

Submission to the Northern Territory Environmental Protection Authority – Review of Seabed Mining in the Northern Territory – Environmental Impacts and Management

This submission is made by Renee Grogan, Director of Gro Sustainability Pty Limited. Renee has previously held the position of Sustainability Manager for Nautilus Minerals, the world’s first deep ocean copper mining company. Renee now consults to industry, government and NGO organisations in relation to environmental management in seabed mining.

| NT EPA Finding or Conclusion | Comment |
|---|--|
| Comments on Key Findings | |
| <p>1. Any seabed mining activity in the Northern Territory must occur within a transparent, robust regulatory and policy framework that promotes ecologically sustainable development and establishes clear expectations on industry. This framework should be supported by:</p> <ul style="list-style-type: none"> • the declaration of marine environment protection ‘no go’ areas for areas with high biodiversity, economic, recreational and/or cultural value, and • documenting the appropriate and acceptable standards for seabed mining practices and environmental management. | <p>Agreed. The early declaration of ‘no go areas’ will assist industry, however there are lessons to be learned from the ISA, which declared similar no-go areas in the Clarion Clipperton Zone, without (a) the data to indicate whether those zones were actually of high environmental value and (b) the supporting regional environmental management plan. It is strongly recommended that both be developed for the NT waters in order to inform the declaration of no-go areas. In relation to standards, the early and clear definition of the required level of detail for baseline studies must be a priority for standard development. Due to the high level of uncertainty regarding both existing values and predicted impacts, a clear understanding of the expected parameters of an EIA will assist both government and proponents.</p> |
| <p>2. The Northern Territory Government should consider declaring a ‘seabed mining’ activity trigger under the Environment Protection Act 2019 for all seabed exploration and mining activities so that referral to the NT EPA is required to determine whether environmental impact assessment is required.</p> | <p>Agreed. The screening and scoping stage is critical. NT may consider looking to the relevant WA legislative processes around screening and scoping, which have been successful to date.</p> |
| <p>3. Seabed mining activities can be broadly categorised into three classes, based on their potential for significant environmental impact: • Manageable impacts – are likely in some relatively data-rich, low sensitivity locations. Potentially significant impacts may be effectively managed under current environmental impact assessment and regulatory arrangements resulting in acceptable proposals. • Uncertain impacts – are likely in some</p> | <p>Agreed in principle, however much clearer and objective definition of the three classes is recommended in order to assist both government and proponents and to reduce uncertainty for potential players. NT may consider looking to the WA EPA guidance document for marine dredging proposals, which</p> |

| NT EPA Finding or Conclusion | Comment |
|--|---|
| <p>situations, based on either the impact of seabed mining or the condition/quality of the receiving environment. Potentially significant impacts may be effectively managed based on the extensive collection of new environmental information and knowledge prior to environmental impact assessment. • Unacceptable impacts – are likely in some situations where serious risks and high uncertainty remains and no amount of information or knowledge is likely to adequately address the residual impacts in a reasonable time and at a reasonable cost. The NT EPA considers these proposals are likely to be unacceptable and may trigger a recommendation for early refusal.</p> | <p>provide for different “zones of impact” in assisting to formulate this guideline. In addition, the need for standards on both hydrodynamic plume and sedimentation modelling and habitat characterisation are both relevant here – it is suggested that the NT provide clear guidance on the standard of modelling required (for hydrodynamic modelling), and the extent to which models which meet those standards can be relied upon to reduce uncertainty. In addition, a standard on the parameters required (and survey effort/extent required) to characterise habitats in the proposed impact area is also critical, in order to determine at what point a dataset on seafloor habitats can be considered to reduce the uncertainty regarding environmental values.</p> |
| <p>4. Currently, the lack of adequate environmental information and knowledge about the existing condition of environmental values and the potential impacts from seabed mining is a major barrier to the robust environmental impact assessment, approval and appropriate conditioning of seabed mining in the Northern Territory. There is difficulty in applying known management measures to poorly understood marine environments. This contributes to uncertainty about the effectiveness of management and mitigation measures. It will be important to communicate to proponents the considerable information requirements necessary for robust environmental impact assessment, including adequate baseline data that encompasses the substantial natural, temporal and spatial variation in marine and coastal environments.</p> | <p>Agreed regarding the need to communicate with proponents, however there has been significant progress in the industry in recent years in relation to (a) the robustness of plume models; (b) habitat characterisation and mapping; (c) the development of site-specific trigger values for sedimentation rates and plumes, and it is recommended that the NT government consider this data in developing standards.</p> |
| <p>5. The collection of adequate data at a regional scale required for environmental impact assessment requires coordination between industry, government, research agencies and other stakeholders, rather than a piecemeal approach at the individual project scale. The establishment of a government managed and resourced central data repository is essential to support environment protection and the assessment and regulation of any proposed seabed mining activities in the Northern Territory. An accessible data repository would enable the most effective use of environmental data collected by industry, research organisations and government agencies and ensure that data is: • collected to appropriate data standards • verified and stored securely • shared amongst all stakeholders. Over time,</p> | <p>Agreed. The International Seabed Authority attempted to implement this approach and has to date been largely unsuccessful – it is recommended that NT government consider the lessons to be learned from the ISA’s failure (noting that considerable effort to address this failure is currently being made by the ISA). In developing a central data repository, it is recommended that the NT government develop clear data collection and reporting guidelines, to overcome the first hurdle</p> |

