



## Legal and Technical Commission

Distr.: General  
21 May 2018

Original: English

---

### Twenty-fourth session

Legal and Technical Commission session, part II  
Kingston, 2–13 July 2018

### Draft Environmental Impact Statement template

The Environmental Impact Statement outlined below will be included as annex IV to the Draft Regulations on Exploitation of Mineral Resources in the Area ([ISBA/24/LTC/WP.1](#)). It is intended to provide the International Seabed Authority, its member States and other stakeholders with unambiguous documentation of the potential Environmental Effects on which the Authority can base its assessment, and any subsequent approval that may be granted. Further detail for each section is provided following the overview.

The present document is a template only, and is not intended to be prescriptive but rather to guide the format and general content of an Environmental Impact Statement. It does not provide details of methodology or thresholds that may be resource- and site-specific. These methodologies and thresholds may be developed as standards and guidelines to support the Draft Regulations.



---

## Contents

	<i>Page</i>
Executive summary . . . . .	3
1. Introduction . . . . .	3
2. Policy, legal and administrative context . . . . .	4
3. Description of the proposed development . . . . .	4
4. Description of the existing physicochemical environment . . . . .	7
5. Description of the existing biological environment . . . . .	8
6. Description of the existing socioeconomic environment . . . . .	9
7. Assessment of impacts on the physicochemical environment and proposed Mitigation . . . . .	10
8. Assessment of impacts on the biological environment and proposed Mitigation . . . . .	13
9. Assessment of impacts on the socioeconomic environment and proposed Mitigation . . . . .	14
10. Accidental events and natural hazards . . . . .	16
11. Environmental management, monitoring and reporting . . . . .	16
12. Product stewardship . . . . .	17
13. Consultation . . . . .	18
14. Glossary and abbreviations . . . . .	18
15. Study team . . . . .	18
16. References . . . . .	18
17. Appendices . . . . .	18

## **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 development and its objectives;
- (b) Economic, financial and other benefits to be derived from the project;
- (c) Anticipated impacts of the activity (physicochemical, biological, socioeconomic);
- (d) Mitigation measures to minimize environmental impacts;
- (e) Linkages with the development of the Environmental Monitoring and Management Plan; and
- (f) Consultation undertaken with other parties.

## **1. Introduction**

### **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, and include a description of the benefits to mankind.

### **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 International Seabed Authority. This should include a brief description of the resource discovery, the exploration undertaken and any component testing conducted to date. For the component testing, provide a brief description of activities here. If applicable, include any report(s) related to component testing 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 and the proponent's environmental record, etc. The proponent's technological and environmental expertise, capacity and financial resources should be outlined.

### **1.5 This report**

#### **1.5.1 Scope**

Provide detail as to what is and is not included, based on earlier assessments or work. Link to other supporting information. A key item that should be included is a previous risk assessment that evaluates activities classified as low risk (and therefore should receive less emphasis), compared with high-risk activities, which should be the focus of this Environmental Impact Statement.

### **1.5.2 Report structure**

Where the Environmental Impact Statement spans multiple volumes, this section should provide additional details not listed in the table of contents.

## **2. Policy, legal and administrative context**

Provide information on the relevant policies, legislation, agreements, standards and guidelines that are applicable to the proposed mining operation.

### **2.1 Applicable mining and environmental legislation, policy and agreements**

Outline the national and international legislation, regulation or guidelines that apply to the management or regulation of Exploitation in the Area, including how the proposed operation will comply with them.

### **2.2 Other applicable legislation, policies and regulations**

Outline any other legislation, policies or regulations 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, marine scientific research, climate change policies, Sustainable Development Goals). 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**

List the international agreements applicable to the operation, such as the United Nations Convention on the Law of the Sea and the International Maritime Organization suite of environmental and safety conventions, which includes the International Convention for the Safety of Life at Sea (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL) and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), and applicable regional agreements.

### **2.4 Other applicable standards, principles and guidelines**

Discuss applicable standards and guidelines that will be adhered to or aligned with throughout the operation, such as the Standards and Guidelines of the International Seabed Authority, 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.

## **3. Description of the proposed development**

Provide details of the proposed development activity, 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 it is expected that this section would provide a brief 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.

### **3.1 Project area definition**

#### **3.1.1 Location**

Include coordinates of the project area, detailed location maps (drawn to scale), a layout of the site and the locations of impact reference zones and preservation reference zones.

#### **3.1.2 Associated activities**

Describe the supporting activities and infrastructure required (e.g., transportation corridors) that are outside the direct mining site.

### **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 of commodity and its grade and volume. Estimates of the inferred and indicated resource should be provided, along with visual models of the resource.

