Northern Territory Environment Protection Authority

Onshore Petroleum Activity – NT EPA Advice

BLUE ENERGY LTD (BLU1-3) – ENVIRONMENT MANAGEMENT PLAN (EMP) FOR THE WISO BASIN SEISMIC SURVEY EP205 & 207

BACKGROUND

The Minister for Environment has formally requested under section 29B of the *Northern Territory Environment Protection Authority Act 2012* (NT EPA Act) that the Northern Territory Environment Protection Authority (NT EPA) provide advice on all Environment Management Plans (EMPs) received under the Petroleum (Environment) Regulations 2016 (the Regulations).

That advice must include a recommendation on whether the EMP should be approved or not, supported by a detailed justification that considers:

- whether the EMP is appropriate for the nature and scale of the regulated activity to which the EMP relates (regulation 9(1)(b))
- the principles of ecologically sustainable development (regulation 2(a)), as set out in sections 18 to 24 of the *Environment Protection Act 2019* (NT)
- whether the EMP demonstrates that the activity will be carried out in a manner by which the environmental impacts and environmental risks of the activity will be reduced to a level that is as low as reasonably practicable and acceptable (regulation 9(1)(c))
- any relevant matters raised through the public submission process

In providing that advice, the NT EPA Act provides that the NT EPA may also have regard to any other matters it considers relevant.

ACTIVITY

Subject	Description
Interest holder	Blue Energy Ltd
Petroleum interest(s)	Exploration Permits 200, 205 and 207
Environment Management Plan (EMP) title	Wiso Basin Seismic Survey EP205 & 207, dated 10 November 2023 (document ID 211166-134)
EMP document reference	BLU1-3
Regulated activity	• Land clearing of up to 98.3 ha for seismic lines and temporary camp areas • Seismic acquisition along two lines (totalling 214 km length) • Operation of up to three temporary exploration camps • Maintenance of access tracks • Rehabilitation
Public consultation	Public consultation on the EMP was not required under regulation 8A(1)(b); as the EMP does not propose drilling or hydraulic fracturing

NT EPA ADVICE

1. Is the EMP appropriate for the nature and scale of the regulated activity (regulation 9(1)(b))

Information relating to the nature and scale of the regulated activity is provided in the EMP in a clear format. Table 1 provides an overview of the key components of the regulated activity and worst-case scenario values. The proposed work program is scheduled to take place from April to July 2024.

Table 1: Key components of the proposed work program

Component/aspect	Proposed
AAPA certificate	C2020/085, C2020/091
Total area of EP200, EP205 and EP207	15,476 km^2
Total area of surface disturbance	98.3 ha
Seismic lines	214 km (95.9 ha)
Access tracks	Existing tracks and seismic lines to be used
Groundwater extraction licence	N/A*
Groundwater usage	0.150 ML (total)
Camp	Three camps (four location options) ~ 50 person capacity per camp
Peak traffic movements	22 light vehicle movements per day Total of 44 trucks movements for duration of program 10 truck movements per week during mobilisation and demobilisation (2 weeks) 7 truck movements per week during line clearing and seismic acquisition (4 weeks)
Greenhouse gas emissions	~4,353 tCO_2-e

* The proposed groundwater use is less than 5 ML/year, which can be accessed without a groundwater extraction licence.

1.1 Activity scope and duration

The EMP clearly demonstrates the scope of the activity and its duration. The regulated activity is expected to be conducted during April to July 2024. The EMP proposes a 2D seismic survey on two seismic lines of 4.5 m width totalling 214 km. Both seismic lines will require land clearing (up to 95.9 ha). Substantive sections of both seismic lines will use blade-up techniques to avoid clearing, with these areas identified in a pre-mobilisation survey. Land clearing for the three camp pads will be approximately 2.4 ha. Upon completion of the seismic survey, the cleared seismic lines and camp pads will be rehabilitated in accordance with the Rehabilitation Plan.

A maximum of three mobile camps will be utilised for the duration seismic program. The camps will have their own mobile sewage/wastewater treatment plants and will be managed in compliance with the relevant health requirements of mining and construction camps.

