Environment Centre NT
protecting nature | living sustainably | creating a climate for change

NT Environment Protection Authority
GPO Box 3675
Darwin NT 0801

7th January 2025

Submitted online via the NT EPA Consultation Portal

Re: Submission on Lei Lithium Project Referral

The Environment Centre NT (ECNT) is the peak community sector environment organisation in the Northern Territory, raising awareness amongst community, government, and industry about environmental issues, and supporting community members to participate in decision making processes and action. ECNT welcomes the opportunity to comment on the referral for the Lei Lithium Project (**the Project**) submitted by Lithium Plus Minerals Ltd (**the Proponent)**.

The proposed Project would involve the mining of approximately 3.1mt of spodumene ore via underground mining over a project life of approximately seven years. The ore would be crushed and screened on site and then the ore transported and shipped to Darwin Port for export. Waste rock would be stored at the mine site and then used to backfill the site upon closure. The Project would occur 30km south of Darwin, on the Cox Peninsula, just 2km south of two other existing but not currently operating lithium mines. The Project would occur on Aboriginal Land, land recognised as such under the Kenbi Land Claim. The Project would occur nearby to the Belyuen community, and land of significance to multiple Daly River and Larrakia groups. Aside from vague references to future engagement with Traditional Owners, the Proponent has not engaged with the question of free, prior, and informed consent in their referral documents.

ECNT is concerned by the substantial uncertainties and information gaps in the referral report. In making our submission to public process informing the NT EPA's decision on whether the proposed action requires assessment and if so at what level, ECNT recommends that the Project be assessed at the level of Environmental Impact Assessment (**EIS**), for reasons which we outline below.

Cumulative Impacts

As an overarching comment, the Proponent has not adequately considered the project in the context of the other nearby activities that will generate cumulative impacts in conjunction with the proposed Project if it proceeds. Nearby to the proposed Lei Lithium Project exists the previously operating BP33 and Grants projects, as well as potential Kings Landing and Cai projects, amongst many other mineral exploration leases. Fluctuations in the commodity price have caused the temporary closure of the two nearby lithium mines. The commercial sensitivities of lithium mining mean that in the case that the market provides favourable conditions for mining and export to occur, this factor would apply across each of these sites, leading potentially to a situation in which all operations occurred concurrently, generating significant cumulative impacts. The impacts of the Project must therefore be considered not in

isolation, but in the context of all other approved projects (even if they are not currently operating) and with a view to potential projects that have a high likelihood of occurring. In short, if the impacts of the Project are to occur at all they are likely to occur concurrent with impacts from other activities, because they are each reliant on the same external factor (the commodity price of lithium).

The question of cumulative impacts is relevant across all of the factors. It is particularly relevant for a consideration of hydrological processes and the potential for the interaction of groundwater drawdown cones and multiple pressures on the groundwater system, as well as water discharge into sensitive areas like the Charlotte River.

Instead of committing to undertake a full assessment of cumulative impacts, the Proponent blithely asserts that "[t]here is insufficient information available on the viability and developability of any prospects discovered in the future – and therefore the location and size of any future new mines – to assess possible cumulative impacts". This represents an unacceptable failure to appropriately understand the current situation regarding the co-incidence of multiple mineral leases at various stages of exploration and development nearby the proposed Project, let alone a consideration of the impacts of existing mines. For example, other nearby projects have in the past resulted in significant water pollution issues that have not been acknowledged by the Proponent.

Closure and rehabilitation

The referral report contains little information regarding mine closure and rehabilitation, referring only to a 6-month closure period, and stating that a Mine Closure Plan will be developed in the future as a control measure. This Plan should be developed and published as part of the assessment of the project. It is inadequate to state, as the Proponent does, that "[p]ost mining land use, objectives and closure criteria will be developed in consultation with relevant stakeholders". It is a matter of best practice that objectives and closure criteria are developed prior to the commencement of mining, with stakeholders involved in this process from the outset rather than post-fact. It is highly likely that 6 months will prove to be an inadequate timeframe for closure and rehabilitation activities.

Furthermore, given the uncertain market conditions for the target commodity and likelihood of mothballing, specific and detailed attention should be given to the prospect of an unplanned closure, with an unplanned closure plan developed and submitted to the regulator as part of the environmental assessment. Given the uncertain future for similar kinds of activities in the nearby area, it remains to be seen whether the considerable amount of environmental impact and risk, including legacy issues and risks of unplanned closure, does not outweigh the alleged social and economic benefits that may or may not transpire, thus contravening the principle of intergenerational equity as referred to in the referral documents.

