigate and take measures.</li> </ol> </li> </ol>			
<b>Conservation of the natural resources of the Area</b>	General obligation to avoid unnecessary waste.	<ol style="list-style-type: none"> <li>1. To permit the Authority to impose reasonable conditions to prevent waste.</li> <li>2. To <b>permit the Council to issue conservation measures to promote the conservation of the natural resources for future generations.</b></li> <li>3. Visibility of processing and treatment of the ore should be stipulated.</li> </ol>	A policy in respect of <b>waste management</b> needs to be developed.	C	Specific criteria on waste stream definitions, need to be developed, mining waste, vessel waste etc, Models from LC/LP, IMO respectively.
<b>Use of sub-contractors</b>	To specify the obligations on a contractor where sub-contractors are engaged	<ol style="list-style-type: none"> <li>1. Contractor’s right to sub-contract but also contractors to extract the necessary guarantees for sub-contractor performance.</li> <li>2. The use of sub-contractors should be addressed in the Feasibility study – full disclosure.</li> </ol>	Not applicable.		full transparency required

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Vessels operating in the Area</b>	To specify the obligations on a contractor in relation to vessels undertaking activities in the Area.	<ol style="list-style-type: none"> <li>1. Requirement for vessels engaged in exploitation activities to remain in Class and be subject to general international legal obligations and appropriate conventions.</li> <li>2. Need to establish <b>clear line of duties and responsibilities and co-operation between the Authority and the International Maritime Organization (IMO).</b></li> </ol>	Discussions between the Authority and the International Maritime Organization to be formalised.	A	Is a clear line of duties <sup>4</sup> enough? Shouldn't there be at least a MOU or cooperation agreement? A clear definition of regulatory responsibilities and if possible engagement in the regional environmental management plans? Vessels should be flagged with flags which can demonstrate a sufficient level of flag state control/responsibility.
<b>Protection of submarine cables and pipelines</b>	To specify the obligations on all parties including notification procedures. <sup>34</sup>	<ol style="list-style-type: none"> <li>1. Procedures to be established to notify submarine cable operator organizations of a plan of work application showing coordinates of proposed exploitation area(s).</li> <li>2. Reporting / notification protocols to be established.</li> </ol>	Discussions between the Authority and relevant representative organizations formalised.	A	
<b>Health and safety</b>	To specify the additional measures that supplement existing international agreements. <sup>35</sup>	<ol style="list-style-type: none"> <li>1. To establish what supplementary duties and obligations the Authority has as a regulator in connection with health and safety together with applicable standards.</li> <li>2. Training of employees in health and safety procedures.</li> <li>3. Labour standards also require consideration.</li> </ol>	To determine additional international / DSM-specific standards and the extent of the Authority's remit / duties and responsibilities.	B	

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Training</b>	Training obligations on a contractor.	<ol style="list-style-type: none"> <li>To be submitted as part of the documentation requirements on application for a plan of work.</li> <li>Thought to be given to the needs of the future industry and training programmes targeted accordingly. Training obligations could also be facilitated under the requirements of a Social impact assessment and contribution, that is, incremental training programmes including tertiary scholarships etc.</li> </ol> <p>Note: training obligations of contractor personnel too in matters of occupational health and safety etc.</p>	To establish areas of skills and talent shortages key to the development of the DSM industry.	C	
<b>Periodic review of the implementation of the plan of work for exploitation</b>	As per content of Exploration Regulations.	<ol style="list-style-type: none"> <li>Periodic review at 5-year intervals. Contractor is obliged to implement / adjust its programme of activities for the next five year period (adaptive management approach).</li> <li>Greater clarity and guidance will be needed over the substance and content of these reviews for exploitation programmes.</li> <li>Additionally certain events will require notification and perhaps the production of incident or exception reports. For example, if commercial production falls below average targets, casualties or the achievement of milestones. Specific conditions may be imposed which require more regular reporting. Reporting is obviously a key area of governance under the regime but it needs to be targeted and relevant to the Authority's role as regulator.</li> </ol>	Guidelines on Procedures and Information Requirements for Review to be drafted.	C	<p>should include all available research and monitoring information.</p> <p>Level of deviation from the POW should be considered if beyond basic adaptive mangement this may not be consumate with the original licencing conditions/insurance etc.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Termination of sponsorship</b>	As per Exploration Regulations.	1. What obligations remain with the contractor post termination? Does a contractor remain liable for say EMP monitoring obligations?	To establish clarity on post termination obligations for a contractor.	C	Yes if mining operations have been undertaken.
<b>Responsibility and liability</b>	As per Exploration Regulations.	1. Wording of the Exploration Regulations principally reflects the Convention. The liability of the contractor is for wrongful acts. There is also an overlap in responsibility and liability under the laws of a sponsoring State. Strict liability may be imposed under national law.  2. <b>The area of liability and redress in the Area particularly as regards environmental damage remains at an embryonic stage of development.</b> Calls for a separate working group to look at this issue were made in the Stakeholder Survey.  1.	<b>Legal workshop</b> required to explore and develop further principles of responsibility and liability in the Area.	C	Analysis of the models already in existence, e.g. oil and gas OPOL, CLEE, offshore plus environmental liability Directive  IMO oil spill compensation fund etc.

