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:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 1

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

(b) Provide information, based on data from environmental baseline studies, as a general rule, a minimum of 15 years of monitoring, in accordance with the relevant regulations, requirements of regional environmental management plans, and Standards and taking into account the relevant Guidelines, corresponding to the scale and potential magnitude of the activities, to assess the likely Environmental Effects of the proposed activities. Such effects shall be discussed in proportion to their significance. Where an applicant or Contractor considers an Environmental Effect to be of no significance, there should be sufficient information to substantiate such conclusion, or a brief discussion as to why further research is not warranted; and

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

The requirement of minimum of 15 years of monitoring is excess (the term of exploration contract is 15 years!)

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# 1. Name of Working Group:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 1

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# 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 depth zones, and any component/ system testing conducted to date. The time, location, and parties involved in exploration work should be included. For the component/ system testing, provide a brief description of activities here. If applicable, include any report(s) related to results of component/system testing and Test Mining studies including any monitoring and assessment of the environmental impacts in an appendix.

# 1.4 Project proponent

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

#### 1.5.1 Scope

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

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

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1. Name of Working Group:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 3

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.

### 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 geochemical 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. This should include an account of the area to be directly impacted as well as the likely extent of any secondary impacts (e.g., sediment plumes, noise, light), which will be discussed in greater detail later.

# 3.7bis Environmental management measures to mitigate impacts

Provide a summary description of reasonable measures taken to mitigate adverse impacts to the physical, chemical, oceanographic, geological, biological, and socioeconomic and sociocultural environment.

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

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:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 3bis

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.

Section 3bis Methodology for Description of the Marine Environment and Assessment of Impacts and Environmental Effects

**3bis.1 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.

3bis.2 Methodology for Collecting Baseline Data

- For each of the baseline descriptions of the Marine Environment in sections 4 and 5 and socioeconomic environment in section 6, describe the methodology for collecting baseline data, including:
- 1. spatial and temporal extent of sampling;
- 2. spatial and temporal frequency of sampling;
- 3. gear used for sampling and any modifications or calibrations conducted to the gear;
- 4. results of power analysis;
- 5. limitations of sampling and how this may impact certainty of impact assessments; and
- 6. any cooperation with other research programmes in the Area, such as with the ISA, States, other Contractors, or non-governmental organizations.
- Highlight any deviations from baseline data collection requirements provided in relevant Standards and Guidelines, and the Regional Environmental Management Plan.

Raw baseline data and computer code used to analyse and provide a description of the Marine Environment shall be included in the annexures of the Environmental Impact Statement or, if the data and/or code has been previously submitted to the Authority, the applicant may provide a link to the Authority's database where the

data and/or code is stored or other location where such information has been made available online.

**3bis.3 Methodology for Summarizing Baseline Data** 

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

- (a) a description and justification of transformations performed to the data and analyses used to summarize the data;
- (b) a list of program(s) used to analyze results; and,
- (c) any limitations associated with the results of the analysis.

3bis.4 Methodology for Assessments of potential environmental impacts and Environmental Effects to the Marine Environment

For each assessment of potential environmental impacts and Environmental Effects in sections 7 and 8 and socioeconomic environment in section 9, describe the methodology used to assess impacts and Environmental Effects from proposed operations and alternatives considered in section 3.7.

- Data, predictive models, and computer code used to analyse and provide a description of the Marine Environment shall be included in the annexures to the Environmental Impact Statement or, if the data, model, and/or code has been previously submitted to the Authority, the applicant may provide a link to the Authority's database where the data and/or code is stored or other location where such information has been made available online. Each description of methodology used to assess impacts shall include:
- a) a description and justification of analyses and models used to summarize the data; and
- b) any limitations associated with the analysis or results.
- In accordance with Regulation 47quater, where predictive models have been used these shall be reviewed by competent independent experts and the relevant review reports shall be provided as annexures to the Environmental Impact Statement
- 5. <u>5. Please indicate the rationale for the proposal. [150-word limit]</u>
  The provisions of Section 3bis are added to sections 4, 5, 6, 7, 8 and 9, respectively. We assume that it would be better to read all information related the same issue at the same section

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1. Name of Working Group:

**IWG Environment** 

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

Russian Federation

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

Annex IV. 4

- 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.
  - 4. Description of the existing <u>oceanographic and geological environment</u> physiochemical and geological oceanography

Give a detailed account of knowledge of the -oceanographic (physical,—and chemical) and geological and geochemical)—conditions at the stiesite and impact area, which should include information from a thorough literature review as well as from on-site studies. The Guidelines on baseline 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 account will provide the baseline description of the oceanographic conditions, including physical, chemical and geological oceanographic conditions, against which impacts will be measured and assessed. The detail in this section is based on -the prior environmental risk assessment that will have identified the main impacts, and thus the elements that need to be measured and assessed in the environmental impact assessment.

