



Northern Territory Environment Protection Authority
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To Whom it May Concern,

Southern Lease Mining Project

The Environment Centre NT (ECNT) is the peak community sector environment organisation in the Northern Territory, raising awareness amongst community, government, business and industry about environmental issues and assisting people to reduce their environmental impact and supporting community members to participate in decision-making processes and action. submission

ECNT welcomes the opportunity to comment on the draft terms of reference (**draft TOR**) for the proponent-initiated environmental impact statement (**EIS**) for GEMCO's Southern Lease Mining Project (**the project**). ECNT supports an EIS being undertaken for the project and looks forward to a productive engagement with this project throughout the assessment process.

Below we outline a number of suggested additions to the draft TOR to ensure that the environmental and human impacts can be adequately assessed.

Factor: Human health

ECNT agrees with the proponent that the potentially significant impacts to the environmental factor of *People (community and economy, culture and heritage and human health)* warrant the project being assessed through an EIS. However, the lack of any requirement to assess the human health impacts of manganese dust is a glaring omission. It is completely inadequate that an open-cut mine operating in close proximity to residential communities is not required to assess the health impacts of the mine's operations, including but not limited to the impacts of the hazard of manganese dust.

The existing mine is located directly alongside the community of Angurugu, with the proposed Project being located 10km away from this community and even closer to certain populated outstations. The existing mine and proposed project therefore pose a significant degree of cumulative and additional risk to human health via exposure to manganese dust. The limited studies that are available indicate that prolonged exposure to manganese dust can have a variety of detrimental health impacts on humans. For example, one potential impact associated with exposure to manganese dust is deterioration of the central nervous system. One study (Miah et al 2020) found that workers in industrial settings with large amounts of airborne manganese present "are at risk for developing neurotoxic symptoms".¹

¹ Miah, M et al (May 2020), 'The effects of manganese overexposure on brain health', *Neurochemistry International* 135, <doi: 10.1016/j.neuint.2020.104688>



It is therefore important that a health impact assessment following the *enHealth Health Impact Assessment Guidelines*² should be conducted. This is a standard form of health impact assessment within an Australian context and is accepted as a minimum requirement for projects that pose potential risks to human health resulting from specific environmental hazards. ECNT notes that the TORs for other mining projects in the Northern Territory require an impact of human health risks, even where these requirements are insufficiently stringent or detailed. The Ammaroo Phosphate Fertiliser Project TOR, for instance, requires assessment of “risks to human health from release of hazardous materials”.

ECNT notes that dust is mentioned in the section of the TOR pertaining to air quality, but we emphasize that this is different from, and not sufficient to encapsulate, the potential human health impacts of manganese dust. A toxicological assessment of a specific hazard (e.g. manganese dust on humans) is different to an assessment of the air quality of a given region, and both should be conducted as part of an environmental assessment of the Project and both should be required by the TOR. Furthermore, there are a variety of exposure pathways for manganese dust, including ingestion—the impacts are not solely limited to airborne dust inhalation. In addition, the issues of noise and light pollution impacts caused by living in close proximity to an operating mine should be considered in any assessment of the human health impacts of the Project.

ECNT therefore submits that a health impact assessment of exposure to manganese dust should be required in the Terms of Reference.

Factor: Air quality

In terms of the air quality factor specifically, more detail and specific requirements should be included in the TOR. Specific guidelines that should be used by the proponent to assess and monitor air quality should be referred to in the EIS. It should also be clearly explained what the threshold levels are for manganese dust, what constitutes an exceedance, what happens when an exceedance occurs, and what is considered an unacceptable level of impact regarding the occurrence of air quality guideline exceedances. The TOR should also describe the public reporting requirements and provisions for notification of community members regarding air quality results.

An assessment of the cumulative impacts of air quality disturbance necessitates a detailed assessment of the existing mining operations on the island, with the establishment of clear baselines beyond which an increase in air pollution would not be considered acceptable.

Factor: Terrestrial ecosystems

As identified by the proponent, the project has the potential to impact terrestrial ecosystems. The possibility for the presence of the Northern Hoppingmouse (*Notomys Aquilo*) and the Brush-tailed Rabbit-rat (*Conilurus penicillatus*) is of significant concern due to limited distribution of these species and their respective vulnerable and endangered conservation status. The Northern Hopping-mouse is found only on Groote Eylandt, and key threatening processes include mining, predation by cats and inappropriate fire regimes. Numbers of this species are likely still declining, and it is crucial that their remaining habitat is protected. Any clearing, and associated disturbance activities, may unacceptably impact this species. Both the Northern Hopping Mouse and Brush-tailed Rabbit rat were listed as one

² <https://www.eh.org.au/documents/item/1378>



of twenty priority species by the Australian Government in its 2015 to 2020 Threatened Species Strategy. ECNT is concerned that conclusions drawn about lack of presence of these species in the project area from studies conducted in 2017 and 2018 during the Small Mammal Research Project. It is not adequate to base this conclusion on surveys conducted 5 and 6 years ago. Moreover, these animals are notoriously difficult to detect and trap in biodiversity surveys.

The TOR should therefore contain specific and detailed requirements for further small mammal research surveys to be conducted, including at multiple points throughout the year as species populations may have moved over time. Plans should also be required to check for the presence of the species throughout the course of the activities.

Yours Sincerely,

A handwritten signature in black ink, appearing to be 'Naish Gawen'. The signature is stylized with a large 'N' and 'G'.

Naish Gawen

Environment Centre NT