The potential impacts and risks of the regulated activity have been identified and controls are reflected in the relevant environmental outcomes, performance standards and measurement criteria that have been provided in the EMP. Mitigations outlined in the risk register are classified from a hierarchy of controls and the level of certainty is indicated for each risk. Where appropriate, the NT EPA has also provided advice relating to Ministerial conditions at the end of this advice.

The level of detail and quality of information provided in the EMP is sufficient to inform the evaluation and assessment of potential environmental impacts and risks, and meets the EMP approval criteria under Regulation 9(1)(b).

1.2 General compliance with the Code

The EMP demonstrates how the interest holder will comply with the relevant requirements of the Code in undertaking the regulated activity. The risk assessment provided in Appendix E of the EMP cross-references relevant sections of the Code that apply to the mitigation and management measures to enable the reviewer to identify and confirm that the proposed regulated activity complies with the Code. The EMP also provides the following plans, which are compliant with the Code:

- Erosion and Sediment Control Plan
- Waste and Wastewater Management Plan
- Spill Response Management Plan
- Emergency Response Plan
- Weed Management Plan
- Fire Management Plan
- Rehabilitation Management Plan

2. Principles of ecologically sustainable development (regulation 2(a))

2.1 Decision-making principle

The EMP adequately assesses the environmental impacts and risks associated with the regulated activity and outlines appropriate avoidance and mitigation measures. Of the 21 risks identified, 19 are assessed as “low”. The remaining two risks are assessed as “medium” and are considered ALARP and acceptable if carried out in accordance with the mitigations and controls proposed in the EMP. It is not expected the proposed activity will have a long-term impact on the environment.

The interest holder has identified stakeholders and committed to ongoing stakeholder engagement in the EMP, as required by the Regulations. The EMP demonstrates that the interest holder has provided the information required by the Regulations to the Central Land Council, as the agent or representative of the affected Aboriginal stakeholders, and those engagement activities are ongoing. No activities can commence until the required exploration agreement and land access agreement are in place.

2.2 Precautionary principle

The NT EPA considers there is a low threat of serious or irreversible damage from the regulated activity. The interest holder’s investigations into the physical, biological and cultural environment provide a satisfactory scientific basis to assess potential environmental impacts and risks, and to identify measures to avoid or minimise those impacts and risks and address scientific uncertainty and avoid the threat of serious or irreversible damage.

The risk assessment clearly demonstrates consideration of risk events in the context of the environment in which the regulated activity is conducted and its particular values and sensitivities, and the spatial extent and duration of the potential impact. Uncertainty in relation to the environmental features was assessed, with no areas of environmental uncertainty identified.

A key environmental sensitivity relates to the potential presence of the Greater Bilby (*Macrotis lagotis*), the Gouldian Finch (*Erythrura gouldiae*), the Purple-crowned Fairy-wren (*Malurus coronatus coronatus*) and the Grey Falcon (*Falco hypoleucos*) to be present in the project area. The interest holder has reduced the scope of the proposed activity to avoid habitat for the Purple-crowned Fairy-wren and field assessments have determined that breeding habitat for Grey Falcons is not present in the area of the activity, decreasing the potential risk to low. The interest holder has proposed mitigation measures to minimise impact to Gouldian Finch habitat, which was located within the project footprint. It was noted the habitat areas have been fire-impacted and consists of regrowth not supporting hollows for breeding, and a 100 m buffer will be applied to trees confirmed as having suitable hollows for nesting during pre-clearance assessments. An ecologist with experience in Greater Bilby sign recognition will be deployed to conduct a pre-clearance survey within the mapped Greater Bilby high likelihood area at the southern end of seismic lines 03B and 06C, to enable

recording of the location of active Greater Bilby burrows and implement avoidance strategies of avoiding Greater Bilby burrows by at least 50 m,, ensuring camps are not located within 300 m of Greater Bilby and avoiding patches of Acacia-shrubs which provide a food source for the Greater Bilby where possible.

