

1. Draft guidelines for the establishment of baseline environmental data

The purpose of the baseline data is:

- To enable an assessment of the possible impacts of exploitation activities on the marine environment prior to those activities taking place.
- To make sure that impact are in line with the environmental impact assessments and environmental monitoring and management plan once exploitation commences.

The baseline data that should be collected are grouped as listed below:

Physical Oceanography	Purpose
	<ul style="list-style-type: none"> - To define the hydro physical and hydrodynamic conditions and structure of water column and its variability in order to: <ul style="list-style-type: none"> • Understand the habitats of marine organisms • Define the detailed sampling strategy for other sampling measures - To assess the potential dispersion and size of any operational and discharge plume
	Variables that should be determined
	<ul style="list-style-type: none"> - Temperature, pressure and salinity - Currents - Tides and Waves - Turbulence - Optical properties - Noise
Chemical Oceanography and Biogeochemistry	Purpose
	<ul style="list-style-type: none"> - To assess both direct impacts of mining activities on the seafloor as well as indirect impacts from suspended sediment plumes that may be produced.
	Variables that should be determined
	<ul style="list-style-type: none"> - Nutrients - Oxygen - Carbonate system - Trace metals - Organic and inorganic matter - Radioactive isotope tracers (Radiotracers)
Geological Properties	Purpose
	<ul style="list-style-type: none"> - To characterize the habitat and to determine the heterogeneity of the seafloor and subsoil environment and assist in the placement of suitable sampling locations to characterize the distribution and composition of faunal communities.
	Variables that should be determined
	<ul style="list-style-type: none"> - Bathymetry - Sediment properties and habitat classification
	Purpose

Biological Communities	- To allow the assessment of the potential impact of mining activities on the seafloor and in the water column.
	Variables that should be determined
	<ul style="list-style-type: none"> - Pelagic communities (primary production (Chlorophyll-a), Zooplankton (Mero and Holo-), Nekton) - Benthic Communities (Megafauna, Macrofauna, Meiofauna, Fauna associated with Polymetallic Nodules, Microbiota, Demersal Fishes and Scavengers) - Connectivity - Ecosystem Functioning - Ecotoxicology - Whales, Sharks, Turtles and surface nekton - Seabirds

Page	Line	Specific comments
7	Lines 167 to 169: « Observations in similar seasons or environmental conditions should be carried over at least in three different years to assess inter-annual variability and increase the chance to capture periodic events».	It is preferable to add the term “consecutive” instead of “different” years for the project with an estimated duration of less than 5 years and add the term “non-consecutive” instead of different years for project with an estimated duration of more than 5 years.
12	Lines 393 to 394 « As noted in section III.A, sampling should also be repeated every season for at least three years to determine annual and inter-annual variability”.	It is preferable to add the term “consecutive” before “Years” to be able to identify the variability with each year passing.

2. Draft Standard and Guidelines for environmental impact assessment process

This Standard aims to:

- Protect and conserve the marine environment.
- Anticipate and avoid or minimise harmful environmental effects of exploitation activities.
- Ensure that there is consistency of EIAs (Environmental Impact Assessment) and EISs (Environmental Impact Statement) among different applicants and Contractors.
- Ensure that environmental considerations are explicitly addressed and incorporated into the ISA decision-making process.

These guidelines aim to:

- Expand the description of the process to be followed in undertaking an EIA for Exploitation of mineral resources in the Area.
- Provide guidance to assist an applicant or Contractor in implementing the required components and stages of an EIA as set out in the Exploitation Regulations and EIA Standard.

