

DIRECTION TO PROVIDE ADDITIONAL INFORMATION

This direction is given under regulation 119(2) of the Environment Protection Regulations 2020 (EP Regulations).

Name of proposed action Finniss Lithium Project BP33 Underground Mine
EP2020/001

Proponent Core Lithium Ltd

Description of proposed action To develop and operate an underground lithium mine at the BP33 resource on the Cox Peninsula, 33 km west of Berry Springs on vacant Crown land (Mineral Leases ML 32074 and ML(A) 32346)

Method of environmental impact assessment Assessment by Supplementary Environmental Report (SER)

Direction The proponent is directed to include the additional information detailed in **Attachment A**, in the SER:

- to address the submissions received in relation to the referral information; and
- to ensure that the NT EPA has sufficient information to complete the environmental impact assessment process

Submission period for SER The SER must be submitted to the NT EPA within 12 months of the date of this Direction

Person authorised to give direction Dr Paul Vogel AM
Chairperson, Northern Territory Environment Protection Authority
Delegate of the NT EPA under section 36 of the *Northern Territory Environment Protection Authority Act 2012*

Signature



Date of direction 16 October 2020

Attachment A – Additional information requirements for the Supplementary Environmental Report Core Lithium Limited – Finniss Lithium Project BP33 Underground Mine

Additional information required to address potential significant environmental impacts to environmental objectives		
Environmental factor	Referral ref.	Additional information required
Terrestrial ecosystems	Section 7	<p><u>Threatened species – <i>Stylidium ensatum</i></u> Provide the Field Survey Report for the <i>Stylidium ensatum</i> survey and assessment. The survey must be adequate to reliably detect the presence or absence of <i>Stylidium ensatum</i>. Where the absence of the species cannot be ruled out, provide an evaluation of the potential direct, indirect, off site and cumulative impacts prepared in accordance with the Significant Impact Guidelines 1.1 under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. The evaluation of the potential impacts must be supported by a risk assessment and appropriate measures that would be implemented to avoid, mitigate and/or offset potential impacts, including referral to the Australian Government Department of Agriculture, Water and the Environment. The Department of Environment, Parks and Water Security (DEPWS) Flora and Fauna Division should be consulted on the proposed approach to manage potential impacts, and the results.</p>
Terrestrial environmental quality	Section 8	<p><u>Waste Rock Characterisation</u> Provide the results of additional geochemical testing undertaken to demonstrate appropriate representation of samples with higher sulfur content and to quantify the amount of Potential Acid Forming (PAF) material present and the potential for water leaching of aluminium, arsenic and zinc. In line with recommendations from the Geochemical Characterisation Report (Referral Appendix A) additional tests are to include:</p> <ul style="list-style-type: none"> • Completion of Acid Neutralising Capacity and Net Acid Generation testing on selected samples from drill holes FRC166 – FRC171, focusing on, but not exclusively, samples with sulphur content >0.2 %S. All fresh and transitional waste rock from the 2018 drill holes should be included in the test program. • Kinetic testing (leach columns) of oxidised and fresh rock samples to confirm initial results of aluminium, arsenic and zinc leachability and to define the kinetics of this process. Kinetic leach column (KLC) testing should be conducted under oxic conditions to simulate conditions during storage in Waste Rock Dump and in the unsaturated zones within the backfilled underground mine and boxcut. Following a period of leaching under oxic conditions, KLC tests should be

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		<p>conducted under saturated conditions to simulate the leaching properties of backfilled waste that would be placed below the water table upon groundwater rebound.</p>
Hydrological processes	Section 10	<p>To reduce uncertainty about the inputs, movements, outputs, quantities and quality of surface water and groundwater resources that may be affected by the proposal, the following information must be provided:</p> <p><u>Site water balance</u></p> <ul style="list-style-type: none"> • a predictive water balance model, developed to aid site water management planning, minimise water use and assist in comparisons of the actual site water balance against the predicted site water balance. The modelling report should include details on how the model was calibrated and validated; and the key assumptions used • provide a detailed description of the site water management system and the water balance model including: <ul style="list-style-type: none"> ○ potential sources of water, and their quantity, quality and security ○ water volume and quality needs of the proposed operation, including water proposed to be taken for consumptive (e.g. dust control sprays, dust suppression, wash down) and non-consumptive purposes (e.g. dewatering) ○ assessment and management of dewatering volumes and use of surplus (either on-site or off-site) including quantification of the anticipated peak dewatering requirements for the proposal ○ water take rate and volume and alignment with the Northern Territory (NT) Water Allocation Planning Framework ○ measures to minimise water use and discharge, consistent with the environmental decision-making hierarchy and the waste management hierarchy ○ how the impacts of climate change were considered in the development of the water balance. • confirm the anticipated volume of water that would be lost to evaporation from surface infrastructure, noting the referral states that 2,478.2KL/day would be lost.

