

**TEMPLATE FOR SUBMISSION OF TEXTUAL PROPOSALS DURING THE 29TH SESSION:
COUNCIL - PART I**

Please fill out one form for each textual proposal which your delegation(s) wish(es) to amend, add or delete and send to council@isa.org.jm.

1. Name of Working Group:

Environment

2. Name(s) of Delegation(s) making the proposal:

Federal Republic of Germany

3. Please indicate the relevant provision to which the textual proposal refers.

Annex IV - Environmental Impact Statement

Red text is in original draft; **blue text** indicates Germany's textual proposals

4. Kindly provide the proposed amendments to the regulation or standard or guideline in the text box below, using the “track changes” function in Microsoft Word. Please only reproduce the parts of the text that are being amended or deleted.

1. Preparation of an Environmental Impact Statement

The Environmental Impact Statement prepared under these regulations and the present annex shall:

- (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 regional environmental management plan. Standards and ~~{}~~ Guidelines, 1, 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.}~~

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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:

...

- (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 **avoid, 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;

~~Alt (d bis) A description of any residual impacts:~~

~~Alt (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]

~~(e)bis Conformity with the Authority's global environmental policy and strategy and the applicable regional environmental management plan; and:~~

...

1. Introduction

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.

2. Policy, legal and administrative context

2.6 Ecologically 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.~~

2bis: Regional context

2bis.1 The regional context

Give an account of relevant regional conventions and other agreements.

2bis.2 Applicable REMP

Summarise the provisions of the applicable REMP, its environmental objectives and key measures.

2bis.3 Other exploitation contractors in the Region

If applicable, give an account of other mineral exploitation activities in the region (public information on contract areas, resource, state of contract)

2bis.4 Other spatially relevant human activities in the Region

Give an overview of other activities in the region (public information on type of activity, location, sensitivity to mining effects)

2bis.5 Existing and planned spatial or environmental measures in the Region

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, including Ecologically and/or Biologically Significant Areas (EBSAs) and similar designations. Also describe any relevant area-based designation and/or management – measures in adjacent areas under national jurisdiction.

2bis.6 Potential interference with other ISA contractors' interests

2bis.7 Existing or planned cooperation with other contractors.

3. Description of the proposed project

3.1 Location

Provide a map (drawn to scale), **Include** and list the coordinates detailing the location of the project area, with the **relevant sites** proposed as Contract Area, and 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 mining operation. Add any other features that can be usefully be marked upon the map at the time of application, including the locations **of impact reference zones and preservation reference zones as well as locations of locations** 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, Standards, or 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 mining activities, and any adjacent ISA contract sites. This map may be the same as the map supplied in Annex 1 Section II.

3.3.1 Project scale

Provide an overview of the spatial (horizontal and vertical) and temporal (seasonal and annual) scales of the 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 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** and 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 employed to recover the resource from the seabed, the depth of penetration into the seabed the specific technologies developed to reduce the direct impact of mining activities (e.g. noise, light, plumes) and other details of the mining activities subsea and on the surface. **Describe the energy requirements of the requisite machinery.**

3.3.3 Transport/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 **in relation to Best Environmental Practice**, and any methods related to the trans-shipment of the mineral-bearing ore, including transfers at sea. **Describe the energy requirements of the requisite machinery**. Also, include a description of any **specific measures and technologies developed to avoid, reduce and mitigate impacts** **should be included** **highlighting at which levels, anywhere 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 ~~in 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 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.

...

3.7bis Environmental management measures to mitigate impacts

Provide a summary description of ~~reasonable~~ measures taken to ~~avoid, reduce and mitigate adverse impacts to the physical, chemical, geological, biological, socioeconomic, and sociocultural environment while developing the project.~~

3bis.2 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:

...

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

4. Description of the existing physiochemical and geological oceanography

Give a detailed account of ~~knowledge of~~ the oceanographic (physical, chemical and geological) conditions at ~~each mining~~ site, the expected total impact area, ~~as well as the Impact and Preservation Reference Zones~~, 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 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 [e]nvironments~~, against which impacts will be measured and assessed. The detail in this section is based on the prior environmental risk assessment ~~carried out in line with the respective standard and guideline~~, 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

...