#### 4.2 Regional overview

Describe the general baseline environmental conditions of the site and impact area, in accordance with the <a href="Standard-Guidelines">Standard-Guidelines</a> on baseline data collection, including but not limited to the physical <a href="and-geological">and-geological</a> and <a href="geological">geological</a> and <a href="geological">geochemical</a> setting <a href="as-well-as-known-or-suspected Underwater Cultural Heritage within a broader regional context-and-in accordance with the applicable Regional Environmental Management Plan. This should be a brief section that includes a map. <a href="While-intangible cultural heritage-may-not-lend-itself-to-a-map, known-intangible-human-connections-to-the-area">Standard-Guidelines</a> on baseline data collection, including but not limited to the physical <a href="may-and-geological">and-geological</a> and <a href="may-geological">geological</a> and <a href="may-geological">geological<

should also be acknowledged. 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 Techniques), including surveys of the seabed for Underwater Cultural Heritage) that could provide relevant information for this Environmental Impact Statement. This research should be detailed in the appendices or in reports attached to the appendices. If the data has been previously submitted to the Authority, the applicant/contractor may provide a link to the Authority's database where the data is stored or other location where such information has been made available online.

# 4.3bis Methodology for Collecting Baseline Data

Describe the methodology for collecting baseline data, including:

- 1. spatial extent and temporal frequency of sampling;
- 2. gear used for sampling and any modifications or calibrations conducted to the gear;
- 3. results of power analysis;
- 4. limitations of sampling and how this may impact certainty of impact assessments; and
- 5. any cooperation with other research programmes in the Area, such as with the ISA, States, other Contractors, or non-governmental organizations.

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

#### 4.3ter Methodology for Analysing Baseline Data

<u>Provide a description of the methodology used to analyse baseline data collected.</u>
This shall include:

- (a) a description and justification of transformations performed to the data and analyses used to summarize the data;
- (b) a list of program(s) used to analyse results; and,
- (c) any limitations associated with the results of the analysis.

# 4.6 **Physical Oceanographic setting**

Provide a description of oceanographic aspects –including but not limited to thermohaline conditions, optical properties and turbidity, currents regime, tides, waves, turbulence, and oceanographic fronts, eddies—and—climate—change projections, including spatial variation at and above the site. Seasonal variability is an important element. Spatial (horizontal and vertical) and temporal (seasonal and inter-annual) variability is an important element. Particular attention is also

required for the layer up to 200m above bottom. Detail is required on the regional setting, as well as the specific mining site and impact area, 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. Climate change projections should also be included.

### 4.7 Chemical oceanographic setting

Provide a description of water mass characteristics at the site and above the site 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 site above the site 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 concentrations of trace metals, dissolved gas profiles, depth range and characteristics of oxygen minimum zone, redox regimes, carbonate saturation, and spatial (horizontal and vertical) and temporal (seasonal and interannual) variability of these properties, and vent-fluid characteristics if applicable. Particular attention is required for the layer up to 200m above bottom.

### 4.8 Seabed substrate and sub-seabed characteristics

Provide a description of seabed substrate and sub-seabed composition (to benthic subsurface layers), including, but not limited to, physical and chemical, geological and oceanographic properties (e.g., specific gravity, bulk density, sediment composition, physical properties and chemical composition of porewater and pore-water profiles, grain size, 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 should be described to a depth below the seafloor prescribed in the relevant Standard. or Regional Environmental Management Plan.

#### 4.9 Natural hazards

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

# 4.10 Noise and light

Provide a description of local ambient noise and light at the seabed, in the water column and at the surface, including, but not limited to, light intensity, backscatter, and attenuation, and spatial (horizontal and vertical) and temporal

(seasonal and interannual), if any, variability in these characteristics, indicating pertinence to fauna where known.