### **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 and temporal scales of the mining operation, including volumes of material to be recovered, processed and deposited or discharged into the water column or back to the seabed. This should include an account of the area to be physically mined, as well as the likely extent of any secondary impacts (e.g., sediment plumes), which will be discussed in greater detail later.

#### **3.3.2 Mining**

Provide details of the technologies to be employed, 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 and other details of the mining activities.

#### **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, and any methods related to the trans-shipment of the mineral-bearing ore, including transfers at sea.

#### **3.3.4 On-site processing**

Provide a description of the processing of the mineralized material that will occur within or above the Area, including 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 of the mineralized material at the surface. This section should also cover any disposal of seawater/fines.

Include a description of the disposal and discharge of sediment, wastes or other effluents into the Marine Environment and the disposal of waste from general ship operations. 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.

### **3.3.5 Support equipment**

Describe any equipment expected for mining and support operations (e.g., mining vessels/platforms, supply vessels, barges). Describe the anticipated frequency of vessel movements for these activities.

### **3.4 Commissioning**

Describe the pre-production activities that will take place with regard to the establishment and set-up of the site for mining 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 to which the equipment will be or has been built, as well as the operating standards that will be applied to mining operations. 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 closure**

Describe the steps that will occur when the mining operation is completed, including the decommissioning of offshore infrastructure, under a Closure Plan.

### **3.7 Other alternatives considered**

Provide an account of alternative options that were considered and rejected in favour of the current proposal. Aspects should include the selection of the mine site, mine production scenarios, transport and materials handling and shipboard processing.

### **3.8 Development timetable (detailed schedule)**

Provide a description of the overall timetable, from the implementation of the mining programme 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, but not be limited to, 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;
- (b) Pre-construction activities;

- (c) A construction schedule and staging timetable;
- (d) An infrastructure development schedule;
- (e) A monitoring schedule (during and after operations); and
- (f) A closure schedule.

#### **4. Description of the existing physicochemical environment**

Give a detailed account of knowledge of the environmental conditions at the mine site, which should include information from a thorough literature review as well as from on-site studies. The account will provide the baseline description of the geological and oceanographic conditions against which impacts will be measured and assessed. The detail in this section is expected to be based on a prior environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized 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 environmental conditions of the site, including the geological and oceanographic setting within a broader regional context. This should be brief section that includes a map. A more detailed site-specific description will be provided in accordance with the sections below.

##### **4.3 Studies completed**

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

##### **4.4 Meteorology and air quality**

Provide a general overview of climatology (e.g., wind directions and speeds, seasonal patterns). This section may be most relevant to surface operations.

##### **4.5 Geological setting**

Describe the nature and extent of the mineral resource and bedrock within a broader geological context. Describe the general geological landscape and topographic features of the site, including bathymetric maps.

##### **4.6 Physical oceanographic setting**

Provide a description of oceanographic aspects such as currents, sedimentation rates and waves. Seasonal variability is an important element. Detail is required on the regional setting, as well as the specific site, and should include changes in physical conditions and processes according to depth and horizontal distance from the proposed mine site (near-field, far-field).

#### **4.7 Chemical oceanographic setting**

Provide a description of water mass characteristics at the site and at various depths of the water column, in particular near the sea floor, that includes nutrients, particle loads, temperature and dissolved gas profiles, vent-fluid characteristics if applicable, turbidity and geochemistry, etc.

#### **4.8 Seabed substrate characteristics**

Provide a description of substrate composition, including physical and chemical properties (e.g., sediment composition, pore-water profiles, grain size, sediment mechanics).

#### **4.9 Natural hazards**

Provide a description of applicable potential natural hazards for the site, including volcanism, seismic activity, cyclone/hurricane trends, tsunamis, etc.

#### **4.10 Noise and light**

Provide a description of ambient noise and light, and the influence of existing Exploration and maritime activity.

#### **4.11 Greenhouse gas emissions and climate change**

Provide a description of the level of gas and chemical emissions from both natural and anthropogenic activities in the Area, as well as those affecting sea floor and water-column chemistry.

#### **4.12 Summary of the existing physicochemical environment**

Summarize key findings and include notes on special considerations for hydrothermal vents, seeps, seamounts and oceanographic fronts or eddies. 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**

The description of the site should be divided by depth regime (surface, midwater and benthic, where appropriate), and provide a description of the various biological components and communities that are present in or utilize the area. The detail in this section is expected to be based on a prior environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

#### **5.1 Key messages**

Provide an overview of the 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).