Terrestrial Ecosystems

The referral report identifies that the Black-footed tree rat and the Northern Brushtail Possum occur within the project area, and furthermore, in regard to the former, that the area in which this species was recorded is important to the local population of the species. The Proponent has too quickly come to the conclusion that the proposed Project won't have a significant impact on the species, relying on the conclusion that "sufficient habitat within the east of the Project area will remain intact and undisturbed, as well as in the surrounds". An appropriate

evidentiary basis for this statement is not provided, in particular given the cumulative impacts of other mining leases in the area, and other nearby developments.

Significant vegetation types are recorded in the area, including riparian vegetation, mangroves, and old growth trees. The Proponent should more closely examine the cumulative impacts of this project in the context of increasing land clearing threats, including in nearby areas such as Middle Arm and the proposed solar farm nearby. In the NTEPA's Assessment Report 94 concerning the BP33 Underground Mine, it was concluded that the "NT EPA considers that the reduction in surface flows due to the proposal are (in isolation) not likely to cause a significant impact to downstream riparian vegetation". The caveat "in isolation" is critical here, as the Proponent in this instance has not considered how pressures on downstream riparian vegetation will act in conjunction with reduction of surface water flows from other sources.

There are pockets of monsoon rainforest along Charlotte River, which the Northern Territory Government has indicated are sensitive and warrant particular protection. For example, the Northern Territory's guidance on monsoon rainforests shows that only 0.2% of the Northern Territory is covered by monsoon rainforests, yet it provides the habitat for 13% of the Northern Territory's fauna. The potential to have a significant impact on this monsoon rainforest must be assessed in significantly greater detail than currently proposed.

Hydrological Processes

Key uncertainties still exist regarding the impact of the Project on hydrological processes. These uncertainties should be assessed as part of an EIS. Dewatering of the mine site will result in reduced groundwater levels and availability, as the proponent acknowledges. The Proponent also acknowledges that "[u]ncertainties exist regarding drawdown extent, recovery time and the potential impacts of reduced groundwater availability to the existing mangrove communities, riparian vegetation and GDEs within the nearby Charlotte River and its tributaries." Despite this acknowledgement, the residual impacts of the Project are consistently under-acknowledged. If no site-specific groundwater model and impact assessment on groundwater dependent ecosystems (GDE) has been undertaken, the residual impact on the latter cannot be satisfactorily said to only be moderate. These studies need to be undertaken as a matter of priority and included as part of the public documentation provided at the next stage of assessment.

A wide range of additional options to supplement water use are mentioned in the referral report, albeit with little detail, including surface water extraction, groundwater extraction, and harvesting of additional water from catchment run off. If these options are indeed being considered then they each need to be fully assessed for their impact on their respective areas, with appropriate studies undertaken to determine relevant impacts.

The potential interconnectivity of the Burrel Creek Groundwater System with the Berry Springs Dolostone Aquifer should be examined, as the Proponent identifies without a strong evidence base that the two are not connected.

The absence of baseline data to inform site-specific guideline values is a key omission from the referral report and needs to be undertaken to inform the next stage of the environmental assessment.

The fact that all drainage lines flow into the Charlotte River is a cause for concern, necessitating a fuller assessment of the impact of run off and potential leakage on this river system and

potential impacts to ecosystems therein. The Proponent acknowledges a series of uncertainties relating to Charlotte River including the presence of permanent water being sustained by groundwater discharge and impacts on GDEs and vegetation from mine dewatering. However, in the impact assessment the Proponent has conflated uncertainty with improbability and assigned low or moderate ratings even when risks have been identified as potentially significant. Clearly, the aquifer and nearby water systems need to be more fully understood before meaningful impact assessments can be undertaken, and certainly before any conclusions can be made about the acceptability of conducting mining operations so close to key sensitive ecosystems. The Proponent acknowledges that there is currently no groundwater data near the Charlotte River, representing a key information gap.

The proximity of the Project site to waterways gives significant cause for concern regarding flooding, storm surge, and sea level rise. The Proponent states that a preliminary flood assessment has been undertaken at 1% annual exceedance probability. This is inadequate; by way of comparison, for the BP33 underground mine flood modelling was undertaken at the 50%, 2%, 1%, 0.1% annual exceedance probability rates. Furthermore, it is not clear that this modelling considers the context of climate change and sea level rise, including increased likelihood of extreme weather events.