# 4.11 Greenhouse gas emissions and climate change

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

Climate change projections, if any, are also analysed.

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

The proposed changes in terminology aim to do the text more correct.

Underwater Cultural Heritage is an issue of sociocultural environment, not oceanographic or geological.

A number of provisions from 3bis are added.

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1. Name of Working Group:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 5

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.

# 5.2 Regional overview

Describe the general baseline biological environmental conditions of the site and Impact Area, within a broader regional context and in accordance with the applicable Regional Environmental Management Plan.

Provide regional context for the baseline environmental conditions of the mining site and impact area, including but not limited to the general biological setting, in accordance with 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.

### 5.3 Studies completed

Describe any prior research/Exploration studies (including methods used for completing the studies based on 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 the environmental reference baseline data collected for the Authority, as outlined in the exploration contract conditions, should accompany the Environmental Impact Statement. If the data has been previously submitted to the Authority, the applicant/contractor may provide a link to the Authority's database where the data is stored or other location where such information has been made available online.

# 5.3bis Methodology for Collecting Baseline Data

Describe the methodology for collecting baseline data, including:

1. spatial extent and temporal frequency of sampling;

- 2. gear used for sampling and any modifications or calibrations conducted to the gear;
- 3. results of power analysis;
- 4. limitations of sampling and how this may impact certainty of impact assessments; and
- 5. any cooperation with other research programmes in the Area, such as with the ISA, States, other Contractors, or non-governmental organizations.

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

### **5.3ter Methodology for Analysing Baseline Data**

<u>Provide a description of the methodology used to analyse baseline data collected.</u>
This shall include:

- (a) a description and justification of transformations performed to the data and analyses used to summarize the data;
- (b) a list of program(s) used to analyse results; and,
- (c) any limitations associated with the results of the analysis.

### 5.4 Biological environment

Provide a description of biological properties in the 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 (seasonal and interannual), if any, 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— (at least surface, midwater and benthic as below) there should be a <u>description</u> of the taxonomic/ecological groups (e.g., plankton, fish, marine mammals, marine turtles, benthic <u>microbial</u> invertebrates, demersal scavengers, <u>microbiota</u>, <u>etc.</u>) <u>in accordance with relevant the Authority's</u> Guidelines.

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

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

7

#### 5.4.1 Surface

Describe the biological –communities from the surface to a depth of 200 metres, including microbesiota, –plankton (phytoplankton and zooplankton), 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.

# Alt. 5.4.1 Surface

Describe the biological communities and ecosystem functions, structured by depth ranges in accordance with relevant Standards and Regional Environmental Management Plan, which may encompass:

- 1. surface seawater
- 2. epipelagic zone (< 200 metres)
- 3. mesopelagic zone (200-1000 metres),
- 4. bathypelagic zone (1000 4000 metres),
- 5. abyssopelagic zone (4000 6000 metres),
- 6. hadalpelagic zone (> 6000 meters),
- 7. demersal zone (part of the water column near to and significantly affected by the seabed), and
- 8. benthic zone.
- The description should evaluate the temporal and spatial variability in distribution and composition

# 5.4.2 Midwater

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

The following vertical zoning is recommended to be taken into account:

- 1. epipelagic zone (< 200 metres)
- 2. mesopelagic zone (200-1000 metres),
- 3. bathypelagic zone (1000 4000 metres),
- 4. abyssopelagic zone (4000 6000 metres),
- 5. hadalpelagic zone (> 6000 meters)
  - -Address factors provided in 5.4, as well as spatial and temporal variability.

#### 5.4.3 Benthic

Describe the benthic microbial, invertebrate and fish communities, including infauna, epifauna and demersal fish, up to an altitude of 50 metres above the sea floor (benthic zone and demersal zone (part of the water column near to and significantly affected by the seabed). This should include considerations of species richness, biodiversity, faunal densities, community structures and connectivity, etc.

Ecosystem functions, such as <u>Bb</u>ioturbation, habitat 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.

### 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, bentho pelagic coupling, biodiversity, succession, stability, the potential toxicity effects of plumes, bioavailability of toxins, trophic relationships, ecosystem functioning, benthic-pelagic couplings, ecosystem connectivity, early life-history stages, recruitment and behavioural information. Name 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.