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Part IV Protection and preservation of the marine environment

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
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Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Protection and preservation of the marine environment</b></p>	<p>General wording in Exploration Regulations to be adapted.</p>	<ol style="list-style-type: none"> <li data-bbox="590 367 1083 602">1. Acknowledgement of the general principles and obligations within the exploration regulations should remain. That is, <b>application of the precautionary approach, BEP, measures to control pollution. Should also specify an adaptive management approach as part of BEP.</b></li> <li data-bbox="590 602 1083 1000">2. A vast amount of work needs to be performed in this area from <b>agreeing the thresholds of serious harm to the efficacy of PRZs and IRZs, developing workable environmental targets and indicators and the application of a precautionary-risk management framework.</b> Prescriptive regulations and detailed guidelines will be the ultimate output here; however, it is too early to draft the same without input from experts, interested stakeholders, relevant international organizations (e.g. IMO in respect of marine pollution) and knowledge advancement.</li> <li data-bbox="590 1000 1083 1359">3. Dumping: the 1972 London Convention and the 1996 Protocol to the London Convention currently exclude the dumping of wastes or other matter connected with seabed mining activities from its scope. More specifically Article 1(4)(3) of the 1996 Protocol states <i>"[t]he disposal or storage of wastes or other matter directly arising from, or related to the exploration, exploitation and associated off-shore processing of seabed mineral resources is not covered by the provisions of this Protocol"</i>.</li> </ol>	<ol style="list-style-type: none"> <li data-bbox="1083 367 1331 651">1. This area requires the formation of targeted <b>expert workgroups</b> consisting of a broad range of stakeholders, including relevant international organizations.</li> <li data-bbox="1083 651 1331 1359">2. Specific consideration of "dumping" RRP.</li> </ol>	<p>B</p>	<p>given the pressing questions, is priority B enough of a priority? Preparations for setting up the working groups (specific criteria??) could be developed immediately.</p> <p>Study on what frameworks are out there and operating use of surrogates like dredging, submarine tailings from terrestrial mining associated BEPs, link in with LC/LP work and expertise in related area. DOSI mine tailings management workshop in Lima etc. Plus Chatham rock and other shallower mining sites cases, issues and lessons learned.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<div style="display: flex; justify-content: space-between;"> <div style="width: 25%;"> <p>4. <b>It would thus seem that the disposal or storage of waste or other matter directly arising from “activities in the Area” will need to be regulated by the Authority as the competent agency / international body.</b></p> <p>What will constitute “dumping” in the Area?                      E.g. the deliberate disposal of sediment from on-board processing and vessels and mining collector in emergency situations?                      What protection measures will be needed (possible co-operation between the Authority and the IMO)? Regulations should be drafted and the terms for say an EMP should / could reflect specific waste assessment framework(s), monitoring and reporting obligations connected with the dumping of waste (as defined).</p> </div> <div style="width: 25%;"> <p>1.</p> </div> <div style="width: 50%; text-align: right;"> <p>But can apply the relevant frameworks/definitions etc within the LC/LP and seek relevant expertise by working with this forum</p> </div> </div>					

