September 2025

THE PEW CHARITABLE TRUST'S COMMENTARY

ON THE REVISED CONSOLIDATED TEXT: DRAFT REGULATIONS ON EXPLOITATION OF MINERAL RESOURCES IN THE AREA, DATED 29 NOVEMBER 2024 (ISBA/30/C/CRP.1)

Key

Black font, red font, and grey text-boxes are replicated from the Draft Regulations text.

Blue font represents commentary or edits proposed by The Pew Charitable Trusts.

Annex IV

Environmental Impact Statement

Comments

A joint text proposal has been provided by a drafting group, which focusses on the restructuring and allocation of EIA provisions to their appropriate locations across the Regulations, Annexes and Standard and Guidelines. This work has in particular included a replacement of text from draft regulation 48 (4) to Annex IV. Also, the work has included great focus on replacing content from Annex IV to the relevant Standard and Guidelines. Contents to be placed in the Standard and Guidelines are currently placed in the revised suspense document upon further discussion of the exact placement.

For further details on the work of the drafting group, please refer to the joint proposal. This document also contains reference to other material that Council has considered in respect of the Environmental Impact Statement Process.

We are largely supportive of the work of the intersessional group, and this proposal to move much of the text from Annex IV to a Standard. However, as noted elsewhere, we express concern about moving so much essential information to Standards, when the process for the development thereof remains uncertain. If this information is moved to a Standard, it must be within the context that the Standard must be finalized simultaneously with the Regulations, and before any approval of a Plan of Work.

In addition, using this text it is not easy to identify which text is being proposed for wholesale deletion, and which text is being proposed for retention in a Standard. And we are unsure where or how to express our suggested changes to deleted provisions. Therefore we do not provide commentary below on text that we believe is being moved to a Standard, but we look forward to an opportunity to raise relevant points of concern, when we do have a draft Standard open to comment.

1. Preparation of an Environmental Impact Statement

The Environmental Impact Statement prepared under these Regulations and the present Annex shall, [but not limited to, entail the following elements]:

(a) Be prepared in clear language and in an official language of the Authority together with an English-language version, where applicable;

(b) Provide information [~~based on data from, as a general rule, a minimum of 15 years of monitoring,~~] in accordance with the Regulations, and taking into account the applicable R~~r~~egional E~~e~~nvironmental M~~m~~anagement P~~p~~lan, Standards and Guidelines, corresponding to the scale and potential magnitude of the activities, to assess the likely Environmental Effects of the proposed activities. Such effects shall be discussed in proportion to their significance. Where an applicant or Contractor considers an Environmental Effect to be of no significance, there should be sufficient information to substantiate such conclusion, or a brief discussion as to why further research is not warranted; and

(c) Include a non-technical summary of the main conclusions and information provided to facilitate understanding of the nature of the activity by Stakeholders.

~~[(d) Be peer reviewed by competent independent experts, before submission and include a description of the experts, their qualifications, and the results of their review.]~~

We do not agree with the deletion of requirement for a peer review (in paragraph (1)(d) of this Annex. An EIS is science-based and relies on data collected by the proponent. For that reason, **independent scientific assessment (i.e. peer review)** is good industry practice in an EIA process. We understand these provisions are deleted because of the view that it is up to the LTC to decide when to engage external experts. However, the LTC does not have a role to peer review a Contractor's science. The LTC is reviewing the EIS with specific focus on its role to make recommendations to the Council. A peer review of the EIS data, and the LTC's evaluation of the EIS to inform the ISA's decision-making are two separate functions that should not be erroneously conflated here. We cannot see any reason the ISA would *not* wish to receive independently peer reviewed data. We suggest reinstatement (with possible terminology change to 'independent peer review'). A Standard could be developed to explain more clearly what is intended, so that this is clear to all.

2. Template for Environmental Impact Statement

The required contents and recommended format for an Environmental Impact Statement is outlined below. It is intended to provide the Authority, its member States and other stakeholders with ~~unambiguous~~ clear documentation of the potential Environmental Effects based on the Best Available Scientific Evidence, Best Environmental Practices, and Best Available Techniques, and Good Industry Practice on which the Authority can base its decision, and any subsequent approval that may be granted. Further detail for each section is provided following the overview.

This document is a template and does not provide details of methodology or thresholds that may be resource- and site-specific. These methodologies and thresholds may also change over time in according to, for example, development of new technologies, new scientific data or new knowledge, and will be developed as Standards and Guidelines to support the Regulations.

[Table of content to be inserted]

Executive summary

One of the main objectives of the executive summary is to provide an overview of the project and a summary of the content of the Environmental Impact Statement for non-technical readers. ~~Information provided in the executive summary should include:~~

~~(a) A description of the proposed project, its objectives, if any, a description of alternatives analysed, and a justification of the alternative chosen;~~

~~(a) bis. A description of alternatives analysed;~~

~~(b) Anticipated Economic, financial and other benefits to be derived from the project, and the beneficiaries for each, [including humankind];~~

~~(c) A description of anticipated and cumulative, risks and impacts of the activity, as assessed by experts, (including, but not limited to, oceanographic, geological, biological, socioeconomic and sociocultural) including the expected spatial extent and duration of impacts and cumulative impacts in relation to the identified baselines, and the expected recovery rates of the system to its original state;~~

~~(d) Measures to minimize and Mitigate anticipated and Cumulative Environmental Impacts, support recovery of the Marine Environment from impacts,] and a description of any anticipated and cumulative residual impacts, that may occur despite Mitigation, noting how the Mitigation hierarchy is being employed in assessing impacts;~~

~~(d bis) A description of any residual impacts;~~

(d ter) Expected recovery rate of the Marine Environment impacted;

(e) Linkages with development of the Environmental Monitoring and Management Plan and the Closure Plan; and

(f) Consultation undertaken with other parties and Stakeholders.

1. Introduction

The purpose of the Introduction section is to set the scene for the Environmental Impact Assessment. This section should contain enough detail for a reader to form an overall impression of the proposed project and how it has developed and understand how the Environmental Impact Assessment is structured. As this section mainly provides a 'roadmap' to more detailed material in the Environmental Impact Assessment, it may be relatively short.

1.1. Background

Summarize briefly the project being proposed, including all main activities and locations.

1.2. Project viability

Provide information on the viability of the proposed development, its economic context and why the project is needed.

Provide understanding of the policy on alternatives being followed by the applicant. The determination of project viability may include a summary of feasibility investigations related to geophysical, engineering, geotechnical, oceanographic, biological and other components of project operations.

1.3. Project history

Summarize briefly the work undertaken up to the date the Environmental Impact Statement was finalized and ready to be submitted to the Authority. This should include a brief description of the resource discovery, the Exploration undertaken, depth zones, and any component/ system testing conducted to date. The time, location, and parties involved in Exploration work should be included. For the component/ system testing, provide a brief description of activities here. If applicable, include any report(s) related to results of component/system testing and Test Mining studies including any monitoring and assessment of the Environmental Impacts in an appendix.

1.4. Project proponent

Summarize the credentials of the proponent, including major shareholders, other contracts or licences held (including in other jurisdictions), previous and existing contracts with the Authority The proponent's technological and environmental expertise, capacity and financial resources should be outlined, and the proponent's environmental record for this work and any previous comparable works should be summarised as well as how they intend to support commitments made elsewhere in the application.

1.5. This report

This section should constitute a guide for users of the Environmental Impact Statement on how to effectively use the information contained in the Environmental Impact Statement.

1.5.1. Scope

Provide detail as to what is and is not included, and which risks have been prioritised and which received less emphasis, in this Environmental Impact Statement, based on the Scoping Report and previous feedback from the Authority and Stakeholders. Link to other supporting information.

1.5.2. Report structure

This subsection should refer to the prescribed structure of the template but should also indicate where to find information that is not obvious from the table of contents, for example in cases where the Environmental Impact Statement relates to a larger project covering several Mining Areas within the Contract Area or for an Environmental Impact Statement that contains a large volume of information (especially multiple volumes). Authorship should be provided for chapters.

1.5.3. Consultation overview

Provide overview of mandatory, as well as any voluntary stakeholder consultation processes and consultations.

2. Policy, legal and administrative context

Provide information on the relevant policies, legislation, agreements, Standards and Guidelines that are applicable to the proposed Exploitation activities mining operation.

2.1. Applicable national and international legislation policies and procedures

Outline the national and international legislation, procedures and policies, for example those adopted in accordance with Article 209 of the Convention to prevent, reduce and control pollution of the Marine Environment, including the coastline, from activities in the Area, as well as applicable rRules, rRegulations and, pProcedures of the Authority, applicable Sstandards and taking into consideration Guidelines and the relevant Regional Environmental Management Plan of the Authority, that is applicable to the proposed Exploitation activities mining operation in the Area, including any guidance provided for implementation and how the proposed operation will comply with them.

2.2. Other applicable national legislation, policies and regulations

Outline any other legislation, policies, regulations or Sustainable Development Bills that do not necessarily apply specifically to seabed mining or the environment, but may be relevant to the proposal (e.g., shipping regulations, maritime declarations, flag State laws, climate. This section should also refer to national regulations and laws that relate to the effects of Exploitation activities on coastal States, [or other places where components of Exploitation (e.g., processing) could occur].

2.3. Applicable international and regional agreements

In addition to the United Nations Convention on the Law of the Sea and the 1994 Agreement relating to the Implementation of Part XI of the Convention, list the international and regional agreements applicable to the operation, (whether directly or via incorporation into domestic laws cited in section 2.2 above), such as relevant conventions, including Annexes and Guidelines, of the International Maritime Organization related to Protection of the environment, biodiversity and safety. These include the International Convention for the Safety of Life at Sea (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL), the Ballast Water Management Convention (BWMC), the International Convention on the Control of Harmful Anti-fouling Systems on Ships and the 1996 Protocol thereof and the Convention on Biological Diversity and the Convention on Migratory Species of Wild Animals and the international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ); and describe how the proposed operation will comply with them.

