



GSR

Global Sea Mineral Resources

Response to the comment received through the public participation organized by the Belgian Authorities

Seas At Risk (SAR)



Introduction

On 14 January 2013, the International Seabed Authority (ISA) and Global Sea Mineral Resources NV (GSR) signed a 15-year contract for exploration of polymetallic nodules. Under the contract, GSR will have the exclusive rights for exploration for polymetallic nodules over 76,728 square kilometres of the seabed in the eastern part of the Clarion-Clipperton Fracture Zone (CCFZ) of the central-east Pacific Ocean (GSR contract area is located between 122°W and 128°W longitude and between 13°N and 16°N latitude and an average water depth of about 4,500m).

After the successful trial of the Track Soil Testing Device (TSTD), GSR developed 'Patania II', integrating nodule collection and driving components. This pre-prototype vehicle will be trialled for the first time in the *in-situ* environment of the deep sea in April 2019.

Aligned with the ISBA/19/LTC/8 "*Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area,*" GSR recently submitted the prior EIS to the International Seabed Authority (ISA) and to the Belgian Authorities and decided to publish the prior EIS in the interests of transparency. The prior EIA was open for comment during two months (from 1 July 2018 to 31 August 2018) on the website of the Federal Public Service Economy Government of Economy, SMEs, Middle Classes, and Energy. Five of the received reviews were considered.

The following document includes the official response by GSR to the review by Seas At Risk (contact :Ann Dom, adom@seas-at-risk.org). The comments are addressed as written in the document *Letter to Mr Schotte re comments on GSR EIA - SAR 29 August 2018.pdf* (30/08/2018), one by one. The initial remarks by Seas At Risk are set out in italics and grey and the response by GSR in non-italics and black to allow contrasts if printed in black and white.

It has to be noted that the majority of the comments/remarks sent by Seas At Risk concerns the procedure and its link with the decision making process. Therefore, GSR is not in the best position to answer these remarks.

GSR appreciates the remarks received and considered the exercise really constructive. All the lessons learnt will be the basement of the next Environmental Impact Statement submitted for the deep sea mining technology development and trial during the exploration phase.

Remarks and responses

- 1. Which decision is this EIA to inform? We assume the decision on whether or not the test can go ahead, and if so under which conditions (e.g. whether the test needs to be modified in order to avoid or mitigate impacts). We also assume the EIA should also inform a decision about the appropriateness of the monitoring plan. Are both our assumptions correct?*

GSR, as a contractor, does not have the authority to answer this remark. It should therefore be directed by the reviewer to the International Seabed Authority being the regulator in the first instance, with a copy to Belgium and Germany as Sponsoring States. GSR is following the Recommendations on Exploration published by the ISA (ISBA/19/LTC/8).

2. *What are the steps and timeline of the decision making procedure and how are responsibilities shared among Belgian authorities and the ISA?*

GSR, as a contractor, does not have the authority to answer this remark. It should therefore be directed by the reviewer to the International Seabed Authority being the regulator in the first instance, with a copy to Belgium and Germany as Sponsoring States. GSR is following the Recommendations on Exploration published by the ISA (ISBA/19/LTC/8).

3. *On the basis of which criteria will the Belgian and German authorities, and the International Seabed Authority evaluate the EIA and the proposed monitoring plan? Is there a common set of criteria the various organisations will adhere to?*

GSR, as a contractor, does not have the authority to answer this remark. It should therefore be directed by the reviewer to the International Seabed Authority being the regulator in the first instance, with a copy to Belgium and Germany as Sponsoring States.

4. *In order to assess the significance of potential impacts, thresholds need to be identified and this relies on scientific knowledge of the ecosystem, which is often lacking (which the EIS acknowledges in several sections). In case scientific knowledge is not sufficient to define thresholds or to predict impacts, how will the precautionary principle be applied? In our view it calls for a postponement of the test till sufficient research on the ecosystem has been conducted and till alternatives have been investigated as well.*

This is a fundamental part of this experiment and will be managed by the scientific independent JPI-O MI2 assessment/monitoring, by sampling through the gradient of plume. An important part of the project is dedicated to (1) identify suitable indicators for ecosystem health and (2) define threshold values for harmful effects on the environment. The results will assist the ISA in the further knowledge building and creating a qualitative evaluation framework.

5. *The EIS uses expressions like 'no serious harm', 'small-scale impacts', 'insignificant effects' etc. How have these qualifiers regarding the significance (or not) of impacts been defined? A few examples:*
- a. *page 3 - no serious harm will be caused to the marine environment at any depth within the water column.;*
 - b. *page 3 - small-scale impacts on faunal communities may occur due to (...)*
 - c. *page 131 'We thus assume that, on a more regional scale, the removal of nodules in the trial area will have an insignificant effect on the physico-chemical regime of the area.'*

'Serious harm' in this regulatory context (the Law of the Sea Convention, which governs activities in the Area) has yet to be fully legally defined. Without such a definition to underpin it, targeted data gathering to enable assessment of the potential effects of the proposed activities is the first step. As a result, the major objective of the collaboration with the JPI-O MI2 consortium is to provide a first step to obtain these data, based on the currently best available knowledge of the marine environment relevant to polymetallic nodules, to contribute to both the definition and the assessment of 'serious harm'. GSR considers that due to the restricted spatial and temporal scale of the proposed activity, it is unlikely that the balance of the relevant overall ecosystem would be modified, and that therefore it is unlikely that the overall relevant ecosystem integrity would be compromised at any depth within the water column.