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Environmental management	To operationalize the EMP.	<ol style="list-style-type: none"> <li>1. The OSPAR Guidelines for Monitoring the Environmental Impact of Offshore Oil and Gas Activities (2004-11) provide a sound basis and guide aimed at environmental monitoring (the design and conduct of monitoring programmes) of discharges from oil and gas activities. This can be adapted for the specific requirements of exploitation activities together with other relevant best practice identified in the Stakeholder Survey and through future expert / workshop engagement.</li> <li>2. This regulation should oblige the contractor to have an internationally recognized environmental management system (EMS) in place e.g. ISO 14001: 1996.</li> <li>3. Specialists should conduct independent audits say every 2 years for the EMP and EMS.</li> <li>4. Any material revisions to an EMP to require the prior approval of the Authority.</li> <li>5. Contractors should, in addition to their reporting obligations to the Authority, make available a public annual statement of its environmental targets and its performance delivery against environmental indicators.</li> </ol>	Specific guidelines on environmental management systems to be developed.	C	Again use of other surrogate activities EMS's such as dredging

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Emergency orders	As per Exploration Regulations.	<ol style="list-style-type: none"> <li data-bbox="590 367 1083 760">1. This is an area that requires further detailed input as to its practical operation. While the rationale behind emergency measures is sound, its practical application may be limited. Consequently, a focus on and during the application, reporting, inspection and review processes of contractor risk management systems and processes will be of greater significance, including a contractor’s Emergency response and procedures plan. While this regulation is targeted at the protection of the marine environment, human health and safety is of fundamental importance.</li> <li data-bbox="590 760 1083 868">2. Can draw on much existing best practice where relevant, including reporting protocols.</li> </ol>	Secretariat to <b>review contemporary best practice</b> in the field of marine disaster management and responding to emergency situations including the lessons learned.	A	

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Strategic environmental management plan (SEMP)</b>	The requirement to conduct regional SEIAs and deliver regional SEMPs.	<ol style="list-style-type: none"> <li data-bbox="594 373 1075 553">1. This regulation would place an obligation on the Authority to conduct a Strategic environmental impact assessment(s) of the Area and to develop Strategic environmental management plan(s) (SEMPs) including the development of APEI's.</li> <li data-bbox="594 581 1075 688">2. The issue of regional SEMPs for the Area drew much discussion from stakeholders and the need to have SEMPs in place prior to commercial exploitation.</li> <li data-bbox="594 716 1075 768">3. The regulation should specify the objectives of the SEMPs.</li> <li data-bbox="594 795 1075 902">4. See also contractor EMP obligations under Part II above: a need for co-operation and harmonization of SEMP and contractor EMP deliverables.</li> </ol>	Regional workshops and co-operation to be developed to formulate regional SEMPs.	B	<p data-bbox="1444 373 1902 451">given the pressing questions, why priority B? Preparations for setting up the working groups could start now.</p> <p data-bbox="1444 479 1902 659">Formulate standardised definitions up front so national/regional definitions and ways of working differing in differing parts of the world don't mean that different stakeholders will define the development of these tools in different ways and potentially for different purposes.</p> <p data-bbox="1444 686 1902 794">Consider impacts such as noise/plume impacts, work with CMS/IWC re potential impacts which may have overlaps with these international forums.</p>
<b>Rights of coastal States</b>	The wording from the Exploration Regulations remains relevant.	<ol style="list-style-type: none"> <li data-bbox="594 938 1075 1068">1. Reference to any likely impacts on coastal states should be addressed in the EIS, where considered significant. See also "Size and location of exploitation area(s) covered by the plan of work" above.</li> </ol>	None at this stage.		