~~2.4. Other applicable standards, principles and Guidelines~~

~~Discuss applicable standards and Guidelines, including those mandated by the source(s) of funding for the operations, that will be adhered to or aligned with throughout the operation, such as those of the Authority not already included in section 2.1, the Equator Principles, the Environmental Management Standards of the International Organization for Standardization, the Code for Environmental Management of Marine Mining of the International Marine Minerals Society, the Performance Standards on Environmental and Social Sustainability of the International Finance Corporation and the Standards of the Extractive Industries Transparency Initiative.~~

~~2.5. National Processes related to Sponsoring State permits~~

~~Describe any national processes followed and permits received from the Sponsoring State in relation to the Environmental Impact Assessment.~~

~~[2.6Ecologically and/or Biologically Significant Areas (EBSAs) and Area-based management tools~~

~~Describe any relevant area-based designation and/or management tools established under subregional, regional or global processes and the scope, geographical coverage, supporting data, and objectives of such tools. Also describe any relevant area based designation and/or management tools in adjacent areas under national jurisdiction.]~~

3. Description of the proposed project

Provide details of the proposed project and the area of influence of the project or Impact Area, including relevant diagrams and drawings. It is understood that most projects will likely involve the recovery of Minerals from the Area, with the concentrating process(es) occurring on land within a national jurisdiction (outside the jurisdiction of the Authority). While this section should provide a description of the entire project, including offshore and land-based components, the Environmental Impact Statement should focus on those activities occurring within the Authority's jurisdiction (e.g., activities related to the recovery of the Minerals from the Area up to the point of trans-shipment). ~~Details to be provided under this section should include the headings listed below.~~

Details of the proposed project should include the location and associated activities, mineral resources, project components (which includes project scale, mining equipment, transport and materials handling and on-site- processing), commissioning, construction and operating standards (which includes design codes, health and safety and workforce description), decommissioning and closure, other alternatives considered, environmental management measures to Mitigate impact and a development timetable.

ALT: Details of the proposed project should include:

(i) The location and associated activities

(ii) Mineral resources

(iii) Project components including project scale, mining equipment, transport and materials handling and on-site-processing

(iv) Commissioning including construction, operating standards, design codes, health and safety, and workforce description

(v) Decommissioning and closure

(vi) Environmental management measures to mitigate impact

(vii) A development timetable

(viii) Other alternatives considered,

3.1. Project area definition

3.1.1. Location

Include coordinates of the project area, detailed location maps (drawn to scale), showing the relevant sites proposed as Contract Area and Mining Area and any other features that can be usefully marked upon the map at the time of application, including the locations of Iimpact Rreference Zzones and Ppreservation Rreference Zzones as well as locations of other nearby contract areas or known seabed infrastructure. Provide general location of the project on a regional map.

[Provide a map (drawn to scale), and list the coordinates detailing the location of the project area, with the proposed Contract Area, the sequence of areas planned to be mined (Mined Areas), the Impact Reference Zones (IRZ) and Preservation Reference Zones (PRZ) for each Mined Area, and the presumed impact zones covering the benthic and pelagic extent of sediment plumes created by the Exploitation activities. Add any other features that can be usefully marked upon the map at the time of application, including the locations of other nearby contract areas or known seabed infrastructure. Provide general location of the project on a regional map.]

The map should indicate Areas of Particular Environmental Interest, Sites/Areas in Need of Protection, or other sites designated for particular status under the rules, regulations, procedures of the Authority, applicable Standards and taking into consideration Guidelines, or relevant Regional Environmental Management Plans of the Authority, [as well as area based designations. This may also include sites] of other competent authorities, as well as information on any other known conservation or spatial measures and other uses of the Marine Environment (e.g. submarine cables and pipelines, long-standing scientific research sites and established fishing areas) in the vicinity of the project area. The map shall also identify the nearest coastal States and States that may be affected by Exploitation activities, and any adjacent [ISA] contract sites. This map may be the same as the map supplied in Annex 1 Section II.

3.1.2. Associated activities

Describe the supporting activities and infrastructure required (e.g., transportation corridors, ports for disembarkation of vessels, ports for unloading of ore that are outside the direct mining site, anchoring areas for vessels and machinery).

3.2. Mineral resource

Provide details of the type of resource proposed for extraction (e.g. sea floor massive sulphides, polymetallic nodules, ferromanganese crusts), the type, size, shape, tonnage, volume grade and distribution pattern of the Mineral deposits. Estimates of the inferred indicated resource should be provided on the basis of the international CRIRSCO reporting template or national accepted codes (NI 43-101, JORC Code) and the official ISA Mineral classification of the Authority (PMN, PMS and CFC).

3.3. Project components

Provide background information on the proposal and the technologies and equipment to be employed, and include the subsections set out below.

3.3.1. Project scale

Provide an overview of the spatial (horizontal and vertical) and temporal (seasonal and annual) scales of the Exploitation activities mining operation, including volumes, depth of penetration into the seabed. Provide an overview of physical, chemical, geological and oceanographic properties of material to be recovered, dewatered and

deposited or discharged into the water column or back to the seabed, and the target depth range for any such discharge, [in accordance with the applicable Standards and Guidelines]. This should include an account of the [residual] area to be directly impacted over time, including the water column and seafloor beyond the Contract Area, if applicable, as well as the likely extent of any secondary impacts (e.g., sediment plumes, noise, light), which will be discussed in greater detail later.

3.3.2. Mining Equipment

Describe any equipment expected to [be used] [qualify as Best Available Technology] for mining and support operations (e.g., mining vessels/platforms, supply vessels, barges), including the anticipated frequency of vessel movements for these activities. Also, including a description of any specific technologies developed to reduce impacts should be included.

Provide details of methodologies of exploitation (drilling, dredging, excavating, disposing of waste, constructing and operating or maintaining Installations, pipelines and other devices) and give specifications of the technologies to be employed in relation to Best Environmental Practice, including relevant diagrams and drawings, that address: the Mining Workplan, timelines and the general mining sequence, the technologies to be engaged employed in Exploitation activities to recover the resource from the seabed, the depth of penetration into the seabed the specific technologies developed to reduce the direct impact of Exploitation activities (e.g. noise, light, plumes) and other details of the Exploitation activities subsea and on the surface. Describe the energy requirements of the requisite machinery.

3.3.3. Transport and materials handling

Provide a description of all methods to be used to transport the Mineral-bearing ore, including from the sea floor to the surface [and how it relatesin relation] to Best Environmental Practice, and any methods related to the trans shipment of the Mineralbearing ore, including transfers at sea. [Describe the energy requirements of the requisite machinery.] Also, [include] a description of any [measures andspecific] technologies developed to [avoid,] reduce [and Mitigate] impacts [anywhereshould be included[, highlighting at which levels,] in the water column ([e.g.] generation of plume at the seafloor, turbidity in the water column, addition of bottom sediments to the surface waters) [resulting impacts to the marine ecosystem, may be mitigated] during the different phases for collection, separation, lifting, transportation, processing, and discharge of effluents.

3.3.4. On-site processing

Provide a detailed description of the plan for processing of the mineralized material that will occur within or above the Area [and how it relatesin relation] to Best Environmental Practice, including water column activities (such as riser pipe transfer) and shipboard processing. Include a description of any methods to be used on the sea floor to separate the mineralized material from surrounding sediment and/or rock, as well as any dewatering and separation of the mineralized material at the surface.

This section should also cover any disposal of seawater[/fines] and include the spatial layout of the activities over time which will provide a comprehensive map of the disturbance area from which to assess harm to the Marine Environment.

Include a description of the waste management, transport, disposal and discharge of sediment, wastes or other effluents into the Marine Environment and the disposal of waste from general ship operations, including the specific technologies and methods to be adopted to reduce harmful impacts of such disposal to the Marine Environment. The description should acknowledge respective [ISA] Standards and Guidelines [of the

Authority] as well as other applicable legal frameworks. Describe the management of shipboard wastes to be transported to shore based disposal facilities, including the handling and management of hazardous materials should also be described, together with a description of the nature of such material and its transportation, storage and disposal. [Describe the energy requirements of the requisite machinery.] Also, a description of any specific technologies developed to reduce impacts should be included.

3.4. Commissioning

Describe the pre-production activities that will take place with regard to the establishment and set-up of the site for Exploitation activitiesmining operations. The management of this process (such as the establishment of safety zones around vessels) should also be described.

3.5. Construction and operating standards

Outline the design codes or certification standards to which the equipment will be or has been built, as well as the operating standards that will be applied to Exploitation activitiesmining operations, including [any relevantthose for] Best Available Technology and Best Environmental Practice [guidance] issued by the [ISA] [Authority]. This section should include subsections such as those set out below.

3.5.1. Design codes 3.5.2. Health and safety 3.5.3. Workforce description

This section should also outline capacity-building objectives and commitments.

3.6. Decommissioning and Cclosure

Describe the steps that will occur when the Exploitation activitiesmining operation areis completed or in the event of an emergency, including the Decommissioning and removal of offshore infrastructure or the temporary suspension of Exploitation activities, under a Closure Plan.

3.7. Other alternatives considered

Provide an account of alternative options that were rigorously explored and objectively evaluated, including a no-action alternative, that were considered and rejected in favour of the current proposal with justification as to why the alternatives were rejected. Aspects should include the selection of the mine site, mine production scenarios, equipment design and engineering decisions, including technologies selected to reduce the direct impact of Exploitation activities, Environmental Impacts, financial feasibility, transport and materials handling, shipboard processing and stakeholder support. A no mining scenario must be included.

3.8 Environmental management measures to Mitigate impact

Provide a summary description of [the sufficiency of information on environmental management measures and] [reasonable] measures taken to [avoid, reduce and] Mitigate adverse impacts to the physical, chemical, geological, biological, socioeconomic, and sociocultural environment, [while developing the project].

