



Friday 26 November 2021

For Attention: **Michael Lodge, Secretary-General**
Harald Brekke, Chair, Legal and Technical Commission
International Seabed Authority

We are writing concerning the inadequacy of the EIA/S for the NORI deep sea mining experiment and the role of the ISA as the regulatory authority.

The Deep Sea Mining Campaign is an association of NGOs and citizens concerned about the likely impacts of DSM on marine and coastal ecosystems and the human communities who depend on them. We collaborate across the Pacific Islands, Australia, New Zealand, Canada, the USA, the UK and Europe. As you will be aware, our advocacy work is informed by rigorous research and strengthened by collaboration with community based organizations and international networks.

We are an active member of the Deep Sea Conservation Coalition. We fully endorse the concerns highlighted by the DSCC about the NORI environmental impact assessment and statement (letter dated 9 November).

We would further like to draw your attention to our own submission to the Republic of Nauru (attached).

In a nutshell, the NORI EIA/S is not fit for purpose and fails to meet international standards and the ISA's own recommendations for EIA/S.

The NORI exercise is an experiment in deep sea mining. The response of the ISA to this EIS will be scrutinised. Expectations for accountability and best practice are high. This is an important test for the ISA that will indicate whether it itself is fit for purpose as the international DSM regulatory authority.

This is especially so due to the contentious nature of the NORI enterprise. Not only is it associated with triggering the two year rule, but it is a subsidiary of The Metals Company, currently facing two shareholder litigations challenging the company's integrity.

We therefore suggest, it is incumbent upon the Secretariat to advise NORI to withdraw its EIS and to resubmit only after NORI conducts EIA in line with international best practice and the ISA's own Recommendations.

Yours sincerely,

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Deep Sea Mining Campaign submission to NORI EIS consultation

Republic of Nauru & Nauru Ocean Resources Incorporated (NORI)

NORI Collector Test Environmental Impact Statement (EIS) OFFICIAL PUBLIC COMMENT FORM

The Republic of Nauru, as a Sponsoring State to the Nauru Ocean Resources Incorporated (NORI) is requesting stakeholder feedback on the NORI Collector Test Environmental Impact Statement (EIS) by **November 8, 2021**. More information about the stakeholder consultation process, and an electronic version of this form, are available at www.eisconsultationnauruun.org.

Please email completed forms to ElSconsultation@nauruun.org with 'NORI EIS Official Comment Form' in the subject of the email.

Thank you for your interest in reviewing the NORI Collector Test EIS. We appreciate your time and input. Contact ElSconsultation@nauruun.org with questions or concerns.

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General Comments

The NORI Collector Test EIS is Not Fit for Purpose

The purpose of the EIS is to identify environmental impacts likely to be associated with the collector test as the basis for mitigating and managing these impacts. However, the EIS provides a limited and superficial description of the environmental risks. The EIS itself notes many gaps in data, stating that data relating to impacts will be acquired in the future.

The EIS's most notable omission is the lack of baseline data against which to measure the impact of the collector test. The collection and presentation of baseline data to benchmark impacts is an internationally accepted norm for EIA/S. The NORI EIS is sub-standard and fails to provide a basis for informed decision making.

Furthermore, The EIS does not comply with the International Seabed Authority (ISA)'s Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area.

As such the EIS is not fit for purpose. The high level of uncertainty and the contentious nature of DSM demands the most rigorous revision of this EIS and extremely careful attention to scientific detail.

The collector tests must be deferred until the EIS is revised to fill gaps in biological base line and other key data.

Specific Comments	
Page 6-1	<p>Incomplete and Inadequate Baseline studies</p> <p>The baseline studies have not been completed. The ISA Recommendations are very specific in regard to baseline and impact data, stating in paragraph 13, “ It is important to obtain sufficient information from the exploration area to document the natural conditions that exist prior to test-mining or testing of mining components to gain insight into natural processes such as dispersion and settling of particles and benthic faunal succession, and to gather other data that should make it possible to acquire the capability necessary to make accurate environmental impact predictions, for example the assumed impact and its process, including the seabed-disturbance plume, discharge plume, potential toxicity, noise and intensity of light. The impact of naturally occurring periodic processes on the marine environment may be significant but is not well quantified. It is therefore important to acquire as long a history as possible of the natural responses of sea-surface, mid-water, near-bottom and seabed communities to natural environmental variability before the mining-related activities. The best available technology and methodology for sampling should be used in establishing baseline data for environmental impact assessments.”</p> <p>Paragraph 14 of the ISA Recommendations states that “Baseline data documenting natural conditions prior to test-mining or testing of mining components are essential in order to monitor changes resulting from these activities and to predict impacts of commercial mining activities.”</p> <p>The EIS is astounding in its disregard of these requirements. No data is provided on even the most relevant of ecological aspects such as marine mammals utilising the NORI D block and CCZ, benthic and pelagic biological communities, bioturbation, connectivity and food web structure. The EIS also uses desktop studies and opportunistic observations in place of the best available technology and methodology for sampling as recommended by the ISA.</p> <p>This data is required prior to the collector test – not during or after the test.</p>