# 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 bentho-pelagic 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.

#### 5

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

A number of provisions from 3bis and from Alt.5.4.1 are added.

Alt.5.4.4 looks more appropriate than 5.4.4, but the final edition of this item is discussible.

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1. Name of Working Group:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 7

- 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.
  - 7. Assessment of impacts on the <a href="https://physical.googlean

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the operation to components of the physical chemical oceanographic and geological environment identified in section 4. This should consider the entire lifespan of the project, i.e. construction/development (pre commissioning) 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 Annex IVbis(h). It should include for each component a description of:

- (a) The source (action, temporal <u>duration</u> and spatial <u>durationextent</u>) and nature of the disturbance;
- (a)bis The nature, duration and extent of any actual or potential impact<u>or</u> <u>effect</u>, 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) Measures that will be taken to prevent, mitigate and manage such impacts; and
- (c) The unavoidable <u>and/or</u> residual impacts that will remain, including their expected longevity.
- (d) The extent to which any potential impacts and Environmental Effects may occur in areas under a State's national jurisdiction.

The detail in this section is expected to be based on the environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

# 7.2 Description of potential impact categories

Provide an overview and description of the categories of potential impacts caused by the proposed mining operation.

Key elements that need to be included are:

- (a) The major types of potential impacts, such as habitat removal, variations in communities' composition, the creation of sediment plumes, dewatering plumes, noise, light, etc.;
- (b) Descriptions of impact studies carried out during exploration (e.g., <u>test</u> <u>mining studies</u> (of components or the whole mining system) component testing and the resulting observations from the associated monitoring, <u>laboratory</u> experiments, modelling studies, etc.);

(b bis) Descriptions of test mining studies undertaken prior to the application;

- ——(c) Descriptions of the results of any environmental risk assessments, which should be included as separate reports or appendices where appropriate; and
- (d) Descriptions of the methods applied to describe and quantify impact categories and assessment from impact to receptor (including the assumptions and limitations of any impact modelling undertaken).

In accordance with Regulation 47(4), where predictive models have been used these shall be reviewed by competent independent experts and the relevant review reports shall be provided as annexures to the Environmental Impact Statement.

# 7.2 bis Description of impact pathways

- (c) The nature, spatial extent and temporal extent of potential impact(s) and effects, including cumulative impacts;
- (d) Measures that will be taken to avoid, minimise or mitigate such impacts and effects; and
- (e) The unavoidable <u>and/or (residual)</u> impacts that will remain, including their expected longevity and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these regulations and the applicable Standard, and taking into account the relevant Guidelines.

Receptors for which this will be done include and not limited: (a) Meteorology and a Air quality of the mine site and impact area (b) Geology (c) Physical oceanography of the mine site and impact area (d) Chemical oceanography of the mine site and impact area (e) Geology and Seseabed substrate characteristics of the mine site and impact area Impacts to be considered include and not limited: (a) Sediment plume generation, (b) Delischarges of water (b)bis Energy flow pathways (such as hydrothermal fluid); (c) Noise and light (d) Greenhouse gas emissions and climate change emissions (including estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate) Effects to be considered include and not limited: (a) changes in temperature and salinity of water, (b) changes in chemical characteristics of water (c) \_\_\_\_\_\_(b) changes in turbidity and particulate matter characteristics (d) changes in other optical characteristics of / water clarity (e) changes in noise level (c) turbidity / particulate loading (d) (f) changes in sediment characteristics (including changes in the sediment composition, grain size, density and pore-water profiles) (eg) discharge plumes (frequency, spatial extent, lifetime, composition

- and concentration, etc.)
- (fh) primary sediment plumes (frequency, spatial extent, lifetime, composition and concentration)
  - (gi) dissolved gas levels
  - (h) nutrient levels
- -(ik) For a sea floor massive sulphide project, the modification of ventfluid discharges, if present, should be addressed.

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

# 7.9 Noise and light

Provide a description of the expected emissions of noise and light from the proposed operations and any potential environmental effects, especially any impacts of noise on avoidance, masking and availability of prey (e.g, on marine mammals) and fish. 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.

### 7.13 Cumulative impacts effects

# 7.13.1 Proposed operations impacts effects

# 7.13.2 Regional operation impacts effects

# 7.15 Summary of residual effects

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

# 7.15 Summary of residual effects impacts

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. 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 Environmental Effects, and manage residual effects impacts 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.