Inland Water Environment Quality

In relation to this factor, the Proponent has identified potential release of contaminants from exposure of acid sulfate soil (ASS) within the Charlotte River, as well as saline intrusion into the underground workings. These potential risks are significant and require a full and public ASS assessment be undertaken.

The Proponent acknowledges that an alternative water supply, such as the Observation Hill Dam that was used by Core Lithium, may be preferable, but has rejected this option due to access permissions and pressure from existing users. This being the case, the Project's potential reliance on groundwater necessitates a greater degree of assessment compared to previously operating mines that relied on dam water.

A series of 'mitigation measures' are proposed by the Proponent to address potential impacts to inland water environment quality, including the development and implementation of a Vegetation Clearing Procedure, an Erosion and Sediment Control Plan, a Water Management Plan, a Hazardous Materials Management Plan, an Emergency Response Plan, and a Mining Closure and Rehabilitation Plan. These plans are not themselves mitigation measures but requirements of an environmental assessment and/or mining license, that may then contain mitigation and control measures therein. These plans should be fully developed and then evaluated by the public and the regulator as part of an EIS.

Aquatic Ecosystems

The Proponent acknowledges that the potential for impacts to habitat quality and biodiversity of aquatic ecosystems is uncertain due to knowledge gaps concerning groundwater and surface water hydrology. Given the large volume of planned water release into Charlotte River, and the fact that no aquatic surveys have been undertaken by the Proponent in the surrounding waters, and furthermore the fact that key ecological sites such as mangrove woodlands and riparian vegetation occur directly downstream of the project area, the potential for unacceptable and significant impacts to aquatic ecosystems is high.

Atmospheric Emissions

The Proponent asserts that there is no potential for impact to the Atmospheric Emissions factor and as such has not undertaken an assessment of this factor. However, given the fact that the power generation for the Project has not yet been determined, it is not clear how the Proponent arrived at this conclusion. Whether a diesel generator or a solar farm is used will make a consequential difference to the atmospheric emissions of the Project. Without having undertaken an analysis of projected GHG emissions, the Proponent cannot be satisfied that GHG emissions will not trigger the large emitters threshold.

Consultation and Culture and Community

Despite outlining a plan for consultation in an Appendix to the referral documentation, it is unclear what, if any, consultation has actually occurred for the proposed Project. To take one example, whilst the Environment Centre NT is identified as a key stakeholder with various consultation actions identified to occur over the course of 2024, including making contact and offering a briefing in March 2024, none of this has occurred. The Environment Centre NT has not received contact from the Proponent. This reduces confidence in the veracity of the overall consultation plan. It is not acceptable to commence consultation once environmental approvals have been secured, or are on their way to being secured, because the substance of the mitigation and control measures included in the proposed plan needs to arise from consultation and stakeholder engagement.

ECNT furthermore holds critical concerns about the suggested consultation material included by the Proponent in Appendix E. For example, the Plan instructs the Proponent to ““Clearly state that the project will not draw on any rural water tables/aquifers”, but this is contradicted by the Proponent’s own plans as outlined in the referral documents which indicates the possibility of groundwater extraction. The “Key Messages” are therefore factually wrong and fail to inform stakeholders about the true nature of the project and potential impacts.

Various areas of concern are said to be ‘expected’ to emerge from consultation, but once again it is unclear if this is based on conjecture or evidence. In any case, the fact that, for example, increased traffic from mine trucks on local roads and associated damage to roads is expected to be a major source of concern for locals, resulting from 13-18 return trips a day during peak production, should lead to the Proponent developing and publishing the Traffic Management Plan as part of the consultation process rather than merely stating a commitment to do this in the future once approvals have been secured. It is not adequate to assert that a particular impact is “minor” *because* a Traffic Management Plan will be implemented; the Traffic Management Plan itself needs to evaluate the impact and suggest mitigation and control measures, with the scale of the impact to be determined in consultation with impacted community members.

Recommendation

It is recommended that the project be assessed at the level of an EIS, similarly to the previous Grants Lithium Project, at a higher level than the Supplementary Environmental Report (SER) required for the BP33 Underground Mine. This is due to the increased nature of cumulative impacts associated with the Project, key uncertainties and knowledge gaps identified in the referral documents particularly in relation to hydrological processes and aquatic ecosystems, and difference in the nature of water usage in mining processes that entail a greater potential for significant impact.

Yours sincerely,

Naish Gawen
Policy and Research Lead, Environment Centre NT