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Environmental bonds and performance guarantees</b></p>	<p>To provide for a bond or financial guarantee where requested by the Authority.</p>	<ol style="list-style-type: none"> <li>1. The necessity for a bond or related performance guarantee requires detailed consideration together with the form that any bond / guarantee should take: cash deposit, parent company guarantee, State guarantee, financial institution letter of credit – and associated investment grade of any issuer. Cash bonds are preferable. The terms of its release and what can be deducted against the deposit must be established.</li> <li>2. For commercial operators there is generally a preference for commercial insurance rather than bonds.</li> <li>3. Importance of equality of financial treatment and comparable financial obligations across the contractor base.</li> <li>4. Not all jurisdictions request a bond in practice under mining regimes but may make provision in their regulations for a bond, particularly to secure any closure obligations (restoration / rehabilitation). In the case of activities in the Area these obligations may be minimal (save for any post closure monitoring) and a cash bond or guarantee connected with the performance of the EMP may be more preferable.</li> </ol>	<p>The interaction between commercial insurance and bond mechanisms needs to be investigated together with the terms and conditions, including appropriate quantum of any bond.</p>	<p>A</p>	<p>Models and lessons learned and adapted from terrestrial mining re up-front bonds</p> <p>For example the use of reclamation bonds may help to simplify the question of liability</p> <p>Again linking to liability and the CHM, perhaps performance bond levels could be linked to the potential loss/payment for ecosystem goods and services.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Restoration and rehabilitation of the marine environment</b></p>	<p>A general restoration obligation where restoration is feasible seems appropriate.</p>	<ol style="list-style-type: none"> <li>1. To include a general restoration obligation. Restoration to occur where directed to do so by the Council. This would be based on the Commissions' recommendations that would take account of the likely effectiveness of techniques based on necessity; technical feasibility; and cost-efficiency on the basis of a cost benefit analysis, where such quantification can be reasonably assessed.</li> <li>2. Restoration will also be impacted by "passive rehabilitation", that is, the ability for natural recovery to occur.</li> <li>3. "Restoration" &amp; "rehabilitation" will require appropriate legal / scientific definition in a marine environment context.</li> </ol>	<p>None at this stage.</p>		

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Adaptive management approach</b></p>	<p>A regulation that better defines adaptive management.</p>	<ol style="list-style-type: none"> <li>1. All actors to adopt an <b>adaptive management approach to exploitation activities</b>. Adaptive management may include:-</li> <li>2. The permitting of exploitation operations to proceed on a smaller scale or for shorter defined periods of time in order to assess impacts on the environment and on human health and safety;</li> <li>3. The duration of any approval of an EMP;</li> <li>4. The frequency of review periods to be imposed by the Authority; and</li> <li>5. Additional reporting obligations under an EMP.</li> </ol> <p>Note: this approach should be balanced with the commercial (economic) viability of operations (principles of sustainable development). Development of <b>cost-benefit analysis models</b> needed.</p>	<p>Adaptive management in connection with exploitation activities in the Area requires further elaboration with interested parties.</p>	<p>C</p>	<p>Criteria on the range of what adaptive management means should be developed up front, if the contractor strays a long way from the POW and mitigation becomes difficult/impossible then perhaps part of the adaptive management approach should be triggers to stop mining activity when a threshold is reached and also taking into account a precautionary stance re thresholds before impacts are realised.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<p><b>Seabed sustainability fund</b></p>	<p>To establish a seabed sustainability fund with targeted objectives.</p>	<ol style="list-style-type: none"> <li>1. The idea and rationale of a fund is for the <b>Authority</b> to be in a position, based on expert recommendations, to <b>direct further research e.g. in relation to marine ecosystems in the Area and to develop institutional capacities.</b></li> <li>2. At the moment the Authority / Common heritage of mankind are in a "Catch 22" with no budget for large-scale research activities. Research remains a principal obligation for contractors.</li> <li>3. The fund could be financed by way of a levy e.g. USD x per wet / dry ton of ore recovered on board the mining vessel.</li> <li>4. Contributions to the fund could also be considered an element of social contribution.</li> <li>5. The fund could target the development of technology, which also presents a revenue stream opportunity for the fund (e.g. patent royalties).</li> <li>6. Such a funds merit and appeal has yet to be tested but there is a strong rationale for such a fund.</li> </ol>	<p>A <b>working paper</b> to be drafted articulating the concept and objectives of such a fund for circulation to interested parties.</p>	<p>B</p>	<p>The fund could possibly enable the Authority to initiate its own research targeted at topics which do not seem to be covered well by the contractors' research, or which address regional or otherwise broader topics such as wider ecosystem functioning or ecosystem services valuations.</p>