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		<p><u>Surface hydrology</u></p> <ul style="list-style-type: none"> • Provide details of any significant diversion or interception of overland flow, including an assessment of impacts, the location and design of controls and structures that would be used to divert or contain flows • Provide details of any proposed storage, extraction (i.e. volume and rate), discharge, use or loss of surface water. Include details of the proposed dewatering, taking into account the ephemeral and variable flow nature of the receiving waterways and the need for flow rates to be enough to provide adequate dilution of contaminants during periods of discharge • Provide details of the management strategies for mine-affected water for the life of the proposal to demonstrate minimisation of any impacts to land and waters, in particular off-site impacts. • Provide details of a monitoring program, including trigger thresholds and response (corrective) actions <p><u>Groundwater hydrology</u></p> <ul style="list-style-type: none"> • Describe the quantity and significance of groundwater in the proposal area that would potentially be affected by the proposal activities through the collection of an appropriate baseline dataset (note: groundwater quality is addressed below) • Provide details of any proposed storage, extraction (i.e. volume and rate), discharge, use or loss of groundwater. Identify any approval or allocation required under the <i>Water Act 1992</i>. State how any proposed groundwater extraction would be carried out on site for the life of the proposal and describe the aquifers that would potentially or likely be affected. • Confirm proposed bore locations and extraction requirements, supported by results of groundwater investigations conducted at the proposal site, within the Charlotte River subcatchment of the Burrell Creek Formation groundwater resource that underlies the proposal area • Provide modelling of aquifer drawdown and an assessment of the impacts on the receiving environment. Develop hydrological models as necessary to describe the predicted impacts on groundwater resources that may be affected by the proposal. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources including in the post-mining phase. Modelling should enable a description of the project's impacts at the local scale and in a

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		<p>regional context. The modelling report should include details on how the model was calibrated and validated; and the key assumptions used</p> <ul style="list-style-type: none"> • Provide details of a monitoring program, including trigger thresholds and response (corrective) actions.
Inland Water Environmental Quality	Section 11	<p><u>Water quality</u></p> <ul style="list-style-type: none"> • Detail the chemical and physical characteristics (quality) of surface waters and groundwater within the area that may be affected by the proposal, through the collection of an appropriate baseline dataset. Identify any water quality standards and guidelines that would be used to describe the ecological values and health of surface water environments • Identify the quantity, quality and location of all potential discharges of water and wastewater by the proposal, to groundwater and surface water, whether as point sources (such as controlled discharges from regulated dams) or diffuse sources (such as seepage from waste rock dumps or irrigation to land of wastewater). Demonstrate how water would be managed and treated to achieve a quality that provides for protection of at least 95% of aquatic ecosystem species prior to discharge. Assess the potential impacts of any discharges on the quality and quantity of receiving waters taking into consideration the assimilative capacity of the receiving environment, the loads of key contaminants, the carrying capacity of the receiving system, cumulative impacts from other proposals and the practices and procedures that would be used to avoid or minimise impacts • Demonstrate how the implementation of mitigation strategies would mitigate significant impacts of water discharges on the receiving environment. Information should be supported with references to relevant legislation, policies, guidelines and modelling. Describe how the achievement of water quality objectives would be monitored and audited • Provide details of a monitoring program, including trigger thresholds and response (corrective) actions • Provide detail about the proposed onsite sewage system and how sewage would be managed, treated and disposed in a manner which ensures drainage to groundwater is minimised and subsurface flows of contaminants to surface waters are prevented.
Society and economy	Section 12	<p>Conduct a Social Impact Assessment (SIA) in line with the New South Wales (NSW) Social Impact Assessment Guideline. The SIA scoping should be undertaken in consultation with DEPWS Environmental Assessments and should reflect the predicted nature and scale of the potential social</p>