#### **5.2 Regional overview**

Provide general regional context, and include site-specific issues and characteristics, existing areas of particular environmental interest and national areas of adjacent countries, if any. References to relevant technical data and previous studies should also be included. This section should be brief, but provide broader context for the more detailed site-specific description below.



### **5.3 Studies completed**

Describe any prior research/Exploration that could provide relevant information for this Environmental Impact Statement and future activity. These should be detailed in 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**

Address diversity, abundance, biomass, community-level analyses, connectivity, trophic relationships, resilience, ecosystem function 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.

The description of the fauna is structured by depth range, as this enables a direct linkage to the source and location of an impact. For each depth zone, there should be a description of the main taxonomic/ecological groups (e.g., plankton, fish, marine mammals, benthic invertebrates, demersal scavengers), using the Authority's Guidelines.

#### **5.4.1 Surface**

Describe the biological environment from the surface to a depth of 200 metres, including plankton (phytoplankton and zooplankton), surface/near-surface fish such as tuna, and seabirds and marine mammals.

#### **5.4.2 Midwater**

Describe the biological environment in the open water from a depth of 200 metres down to 50 metres above the sea floor, and include zooplankton, nekton, mesopelagic and bathypelagic fishes and deep-diving mammals.

#### **5.4.3 Benthic**

Describe the benthic invertebrate and fish communities, including infauna and demersal fish, up to an altitude of 50 metres above the sea floor. This should include considerations of species richness, biodiversity, faunal densities, community structures and connectivity, etc. Bioturbation should also be covered in this section.

#### **5.4.4 Ecosystem/community-level description**

Summarize existing community or ecosystem studies that integrate elements of the above sections. The summary should consider early life-history stages, recruitment and behavioural information.

### **5.5 Summary of the existing biological environment**

Summarize the key findings with respect to the biological environment, including regional distributions, special faunal characteristics, etc. It is envisaged that this summary will be up to one page in length.

## **6. Description of the existing socioeconomic environment**

This section should describe the socioeconomic aspects of the project.

## **6.1 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).

## **6.2 Existing uses**

### **6.2.1 Fisheries**

If the project area occurs within an area used by fisheries, then this needs to be described here. This should include description of areas of significance for fish stocks, such as spawning grounds, nursery areas or feeding sites.

### **6.2.2 Marine traffic**

This section describes the non-project-related marine traffic occurring within the project area.

### **6.2.3 Tourism**

Describe areas used by cruise liners and for game fishing, sightseeing, marine mammal watching and other relevant tourism activities.

### **6.2.4 Marine scientific research**

Outline the current scientific research programmes taking place in the area.

### **6.2.5 Area-based management tools**

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

### **6.2.6 Other**

List other uses of the project area that are not related to the above (e.g., submarine cables, other mineral exploration, exploitation projects).

## **6.3 Sites of an archaeological or historical nature**

List any sites of archaeological or historical significance that are known to occur within the potential area of impact.

## **6.4 Summary of existing sociocultural environment**

Summarize key findings regarding the 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 physicochemical environment and proposed Mitigation**

Provide a detailed description and evaluation of potential impacts of the operation to components of the physical environment identified in section 4. This may need to consider effects that could happen during the construction/development (pre-commissioning), operational and decommissioning phases, as well as the

potential for accidental events. The preferred approach for this template is to include for each component a description of:

- (a) The nature and extent of any actual or potential impact, including cumulative impacts;
- (b) Measures that will be taken to avoid, remedy or mitigate such impacts; and
- (c) The unavoidable (residual) impacts that will remain.

It is important that these sections make clear the expected longevity of unavoidable effects. The detail in this section is expected to be based on a prior environmental risk assessment 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 general impacts caused by the mining operation. This should introduce the major types of effect, such as habitat removal, the creation of sediment plumes, noise and light, etc.

Key elements that need to be included are:

- (a) Descriptions of impact studies carried out during exploration (e.g., component testing);
- (b) 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 categories and assessment.

### **7.3 Meteorology and air quality**

Provide a description of potential effects on air quality from the surface or subsurface operations.

#### **7.3.1 Potential impacts and issues to be addressed**

#### **7.3.2 Environmental management measures to mitigate impacts**

#### **7.3.3 Residual impacts**

### **7.4 Geological setting**

Provide a description of impacts the mining operation may have on the topography of the site or its geological/geophysical composition.

#### **7.4.1 Potential impacts and issues to be addressed**

#### **7.4.2 Environmental management measures to mitigate impacts**

#### **7.4.3 Residual impacts**

### **7.5 Physical oceanographic setting**

Provide a description of the effects on the current speed/direction and sedimentation rates, etc. A regional oceanographic model will be relevant to this section.