| NT EPA Finding or Conclusion | Comment |
|--|---|
| <p>this approach would further reduce the barriers to the robust assessment, approval and appropriate conditioning of seabed mining in the NT. Any NT seabed mining policy should ensure that data collected for the purposes of understanding the marine environment to support seabed mining must be made available to the broader community.</p> | <p>of proponents submitting non-standardised data, which is of limited use, or can require significant resources to interpret.</p> |
| <p>6. Should seabed mining be approved, relevant approvals should require environmental monitoring that informs regulation of proposal-specific management targets, as well as evidence-based understanding of environmental impacts to support future impact assessment and regulation of the industry. Data should be available to the public.</p> | <p>Agreed. The NT government may also consider prescribing independent review/audit of monitoring data on an annual basis, as part of annual environmental reporting, and also prescribing the delivery by proponents of 3-yearly trend reports, in addition to annual environmental reports, given the understanding of any inter-annual trends in such a nascent industry is a critical opportunity for increasing understanding of medium-term impacts.</p> <p>It is noted that operational management of seabed mining is one aspect that remains relatively unknown. The Solwara 1 Project is, to this submitter's knowledge, the only seabed mining project in the world with a comprehensive set of environmental management documents completed and submitted to the relevant governing body (drafted by this submitter). As a result, the experience in developing operational management controls that effectively capture the environmental objectives of a proposal is limited in the seabed mining industry. The NT government may consider referring to the following article for additional context on the challenges of operationalising environmental management: n the challenges of operationalising environmental management: Gerber, Leonardus J., and Grogan, Renée L. "Challenges of Operationalising Good Industry Practice and Best Environmental Practice in Deep Seabed Mining Regulation." Marine Policy, September 2018, S0308597X18304639. https://doi.org/10.1016/j.marpol.2018.09.002.</p> |
| <p>7. The NT EPA considers that the use of adaptive management would be highly problematic in managing the high levels of uncertainty and risk associated with the mitigation of</p> | <p>Strongly disagreed. This is an area where the New Zealand regulations have been very highly criticised. The NT government</p> |

| NT EPA Finding or Conclusion | Comment |
|---|--|
| potentially significant environmental impacts from seabed mining proposals. Any effective use of adaptive management would be limited in its application to clearly defined issues. | is directed to the judgement from <i>Churchman J</i> , in the case of Trans Tasman Resources. A brief memo prepared on this issue for Chatham Rock Phosphate Limited (and made publicly available) is attached for the information of the NT government. |
| 8. The NT EPA considers that environmental offsets cannot currently be readily or easily applied to seabed mining proposals in NT coastal waters. The collection of pre-impact baseline data does not qualify as an environmental offset. | Agreed. |
| 9. Closure and rehabilitation are important considerations for the assessment, approval and management of seabed mining. In the absence of specific guidance, seabed mine closure and rehabilitation should follow the best practice principles of the International Marine Minerals Society Code for Environmental Management of Marine Mining, the International Council on Mining and Metals for Mine Closure, and the WA Guidelines for Preparing Mine Closure Plans. Requirements to achieve environmental protection outcomes must include: extensive baseline information, appropriate financial assurance, progressive rehabilitation, agreed rehabilitation objectives, completion criteria and monitoring of rehabilitation success. These requirements should be captured in specific closure and rehabilitation criteria and guidance developed by government with substantial industry and stakeholder input. Effective rehabilitation and biological recovery is unlikely to be feasible where seabed mining removes or alters extensive areas of the seafloor or for seabed mining proposals greater than five years duration. | Agreed. It is noted that different seabed mineral targets (crusts, nodules, mineral sands and seafloor massive sulphides) exhibit varying degrees of rehabilitation potential. It is recommended that the NT government consider what rehabilitation objectives might be applied to different mineral resource categories, in order to clearly state to proponents the expected level of rehabilitation objective for each resource category. |
| 10. Independent expert groups can provide valuable advice to regulators and industry during the planning, assessment, operational and rehabilitation stages of seabed mining projects, should seabed mining proceed in the Northern Territory beyond a limited number of small-scale operations. The cost of funding an expert advisory group would appropriately lie with the proponent with its scope and membership determined by the regulator in line with the 'user pays' principle. | Agreed, however the ISA has been debating the use of such a "panel" for some years now, and there remain several challenges to this approach. The NT government may wish to consider the approach taken by agencies such as the PNG Conservation and Environmental Protection Authority, which prescribes independent peer review, paid for by the proponent, as part of the EIA process, or the NZ EPA, which uses the mechanism of Joint Witness Statements, which are prepared by a group of independent experts on particular issues, as part of the hearing process for an EIA. Joint Witness Statements are (in this submitter's opinion) particularly useful as they document the views of the different experts, the nature of the review of |