The NT EPA is of the view that the precautionary principle has been considered in assessing the regulated activity and has not been triggered due to the low threat of serious or irreversible damage existing and the presence of a satisfactory scientific basis to assess potential impacts and risks. In addition, the existing environmental monitoring commitments contained in the EMP are compliant with the Code and provide environmental performance standards and measurement criteria to ensure that the environmental outcomes are met.

2.3 Principle of evidence-based decision-making

The EMP for the regulated activity has been informed by a number of sources, including:

- a desktop assessment which provided regional context (e.g. land systems, land use, surface water, climate and bioregions), background information on the existing environment and identify important ecological values that required field survey or management consideration
- an ecological assessment within a 300 - 600 m wide corridor along the seismic lines in April 2022 that assessed land condition, waterway crossings, the presence of sensitive habitats and vegetation, and a baseline weed survey
- an archaeological assessment in April 2022, that was conducted concurrently with the environmental survey.

The ecological assessment included proposed realignments of the seismic lines where applicable to minimise the impact on environmental values. These proposed measures were incorporated into the EMP risk register and included bypassing large trees, minimising disturbance to Bullwaddy thickets and avoiding Greater Bilby burrows. All potential stream crossings along the seismic lines were assessed and control measures were included in the risk register to mitigate possible impacts from the activity.

A certified erosion and sediment control plan (ESCP) has been developed which outlines erosion control measures, monitoring and maintenance to be undertaken. These measures include: implementing clearing activities that are consistent with the NTG Land Clearing Guidelines; constructing crossing at right angles in locations where the stream is straight; utilising ‘blade-up’ or shallow clearing methods; and only using existing roads and tracks between seismic lines (no new access tracks).

The spill management plan outlines a satisfactory monitoring and response regime for spills and includes reporting requirements. The mitigation controls described in the EMP include: portable bunding; and provision of sufficient spill clean-up material at each work site and on vehicles/plant where hazardous materials or hydrocarbons are utilised.

The proposed environmental outcomes are likely to be achieved based on the best available information on the nature and scale of the activity, and the environment in which the regulated activity will be conducted. The studies undertaken by the interest holder to inform the EMP affords the interest holder with a detailed and reliable knowledge of the potential environmental impacts and risks and the most appropriate measures for mitigation of those impacts and risks.

The NT EPA is of the view that the evidence-based decision-making principle has been considered in assessing the regulated activity and that in the circumstances, decisions can be based on best available evidence that is relevant and reliable.

2.4 Principle of intergenerational and intra-generational equity

The potential environmental impacts and risks associated with the regulated activity can be adequately avoided or managed through the management measures and ongoing monitoring programs proposed in the EMP.

Protection of cultural interests is achieved through compliance with the requirements of Authority Certificates issued by the Aboriginal Areas Protection Authority under the *Northern Territory Aboriginal Sacred Sites Act 1989* (NT) and the previously completed archaeological assessment at the site to avoid archaeological heritage impacts. The regulated activity is subject to requirements of existing Aboriginal Areas Protection Authority (AAPA) Certificates C2020/091 and 2021/085, which cover all activities in the current EMP.

The interest holder has identified stakeholders and committed to ongoing stakeholder engagement in the EMP, as required by the Regulations. The EMP demonstrates that the interest holder has provided the information required by the Regulations to the Central Land Council, as the agent or representative of the affected Aboriginal stakeholders, and those engagement activities are ongoing. No activities can commence until the required exploration agreement and land access agreement are in place.

Total predicted greenhouse gas (GHG) emissions generated by the regulated activity are approximately 4,355 tCO_2-e. The project does not exceed the threshold for becoming a large emitter under the Large Emitter Policy, and no offsetting regime is required.

Any proposed future activities will be subject to further approvals, which will be assessed at that time.

The NT EPA considers that environmental values will be protected in the short and long term from the activities outlined in the EMP and that the health, diversity and productivity of the environment will be maintained for the benefit of future generations.

2.5 Principle of sustainable use

At this stage, the interest holder does not require a groundwater extraction licence as groundwater take from an existing bore is expected to be well below the 5 ML per year threshold.