3.9. Development timetable (detailed schedule)

Provide a description of the overall timetable, from initiation and equipment construction through the implementation of the mining programme, through to the Decommissioning and closure of operations. The description should include the major phases of the operation as well as the milestone dates on which relevant tasks are expected to be completed. Information on the development timetable provided under this section should clearly communicate the different phases in the development proposal. For reasons of clarity, a flow chart or a Gantt or PERT (Programme Evaluation and

~~Review Technique) chart should be used where appropriate. Information provided in this section should include the following:~~

~~(a) The funding arrangement for the proposed activity, or whether the availability of funds is subject to this or other approvals being granted;~~

~~(a) bis Timing of expected regulatory approvals;~~

~~(b) Pre-construction activities including the development and testing of mining equipment, operations and systems in situ (if applicable);~~

~~(c) A construction schedule and staging timetable;~~

~~(d) An infrastructure development schedule;~~

~~(e) A monitoring schedule (during and after operations); and~~ ~~(f) A Cclosure schedule.~~

~~Whether the availability of funds is subject to approvals should be noted on the timetable.~~

3.10. Summary of Scoping results, including of the risk assessment process

Provide a brief overview of the results of the scoping exercise including with regard to the sufficiency of the scientific baseline data collected during Exploration [or through other means] to support a robust Environmental Impact Assessment.

3.11. Methodology for Description of the Marine Environment and Assessment of Environmental Impacts and Environmental Effects

[Provide a description of Methodologies, for collecting and analyzing baseline and "Test Mining" data and assessing the potential Environmental Impact and Environmental Effects from the proposed operations and alternatives considered.]

Methodological approaches should be consistent with established community standards. In the case that novel sampling techniques, new technology, or sampling designs are employed, particularly detailed methodology and justification should be provided in this section.

Comment
It has been questioned whether sections 3.10 and 3.11 are appropriate as subsections of section 3 or whether it should be placed in standalone sections elsewhere in Annex IV.

We agree that 3.10 and 3.11 do not come within the scope of section 3 (description of the proposed project) but should be their own sections, between sections 3 and 4. We would like to check that proposed deletion of sections 3.12-3.15 (below) is due to their re-location to a Standard? We would not support their deletion altogether.

~~3.12. Studies completed~~

~~Describe any prior research/Exploration that could provide relevant information for this Environmental Impact Statement and future activities. These studies should be detailed in the appendices.~~

~~3.13. Methodology for Collecting Baseline Data~~

~~For each of the baseline descriptions of the Marine Environment in sections 4 [and 5 and socioeconomic and sociocultural environment in section 6], describe the methodology for collecting and analysing baseline data, including:~~

~~(a) spatial and temporal extent of sampling;~~

(b) spatial and temporal frequency of sampling;

(c) gear used for sampling and any modifications or calibrations conducted to the gear;

(d) results of power analysis;

(e) limitations of sampling and how this may impact certainty of impact assessments; and

(f) any cooperation with other research programmes in the Area, such as with the AuthorityISA, States, other Contractors, or nongovernmental organizations.

Highlight any deviations from baseline data collection requirements provided in relevant Standards and Guidelines, and the Regional Environmental Management Plan, and provide a rationale for those deviations.

Assess the sufficiency of baseline data collected and compiled in view of the aim to establish mining-related environmental change in relation to natural variability.

Raw baseline data [and computer code[, with sufficient metadata and code comments,] used to analyse and provide a description of the Marine Environment shall be included in the Annexes of the Environmental Impact Statement or, if the data [hasand/or code have] been previously submitted to the Authority, the applicant may provide a link to the Authority's database where the data [is and/or code are] stored or other location where such information has been made available online.

3.14. Methodology for Summarizing Baseline Data

Provide a description of the methodology used to summarize baseline data collected. This shall include:

(a) description and justification of transformations performed to the data and analyses used to summarize the data;

(b) a list of program(s) used to analysze results;

(c) I a list of methods to determine species identification and life history; and

(d) any limitations associated with the results of the analysis.

3.15. Methodology for Assessment of potential Environmental Impacts and Environmental Effects to the Marine Environment

For each assessment of potential Environmental Impacts and Environmental Effects in sections 7 and 8 and socioeconomic [and sociocultural] environment in section 9, describe the methodology used to assess impacts and Environmental Effects from proposed operations and alternatives considered in section 3.7. in line with the applicable regulations and Sstandards and taking into consideration account the applicable Gguidelines.

Data [and], predictive models, [and computer code] used to analyse and provide a description of the Marine Environment shall be included in the Annexures to the Environmental Impact Statement or, if the data [and/or], model, [and/or code] has been previously submitted to the Authority, other location where such information has been made available online. Each description of methodology used to assess impacts shall include:

(a) a description and justification of analyses and models used to summarize the data; and

(b) any limitations associated with the analysis or results.

[In accordance with Regulation 47quater, where predictive models have been used these shall be reviewed by competent independent experts and the relevant review reports shall be provided as annexures to the Environmental Impact Statement.]

4. Description of the existing [oceanographic,] physiochemical and geological environment

Give a detailed account of [knowledge of] the oceanographic (physical, chemical and geological) [and meteorological (including air quantity) [environmental] conditions [and implications of climate change on such conditions as a regional overview] at each mining the site, [the expected total] and Impact Area as well as [the Impact and Preservation] Reference Zones [(PRZs)], which should include information from a thorough literature review as well as from on-site studies in accordance with the Regulations and applicable Standard and taking into consideration account the relevant Guidelines to be specified. The Guidelines on baseline data collection as updated from time to time by the Commission, shall guide the drafting of this section by providing information on the minimum amount of detail required for an acceptable baseline description. The account will provide the baseline description of the oceanographic conditions, including physical, chemical and geological oceanographic setting, including its spatial and temporal variability and temporal trends [[conditions]], against which impacts will be measured and assessed. The detail in this section is based on the prior Eenvironmental Rrisk Aassessment carried out in accordance line with the respective Sstandard and taking into consideration Gguidelines, that will have identified the main impacts, and thus the priority elements that need to be considered and assessed in the Environmental Impact Assessment.

4.1. Key messages

Provide an overview of key content (this information can be provided in a box that contains up to 6 bullet points on either the main aspects covered or the main findings).

4.2. Regional overview

Describe the general baseline environmental conditions [and expected trends and variability] of the site and Impact Area, in accordance with the Standards and taking into consideration Guidelines on baseline data collection, including but not limited to the physical, chemical and geological oceanographic setting within a broader regional context and taking into account the applicable Regional Environmental Management Plan. This should be a brief section that includes a map. A more detailed site specific and Impact Area description will be provided in accordance with the sections below.

4.3. Studies completed

Describe any prior research/Exploration studies (including methods used for completing the studies based on Best Available [Science using Best Available] Techniques that could provide relevant information for this Environmental Impact Statement. This research should be detailed in the appendices [and/]or in reports attached to the appendices. [The environmental baseline data collected for the Authority, as outlined in exploration contract conditions, should accompany the Environmental Impact Statement.]

4.4. Meteorology and air quality

Provide a general Characterization of the local meteorology (e.g., wind directions and speeds, seasonal and interannual patterns and variability). Provide description of air

quality, including chemical characteristics. This section may be most relevant to surface operations and the general risk assessment.

4.5. Geological properties and habitat classification

Provide a baseline description of the nature and extent of the Mineral resource and bedrock within a broader geological context. Describe the geological petrographic and geomorphological setting of the mining sites, the Impact Areas, and the designated [Impact and] pPreservation rReference zZones [(PRZs)] including sea floor mapping (bathymetry and backscatter), high resolution sub-bottom profiling, and sedimentation rates, and refer to submarine features such as hydrothermal vents, seamounts abyssal hills and canyons as appropriate.

Provide habitat classification using an appropriate system as prescribed in the applicablerelevant Standard, [and] taking into consideration the Regional Environmental Management Plan.

4.6. Oceanographic setting

Provide a description of oceanographic aspects including but not limited to thermohaline conditions, optical properties and turbidity, surface, [mid-]water [column] and bottom currents regime, tides, waves, turbulence, and oceanographic fronts, eddies and climate change projections, including spatial variation at and above the site. Seasonal and longer term variability is an important element. Detail is required on the regional setting, as well as the specific mining site and Impact Area, and the designated [Impact and] Preservation Reference Zones [(PRZs)], and should include changes in physical conditions and processes according to depth and horizontal distance from the proposed mine site to boundaries of the Impact Area. For activities conducted in areas of seamount chains, hydrothermal vent fields, trenches and canyons or other areas with complex bathymetry, oceanographic currents will be influence by topographic forcing and will require a more detailed oceanographic assessment, including targeted sampling programs, to determine the Impact Area. Climate change projections should also be included.

4.7. Chemical oceanographic setting

Provide a description of water mass characteristics at the mining sites, the Impact Areas, and the designated [Impact and] Preservation Reference Zones [(PRZs)] and above the sites at various depths of the water column, including the structure and development of the oxygen minimum zone in particular near the sea floor (up to 200m above bottom), that includes nutrients, particle loads, temperature and dissolved gas profiles, vent fluid characteristics if applicable, turbidity, etc.

Provide a description of chemical oceanographic properties at the mining sites, the Impact Areas, and the designated [Impact and] Preservation Reference Zones [(PRZs)], throughout the water column and horizontally from the proposed mine site, that includes nutrients, particle loads, temperature, oxygen, salinity, density, particulate and dissolved organic matter, pH, chemical composition, including, but not limited to, concentrations of trace metals, dissolved gas profiles, depth range and characteristics of oxygen minimum zone, redox regimes, carbonate saturation, hydrocarbon and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability of these properties, and vent fluid characteristics if applicable.