<p>Pages 6-28 & 6-31</p>	<p>Absence of systematic studies of critical species</p> <p>Desktop studies and opportunistic observations are not scientifically meaningful and do not provide a basis for predicting impacts. The absence of systematic studies is particularly notable for marine mammals and seabirds (many species of which are already on the IUCN Red List) and for fish including commercial stocks. Methodologies for conducting such studies are well documented. The lack of data on this range of species ignores the ISA's recommendations. The EIS doesn't even analyse published studies that map the use of the CCZ by species.</p> <p>Many marine species make long-distance migrations across the CCZ. Migrations are crucial to complete biological processes that sustain these species and their populations such as foraging and reproduction. Disrupting these migrations could impact populations and create, for some species, significant conservation concerns.</p> <p>The significance of fisheries to Pacific regional, national and local / artisanal economies demands that the risk to these stocks be rigorously assessed.</p>
<p>Page 3-16</p>	<p>Return Water</p> <p>The depth at which the Collector Test return water will be discharged is nominated as 1,200 m and described as being below the mesopelagic-bathypelagic interface (700 to 950 m). The EIS concludes that discharging waste at this depth will have minimal impact due to the low biodiversity of the bathypelagic zone. The EIS provides no analysis of the impacts of the return water in either of these zones.</p> <p>This ignores the fact that vertical and horizontal connectivity is mediated in the ocean by chemical, ecological and physical processes. This means that the waste discharge (return water) is likely to be conveyed into the mesopelagic zone. This dispersal would be assisted by the higher temperature of the waste water compared to water at 1,200m. In addition, the bathypelagic zone is biodiverse in its own right and several species are known to be deep diving and migrate vertically to depth travelling through both zones.</p> <p>The EIS must provide rigorous analysis of the likely impacts of the Collector Test return water in both the mesopelagic and bathypelagic zones.</p>

<p>Page 7.5</p> <p>Page 3-16 & 7-5</p>	<p>Absence of Oceanographic Studies The EIS does not provide an analysis of oceanographic properties essential to assess the level of risk that human and ecological communities are likely to face from metals and other contaminants associated with the discharge of collector test return water. Of particular concern is whether upwelling and currents will transport metals and other contaminants such that they become incorporated into marine food webs, including species that human consume. Such oceanographic information is available.</p> <p>Lack of Toxicology Not only does the EIS fail to assess the risk that the discharge plume may come into contact with marine species and human food webs but it ignores the potential for toxicity. No modelling is provided of the metals that may be released, their chemical forms at various depths and their bioavailability.</p>
<p>Page 8-5</p>	<p>Physical Impacts of Plumes</p> <p>Much has been documented in the scientific literature about the physical impact of the particles suspended in plumes on the respiratory and olfactory surfaces of marine animals, on visual communication, bioluminescent signalling and on suspension feeders that form an important part of the pelagic food web (eg. Drazen, 2020). The EIS fails to predict any such impacts.</p>
<p>Pages 5-8, 7-12, 7-42</p> <p>Page 7-4</p>	<p>Incomplete and Biased Modelling of Plume Dispersal</p> <p>In determining the spread of plumes, the EIS fails to take into account modelling in the published scientific literature that indicates that a 10 µm particle can travel 1400 km and takes about 400 days to settle (Muñoz Royo et al. 2021). The EIS does not analyse the oceanographic characteristics that would determine the direction of travel and dispersal of plumes and hence the scope and scale of impacts. Such oceanographic information is available.</p> <p>The EIS appears to grossly under-estimate the area affected by the plume. The area affected by a midwater plume at 11 days (Fig 7 Muñoz Royo et al. 2021) is estimated at 10-200 km². The EIS does not consider these results or reconcile the significant differences with its own modelling.</p>

<p>Page 3-6</p>	<p>Misrepresentation of Benthic Plume dispersal</p> <p>The EIS under-estimates the spread of the benthic plume by citing research relevant to a completely different environmental context (Spearman et al., 2020) and concluding that sediment particles will settle only 1 km from the source. This is misleading as the cited by the EIS applies to the coarse-grained sediments on the Tropic seamount, 300 NM SSW of the Canary Islands seamount.</p> <p>It would be more appropriate for the EIS to use the modelling of fine-grained sediments of the abyssal plains, such as found in the NORI D block. Such modelling indicates much further dispersal of benthic plumes (Muñoz Royo et al., 2021; Aleynik et al., 2017).</p> <p>These researchers also find that flocculation is not a significant factor (Muñoz Royo et al. 2021). This is at odds with the information presented in the EIS. The EIS’s reliance on flocculation as a natural ameliorating factor is extremely questionable.</p>
<p>Page 14-5</p>	<p>Lack of Meaningful Stakeholder Engagement</p> <p>Stakeholders were not meaningfully engaged in the defining the scope of the EIA or during its conduct. The commitment of the Republic of Nauru to providing stakeholders (via webinar 2) with a” high-level summary of feedback received from the stakeholder community and any revisions to the EIS” falls very short of the requirement set out in the Environmental Monitoring Plan for the Clarion-Clipperton Zone. This requires public participation in environmental decision-making procedures in accordance with the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 1998, and the Aarhus Convention.</p>
<p>References</p> <p>Aleynik, D., Inall, M.E., Dale, A. et al. Impact of remotely generated eddies on plume dispersion at abyssal mining sites in the Pacific. Sci Rep 7, 16959 (2017). https://doi.org/10.1038/s41598-017-16912-2</p> <p>Christiansen, B., Denda, A., Christiansen, S. Potential effects of deep seabed mining on pelagic and benthopelagic biota. 114 Marine Policy. 2020. https://doi.org/10.1016/j.marpol.2019.02.014.</p>	



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