| NT EPA Finding or Conclusion | Comment |
|---|---|
| | the data undertaken by the group, and the extent to which the group reached consensus on the particular issues being discussed. This is a highly transparent process which enables a clear understanding of whether experts tend to agree, or disagree, on the nature and extent of data produced, and the validity of any interpretation and conclusions drawn by the proponent. |
| <p>11. The powers afforded by the Environment Protection Act 2019 to the Northern Territory Government and the NT EPA (section 6.1) provide a strong framework for community involvement in the environmental impact assessment and approvals process and, ultimately, environment protection. Transparent, meaningful community engagement and consultation should commence early in project planning prior to the impact assessment and approvals process, and extend to project implementation and closure. The NT EPA conducts ongoing community consultation and engagement on policy and technical guidance, but there is still much to be done to address community concerns and strengthen community involvement and trust. Further investigation of learnings from the Northern Territory (Hydraulic Fracturing Inquiry), national (NOPSEMA) and international (NZ and BMAPA) experiences will be valuable to guide the Northern Territory Government's position, implementation and communication pathways.</p> | <p>Agreed. The NT government may choose to look to the processes enacted by the WA EPA, in relation to defining clear contact points for stakeholder engagement (nominally, at the EIA scoping stage, the EIA submission stage, and the EMP development stage). The definition of clear stakeholder engagement points would assist both proponents and stakeholders in planning for input, and ensuring the process remains transparent. It is also recommended that annual environmental reports (and independent reviews thereof, if the government chooses to so prescribe) are made public, along with closure plans.</p> |
| Comments on Section 7: Conclusion | |
| <p>The NT EPA review concludes that current knowledge gaps result in uncertainty about the condition of the existing environment, the extent of impacts from seabed mining, the ability of industry to manage impacts, and for the environment to recover from impacts.</p> | <p>Agreed, however it is noted that significant progress has been made in recent years by agencies such as the ISA in relation to the definition of processes required to reduce uncertainty. It is recommended that the NT government review such progress, and lessons learned from regulatory bodies such as NZ EPA who have not yet succeeded in defining the limits of uncertainty, to aim to provide more structure and definition to this issue in future.</p> |
| <p>Where uncertainty exists about environmental values, impacts or management associated with large-scale mining projects, extensive data is required. This data provides information about existing environmental conditions and the extent of potential impacts, including cumulative impacts from multiple stresses or multiple mining projects. The NT EPA considers</p> | <p>Agreed, however it is quite within the realms of the EIA scoping process to define a scope of baseline studies and impact models to address these uncertainties. Comments on point 3 above relate to this issue.</p> |

| NT EPA Finding or Conclusion | Comment |
|---|---------|
| that this information base does not exist yet, and must be obtained by strategic, collaborative and long-term baseline data collection to provide the basis for robust assessment of environmental impacts. | |
| The NT EPA considers that best practice management of the impacts from seabed mining can be assessed, and that significant impacts can be managed under the EP Act and EP Regulations. Proposed reforms of the environmental regulation of mining provide an opportunity to consider whether further changes are required to effectively regulate seabed mining. Potential environmental regulatory reforms to the MM Act and EP Act should consider how the legislation could be strengthened to ensure relevant and appropriate application to seabed mining. Consideration should be given specifically to amendments that are designed to address marine mining operations given the complexities of managing impacts in the marine environment noted throughout this review. | Agreed. |