4.8. Seabed substrate and sub-seabed characteristics

Provide a description of seabed substrate and sub-seabed composition (to benthic subsurface layers) of the wider mine sites, the Impact Areas, and the designated [Impact and] Preservation Reference Zones [(PRZs)], including, but not limited to, physical, chemical, geological and oceanographic properties, specific gravity, bulk density,

~~sediment composition, physical and chemical composition of pore water and pore water profiles, grain size, mineralogy sediment mechanics, dissolved and particulate organic and inorganic carbon, nutrients, carbonates, redox regimes, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability in these characteristics). Substrate composition shall be described to a depth below the seafloor prescribed in the [relevant] Standard on Baseline Information and taking into consideration [the applicable] [as indicated in] the Regional Environmental Management Plan.~~

~~4.8. bis. Rare or sensitive habitats~~

~~Identify and describe the physical and chemical characteristics of rare or sensitive habitats in line with the respective international guidelines (FAO 2009, Azores Criteria 2010) and policy decisions (inter alia from UN and, CBD …) on such as hydrothermal vents, ridges, seamounts, as well as oceanographic fronts or eddies, abyss hills and canyons and other geological and oceanographic features.~~

~~4.9. Natural hazards~~

~~Provide a description and trend analysis of variation related to applicable potential natural hazards for the site, including, but not limited to, volcanism, seismic activity, cyclone/hurricane, tsunamis, climate related oceanographic changes and variability, slides, slumps, etc. and how these may develop in future, e.g. as a consequence of climate change.~~

~~4.10. Noise and light~~

~~Provide a description of local ambient noise and light at the seabed, throughout the water column and at the surface, including, but not limited to, light intensity, backscatter, and attenuation, bioluminescence, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability in these characteristics, indicating pertinence to fauna where known.~~

~~4.11. Greenhouse gas emissions~~

~~Provide a description and quantification of the level of gas and fluid emissions from anthropogenic activities [related to the proposed Exploitation activities in the proposed Mining Area in the Area], as well as those affecting sea floor and water column chemistry.~~

~~4.12. Climate Change~~

~~Description of the expected changes in physical and chemical oceanographic conditions and processes in the broader area of the mine site due to climate change.~~

~~4.13. Summary of the existing physicochemical environment~~

~~Summarize key findings and include notes on special considerations for rare or sensitive habitats, hydrothermal vents, ridges, seamounts and oceanographic fronts or eddies, abyss hills, fracture zones and canyons and other geological and oceanographic features described in this section. It is anticipated that this summary will be up to one page and be more extensive than the key messages section.~~

5. Description of the existing biological environment

Give a detailed account of knowledge of the [existing biological environment, including] biological properties, biological communities' composition and structure and ecosystems including their functions that could be impacted by proposed activities as a regional overview, in the proposed mining sites and Impact Areas, and the designated [Impact and] Preservation Reference Zones ~~(PRZs)~~, including information from a thorough literature review and baseline data collected from on-site campaigns, in accordance with the Regulations and applicable Standards and taking into consideration

account the relevant Guidelines. The description of the site should be divided by depth regime (surface, midwater from 200m depth to 50m above bottom and benthic including benthopelagic, where appropriate) or otherwise as indicated in the relevant Regional Environmental Management Plan and provide a description of the various biological components and communities that are present in or utilize the area. The Standard on baseline environmental data collection shall guide the drafting of this section by providing information on the minimum amount of detail required for an acceptable baseline description. The detail in this section is expected to be based on a prior Environmental Risk Assessment that identified, and thus the elements that need to be measured and assessed in the Environmental Impact Assessment.

5.1. Key messages

Provide key messages (overview of main findings, covered in six or fewer bullet points).

5.2. Regional overview

Provide regional context for the baseline environmental conditions [and expected trends and variability]of the mining site and Impact Areas, and the designated [Impact and] Preservation Reference Zones [(PRZs)], including but not limited to the general biological setting, [taking into account] in accordance with the applicable Regional Environmental Management Plan. This should be a brief section that includes a habitat classification map. A more detailed description of the mining site, the [Impact and] Preservation Reference Zones [(PRZs)] and Impact Area description will be provided in accordance with the sections below.

5.3. Studies completed

Describe any prior research/Exploration studies (including methods used for completing the studies based on Best Available [Science using Best Available Techniques] that could provide relevant information for this Environmental Impact Statement and future activity. This research should be detailed in the appendices [and/or in reports], and the environmental reference baseline data collected for the Authority, as outlined in the Exploration contract conditions, should accompany the Environmental Impact Statement.

5.4. Biological environment

Provide a description of biological and ecological properties in the region and the mine site, with special focus on the designated Preservation Reference Zones PRZ and the total mine site and Impact Area, including diversity, abundance, biomass, life history parameters, relevant behaviour, including feeding rates, community level analyses, connectivity, trophic relationships, resilience, ecosystem functions and services as well as seasonality and spatial (horizontal and vertical) and temporal variability. Any work on ecosystem models and appropriate ecosystem indicators, etc., should also be presented here. This section should span the size range from megafauna to microbial communities and shall be guided by the variables given by the Standard for the establishment of baseline environmental data.

The description of the benthic [and pelagic communities and] ecosystem [with functional relationshipsfauna and its food web] is structured by depth range, as this enables a direct link to the source and location of an impact. For each depth zone, (at least surface, [mid]water [column] and [seafloorbenthic] as below) there should be an inventory [description] of the known taxonomic/ecological groups (e.g., plankton, fish, marine mammals, marine turtles, benthic microbial invertebrates, demersal scavengers), in accordance with the Authority's Guidelines.

Describe the biological communities and ecosystem functions, structured by depth ranges in accordance with the applicablerelevant Standards and taking into consideration account Regional Environmental Management Plans, [which] may encompass:

(a) surface seawater
(b) epipelagic zone (< 200 metres)
(c) mesopelagic zone (200–1000 metres),
(d) bathypelagic zone (1000 – 4000 metres),
(e) abyssopelagic zone (4000 - 6000 metres),
(f) hadalpelagic zone (> 6000 meters),
(g) demersal zone (part of the water column near to and significantly affected by the seabed), and
(h) benthic zone.

The description should evaluate the temporal and spatial variability in distribution and composition.

The description should include the size and habitat distributions of the fauna and their life history stages (such as larval and juvenile stages, which differ from the adult stage) as well as trophic pathways. Discussions of species and communities should include considerations of whether they are endemic (restricted to just the site, resource substrate or region) or are known to be rare, threatened or endangered.

Migratory and highly mobile species should be included where foraging ranges / migration pathways / management units have been noted as overlapping with proposed operations during scoping.

The climate Mitigation functions and services of the ocean shall also be described (including CO2 update and sequestration, or nutrient cycling).

5.4.1. Surface

Describe the biological communities from the surface to a depth of 200 metres, including [microbes] plankton (phytoplankton and zooplankton, microbial plankton and organic matter), micro nekton, surface/near surface fish such as tuna, and seabirds, marine turtles and marine mammals. Address factors provided in 5.4, as well as spatial and temporal variability and trends, in distribution and composition.

5.4.2. [Midwater] [Water Column]

Describe the pelagic communities and their habitat in the open water from a depth of 200 metres down to 50 metres above the sea floor, and include particulate organic matter, microbes, zooplankton, nekton, mesopelagic, bathypelagic and abyssopelagic fishes and deep diving mammals. Particular focus should be given to gelatinous and other fragile taxa which may be most vulnerable to sediment loads.] Address factors provided in 5.4, as well as spatial and temporal variability.

5.4.3. Benthic

Describe the known benthic microbial, invertebrate and fish communities, including infauna, epifauna, benthopelagic fauna, and demersal fish and scavengers, up to an altitude of [ca.] 50 metres above the sea floor [(or the height of the nepheloid layer)] and at least 5 meters below (into the sediments). This inventory should include considerations of species richness, biodiversity, faunal densities, taxonomic uniqueness, community structures and connectivity, etc. Ecosystem functions, such as bioturbation, habitat and food [supplycreation] and elemental cycling etc. should also be covered in this section. Address factors provided in 5.4, as well as spatial and temporal variability and patchiness.

5.4.3.bis. Rare or sensitive habitats and species

Identify and describe the biological characteristics of rare or sensitive habitats and species potentially affected by the planned Exploitation activities. The identification (as in 4.8bis) shall be guided by the respective international guidelines (FAO 2009, Azores Criteria 2010) and policy decisions (UNGA, CBD) and include features such as hydrothermal vents, ridges, seamounts, as well as oceanographic fronts or eddies, abyss hills and canyons and other geological and oceanographic features. Identify any unique, rare and threatened elements and their potential vulnerability to the effects of mining, outline which habitats and communities can be considered representative and their distribution, indicate existence and connectivity to the same habitats and communities outside the mine site and the potential impact zone.]

[5.4.4Ecosystem/community level description

Summarize existing community and ecosystem studies that integrate elements of the above sections. The summary should consider productivity, habitat heterogeneity, food web complexity, carbon and nutrient cycling, benthopelagic coupling, biodiversity, succession, stability, the potential toxicity effects of plumes, bioavailability of toxins, trophic relationships, ecosystem functioning, benthicpelagic couplings, ecosystem connectivity, early life history stages, recruitment and behavioural information. Identify, preserve and distribute to the scientific community any unique, rare and threatened elements, outline which habitats and communities can be considered representative and their distribution, indicate existence and connectivity to the same habitats and communities outside the mine site and the potential impact zone.]

5.4.4. Alt. Ecosystem and community-level description

Summarize existing community and ecosystem level studies. This should include integration of connectivity studies (e.g. life history and recruitment research), trophic interactions and the linkages between food energy and contaminants in the food chain (including benthopelagic couplings) and ecosystem functioning / services. Food energy linkages and the complexity of the food web should be included, giving consideration to the impacts that may result from contaminants or other disruptions to the food web. Understanding across depths should be provided. Emphasis might be placed on knowledge of trophic levels, the degree of interaction between benthic and pelagic communities, whether there are specialized predators that could be more vulnerable than generalists, and the complexity of the food web and species interactions, with a view to gaining an idea of the resilience of the system to disturbances. It is important to consider wider community relationships to enable assessments to move beyond community descriptions to incorporate potential changes in ecosystem function. [Identify, preserve and distribute to the scientific community any unique, rare and threatened elements, outline which habitats and communities can be considered representative and their distribution, indicate existence and connectivity to the same habitats and communities outside the mine site and the potential impact zone.]]

5.5. Summary of the existing biological environment

Summarize the findings focusing on key ecosystems and species determined above. It is envisaged that this summary will be up to one page in length.