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

The proposed changes in terminology aim to do the text more correct.

A provision from 3bis is added.

Effect is a consequence of impact. Thus, effect can be cumulative (not impact).

Section 7.8 is deleted because it is an issue of the section 10.

Section 7.9 is deleted because its provisions are in the section 7.2ter

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1. Name of Working Group:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 8

- 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.
  - 8. Assessment of 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 proposed operation and alternatives considered in section 3.7 to the biological environment components identified in section 5 in the mine site and Impact Area. 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 Annex IVbis(h). The description shall be structured by the depth ranges described in section 5 and shall for each component, provide a description of:

- (a) The source (action, temporal <u>duration</u> and spatial <u>durationextent</u>) and nature of the disturbance;
- (a)bis The nature, <u>duration and and extent</u> (temporal and spatial) of any actual or potential impact <u>or effect</u>, including cumulative effects;
- (a)ter ——The methods used to determine impacts (including the assumptions and limitations of any impact modelling or other analyses undertaken);
- (b) Measures that will be taken to prevent, mitigate and manage such impacts with reference to the submitted Environmental Management and Monitoring Plan; and
- (c) The unavoidable <u>and/or</u> residual <u>impacts effects</u> that will remain, including their significance and expected longevity.
- (d) An <u>evaluation\_assessment</u> of the impacts and effects against the applicable environmental goals and objectives <u>as identified in the applicable</u>

Regional Environmental Management Plan and relevant Standards, and indicators and threshold values, [] as identified in the in in the applicable Standards 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 in areas under a State's national jurisdiction.

The detail in this section is expected to be based on the scoping environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment.

# 8.2 Description of potential impact categories

Provide an overview and description of the categories of potential impacts caused by the proposed mining operation and alternatives considered. This should introduce the major types of impacts and their effects, 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 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/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. 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., test mining studies (of components or the whole mining system) component testing and the resulting observations from the associated monitoring, laboratory experiments, modelling studies, etc.);

(b bis) Descriptions of test mining studies undertaken prior to the application;
(c) Descriptions of the results of any environmental risk assessments, which should be included as separate reports or appendices where appropriate; and

(d) Descriptions of the methods applied to describe and quantify impact pathways and assessment (including the assumptions and limitations of any impact modelling undertaken).

In accordance with Regulation 47(4), where predictive models have been used these shall be reviewed by competent independent experts and the relevant review reports shall be provided as annexures to the Environmental Impact Statement

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

- (a) The methods used to determine the pathway from impact to receptor (including the assumptions and limitations of any impact modelling undertaken);
- (b) The source(s) of impact
- (c) The nature, spatial extent and temporal <u>extent duration</u> of potential impact(s) <u>and effects</u>, including cumulative <u>impactseffects</u>;
- (d) Measures that will be taken to avoid, minimise or mitigate such impacts and effects; and
- (e) The unavoidable <a href="mailto:and/or (residual)">and/or (residual)</a> impacts that will remain, including their expected longevity and outline the measures that will be taken to ensure long-term site compliance with the environmental quality objectives, quantitative thresholds, and indicators in accordance with these regulations and the applicable Standard, and taking into account the relevant Guidelines.

# 8.2 ter Receptors and impacts

Receptors for which this must be done include and not limited:

- (a) Microbial communities
- (b) <u>Bacterioplankton</u>, <u>Phytoplankton phytoplankton and</u> –zooplankton
- (c) / nNekton (including surface/near-surface fish, mesopelagic, bathypelagic and demersal fish)
- (c) Meiofauna (infauna / epifauna)
- (d) Macrofauna (infauna / epifauna / demersal fish)
- (e) Megafauna , including
- (f) surface/near surface fish such as tuna, and seabirds Marine mammals, marine turtles and marine mammals birds

As appropriate, these receptors are to be considered:

- (a) at the surface (from the surface down to a depth of 200 metres)
- (b) midwater (from a depth of 200 metres down to 50 metres above the sea floor. Vertical zones named in section 5.4.2 are recommended to be taken into account)

vertical zones named in section 5.4.2 are recommended to be taken into ac

(c) up to an altitude of 50 metres above the sea floor

, including zooplankton, nekton, mesopelagic and bathypelagic fishes and deepdiving mammals.