6. *We would like to see clarification about which monitoring tasks GSR will carry out and which JPI-O MiningImpact 2? While on the Ministry's website it is stated that GSR 'will be making their own measurements on the environmental effects of their test', and JPI-O MiningImpact 2 will do an independent monitoring, the section 7.2.3 Environmental monitoring plan only mentions monitoring work packages of JPI-O MiningImpact 2. All this leads us to conclude that the current (and future) monitoring plans of GSR tests will be conducted under a research project funded by public money. This seems highly inappropriate: whether on land or in the sea, the polluter pays principle requires that the EIA and monitoring are paid by the project developer, and not by public money.*

GSR will be monitoring the direct impact (footprint) of the Patania II activity and indirect plume impact on the environment, complying with the requirements of the section IV *Environmental impact assessment* of the *Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area*, issued by the ISA (ISBA/19/LTC/8). In parallel, the JPIO-MI2 consortium will set up an additional independent monitoring program in order to optimize the knowledge on impact/effect on the marine environment and support legislation development tailored to nodule mining.

7. *We understand that the ISA's LTC has not managed to review the EIA yet (as announced in the ISA annual session in July), and only plans to do so by its next session in March 2019. Given that the GSR test is foreseen for April 2019, it is difficult to imagine that GSR will be able to adapt its test to meet comments made by the LTC. Will the test be postponed in order for GSR to take on board the comments by the LTC?*

GSR submitted the prior EIS in March 2018, one year prior to execution, and received three independent reviews through the ISA which have been processed before submission to LTC session of July 2018. GSR will, to maximal practicable extent, take further recommendations of the ISA into account.

8. *How will GSR respond to the comments on the EIA, i.e. will GSR document how comments are treated and how the test plan is being modified in order to meet the requirements of the EIA evaluation?*

GSR, as a contractor, does not have the authority to answer this remark. It should therefore be directed by the reviewer to the International Seabed Authority being the regulator in the first instance, with a copy to Belgium and Germany as Sponsoring States.

9. *Duration of monitoring: scientific research indicates that many impacts of nodule mining will be long term, even irreversible. Also the EIS states for instance on p 151 that '.... it can be concluded that a total recovery process of meiofauna after anthropogenic impact would take at least several decades.' During the workshop in Brussels, some indicated that monitoring should therefore be carried out for decades, even hundreds of years. Why is the monitoring of this test limited to 2 years (see page on p 170 where we can read that the Environmental Monitoring Plan (EMP) will focus on the immediate, short- and intermediate-term (2 years) physical and chemical impacts)?*

GSR is committed to longer term monitoring as per our exploration contract with the ISA and the monitoring plan will be designed accordingly.

10. *As to the data collection by GSR and the JPI Oceans project: will these be made publicly available?*

On the GSR side, the data management plan will be developed by Charles Janssens and Hendrik De Beuf (DEME) to store all our data. All environmental data will be published in the ISA database and become publicly available. From the JPI-O side, it will be handled by Timm Schoening (recently published a paper about data management Plan in *Sci. Data*, Schoening et al, 2018). Everything will be placed on PANGAEA (<https://pangaea.de/>).

11. The EIA only addresses one type of technology. Why haven't alternatives been assessed (as is standard good practice in EIA)?

Many alternatives have been assessed and trade-off have been made during a prefeasibility stage. This prior EIS relates to the resulting components testing of this technology as Best Available technologies. Nevertheless, GSR agrees that the alternatives should have been mentioned in the prior EIS, along with the reasoning behind our choice. This section will be included in the next EIS submitted by GSR for the System Integration trial.

12. In case the test results in serious harm to the environment - will GSR be held financially liable? Has the company set aside funds for this?

GSR, as a contractor, does not have the authority to answer this remark. It should therefore be directed by the reviewer to the International Seabed Authority being the regulator in the first instance, with a copy to Belgium and Germany as Sponsoring States.

13. P198 – states that an 'Advisory Board with broad stakeholder representation (final composition to be determined) will be set up to follow the Project and provide advice as necessary and assist with public outreach. The Board will be briefed at regular intervals by an independent academic rapporteur who is able to convey the progress of the Project, and ultimately its final results, in accessible language. The Rapporteur will be engaged from August 2018.' How will participants and Rapporteur of this Advisory Board be selected?

In regard to the 2019 field activities of the Patania II PPV, and in keeping with the reporting precedent set by historic benthic disturbance tests, GSR is convening an Advisory Panel of internationally recognized experts who will interact with a Rapporteur, who, in turn, will appropriately document and report the Patania II and JPIO II experiments for GSR. This collaboration is intended to promote improved understanding and comprehensive assessment of the potential environmental effects of future nodule mining activities, the design of fit-for-purpose monitoring programs, and environmentally and commercially responsible standard development. The reports produced will be the work of the Rapporteur, based on advice and input from the Advisory Panel. The Rapporteur and members of the Advisory Panel are listed below :

- Rapporteur : Prof. Thomas Peacock (Massachusetts Institute of Technology)
- Panel Member : Dr. Samantha Smith Blue Globe Solutions, Environmental consultant)
- Panel Member : Jennifer Warren (United Kingdom Seabed Resources, Contractor)
- Panel Member : Dr. Annemiek Vink (Bundesanstalt für Geowissenschaften und Rohstoffe, Contractor)
- Panel Member : Dr. Matthias Haeckel (GEOMAR, Biogeochemical Oceanography)
- Panel Member : Dr. Jens Greinert (GEOMAR, Geological Oceanography)
- Panel Member : Prof. Cindy Van Dover (Duke University, Biological Oceanography)
- Panel Member : Prof. Andrew Woods (FRS Cambridge University, Environmental Flows)