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
<b>Environmental liability trust fund</b>	As recommended by the Seabed Disputes Chamber of the ITLOS.42	<ol style="list-style-type: none"> <li data-bbox="588 370 1079 500">1. The rationale for such a fund stems from a potential environmental liability gap. The merit of such a fund was presented in the Stakeholder Survey.</li> <li data-bbox="588 503 1079 716">2. Given the suggested Seabed sustainability fund above, the need for an additional fund requires consideration. However, the rationale for this fund is different and could be funded by allocating a portion of production royalties received by the Authority.</li> </ol>	None at this stage.		See other comments on Bonds and liability.,the difference being between this and the sustainability fund is that this will address a gap as addresses by recommendation of ITLOS so must be considered fully.and part of the contractor responsibility re exploiting the Area (CHM)
<b>Human remains and objects and sites of an archaeological or historical nature</b>	The wording of the Exploration Regulations remains relevant.	<ol style="list-style-type: none"> <li data-bbox="588 719 1079 873">1. The SIA and action plan should address any specific matters relating to the cultural heritage in the exploitation area(s).</li> </ol>	None at this stage.		

Part V Confidentiality

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
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<p><b>Confidentiality of data and information &amp; Procedures to ensure confidentiality</b></p>	<p>The wording of the Exploration Regulations may be relevant.</p>	<ol style="list-style-type: none"> <li>1. Amendment of the Exploration Regulation's wording may be required in the light of any agreed public participation and review processes. The principles of the EITI are also relevant here.</li> <li>2. There is a <b>call</b>, within the Stakeholder Survey <b>for a presumption that all data is public</b> (including contracts for exploitation etc.) unless demonstrated otherwise. This would not extend, however, to confidential information and data.</li> <li>3. Data flow and participation / review processes will drive any amendment of the confidentiality provisions here. Best practice is to be sought.</li> </ol>	<p>Confidentiality is raised as a high-level issue under Section 4 to this paper.</p>	<p>C</p>	<p>The burden of proof should be on the contractor as to why information should remain confidential and not in the public domain. The level of confidentiality should be comparable to other fora, for example the information about the global fleet on IMO's GISIS database.</p> <p>EITI only covers financial provisions at present so reviewing how other fora operate re confidentiality is important.</p>
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Part VI General procedures

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Notice and general procedures	The wording of the Exploration Regulations remains relevant.	None.	None.		
Recommendations for the guidance of contractors	The wording of the Exploration Regulations remains relevant.	<b>This provision may need to be "updated" as to the processes necessary to draft and adopt such recommendations, including the necessity for expert input and review by interested parties where applicable.</b>	The process of issuing recommendations by the Commission needs review.	C	the review of processes and procedures for drawing up recommendations (currently done by LTC) could be incorporated into an overall concept for transparent rules and procedures by the Authority, aided by (external) advisory bodies.

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Duty to cooperate	A general duty on all parties to co-operate and exchange information is necessary.	<ol style="list-style-type: none"> <li>1. A general regulation to stipulate the Authority's obligation to co-operate with a sponsoring State (and vice-versa) where required. Member States should equally be under a duty to co-operate and assist the Authority (and vice-versa).</li> <li>2. A duty to co-operate with the Authority is not only essential for "joint" investigation and enforcement of operational obligations, but also of sharing information for financial auditing purposes. In practical terms once an ore vessel has left the Area, what "control" will the Authority have over auditing for say royalty payments? Access by a Member State to customs and related documentation when the vessel arrives in a Member State port or shipments to the treatment and processing plants will be crucial.</li> <li>3. Aside from "co-operation", perhaps an exchange of information provision is applicable here as well defining the types of information that needs to be shared to allow the Authority and Member States (and sponsoring States) to discharge their duties to the common heritage of mankind.</li> </ol>	None but see Section 4: Summary of high level issues.		