Impacts to be considered include and not limited:

- (a) Sediment plume generation,
- (b) discharge Discharges of water
- (c) Noise and light
- (d) Greenhouse gas emissions and climate change emissions (including estimated greenhouse gas emissions and a greenhouse gas emissions assessment where appropriate)

Effects to be considered include and not limited:
(a) (a) changes in temperature and salinity of water,

- (b) changes in chemical characteristics of water
- (c) changes in turbidity and particulate matter characteristics
- (bd) changes in other optical characteristics of ←water-clarity
- (ee) turbidity / particulate loadingchanges in noise level
- (df) changes in sediment characteristics (including changes in the sediment composition, grain size, density and pore-water profiles)
- (eg) discharge plumes (frequency, spatial extent, <u>lifetime</u>, composition and concentration, etc.)
- (fh) primary sediment plumes (frequency, spatial extent, composition and concentration)
- (gi) dissolved gas levels
- (h) nutrient levels
- (ik) For a sea floor massive sulphide project, the modification of vent-fluid discharges, if present, should be addressed.

# 8.8 Summary of residual effects impacts

Summarize key findings on potential environmental impacts and Environmental Effects, environmental management measures, residual effects impacts, 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 impacts 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 Environmental Effects, and residual effects impacts 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.

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

The proposed changes in terminology aim to do the text more correct.

A provision from 3bis is added.

Effect is a consequence of impact. Thus, effect can be cumulative (not impact).

-

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1. Name of Working Group:

**IWG Environment** 

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

**Russian Federation** 

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

Annex IV. 9bis

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.

# 9bis. Assessment of Uncertainty9bis.1 Uncertainty Assessment

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

- (1) Identify any relevant areas of uncertainty and gaps in knowledge and their implications for the environmental impact assessment and its findings; and,
- (2) Describe the measures taken in the environmental impact assessment to reduce uncertainty in its findings to as low as reasonably practicable.

#### 9.bis.2 Addressing Significant Uncertainty

Where significant uncertainty exists despite the efforts described in 9bis.1(b), provide a detailed description of environmental monitoring/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.

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

These provisions are moved from Section 9, because they are general for a few sections

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1. Name of Working Group:

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

Russian Federation

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

Annex IV. 9

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.

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

Provide a detailed description and evaluation of potential impacts and Environmental Effects of the operation to the socioeconomic and sociocultural components identified in section 6. This should include projections on the potential impacts in national waters outside the mining area and should also consider the entire lifespan of the project i.e. construction/development (pre-commissioning), operational (including maintenance) and decommissioning phases. A description of the benefits to mankind may be included. Attitudes towards, and perceptions of, the proposed project are among the variables that should be considered in determining the significance of impacts. The potential for accidental events should also be considered.

9.1 bis Description of potential impact categories	
Provide an overview and description of the categories of potential impa	icts
caused by the proposed mining operation. Key elements that need to be included a	<del>ire:</del>
(a) the major types of potential impacts, such as habitat removal,	the
creation of sediment plumes, noise, light, etc. These impact categories should be us	sed
in subsequent descriptions and evaluations of potential environmental impacts a	and
Environmental Effects from the proposed operations.	
(b) Descriptions of impact studies carried out during exploration (e	<del>.g.,</del>
component testing and the resulting observations from the associated monitoring	<del>);</del>
(c) bis Descriptions of test mining studies undertaken prior to	the
<del>application;</del>	

(d) Descriptions of the results of any environmental risk assessments, which should be included as separate reports or appendices where appropriate; and
 (e) Descriptions of the methods applied to describe and quantify impact pathways and assessment.

### 9.1 ter Description of impact pathways

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

- (a) The source
- (a)ter The methods used to determine impacts (including the assumptions and limitations of any impact modelling undertaken);
- (a)bis The nature, spatial extent and temporal extent of potential impacts <u>and</u> <u>effects</u>, including cumulative <u>impactseffects</u>;
- (b) Measures that will be taken to avoid, minimise or mitigate such impacts and effects, including a comparative analysis of how measures taken may differ across alternative operations considered;
- (c) The unavoidable and/or (residual) impacts that will remain, including their expected longevity. The detail in this section is expected to be based on the scoping environmental risk assessment that will have identified the main impacts, and thus the elements that need to be emphasized in the environmental impact assessment; and
- (d) The extent to which any potential impacts and effects may occur in areas under a State's national jurisdiction.