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 Standard and Guideline 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 [Germany] 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

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 preservation reference zones (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 relevant Standard and taking into consideration the for 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 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 areas, 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 the applicable [as indicated in the] []-Regional Environmental Management Plan.

5. Description of the existing biological environment

Give a detailed account of knowledge of the biological communities' composition and structure and ecosystem functions 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 Standard and taking into 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 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 attached to the appendices, 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 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 relationships~~fauna 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, midwater water column and benthic seafloor as below) there should be an inventory~~] USA]~~ description~~] Canada]~~ 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 relevant Standards and taking into account Regional Environmental Management Plan, which may encompass: ...

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.

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 [Germany] creation [] supply 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.

5.4.3bis 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 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.

5.4.4 Ecosystem/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, benthopelagic 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. (move last sentence to Alt 5.4.4)~~

Alt. 5.4.4 Ecosystem/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.~~

5.6 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 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.~~

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

6.2.4 Marine scientific research

Outline the ~~ongoing current~~ past, present and planned scientific research programmes taking place in the ~~area~~-region, 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] [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].~~

Alt 6.2.5

~~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).~~

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

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the operation which could degrade the current status and functioning of components of the physical chemical and geological environment identified in section 4. 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 risk assessment prepared, reviewed, and revised in accordance with [Regulation 47ter 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 ecological effect;
- (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 regulations, Standards and Guidelines](#) that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

...

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 mining operation.

8. Assessment of effects and impacts and Environmental Effects on the biological environment and proposed Mitigation.

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the operation and alternatives considered in section 3.7, which could degrade the current status and functioning of the biological environment components identified in section 5 in the contract area, the mine site and the total Impact Areas with special regard to the Impact and Preservation Reference Areas. Consider impacts and effects 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 risk assessment prepared, reviewed, and revised in accordance with [\[Regulation 47ter\]\[1\] and respective Standards and 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 and severity of the disturbance ecological effect;
- (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);

(a)quart Risk characterization: Evaluation of the probability, frequency and severity of potential adverse environmental and health effects

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

(e) 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 regulations, Standards and Guidelines that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

8.1bis 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 mining operation.

8.2 Description of hazards and the nature of potential impacts-categories

Provide an overview and description of the categories of potential impacts caused by the hazards arising from the proposed mining 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

(d) Descriptions of the methods applied to describe and quantify impact pathways and assessment in line with the relevant Standard and Guideline, i.e. EIA Guideline.

8.2 ter Assessment of risks and Receptors and impacts

The Assessment of risks and impacts must be done in as much detail as possible for the following community Receptors, ~~for which this must be done include~~ including:

...

As appropriate, these receptors are to be considered:

- (a) at the surface (from the surface down to a depth of 200 metres)
- (b) ~~midwater for the water 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 ~~of water~~ plumes (~~frequency, spatial extent, composition and concentration, etc.~~)
- (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 (~~frequency, spatial extent, composition and concentration, etc.~~) (~~contamination and pollution, turbidity, temperature change~~)
- (f) Effects of primary sediment plume (~~frequency, spatial extent, composition and concentration~~) (~~gravity currents, contamination and pollution, turbidity, temperature change~~)
- (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 Describe ~~estimated~~ potential and probable effects on the ecosystem and ecosystem dynamics during the term of the contract and longterm.—~~or where linkages between the various components above are known~~.

8.6.1 Potential Other effects and impacts ~~and issues~~ 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 account the relevant Guidelines. [This part has been inserted from section 7.9. See facilitator comment for more information].

8.6.2 Environmental management measures to mitigate impacts move to section 8.7bis

8.7 Cumulative effects

8.7.1 Proposed operations effects

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

8.7.2 Regional operation effects

Cumulative effects on a regional scale between due to ISA-related and other activities to be analysed by the Secretariat according to the REMPs, [1]. The analysis will periodically be provided in a regional quality status report.

8.7bis Environmental management measures to mitigate impacts Mitigation hierarchy: measures to avoid, reduce and mitigate the effects caused by the projects (moved from 8.6.2)

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 (moved from 8.9)

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 relevant Standards and taking into account relevant 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 account the relevant Guidelines.