**Part VII Enforcement, offences & penalties**

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
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Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Inspection	To include inspection regime in headline regulations rather than standard terms of contract.	<ol style="list-style-type: none"> <li>1. The general wording of the Exploration Regulations (contract) should be retained. However, the inspection regime requires detailed input, an understanding of any potential overlaps with sponsoring State regimes and its funding and independence.</li> <li>2. Use of best technology for remote supervision / "inspection".</li> <li>3. Need parameters for:               <ol style="list-style-type: none"> <li>a. What will be inspected?</li> <li>b. The qualifications of inspectors? Multi-disciplined or specific focus?</li> <li>c. The training of inspectors?</li> <li>d. Production of an inspector's manual.</li> <li>e. Code of Good Practice on integrity, professionalism and transparency (see Paris MOU / Regional Port State Control).</li> </ol> </li> <li>4. Option here for Member States to nominate their nationals as inspectors. But for such nationals not to be permitted to inspect operations involving their nationals or persons under their control where a Member State is say a sponsoring State.</li> <li>5. In a DSM context, could explore possibilities of cooperation between the Authority's Mining Inspectorate and Regional PSC MOUs to collaborate on gathering and sharing data on contractors' compliance with their obligations, including mining equipment certification and standards (apparently being developed by classification society ABS and maybe others), contingency, safety plans and other plans relevant to the Mining Inspectorate.</li> <li>6. (See also "Duty to co-operate" above, which will also be of relevance here).</li> </ol>	Develop a working paper setting out a suggested structure and options, including funding, for the operation of an inspection regime, taking account of comments made in the Stakeholder Survey.	C	Co-operation with the MOUs is a logical progression, just a note of caution they are not standardised amongst themselves and some operate better than others, perhaps an extension to this would also to include the classification societies (IACS as a representative body) not just re mining equipment but on the models adopted re type class survey as standard setters themselves.

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Offences & penalties	Specific, measurable offences to be defined together with associated penalties.	<ol style="list-style-type: none"> <li>1. A specific list of offences to be included in the regulations, as amended by the Council as appropriate. Parallels can be drawn from existing regimes.</li> <li>2. Penalties can either be included in an annex to the regulations, as amendable by the Council.</li> <li>3. General characteristics: proportionality; escalation process (i.e.a warning process, agreement for remedial action; enforcement notice; administrative penalty etc.). Penalties ideally against measurable parameters (targets, thresholds) rather than breaches of procedural obligations?</li> </ol>	Desktop review to be undertaken on existing / comparable regimes. Interaction with sponsoring State offence and penalty regime to be understood.	B	why do offences and penalties take priority over the inspection regime, surely the inspection regime should be developed first?

**Part VIII Disputes**

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Settlement of disputes	As per Exploration Regulations.	<ol style="list-style-type: none"> <li>1. Opportunity to consider “lower level” administrative appeals for the plan of work application process? That is, a simpler appeal mechanism for the Commissions’ recommendations on the outcome of a plan of work or its constituent elements.</li> </ol>	A technical working paper needs to be prepared to set out dispute resolution options under the Convention.	C	

**Part XI Resources other than [mineral category]**

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Resources other than [mineral category]	As per Exploration Regulations.	None.	None.		

## Part X Review

Draft regulation description	Specific elements	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Review	As per Exploration Regulations.	Given an adaptive management approach, in the early stages of development, the exploitation regulations will benefit from an annual evaluation.	None.		