**7.5.1 Potential impacts and issues to be addressed**

**7.5.2 Environmental management measures to mitigate impacts**

**7.5.3 Residual impacts**

**7.6 Chemical oceanographic setting**

Provide a description of the effects such as sediment plume generation (frequency, spatial extent, composition and concentration) and the clarity of water, particulate loading, water temperature, dissolved gas and nutrient levels etc., in all relevant levels of the water column. A regional oceanographic model will be relevant to this section. For a sea floor massive sulphide project, the modification of vent-fluid discharges, if present, should be addressed.

**7.7 Seabed substrate characteristics**

For example: changes in the sediment composition, grain size, density and pore-water profiles.

**7.8 Natural hazards**

Discuss any impacts of the operation on natural hazards and plans to deal with these hazards.

**7.9 Noise and light**

Noise and light above existing levels.

**7.10 Greenhouse gas emissions and climate change**

Assessment of gas and chemical emissions from both natural and anthropogenic activities, as well as those affecting sea floor and water-column chemistry. Subsections should include estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate.

**7.11 Maritime safety and interactions with shipping**

Include project safety and interactions with other vessels.

**7.12 Waste management**

Vessel waste management, with reference to compliance with relevant conventions, legislation and principles, and methods of cleaner production and energy balance.

**7.13 Cumulative impacts**

The nature and extent of any interactions between various impacts, where they may have cumulative effects, must be considered on both spatial and temporal scales over the lifetime of the mining operation.

**7.13.1 Proposed operations impacts**

Cumulative within the scope of the mining proposed herein.

**7.13.2 Regional operation impacts**

Cumulative between activities, where known in the region.

#### **7.14 Other issues**

Outline here other, more general issues, as applicable.

#### **7.15 Summary of residual effects**

A table may be a useful summary format to pull together the above elements in a simple visual mode.

### **8. Assessment of impacts on the biological environment and proposed Mitigation**

Provide a detailed description and evaluation of potential impacts of the operation to the biological environment components identified in section 5. This may need to consider effects that could happen during the construction/development (pre-commissioning), operational and decommissioning phases, as well as the potential for accidental events. The preferred approach for this template is to include for each component a description of:

- (a) The nature and extent of any actual or potential impact, including cumulative impacts;
- (b) Measures that will be taken to avoid, remedy or mitigate such impacts; and
- (c) The unavoidable (residual) impacts that will remain.

It is important that these sections make clear the expected longevity of unavoidable (residual) impacts and whether or not the biological environment is expected to recover, and in what time frame, following disturbance. The detail in this section is expected to be based on a prior environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

#### **8.1 Key messages**

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

#### **8.2 Description of potential impact categories**

This section is an overview and description of the categories of general impacts caused by the mining operation. This is not expected to be detailed, but rather to introduce the major types of effects, such as habitat removal, the crushing of animals, the creation of sediment plumes, noise and light, etc. A description should be included of any lessons learned from activities during the exploratory phase of the programme (e.g., mining system component tests).

#### **8.3 Surface**

Description of potential effects on the biological environment from the surface down to a depth of 200 metres, including any impacts on plankton (phytoplankton and zooplankton), nekton, surface/near-surface fish such as tuna, and seabirds and marine mammals.

**8.3.1 Potential impacts and issues to be addressed**

**8.3.2 Environmental management measures to mitigate impacts**

**8.3.3 Residual impacts**

**8.4 Midwater**

Description of the potential effects on the biological environment from a depth of 200 metres down to 50 metres above the sea floor, including zooplankton, nekton, mesopelagic and bathypelagic fishes and deep-diving mammals.

**8.4.1 Potential impacts and issues to be addressed**

**8.4.2 Environmental management measures to mitigate impacts**

**8.4.3 Residual impacts**

**8.5 Benthic**

Description of the potential effect on benthic invertebrate and fish communities, including infauna and demersal fish, up to an altitude of 50 metres above the sea floor.

**8.5.1 Potential impacts and issues to be addressed**

**8.5.2 Environmental management measures to mitigate impacts**

**8.5.3 Residual impacts**

**8.6 Ecosystem/community level**

Describe estimated effects on the ecosystem or where linkages between the various components above are known.

**8.6.1 Potential impacts and issues to be addressed**

**8.6.2 Environmental management measures to mitigate impacts**

**8.6.3 Residual impacts**

**8.7 Cumulative impacts**

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.

**8.7.1 Proposed operations impacts**

Cumulative within the scope of the mining proposed herein.

**8.7.2 Regional operation impacts**

Cumulative between activities, where known in the region.