[5.6 Rare or sensitive habitats and species

Identify and describe the biological characteristics of rare or sensitive habitats and species potentially affected by the planned mining operation. The identification (as in 4.8bis) shall be guided by the respective international guidelines (FAO 2009, Azores Criteria 2010) and policy decisions (UNGA, CBD) and include features such as

~~hydrothermal vents, ridges, seamounts, as well as oceanographic fronts or eddies, abyss hills and canyons and other geological and oceanographic features.~~

~~Identify any unique, rare and threatened elements, outline which habitats and communities can be considered representative and their distribution, indicate existence and connectivity to the same habitats and communities outside the mine site and the potential impact zone.]~~

6. Description of the existing human activities, socioeconomic and sociocultural environment

This section should describe the socioeconomic and sociocultural environment aspects and potential impacts of the project on existing human activities and planned uses of the area for which information is publicly available. This may include consideration of the scale of effects (such as the creation of jobs and estimates of the risk of Environmental Impacts), extent of duration of impacts in time and space, intensity or severity of social impacts and an assessment of whether impacts are likely to be cumulative. It is important to consider the social equity or distribution of impacts across different populations: in other words, which groups are likely to be affected in which ways.

~~6.1. Key messages~~

~~Provide key messages (overview of main findings, covered in six or fewer bullet points).~~

~~6.2. Existing uses~~

~~6.2.1. Fisheries~~

~~Relevant fisheries shall be described here to further assess the socioeconomic impacts. This should include description of areas of significance for migratory fish stocks, such as spawning grounds, nursery areas or feeding sites. Any closed fishery areas such as VME closures, MPAs, or voluntary closures must be named and taken into consideration. Provide a 'heat map' showing important fishery areas in relation to proposed operations and note any areas of interaction or cumulative impact.~~

~~6.2.2. Marine traffic~~

~~This section describes the non project related marine traffic occurring within the Contract Area and uses the Regional Environmental Management Plan in accordance with IALA's regulations to provide a summary of regional movements. Provide a 'heat map' showing densities of marine traffic in relation to proposed operations and note any areas of interaction or cumulative impact. Provide this per season if repeatable seasonal variation exists.~~

~~6.2.3. Submarine cables~~

~~This section describes the [known] in situ non project related submarine cables occurring within the Contract Area. Provide a map showing known submarine cables in relation to proposed operations and note any areas of interaction or cumulative impact.~~

~~6.2.4. Tourism~~

~~Describe areas used by cruise liners and for game fishing, sightseeing, marine mammal watching and other relevant tourism activities. Provide a 'heat map' showing densities of tourism in relation to proposed operations and note any areas of interaction or cumulative impact. Provide this per season if repeatable seasonal variation exists.~~

6.2.5. Marine scientific research

Outline the [past, present and plannedongoing current] scientific research programmes taking place in the [regionarea], studying the essence of phenomena and processes occurring in the Marine Environment and the interrelations between them.

[6.2.5 Sociocultural uses

List human activities in, and sociocultural uses of, the project area (e.g., traditional navigation routes, migratory paths of culturally significant marine species, sacred sites and waters associated with ritual or ceremonial activities of Indigenous Peoples and local communities.]

6.2.5. bis Sociocultural values and uses

List sociocultural [values and] uses the project area (e.g., traditional navigation routes, migratory paths of culturally significant marine species, sacred sites and waters associated with ritual or ceremonial activities of Indigenous Peoples and local communities as well as known or suspected objects or sites of an archaeological or historical nature, taking into account the work of the United Nations Educational, Scientific and Cultural Organization referred to in Regulation 35(2).]

6.2.6. Other

List other uses of the project area that are not related to the above (e.g., other, Exploitation projects sports and leisure).

6.2. bis Planned uses

Describe the planned uses of the area for which information is publicly available (e.g. other Exploitation Contracts, Exploration contracts, fisheries, maritime traffic, tourism, marine scientific research, submarine cables, area-based management tools).

6.3. Sites of an archaeological, historical significance

List any sites of archaeological or historical significance that are known to occur within the potential area of impact. Provide a map as applicable showing known archaeological and historical sites in relation to proposed operations and note any areas of interaction or cumulative impact taking into account the work of the United Nations Educational, Scientific and Cultural Organization referred to in Regulation 35(2).

6.4. Summary of existing socioeconomic and sociocultural environment

Summarize key findings regarding the socioeconomic and sociocultural environment. It is envisaged that this section will be up to a page in length, and more extensive than the key messages.

7. Assessment of impacts on the physical, chemical and geological environment and proposed Mitigation

Provide a detailed description and evaluation of potential Environmental Impacts and Environmental Effects [including Cumulative Environmental Effects] of the operation [which could degrade the current status and functioning of to] components of the physical chemical and geological environment identified in section 4 [including the proposed environmental management measures to mitigate impacts and a summary of residual effects, [and the extent to which any potential Environmental Impacts and Environmental Effects may occur in areas under a State's national jurisdiction]. This should consider the entire lifespan of the project, i.e. construction/development (precommissioning) of the mine site, operational and Decommissioning phases, and following Closure of the site. The potential for accidental events and natural hazards.

The detail in this section is expected to be based on a prior Environmental Impact~~Risk~~ Assessment prepared, reviewed, and revised in accordance with Regulation 47 ~~ter~~ and respective Standard and Guideline for Environmental Impact Assessment (chapter III Scoping, D). ~~It should include for each component a description of:~~

~~(a) The [hazard: detailing the] source (action, temporal and spatial duration), [probability and frequency of the risk] and [the] nature [and severity] of the disturbance;~~

~~(a) bis [Exposure characterization: evaluation and probability of exposure of the ecosystem components (see section 5) to the identified hazard.The] nature, duration and extent of any actual or potential impact, including cumulative effects and taking into account ecological and biologically significant areas;~~

~~(a) ter The methods used to determine impacts (including the assumptions and limitations of any impact modelling or other analysis undertaken);~~

~~(b) Risk evaluation and management: Document how decisions were taken to determine] Measures [that will be taken] to prevent, Mitigate and manage such impacts; and~~

~~(c) The unavoidable residual impacts that will remain, including their expected longevity.~~

~~(d) The extent to which any potential impacts and Environmental Effects may occur [beyond the Contract Area or] in areas under a State's national jurisdiction.~~

~~The detail in this section is expected to be based on the Environmental Risk Assessment carried out according to the relevant Rregulations, Standards and by taking into consideration Guidelines that will have identified the main impacts, and thus the elements that need to be emphasized in the Environmental Impact Assessment.~~

~~7.1. Key messages~~

~~Provide an overview of the key content covered in section 7.~~

~~7.2. Description of potential impact categories~~

~~Provide an overview and description of the categories of potential impacts caused by [hazards owing to] the proposed Exploitation activitiesmining operation.~~

~~Key elements that need to be included are:~~

~~(a) The major types of potential impacts, such as habitat removal, variations in communities' composition, the creation of sediment plumes, dewatering plumes, noise, light, etc.;~~

~~(b) Descriptions of impact studies carried out during Exploration (e.g., component testing and the resulting observations from the associated monitoring);~~

~~(b) bis. Descriptions of Test Mining studies undertaken prior to the application;~~

~~(c) Descriptions of the results of any Environmental Risk Assessments, which should be included as separate reports or appendices where appropriate; and~~

~~(d) Descriptions of the methods applied to describe and quantify impact categories and assessment from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);~~

~~7.2. bis. Description of impact pathways~~

~~The preferred approach for this template is to include for each receptor descriptions of:~~

(a) The methods used to determine the pathway from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);

(b) The source(s) of impact;

(c) The nature, spatial extent and temporal extent of potential impact(s), including cumulative impacts;

(d) Measures that will be taken to avoid, minimise or Mitigate such impacts; and

(e) The unavoidable (residual) impacts that will remain, including their expected longevity and outline the measures that will be taken to ensure long term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these Regulations and the applicable Standard, and taking into considerationaccount the relevant Guidelines.

7.2. ter. Receptors and impacts

Receptors for which this will be done include:

(a) Meteorology and air quality

(b) Geology [and Geophysics]

(c) Physical oceanography

(d) Chemical oceanography of the mine site and Impact Area

(e) Seabed substrate characteristics

Impacts to be considered include:

(a) Sediment plume generation,

(b) Discharge of water,

(b)bis Energy flow pathways (such as hydrothermal fluid),

(c) Noise and light,

(d) Greenhouse gas emissions and climate change emissions (including estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate)

Effects to be considered include:

(a) Changes in temperature and salinity of water,

(b) Optical characteristics / water clarity,

(c) Turbidity / particulate loading,

(d) Sediment characteristics (including changes in the sediment composition, grain size, density and pore water profiles),

(e) Discharge plumes (frequency, spatial extent, composition and concentration, etc.),

(f) Primary sediment plume (frequency, spatial extent, composition and concentration),

(g) Dissolved gas levels,

(h) Nutrient levels,

(i) For a sea floor massive sulphide project, the modification of vent fluid discharges, if present, should be addressed.