8.9 Restoration and rehabilitation measures (move up to 8.7bis.4)

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 relevant Standards and taking into account relevant guidelines.

Alt. 8.9 Accidental events and Natural hazards (suggest to move to section 10)

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

...

9.5bis Assessment of Uncertainty (suggest to move to 10bis)

9.5bis.1 Uncertainty Assessment (suggest to move to 10bis.1)

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 (suggest to move to 10bis.2)

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 (to be move to Section 10)

9.6.1 Potential impacts and issues to be addressed (suggest to move to 10ter)

9.6.2 Environmental management measures to avoid, reduce and mitigate impacts (suggest to move to 10quart)

9.6.3 Analysis of residual effects against the RRP, Standards and Guidelines of the Authority (suggest to move to 10quin)

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 account the relevant Guidelines.

10. Hazards arising from natural, accidental and discharge events

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.

10bis Assessment of Uncertainty (moved from 9.5bis.)

10bis.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.

10bis.2 Addressing Significant Uncertainty (moved from 9.5bis.2)

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.

10ter Holistic cumulative impact assessment and issues to be addressed (moved from 9.6.1)

10quart Environmental management measures to avoid, reduce and mitigate impacts-(moved from 8.7 and 9.6.2)

10quin Analysis of residual effects against the RRP, Standards and Guidelines of the Authority (moved from 9.6.3)

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 account the relevant Guidelines.

11. Environmental management, monitoring and reporting

11.4 Reporting

Outline how **information and** 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.

13. Consultation

Consultations shall be inclusive, transparent and open to all relevant stakeholders, 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 related Standard and/or Guideline.**

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 relevant Standards and Guidelines, also incorporating criteria for Preservation Reference Zones and Impact Reference zones.

Please indicate the rationale for the proposal. [150-word limit]

- As proposed by the intersessional group on EIA provisions in July and November 2023, most of the content of Annex IV could be placed in a Standard, where it can be revised more easily. Annex IV should only reflect the requirements for the EIS - a high level outline, indicating the core components of the EIS.
- Germany proposes the reorganize some of the Annex and supplementing content as follow:
 - o Sec 2bis: Germany suggests including a new sec 2bis on the regional context of a mining operation. This will help tie a Plan of Work to the relevant REMP. We also propose to move sec 2.6 to 2bis.6 where it will fit better.
 - o Section 3: the value of section 3.7bis (Environmental management measures to mitigate impacts) is unclear in the context of Section 3 (Description of the project). We point to the new Section 10ter (measures to avoid, reduce, mitigate) which would usefully draw upon all of the prior information.
 - o Section 5: Germany proposes moving 5.6 to 5.4.3 where it fits better within the structure of the EIS. We prefer Alt 5.4.4 over 5.4.4 but suggest to copy the last sentence of 5.4.4 to Alt 5.4.4.
 - o Sections 7 and 8: We suggest to revise the introductory sections of sections 7 and 8 in line with the risk assessment process indicated in the EIA Guidelines: i.e. details of hazards, exposure, impacts and risks are to be provided. We propose to add section 8.7bis with information on the mitigation hierarchy. Sec 8.9 can be moved to this section as well. Section ALT.8.9 on the other hand seems better suited to section 10.
 - o Section 9: this section is about socioeconomic and cultural impact assessment. We believe section 9.5bis and following (on uncertainties) are ill-suited to sec 9 and should be moved to a new sec 10bis. Their content is valuable but seems out of place in sec 9.
 - subsection 9.5bis.1 on “assessment of uncertainty” could become a high-level section 10bis.
 - Section 9.6 (accidental events and natural hazards) can be deleted as it is likely to overlap with the reporting in Section 10.
 - Section 9.6.1 (potential impacts) should be 10ter on holistic cumulative impacts
 - Section 9.6.2 (mitigation measures), should become 10quart
 - Section 9.6.3 (residual impacts) should become 10quint.

Special emphasis is to be placed on section 10quint, the evaluation of remaining environmental impacts in light of the Authorities' RRP, including its environmental goals and objectives and thresholds.

- We look forward to further intersessional work (as chaired by the UK, Norway and Germany) on streamlining the provisions for the EIA.