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Additional information required to address potential significant environmental impacts to environmental objectives		
Environmental factor	Referral ref.	Additional information required
		(positive and negative) impacts of the proposal on potentially affected communities, including potentially affected Aboriginal communities.
Additional information required to demonstrate compliance with the <i>Environment Protection Act 2019 (EP Act)</i> and subordinate regulations		
Reference	Description	Additional information required
Section 2	Environmental decision-making hierarchy	Describe how the environmental decision making hierarchy has been applied to the proposal. Provide detail about how impacts would be avoided and mitigated and how the potential to offset significant residual impacts has been considered, including for vegetation clearing, emissions and water take.
Section 27	Waste management hierarchy	Describe how the waste management hierarchy has been considered in the design, implementation and management of the proposal. Provide detail about how each of the waste streams generated by the proposal would be handled, managed and disposed.
Section 42(b)(iv)	Ecosystem-based management	Describe how the proposal would be managed using ecosystem based management i.e. management that recognises all interactions in an ecosystem, including ecological and human interactions.
Section 42(b)(v)	Impacts of a changing climate	<ul style="list-style-type: none"> • Provide an estimate of scope 1 and 2 greenhouse gas emissions and describe measures that would be implemented to reduce emissions to as low as reasonably practicable • Provide additional detail about the proposed energy sources and use, including consideration of non-renewable and renewable energy for the proposal • Describe how the impacts of a changing climate have been considered in relation to the proposal.
Section 42(c)	Purpose of environmental impact assessment process	Describe how the potential for less environmentally damaging alternative approaches, methodologies or technologies has been considered, including for energy use.
Section 42(e)	Purpose of environmental impact assessment process	Provide detailed information about the methods, outcomes and timing of mine closure and rehabilitation to ensure that the environmental quality of land disturbed by mining activities is restored, rehabilitated and able to sustain an approved post-mining land use.
Section 43(a)	General duty of proponents	Provide information to: <ul style="list-style-type: none"> • demonstrate that communities that may be affected by the Proposal have been provided with information and opportunities for consultation to assist in their understanding of the proposal and its potential impacts and benefits. • demonstrate that stakeholder engagement and consultation undertaken in relation to the proposal is consistent with the NT EPA's Guidance for Proponents - Stakeholder Engagement. Provide a Community and Stakeholder Engagement Plan that details how the community and stakeholders will be consulted, engaged and informed through the life of the project.

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Section 43(b)	General duty of proponents	Provide information to demonstrate that affected communities, including Aboriginal communities, have been consulted with in a culturally appropriate manner.
Section 43(c)	General duty of proponents	Provide information to demonstrate that the Proponent has sought and documented community knowledge and understanding (including scientific and traditional knowledge and understanding) of the natural and cultural values of areas that may be impacted by the Proposal.
Section 43(d)	General duty of proponents	Provide information to demonstrate that the Proponent has addressed Aboriginal values and the rights and interests of Aboriginal communities in relation to areas that may be impacted by the Proposal.
Additional information required to address submissions		
Submitter	Description	Additional information required
Aboriginal Areas Protection Authority (AAPA)	Authority certificate	Provide a copy of the relevant Authority Certificate for the proposal (C2019/077). Provide details about how potential impacts to the sacred site in the proposal vicinity would be avoided and/or mitigated.
Department of Infrastructure, Planning and Logistics (DIPL)	Traffic Management Plan and Traffic Impact Assessment	Provide detail about the extent of potential traffic impacts of the proposal and how those impacts would be managed.
Department of Primary Industry and Resources (DPIR)	Groundwater bore locations	Provide details of the locations of groundwater monitoring bores in the vicinity of the proposed run of mine and waste rock dump areas.
Department of Health (Medical Entomology)	Biting insects	Provide advice with regards to existing biting insect populations at the site, and measures to reduce the potential to create new mosquito breeding sites during all phases of the proposal.
Private individual	Visual impacts / Cultural values	Confirm that there has been consultation with communities that may be affected by the proposal, including Aboriginal communities, and that Aboriginal values and the rights and interests of Aboriginal communities have been considered in relation to the areas that would be impacted by the proposal, including the proposed height of the waste rock dumps.
Private individual	Vegetation debris	Provide detail about how vegetation debris would be used, noting that burning of vegetation is not supported. The NT EPA's preference is that vegetation be mulched during/after clearing and used for erosion and sediment control during construction and operations; or retained and reused onsite for rehabilitation.