~~7.8. Accidental events and Natural hazards~~

~~Discuss impacts of accidental events and the cumulative effects of the Exploitation activitiesmining operation in relation to any natural hazards that could occur, including, but not limited to, volcanism, seismic activity, cyclone/hurricane, tsunamis, etc. and the measures that will be taken to avoid, remedy or Mitigate those impacts.~~

~~7.9. Noise and light~~

~~Provide a description of the expected emissions of noise and light from the proposed operations.~~

~~7.10 Greenhouse gas emissions and climate change~~

~~Provide an assessment of gas and chemical emissions from proposed operations, relative to emissions both natural and anthropogenic activities. Subsections should include estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate.~~

~~7.11. Cumulative impacts~~

~~Provide a description of the source of nature and extent of any interactions between various potential Environmental Impacts and Environmental Effects across the environment. Where they may have cumulative effects, they must be considered on both spatial and temporal scales over the lifetime of the proposed Exploitation activities mining operation and in the post-Closure period and alternatives considered.~~

~~7.12. Proposed operations impacts~~

~~Cumulative within the mining site and Impact Area of the mining proposed herein.~~

~~7.13. Regional operation impacts~~

~~Cumulative between activities, actions, or natural phenomena, where known in the region.~~

~~7.14. Other issues~~

~~Outline here other, more general issues, as applicable.~~

~~7.15. Summary of residual effects~~

~~Summarize key findings on potential Environmental Impacts and Environmental Effects, environmental management measures, and any potential impacts and effects to areas under any State's national jurisdiction. A table may be a useful summary format to pull together the above elements in a simple visual mode. The table should include a column outlining the measures that will be taken to address potential Environmental Impacts and manage residual effects and ensure long term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these Regulations and the applicable Standard and taking into consideration account the relevant Guidelines.~~

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

Provide a detailed description and evaluation of [the sufficiency of available information] [on] potential Environmental Iimpacts and Environmental Effects [including Cumulative Environmental Effects] of the proposed operation [and a summary of the environmental management measures to mitigate Environmental Impacts and residual effects, alt.1 [[Mitigation hierarchy measures to avoid, reduce and Mitigate the effects caused by the project], alt.2 [Measures taken to avoid, reduce and Mitigate effects, including alternatives[[and the extent to which any potential

Environmental Impacts and effects may occur in areas under a State's national jurisdiction] and alternatives considered in section 3.7 [which could degrade the current function of] [~~to~~] the biological environment components identified in section 5 in the [Contract Area, the] mine site and the Impact Areas, [with special regard to the Impact and Preservation Reference Zones]. Consider Environmental I~~i~~mpacts and Environmental E~~e~~ffects that could happen during the entire lifespan of the project i.e. construction/development (pre-commissioning), operational and Decommissioning phases and following Closure of the site. The potential for accidental events and natural hazards should be considered.

The detail in this section is expected to be based on a prior Environmental Impact~~Risk~~ Assessment prepared, reviewed, and revised in accordance with Regulation 47 ~~ter, and respective~~ Standards and taking into consideration the Guidelines for Environmental Impact Assessment Process. ~~The [[description]] analysis shall be structured by the depth ranges described in section 5 and shall for each component, provide a description of:~~

~~(a) The [hazard detailing the] source (action, temporal and spatial duration) [of the risk] and nature of the [ecological effects~~disturbance~~];~~

~~(a) bis. [Exposure characterization: evaluation and probability of exposure of the ecosystem components (see section 5) to the identified hazard,The] nature and extent (temporal and spatial) of any actual or potential impact, including cumulative effects;~~

~~(a) ter. The methods used to determine impacts (including the assumptions and limitations of any impact modelling or other analyses undertaken);~~

~~(b) [Risk evaluation and management: Document how decisions were taken to determine] Measures [that will be taken] to prevent, Mitigate and manage such impacts with reference to the submitted Environmental Management and Monitoring Plan; [and]~~

~~(c) The unavoidable residual impacts that will remain, including their significance and expected longevity.~~

~~(d) An evaluation of the impacts and effects against the applicable environmental goals and objectives, indicators and thresholds as identified in the applicable~~relevant ~~environmental Sstandards and Guidelines and in the applicable Regional Environmental Management Plan, [and].~~

~~(e) The extent to which any potential impacts and Environmental Effects may occur in areas beyond the Contract Area or under a State's national jurisdiction.~~

~~The detail in this section is expected to be based on the Environmental Risk Assessment, carried out according to the applicable~~relevant ~~R~~regulations, Standards ~~and taking into consideration Guide~~linesance that will have identified the main impacts, ~~and thus the elements that need to be emphasized in the Environmental Impact Assessment.~~

Comment
The alternative wordings for mitigation in section 8 should be retained and restricted in light of Council's discussions on how to refer to Mitigation across the regulations.

~~8.1. Key messages~~

~~This section should provide an overview of the key content covered in section 8.~~

~~8.1.bis. Description of the key sources of Environmental Impacts~~

~~This section should describe the key sources of [risks and] impacts on the Marine Environment from the Exploitation activities~~mining operation.

8.2. Description of [hazards and the nature of] potential impact

Provide an overview and description of the categories of potential impacts caused by the hazards arising from the proposed Exploitation activitiesmining operation and alternatives considered. This should introduce the major types of impacts and their effects on the biotic environment, such as habitat removal, the crushing of animals, the creation of sediment plumes, noise and light, etc. and be referred to in subsequent descriptions and evaluations of potential Environmental Impacts and Environmental Effects from the hazards posed by the proposed operation and alternatives considered. A description should be included of any lessons learned from activities during the exploratory phase of the programme (e.g., mining system component tests).

Key elements that need to be included are:

(a) Description of the major types of potential impacts, such as habitat removal, the biological effects of sediment plumes and dewatering plumes, noise, light, etc. [Each impact has to be characterized by its nature, duration and extent of any actual or potential exposure, including cumulative effects and taking into account ecological and biologically significant areas, rare and fragile species and habitats.] These impact categories should be used in subsequent descriptions and evaluations of potential Environmental Impacts and Environmental Effects from the proposed operations.

(b) Descriptions of impact studies carried out during Exploration (e.g., component testing and the resulting observations from the associated monitoring);

(b) bis. Descriptions of Test Mining studies undertaken prior to the application; Descriptions of the results of any Environmental Risk Assessments, which should be included as separate reports or appendices where appropriate; and

(c) Descriptions of the methods applied to describe and quantify impact pathways and assessment in line with the applicablerelevant Standards and taking into consideration and Guidelines, i.e. [the Environmental Impact Assessment EIA] Guideline.

8.2. bis Description of impact pathways

The preferred approach for this template is to include for each impact pathway an overarching description of:

(a) The methods used to determine the pathway from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);

(b) The source(s) of impact

(c) The nature, spatial extent and temporal extent of potential impact(s), including cumulative impacts;

(d) Measures that will be taken to avoid, minimise or Mitigate such impacts; and

(e) The unavoidable (residual) impacts that will remain, including their expected longevity and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these Regulations and the applicable Standard, and taking into considerationaccount the relevant Guidelines.

8.2.ter. [Assessment of risks] and impacts

[The Assessment of risks and impacts must be done in as much detail as possible for the following community Receptors [includingfor which this must be done include]: (a) Microbial communities

(b) Phytoplankton]

(b)bis zooplankton and micronekton

(b)ter nekton

(b)quat benthopelagic fauna, including scavengers

(c) Meiofauna (infauna / epifauna)

(d) Macrofauna (infauna / epifauna / demersal fish)

(e) Megafauna, including surface/near-surface fish such as tuna, and seabirds, marine turtles and marine mammals

As appropriate, these receptors are to be considered:

(a) at the surface (from the surface down to a depth of 200 metres)

(b) [for the midwater column] (from a depth of 200 metres down to 50 metres above the sea floor), [separate for the different water masses, including deep diving and migratory species]

(c) up to an altitude of 50 metres above the sea floor, including zooplankton, [scavengers] nekton, mesopelagic and bathypelagic fishes and deep diving mammals.

Impacts [categories] to be considered include:

(a) Sediment plume generation [(frequency, spatial extent, composition and concentration)],

(b) discharge [plumesof water]

[(b bis) Seafloor destruction]

(c) Noise and light [emissions]

(d) Greenhouse gas emissions and climate change emissions (including estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate).

Effects to be considered include:

(a) changes in temperature [and] salinity [stratification and mixing] of water [column],

(b) optical characteristics / water clarity

(c) turbidity / particulate loading

(d) sediment characteristics (including changes in the sediment composition, grain size, density and pore water profiles)

(e) [effects of] discharge plumes, [Contamination and pollution, turbidity, temperature change (frequency, spatial extent, composition and concentration, etc.)]

(f) primary sediment plume (frequency, spatial extent, composition and concentration) (g) dissolved gas levels

(h) nutrient levels

(i) For a sea floor massive sulphide project, the modification of vent fluid discharges, if present, should be addressed.

8.6. [Summary of] Ecosystem/community level [effects caused by the project]

[Analyse and] Ddescribe [potential and probable estimated] effects on the ecosystem [and ecosystem dynamics during the term of contract and long term or where linkages between the various components above are known].

8.6.1. Potential [other effects and] impact to be addressed

8.6.1.1. Noise and light

Provide a description of the expected emissions of noise and light from the proposed operations and any potential Environmental Effects, especially any impacts of noise on avoidance, masking and availability of prey (e.g., on marine mammals) and fish. [Indicate the range of light pollution and potential effects in the different depths.] Provide a description of the measures that will be taken to ensure compliance with applicable environmental quality objectives and quantitative thresholds for noise and light levels for relevant fauna, in accordance with these Regulations and the applicable Standard, and taking into considerationaccount the relevant Guidelines.

8.6.1.2. Greenhouse gas emissions and climate change

Effects of mining on ocean climate Mitigation functions and services should be described (including any anticipated alteration of CO2 uptake and sequestration, or nutrient cycling.)

[8.6.2 Environmental management measures to Mitigate impacts]

Moved to section "8.7 bis"

8.7. Cumulative effects

The nature and extent of any interactions between various impacts where they may have cumulative effects must be considered. This should include an evaluation of the spatial and temporal intensity of mining and its effects on other impacts including existing uses considered in the Assessment and described in Section 9 of the Environmental Impact Statement as well as an evaluation of the resulting cumulative effects to the ecological balance of the Marine Environment, including the spatial and temporal extent of such effects. Describe how spatial and temporal cumulation will differ between faunal groups and different habitats.

Provide a description of the source of nature and extent of any interactions between various potential Environmental Impacts and Environmental Effects across the environment. Where they may have cumulative effects, they must be considered on both spatial and temporal scales over the lifetime of the proposed Exploitation activitiesmining operation and in the post-Closure period and alternatives considered.

8.7.1. Proposed operations effects

Cumulative effects [of the proposed mining with all other known influences and effects, including from other Exploitation activities,] within the scope of the site and Impact Area of the mining proposed herein.

8.7.2. Regional operations effects

Cumulative effects [on a regional scale, due to Authority related and otherbetween] activities to be analysed by the Secretariat according to the [Regional Environmental

Management PlanREMPs. The analysis will periodically be provided in a regional quality status report.]

[8.7 bis. Mitigation hierarchy measures to avoid, reduce and Mitigate the effects caused by the project

8.7bis.1 Decision-making

Explain here how decisions were taken to Mitigate Environmental Effects, and what were the goals to be achieved.