## Annex II Contract for exploitation

clause relating to	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
„Dealings“ or arrangements	<ol style="list-style-type: none"> <li>1. A contractual clause (or regulation) may be needed to deal with any unfair or uneconomic practices (Annex, Section 6 of the Agreement) that occur in the downstream process. This needs expert consideration but there could be agreements, transactions or arrangement that may require the prior consent of / notification to the Authority (Council).</li> <li>2. This is a specialist area and requires expert input. That said, transparency, exchange of information and co-operation will facilitate any appropriate obligations on the Contractor (and Member States under the Agreement).</li> <li>3. Financial arrangements downstream may also impact the financial payment system depending on its final formulation, including non-arm's length sales.</li> </ol>	Expert input required in connection with the development of RRP's (under the Agreement) relating to unfair and / or uneconomic practices (in accordance with the requirements of the Agreement). See also "Undertakings" above.	C	
Annual Reports	<ol style="list-style-type: none"> <li>1. Guidelines will need to be prepared to determine the format and content of a contractor's annual report to the Authority. Subject to specifically agreed confidentiality criteria, these should be made publicly available (or as a minimum, part thereof) under the transparency principle.</li> <li>2. There also needs to be standardization in reporting. A template(s) needs to be devised for this purpose together with an analysis of actual performance against previously agreed performance indicators.</li> <li>3. Though this clause speaks to "Annual Reports", there will be other specific contractor reporting obligations under the regulations.</li> </ol>	Guidelines for the Preparation of Annual Reports to be drafted.	C	Standardisation linked to performance criteria/indicators if possible, Publicly available comparable/quantifiable reporting is of paramount importance.

clause relating to	Commentary / suggested content	Actions for operationalization of draft regulation	Priority given	comments
Insurance	<ol style="list-style-type: none"> <li>1. Requirement to maintain insurance in accordance with approved plan of work. Annual evidence required.</li> <li>2. Requirement to maintain with “financially sound and reputable insurers” – consistent with Good Mining Industry Practice. This is a specialist area, not least when combined with environmental liability insurance. Specific guidance and advice is required for the Authority to have a full understanding of products available, including deductibles, and their efficacy.</li> <li>3. More prescriptive description of insurance requirements required.</li> <li>4. See also “Environmental bonds and performance guarantees” above.</li> </ol>	<p><b>Discussions</b> with contractors, the insurance industry and other stakeholders needed here to gain knowledge and understanding of insurance specifics, including limitations, exceptions and exclusions.</p>	A	See previous comments on liability/bonds etc.
Suspension and termination of contract and penalties	<ol style="list-style-type: none"> <li>1. Wording from Exploration Regulations to be retained. However, clarification needed over serious persistent and wilful violations;43 and what are considered fundamental terms of the exploitation contract?</li> <li>2. Fundamental terms of the contract can be specifically defined in the contract. Serious and persistent can be clarified in guidance notes reflecting a penalty regime.</li> </ol>	<p><b>Technical paper</b> to clarify meaning of serious persistent and wilful violations based on existing best practice in extractive industries.</p>	C	
Revision	<ol style="list-style-type: none"> <li>1. The revision clause in the Exploration Regulations is of greater significance to exploitation contracts.</li> <li>2. The clause is to be taken from Annex III, Article 19 of the Convention. As an immature industry, it will be difficult to anticipate all eventualities. However, some guidance should be considered in terms of understanding the concepts of inequitable, impracticable and impossible contained in Annex III, Article 19.</li> <li>3. Equally, any review periods provided for in the regulations could ease the operation of this contractual provision.</li> <li>4. Transparency of any agreed changes to the terms of a contract is key; hence a disclosure provision should be reflected, subject to confidentiality provision.</li> <li>5. Could include suspension of operations for market conditions (note: obligations under an EMP to continue).</li> </ol>	<p><b>Technical paper</b> to clarify meaning of inequitable, impracticable and impossible referenced in Annex III, Article 19, Convention.</p>	C	<p>Important to keep as open as possible to allow for new science/technology/risks/impacts and to learn from these in order to adapt. Plus again the more transparent re process and revision/ease of revision the better. However some principles and standards should always be the basis of good regulation hence a discussion paper is a good idea.</p>

## Bibliography

Goodland, R., 2012. Responsible Mining: The Key to Profitable Resource Development. Defining “Best Practice Responsible Mining”. The World Bank Group: Bank Information Center Seminar: Extractive Industry Review “EIR + 10: Looking Ahead”, Monday 23 April 2012. pp. 1-27.