**8.8 Summary of residual effects**

A table may be a useful summary format.

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

As in the preceding sections, provide a detailed description and evaluation of potential impacts of the operation to the socioeconomic components identified in

section 6. This may need to consider effects that could happen during the construction/development (pre-commissioning), operational (including maintenance) and decommissioning phases, as well as the potential for accidental events. The preferred approach for this template is to include for each component a description of:

- (a) The nature and extent of any actual or potential impact, including cumulative impacts;
- (b) Measures that will be taken to avoid, remedy or mitigate such impacts; and
- (c) The unavoidable (residual) impacts that will remain.

## **9.1 Key messages**

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

## **9.2 Impact identification**

### **9.2.1 Existing uses**

#### **9.2.1.1 Fisheries**

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

##### **9.2.1.1.1 Potential impacts and issues to be addressed**

##### **9.2.1.1.2 Environmental management measures to mitigate impacts**

##### **9.2.1.1.3 Residual impacts**

#### **9.2.1.2 Marine traffic**

A description of potential impacts on non-project-related marine traffic 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.

#### **9.2.1.5 Area-based management tools**

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

#### **9.2.1.6 Other**

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

## **9.3 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 and a description of residual impacts.

#### **9.4 Socioeconomic and sociocultural issues**

This section will provide a description of economic benefits or impacts, including any applicable social initiatives.

#### **9.5 Summary of existing sociocultural environment**

A table may be a useful summary format. Potential cumulative effects should also be included.

### **10. Accidental events and natural hazards**

Environmentally hazardous discharges resulting from accidental and extreme natural events are fundamentally different from normal operational discharges of wastes and wastewaters. This section should outline the possibility/probability of accidental events occurring, the impact they may have, the measures taken to prevent or respond to such an event and the residual impact should an event occur.

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.

### **11. Environmental management, monitoring and reporting**

Provide sufficient information to enable the Authority to anticipate possible environmental management, monitoring and reporting requirements for an environmental approval. Information listed should reflect the proponent's environmental policy and the translation of that policy to meet the requirements under this section and previous sections during different stages of the project life (i.e., from construction to decommissioning and closure).

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 from the Statement that will be addressed in the full Environmental Management and Monitoring Plan. Information detailed in this section should include, but not be limited to, 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 of key personnel should be outlined.



## **11.2 Environmental management system**

Although a full environmental management system may not exist at the time the Environmental Impact Statement is submitted, 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 mining operations. This section should provide an overview of what the Plan would entail. This section should include, at a minimum, the headings set out below.

### **11.3.1 Mitigation and management**

Summarize the actions and commitments that have arisen from the impact minimization and mitigation strategies.

### **11.3.2 Monitoring plan**

Summarize the monitoring plan approach and programme.

#### **11.3.2.1 Approach**

#### **11.3.2.2 Programme**

Provide an overview of the envisaged monitoring programme (further detail will be provided in the Environmental Management and Monitoring Plan).

### **11.3.3 Closure Plan**

A Closure Plan will be submitted as a separate document for the Authority's approval. However, this section should provide an overview of what the Closure Plan will entail, including decommissioning, continued monitoring and rehabilitation measures, if applicable.

## **11.4 Reporting**

### **11.4.1 Monitoring**

Outline how the results of monitoring studies will be reported to the Authority.

### **11.4.2 Incident reporting**

Outline how Incidents will be reported and managed.

## **12. Product stewardship**

Provide a brief description of the intended use of the mineral-bearing ore once it leaves the Area. The description should also address the meeting of standards for environmental management. 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.

## **13. Consultation**

Describe the nature and extent of consultation(s) that have taken place with parties identified who have existing interests in the proposed project area and with other relevant stakeholders.

### **13.1 Consultation methods**

Describe the mechanism(s) used to consult with different groups and how this aligns with any relevant consultation obligations.

### **13.2 Stakeholders**

List any relevant stakeholders that have been consulted and explain the process by which stakeholders were identified.

### **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. Include a description of key concerns and comments identified by stakeholders and whether or not the applicant intends to address these concerns, and, if not, describe the reasons for that decision.

### **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**

Explain the relevant terms used in the Environmental Impact Statement (e.g., terms under different legislation, technical terms) and provide a list of acronyms and their definitions.

## **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. The names, occupational qualifications and their role in the generation of the Environmental Impact Statement of such people should also be included.

## **16. References**

Provide details of reference materials used in sourcing information or data used in the Environmental Impact Statement.

## **17. Appendices**

The appendices should include all the technical reports carried out for parts of the environmental impact assessment and the Environmental Impact Statement.