8.7bis.2 Measures taken to avoid, reduce and Mitigate effects. including alternatives

8.7bis.3 Expected unavoidable residual effects

8.7bis.4 Restoration and Rehabilitation measures

Practicable Restoration and Rehabilitation of the project area — approach. The Restoration and Rehabilitation of the project area should be considered as a part of the Mitigation hierarchy. At this stage in the Environmental Assessment Process, there might be no final knowledge on the potential of Restoration and Rehabilitation in the area, so a plan should be proposed to develop this knowledge throughout the lifespan of the project and to prepare the decision on the issue at the end of the project. This should be done in accordance with applicable Standards and taking into consideration Guidelines.]

8.8. Summary of residual effects

Summarize key findings on potential Environmental Impacts and Environmental Effects, environmental management measures, residual effects, and any potential impacts and effects to areas under any State's national jurisdiction. Information on potential recovery times following disturbance and the longevity of residual effects should be included. This will give readers an understanding of the temporal component and efficacy of proposed Mitigation measures. A table may be a useful summary format to pull together the above elements in a simple visual mode. The table should include a column outlining the measures that will be taken to address potential Environmental Impacts and residual effects and ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these Regulations and the applicable Standard and taking into considerationaccount the relevant Guidelines.

[8.9 Practicable restoration and rehabilitation of the project area]

Moved to section "8.7 bis.4."

[8.9 alt. Accidental events and Natural hazards

Discuss impacts to the biological environment of accidental events and the cumulative effects of the mining operation and natural hazards and the measures that will be taken to avoid, remedy or mitigate those impacts.]

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

Provide a detailed description and evaluation of potential Environmental Iimpacts and Environmental Effects of the operation to the socioeconomic and sociocultural components identified in section 6 [and a summary of the environmental management measures to mitigate impacts and residual effects. This should include projections on the potential impacts in national waters outside the Mining Area and should also consider the entire lifespan of the project i.e. construction/development (precommissioning),

operational (including maintenance) and Decommissioning phases. A description of the benefits to humankind may be included. Attitudes towards, and perceptions of, the proposed project are among the variables that should be considered in determining the significance of impacts. The potential for accidental events [and natural hazards] should also be considered.

9.1. Key messages

This section should provide an overview of the key content covered in section 9.

9.1. bis. Description of potential impact categories

Provide an overview and description of the categories of potential impacts caused by the proposed Exploitation activitiesmining operation. Key elements that need to be included are:

(a) the major types of potential impacts, such as habitat removal, the creation of sediment plumes, noise, light, etc. These impact categories should be used in subsequent descriptions and evaluations of potential Environmental Impacts and Environmental Effects from the proposed operations;

(b) Descriptions of impact studies carried out during Exploration (e.g., component testing and the resulting observations from the associated monitoring);

(c) bis Descriptions of Test Mining studies undertaken prior to the application;

(d) Descriptions of the results of any Environmental Risk Assessments, which should be included as separate reports or appendices where appropriate; and

(e) Descriptions of the methods applied to describe and quantify impact pathways and assessment.

9.1. ter. Description of impact pathways

The preferred approach for this template is to include for each impact pathway an overarching description of:

(a) The source;

(a)ter The methods used to determine impacts (including the assumptions and limitations of any impact modelling undertaken);

(a)bis The nature, spatial extent and temporal extent of potential impacts, including cumulative impacts;

(b) Measures that will be taken to avoid, minimise or Mitigate such impacts, including a comparative analysis of how measures taken may differ across alternative operations considered;

(c) The unavoidable (residual) impacts that will remain, including their expected longevity. The detail in this section is expected to be based on the scoping Environmental Risk Assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the Environmental Impact Assessment; and

(d) The extent to which any potential impacts and effects may occur in areas under a State's national jurisdiction.

9.2.Impact identification

9.2.1. Impacts on existing human uses

For each of the following marine uses, describe:

(a) Potential impacts and effects and issues to be addressed;

(b) Environmental management measures to Mitigate impacts and effects;

(c) Residual impacts and effects; and

(d) Potential impacts and effects in areas under any State's national jurisdiction.

9.2.1.1 Fisheries and biological conditions

A description of potential impacts, e.g., effects from light and noise on fisheries and biological conditions, with proposed management measures and a description of residual impacts.

9.2.1.2bis Submarine cables

A description of potential impacts on [known] non project related submarine cables occurring within the project area, along with proposed management measures and a description of residual impacts.

9.2.1.3 Tourism

A description of potential impacts and issues to be addressed, along with proposed management measures and a description of residual impacts.

9.2.1.4 Marine scientific research

A description of potential impacts and issues to be addressed, along with proposed management measures and a description of residual impacts, according to the IALA's regulations.

9.2.2 Impacts on Sociocultural values and uses

A description of potential impacts and issues to be addressed pertaining to sociocultural uses of the area (e.g., traditional navigation routes, migratory paths of culturally significant marine species, sacred sites and waters associated with ritual or ceremonial activities of Indigenous Peoples and local communities), along with proposed management measures and a description of residual impacts.

9.2.3 Impacts on Ecosystem Functions and Services

A description of potential impacts of the operation on any ecosystem functions and services, for example, carbon burial and sequestration, taking into account the relevant Guidance.

9.2.4 Other impacts

List other potential impacts that are not related to the above (e.g., submarine cables, other Mineral Exploration or Exploitation projects).

9.2.5 Impacts on Planned uses

Describe the potential impacts on planned uses of the area for which information is publicly available (e.g. fisheries, maritime traffic, tourism, marine scientific research, submarine cables, area-based management tools).

9.2.6 Impacts on Area-based management tools

A description of potential impacts and cross-boundary issues to be addressed, along with proposed management measures and a description of residual impacts.

9.3. Impacts on Sites of an archaeological or historical nature

Describe, as applicable, potential impacts to sites of archaeological, or historical significance that are known to occur within the potential area of impact, along with proposed management measures, taking into account the work of the United Nations Educational, Scientific and Cultural Organization referred to in Regulation 35(2).

9.4. Gender Impact analysis

Assess and analyse how the proposed operations may impact on gender roles and relationships.

9.5. Summary of socioeconomic and sociocultural environment

Summarize findings on management measures, residual effects, and any potential impacts and effects, (including to sociocultural conditions). A table may be a useful summary format to pull together the above elements in a simple visual mode. Potential cumulative effects should also be included.

[9.5bis. Assessment of Uncertainty]

Moved to section "10 bis".

9.5bis.1 Uncertainty Assessment

Provide a detailed description and evaluation of any uncertainties in the assessments described in section 7, 8, and 9. This uncertainty assessment shall:

(1) Identify any relevant areas of uncertainty and gaps in knowledge and their implications for the environmental impact assessment and its findings; and,

(2) Describe the measures taken in the environmental impact assessment to reduce uncertainty in its findings to as low as reasonably practicable.

9.5bis.2 Addressing Significant Uncertainty

Where significant uncertainty exists despite the efforts described in 9bis.1(b), provide a detailed description of environmental monitoring and management measures for managing and reducing uncertainty during the proposed operations, to be incorporated into the Environmental Monitoring and Management Plan and describe how these will enable the applicant to ensure compliance with relevant Rules of the Authority.]

[9.6 Accidental events and Natural hazards

Discuss any impacts of accidental events and the cumulative effects of the mining operation and natural hazards, and the measures that will be taken to avoid, remedy or mitigate those impacts.

9.6.1 Potential impacts and issues to be addressed

Moved to section "10 ter".

9.6.2 Environmental management measures to mitigate impacts

Moved to section "10 quat".

9.6.3 Residual effects

Moved to section "10 quin".

9. bis Waste management

A description outline of waste management.

Provide a description of proposed vessel waste management, with reference to compliance with relevant conventions, legislation and principles, and methods of cleaner production and energy balance.

Comment
A new section 9 bis is added in light of the fact that DR 48ALT(4)(k) requires a description outline of waste management. The proponents recognise that Section 10.6 and 10.7 currently sit in section 10 below but consider that should only cover waste management with regard to "potential environmentally hazardous discharges resulting from accidental and extreme natural events as these are fundamentally different from normal operational discharges of wastes and wastewaters" as outlined below. Section 9bis would be about all waste management, and section 10 could refer to this section but provide situation specific detail relevant to section 10.

We would welcome some clarification (perhaps through use of defined terms) as to what is intended to be included within the scope of this 'waste management' section. As drafted, it seems to cover vessel waste i.e. the routine waste disposal that may be expected from the operation of any vessel (as falls within the ambit of the International Convention for the Prevention of Pollution from Ships or 'MARPOL'). We agree that it is sensible to require the applicant to include this in the scope of the EIS, as the ISA be in a position to promote greener forms of shipping, for use in Exploitation.

However the reference to 'cleaner production' confuses us – does this refer to mineral production (i.e. Exploitation)? If so, then this section may intend to include within its scope Mining Discharges, which is a separate 'waste' stream (regulated by the ISA, not MARPOL)? We suggest the scope and the drafting of this section 9 be clarified.

10. Hazards arising from natural, accidental and discharge events

This section should outline the possibility/probability of accidental events and natural hazards occurring, an assessment of the impact they may have, to the mine site and Impact Area, the measures taken to prevent or respond to such an event and an assessment of the residual impact should an event occur. This should include an overview of potential environmentally hazardous discharges resulting from accidental and extreme natural events as these are fundamentally different from normal operational discharges of wastes and wastewaters. Reference should be made to the ERCP.