# 9.2 Impact identification

#### 9.2.1 Existing uses

For each of the following marine uses, describe:

- (a) Potential impacts and effects and issues to be addressed;
- (b) Environmental mM anagement measures to Mitigate impacts and effects;
- (c) Residual impacts and effects; and
- (d) Potential impacts and effects in areas under any State's national jurisdiction.

# 9.2.1.1 Fisheries and biological conditions

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

#### 9.2.1.2bis Submarine cables

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

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

# 9.3 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.

### -9.5.1 ———Summary of socioeconomic and sociocultural environment

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

# 9.5.bis. Assessment of Uncertainty

#### 9.5.bis.1 Uncertainty Assessment

- Provide a detailed description and evaluation of any uncertainties in the assessments described in section 7, 8, and 9. This uncertainty assessment shall:
- (1) Identify any relevant areas of uncertainty and gaps in knowledge and their implications for the environmental impact assessment and its findings; and,
- (2) Describe the measures taken in the environmental impact assessment to reduce uncertainty in its findings to as low as reasonably practicable.

### 9.5.bis.2 Addressing Significant Uncertainty

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

#### 9.6 Accidental events and Natural hazards

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

#### 9.6.2 Environmental mManagement measures to mitigate impacts

#### 9.6.3 Residual effects impacts

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.

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

The proposed changes in terminology aim to do the text more correct.

Section 9.1.bis is not applicable to socioeconomic and sociocultural environment.

Area-based management tools (section 9.3) are not an issue of socioeconomic and sociocultural environment.

Section 9.5bis need to a separate section because it is general for a few sections

Section 9.6 is deleted because it is an issue of the section 10.

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1. Name of Working Group:

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

**Russian Federation** 

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

Annex IV. 10

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.

10.

For each component include:

- (a) The nature and extent of any possible impact;
- (b) Measures that will be taken to avoid, mitigate or minimize such impact; and
  - (c) Residual impacts.

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

5.

(a) We cannot to assess extent of future accidental event

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Annex IV. 13

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.

#### 13.1Consultation 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 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.

#### 13.3 Public consultation and disclosure

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

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

5.

The last phrase of the first paragraph of 13.1 is deleted because it is the same with 13.3

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**Russian Federation** 

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

Annex IV. Executive summary

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

    Alt (a)bis A description of alternatives analyzed;
  - (b) Anticipated <u>Ee</u>conomic, financial and other benefits to be derived from the project, and the beneficiaries for each;

  - (d) Measures to to—mitigate anticipated <u>impacts and effects (and including</u> cumulative <u>environmental impacts effects)</u> and a description of any anticipated <del>and cumulative</del> residual <u>impacts effects</u>, that may occur despite Mitigation, noting how the mitigation hierarchy is being employed <u>in assessing impacts</u>;

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;
- (e)bis Conformity with the Authority's global environmental policy and strategy and the applicable regional environmental management plan; and
- (f) Consultation undertaken with other parties and Stakeholders.
- 5. Please indicate the rationale for the proposal. [150-word limit]

We need to distinguish impact and effect. Effect is a consequence of impact

Recovery of the system to its original state could be impossible

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**Russian Federation** 

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

Annex IVbis

- 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.
  - \_(b) A description and overview of tentative timelines and deadlines for the proposed Exploration Exploration and any associated activities.

(c bis) A description of knowledge gaps in information for the project that is not yet known but must be, or should be known, including baseline data, and a plan for gaining that information prior to commencement of the exploitation activities;

- \_(h) An environmental risk assessment, which includes:
- (i) The identification of potential hazardsimpacts,

\_(ii bis) A description, <u>if possible</u>, of the cumulative effects of the project, combined with other authorized, anticipated, or expected activities, actions, or natural phenomena,

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

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1. Name of Working Group:

**IWG Environment** 

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**Russian Federation** 

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

Annex IV. 6

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.

#### 6.2.4 Marine scientific research

Outline the current scientific research programmes taking place in the area, if there is information about.

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 –the <u>project Contract</u> 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 <u>or suspected Underwater Cultural Heritage objects and sites of archaeological and historical nature</u>).

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