Page	Line	Specific comments
3	Lines 23 to 25 « This Standard sets out: the requirements for the process that an applicant or Contractor shall comply with in undertaking an EIA »	The use of the verb “shall” expresses a legal requirement and imposes an obligation, while the use of “should” indicates a recommendation.
	Line 29 : «This Standard shall be read in conjunction with the Exploitation Regulations »	It is to be noted that those documents are guidelines and standards that as mentioned in page 10 lines 262 to 263, « This Guideline is not intended to contain legally binding requirements but sets out guidance for achieving the requirements of the Regulations and the Standard on EIA ».
	Lines 38 to 39: «This Standard shall be read in conjunction with the appropriate Regional Environmental Management Plan (REMP) »	
5	Line 96 : “The applicant or Contractor shall undertake scoping »	
6	Lines 144 to 145: «The applicant or Contractor shall focus, in a proportionate way, on the high risks identified in the scoping report »	
13	Lines 388 to 389 : « a review of the intended project’s activities, including identifying those likely to have Environmental Effect »	Every activity has an environmental effect so it is preferable to add the term « significant » before the expression environmental effect.
19	Line 513: « description of confidence rating »	It would be encouraged to have an example of a rating that includes the level « moderate » confidence and to be taken into consideration in accordance to the figure 3 on page 20 line 520.
28	Line 840 figure 4	Have another figure where frequency factor is included and shown clearly before the evaluation of the magnitude of the impact. Because, even if the consequences are minimal and the sensitivity to receptor is low, with repetitive events/impact, the magnitude would get bigger as the resistance of the receptor would get weaker.

3. Draft Standard and Guidelines for the safe management and operation of mining vessels and installations

The purpose of this document is to recommend how a contractor can achieve safe management and operation of Mining Vessels and Installations engaged in the Area by minimizing risk and ensuring the protection of:

- Human life at sea
- The Marine Environment
- Mining Vessels, Installations, and property

Page	Line	Specific comments
2	Lines 20 to 21: « ensure that the risk of incidents are reduced as much as reasonably practicable »	Instead of the term “practical” use the term “possible” or “tolerable”
2	Line 24	Please add the approaches adopted by ISO 45001 : 2018 regarding Occupational health and safety management systems Requirements with guidance for use
8	Lines 191 to 192: “Active engagement across all levels of the workforce in the process of risk assessment is to be encouraged, with a view to gaining an understanding, and hence greater acceptance of the risks and their relative priorities”.	Accepting risk is a concept where an individual or business identifies risk and renders it acceptable, thereby making no effort to reduce or mitigate it. The potential loss from the identified and accepted risk is considered bearable. In safety, we should always make an effort to reduce a risk and even more so in a marine area where the receptor is more sensitive and workers (humans) are more vulnerable.

4. Draft Guidelines on tools and techniques for hazard identification and risk assessments

This guideline has been developed to provide practical and technical guidance on the tools and methodologies for hazard identification and risk assessment associated with exploitation of mineral resources in the Area.

Page	Line	Specific comments
6	Line 159: Figure 1: Overview of the risk assessment process	It is better to include the sensitivity of the receptor as a factor in addition to frequency and probability.
8	Line 206	Please add sociologic and technologic factors.
14	Line 444 : probability assessment	The duration of each project is different from the one of another project (less than five years, more than 5 years and even more than 10 years). Also, it depends on the severity of the incident. For the insignificant ones, they might take place more than once and it should be taken into consideration.
15	Line 455	A part of the scale of consequences listed is not well differentiating between different consequences especially when the same expression is used in no and low: “the water concentration and/or sediments concentration is not expected to exceed limit values for chronic effects on biota”. Also regarding the notation of considerable, large and severe: the same expression/ definition is used: “the water concentration and/or sediments concentration is expected to exceed limit values for chronic effects on biota”. There is no mention to by how much percentage those limits are exceeded in each category to make the difference.

5. Draft standard and guidelines for the preparation and implementation of emergency response and contingency plans

The draft standard and guidelines ought to be a tool for ensuring the effective application of the emergency response and contingency plan by contractors.

Page	Line	Specific comments
3	Lines 68 to 69 : Risk analyses shall be carried out to identify and assess what can contribute to, i.e., major accident risk and environmental risk	Please delete the term risk after accident or use the expression major safety or environmental incidents.