~~For each component include:~~

~~(a) The nature and extent of any impact;~~

~~(b) Measures that will be taken to avoid, Mitigate or minimize such impact; and~~

~~(c) Residual impacts.~~

~~10.1. Extreme weather~~

~~For example: hurricanes/cyclones.~~

~~10.2. Natural hazards~~

~~For example: volcanic eruptions, seismic events.~~

~~10.3. Accidental events~~

~~For example: leakage or spillage of hazardous material, fires and explosions, and collisions, including potential loss of equipment.~~

~~10.4. Maritime safety and interactions with shipping~~

~~Provide a description of predicted maritime safety issues and potential interactions with other vessels from the proposed activities with reference to compliance with the relevant conventions.~~

~~10.5. Emergency Response and Contingency Plan~~

~~Provide a description of an Emergency Response and Contingency Plan.~~

~~10.6. Waste management~~

~~Provide a description of proposed vessel waste management, with reference to compliance with relevant conventions, legislation and principles, and methods of cleaner production and energy balance.~~

~~10.7 Balast Water management~~

~~Provide a description of proposed vessel balast water management where applicable, with reference to compliance with relevant rules and principles, and methods of cleaner production and energy balance.~~

~~[10.8. Hazards arising from natural, accidental and discharge events~~

~~Discuss any impacts of accidental events and the cumulative effects of the Exploitation activities and natural hazards, and the measures that will be taken to avoid, remedy or Mitigate those impacts.]~~

[10 bis Assessment of Uncertainty

10 bis.1 Uncertainty Assessment

Provide a detailed description and evaluation of any uncertainties in the assessments described in section 7, 8, and 9. This uncertainty assessment shall:

~~(1) Identify any relevant areas of uncertainty and gaps in knowledge and their implications for the Environmental Impact Assessment and its findings; and,~~

~~(2)~~ d~~D~~escribe the measures taken in the Environmental Impact Assessment to reduce uncertainty in its findings to as low as reasonably practicable.

Comment
Section 10 bis (1) should be placed in a Standard. Currently placed in the revised suspense document.

10 bis.2 Addressing Significant Uncertainty

Where significant uncertainty exists despite the efforts described in 9bis.1(b), provide a detailed description of environmental monitoring and management measures for managing and reducing uncertainty during the proposed operations, to be incorporated into the Environmental Monitoring and Management Plan and describe how these will enable the applicant to ensure compliance with rules, regulations and procedures of the Authority.

10 ter Holistic cumulative impact assessment and issues to be addressed

~~10 quat Environmental management measures to avoid, reduce and Mitigate impacts~~

Comment
The drafting group consider this section 10 quat is covered by Section 11 and is thus deleted here. Wording is copied as an alternation in Section 11 heading. Should be considered in light of how Council decides to refer to mitigation across the regulations.

10 quin Analysis of residual effects against the RRP, Standards and Guidelines of the Authority

Provide a description of any residual impacts that may remain following the application of Mitigation measures, including the expected longevity of those impacts, and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these Regulations and the applicable Standard, and taking into consideration the Guidelines.]

Comment
It should be considered whether a separate standalone section on residual effects would be necessary or whether 'residual effects' should be added to 10 ter ('cumulative impact assessment...') (noting it is already included in sections 7, 8 & 9 ("assessment of impacts on....") and section 11("Environmental management, monitoring and reporting"). If Council decides to retain the more detailed content in 10 quin., then Council should consider whether such content should also be added to any of the aforementioned sections, or instead the Standards and Guidelines. Retained here in the annex until Council decides.

11. Environmental management, monitoring and reporting [Alt. Environmental management measures to avoid, reduce and Mitigate impacts]

Provide sufficient information to enable the Authority to anticipate possible environmental management, monitoring and reporting requirements for an environmental approval. Information listed include a description of the applicant's Environmental Management System and should reflect the proponent's environmental policy and the translation of that policy to meet the requirements of this section and previous sections during different stages of the project life (i.e., from construction to Decommissioning and closure and the post-closure period).

The Environmental Management and Monitoring Plan is a separate report from the Environmental Impact Statement, but this could be a useful opportunity to highlight some of the key issues [including residual effects] from the Statement that will be addressed in the full Environmental Management and Monitoring Plan. ~~Information detailed in this section should include the headings set out below.~~

11.1. Organizational structure and responsibilities

~~This section should show how the Contractor's environmental team fits into its overall organizational structure. Responsibilities and professional qualifications of key personnel should be outlined.~~

~~11.2. Environmental management system~~

~~A full Environmental Management System shall exist at the time the Environmental Impact Statement is submitted. The applicant has to demonstrate that it will be capable of managing appropriate relevant environmental questions and outline the standards that will be considered and/or aligned with when developing the system for the project.~~

~~11.3 Environmental Management and Monitoring Plan~~

~~An Environmental Management and Monitoring Plan will be submitted as a separate document for the Authority's approval prior to the commencement of Exploitation activitiesmining operations. This section should provide an overview of what the Plan would entail. With reference to, the headings set out below and Annex VIII of the Exploitation Regulations of the Authority.~~

~~11.3.1 Mitigation and management~~

~~Summarize the Mitigation and management measures that will be taken, based on the impact minimization and Mitigation analysis undertaken as part of the Environmental Impact Assessment, and as described in the Environmental Impact Statement in Sections 7, 8, and 9.~~

~~11.3.3 Closure Plan~~

~~A Closure Plan will be submitted as a separate document for the Authority's approval prior to the commencement of Exploitation activities mining operations. However, this section should provide an overview of what the Closure Plan will entail, including Decommissioning, continued monitoring and Rrehabilitation measures, if applicable.~~

~~11.4 Reporting~~

~~Outline how data collected at the mine site and Impact Area will meet reporting requirements and best scientific practices outlined in Annex VII on the Environmental Management and Monitoring Plan.~~

~~11.4.1 Monitoring~~

~~Outline how [information and] the results of monitoring studies will be reported to the Authority, as well as the frequency and format of data releases in accordance with the regulations and any relevant Standards and taking into consideration account any relevant Guidelines.~~

~~11.4.2 Incident reporting~~

~~Outline how Incidents will be reported and managed.~~

12. Responsible ~~P~~product stewardship

[An overview of the downstream supply chain. A description of responsible product stewardship related to] [~~Provide a brief description of~~] the intended use of the Mineralbearing ore once it leaves the [Contract] Area. The description should also address how the Contractor will minimize health, safety, environmental, socioeconomic and sociocultural effects [and impacts] of the intended product or products to meet standards for environmental management, and should address the following potential impacts:

(a) Energy and materials consumption;

(b) Waste generation;

(c) Toxic substances;

(d) Air and water emissions.

The intention is not to provide a full and highly detailed account, but, where information is known about Environmental Impacts, these impacts should be described briefly here.

12. Consultation [and stakeholder engagement and methods]

[The Environmental Impact Statement should include a description summary of the nature, extent, participation and outcomes of consultations and stakeholder engagement that have taken place with the Stakeholders, including commission consultation, and how their comments have been addressed in the environmental impact statement. A description of consultation methods shall also be provided].

Consultations [and engagement] shall be inclusive, transparent and open to all ~~relevant~~ Sstakeholders, including States, global, regional, subregional and sectoral bodies, as well as civil society, the scientific community, indigenous peoples and local

communities [and in accordance with this Regulation and the applicable Standards and taking into consideration the Guidelines].

~~13.1 Consultation methods~~

~~Provide a description of the nature and extent, participation and outcomes of consultation(s) that have taken place with relevant Stakeholders, and how their comments have been addressed in the Environmental Impact Assessment. This will include the description of the mechanisms [and criteria] used to manage the diversity of Stakeholders addressed and comments provided.~~

~~This includes describing the mechanism(s) used to consult with different groups and how this aligns with the applicablerelevant Standards and Guidelines, also incorporating criteria for Preservation Reference Zones and Impact Reference Zones.~~

~~13.2 Stakeholders~~

~~List Stakeholders that have been consulted and explain the process by which Stakeholders were identified. This should include a brief description of the Stakeholders and a historic overview of any previous activities conducted by the Stakeholders in The Area.~~

~~13.3 Public consultation and disclosure~~

~~Provide a description of the goals and consultation workshops/meetings that occurred prior to the preparation of the report, including outlining any concerns and comments made by Stakeholders and how these will be addressed, and, if not, describe the reasons for that decision.~~

~~13.4 Commission consultation~~

~~Summarize the Commission's recommendations on the Scoping Report and proposed Terms of Reference for the applicant's Environmental Impact Assessment submitted to the Commission, and justification for any deviation either from those submitted Terms of Reference, or from the Commission's recommendations.~~

~~13.5. Stakeholder [and coastal State] Consultation~~

~~Describe how comments received under Stakeholder consultation have been or will be taken into account, or why they have not been taken into account, and the reasons for that decision. The summary should be based on the detailed response of the applicant to each consulted party and be available for review.~~

~~13.4 Continuing consultation and disclosure~~

~~Outline any further consultation with Stakeholders that has been deemed necessary and is being planned.~~

14. Glossary and abbreviations

Include a glossary of terms, acronyms and abbreviations used throughout the document. The glossary should include definitions for, and key terms defined in the regulations so as to ensure that users of the Environmental Impact Statement. ~~, including the decision makers and relevant Sstakeholders, have a clear understanding of the intention behind the use of certain terms in the Environmental Impact Statement. The glossary should be included in the table of contents for the Environmental Impact Statement and referenced in the introduction section.~~

This deletion has left an incomplete sentence.

15. Study team

Outline the people involved in carrying out the Environmental Impact Assessment studies and in writing the Environmental Impact Statement. ~~If independent scientists or other experts were involved in any of the work, they should be listed. [Any remuneration should be mentioned.] The names, current and validated contact information, occupational qualifications and their role in the generation of the Environmental Impact Statement of such people should also be included. A statement that those individuals so named concur with the content of the report should be included. Any conflict of interest must be identified, disclosed in detail in this section including the way it was and continues to be managed.~~

14. References

Evidence obtained from outside sources should be documented throughout the Environmental Impact Statement, with the use of footnotes or other suitable reference mechanism. In addition, all sources used in preparation of the Environmental Impact Statement (including those specifically referenced in the body of the document) should be listed in bibliography format, with full details of the source (including website addresses, if applicable). ~~This enables users of the Environmental Impact Statement to review the supporting documentation independently.~~

14. Appendices

The appendices section should include a list of all the technical reports carried out for parts of the Environmental Impact Assessment or that are used in support of any aspect of the Environmental Impact Assessment (such as prior risk assessments or monitoring activities conducted as part of Exploration C~~c~~ontracts). Copies of these reports should be provided as appendices to the Environmental Impact Statement, with clear indications as to which section(s) the document is being provided to support.