Land disturbance will be limited and avoid large trees and/or culturally and environmentally sensitive areas. All land disturbed during seismic surveys will be rehabilitated immediately after the activity to minimise erosion and promote early revegetation of the natural vegetation.

As described under section 2.4, the interest holder is not considered a large emitter and no greenhouse gas abatement plan was required. As emissions in the EMP are estimates, a Ministerial condition is recommended that requires the interest holder to provide an annual emission report to the Department that summarises greenhouse gas emissions reported under the Australian Government's *National Greenhouse and Energy Reporting Act 2007* versus the predicted emissions in the EMP.

The NT EPA is of the view that the sustainable use principle has been considered in assessing the regulated activity.

2.6 Principle of conservation of biological diversity and ecological integrity

The proposed location for the regulated activity does not include groundwater dependent ecosystems; nor is it within proximity to a declared ecological community under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

The EMP identified 32 fauna and flora species listed as threatened under the Australian Government *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and/or the NT *Territory Parks and Wildlife Conservation Act 1976* (TPWC Act). An assessment of the likelihood of occurrence within the project footprint listed four threatened species that have a medium to high likelihood based on habitat suitability and previous records:

1. Greater Bilby (*Macrotis lagotis*) (Vulnerable TPWC Act and EPBC Act)
2. Gouldian Finch (*Erythrura gouldiae*) (Vulnerable TPWC Act; Endangered EPBC Act).
3. Purple-crowned Fairy-wren (western) (*Malurus coronatus coronatus*) (Vulnerable TPWC Act; Endangered EPBC Act)

4. Grey Falcon (*Falco hypoleucos*) (Vulnerable TPWC Act and EPBC Act).

The remaining species (including all migratory species) were assessed as having a low or no likelihood of occurring within the project footprint.

The DEPWS Flora and Fauna Division is satisfied that that the regulated activity does not pose a significant risk to threatened species, important habitats or significant vegetation types. The EMP outlines measures to minimise impacts on affected environmental values, including the management of threatening processes such as erosion, weeds and fire. The proposed management plans are consistent with the requirements of the Code, the NT Land Clearing Guidelines, and the Weed Management Planning Guideline: Onshore Petroleum Projects. The potential impacts to biodiversity were identified in the EMP, and the avoidance and mitigation measures were adequate to reduce the risks from example, vehicle-strike, dust, erosion and/or spills to be as low as reasonably practicable.

The regulated activity poses a low risk to the ecosystem within the Ord River Plan, Tanami and Sturt Plateau bioregions. Given the relatively small area of impact (approximately 98.3 ha) and the large area of similar habitat within the region, the regulated activity does not pose a significant risk to any regional populations of threatened species. Due to the management strategies outlined in the EMP, it is unlikely that the regulated activity will pose a risk to the identified threatened species.

The NT EPA considers that implementation of, and compliance with, the EMP will ensure the conservation of biological diversity and ecological integrity is not impacted by the regulated activity.

2.7 Principle of improved valuation, pricing and incentive mechanisms

The interest holder is required to prevent, manage, mitigate and make good any contamination or pollution arising from the regulated activity, including contamination of soils, groundwater and surface waters through accidental spills.

All stages of the regulated activity, including disposal of waste, commercial purchase of groundwater, and progressive rehabilitation of all disturbed areas to an acceptable standard, are at the cost of the interest holder. The interest holder is required to provide an adequate environmental rehabilitation security bond to indemnify the NT Government. This is based on an assessment by the Department of the estimated rehabilitation cost submitted by the interest holder.

The NT EPA is of the view the principle of improved valuation, pricing and incentive mechanisms has been considered in assessing the regulated activity and is based on the interest holder bearing any environmental costs for the activity.

3. Environmental impacts and risks reduced to a level that is as low as reasonably practicable (ALARP) and acceptable (regulation 9(1)(c))

The interest holder commits to identified measures to avoid or minimise impacts on environmental values, informed by baseline studies and surveys. The EMP systematically identifies and assesses environmental impacts and risks associated with the regulated activity. The EMP demonstrates why the controls to be implemented are considered ALARP and acceptable. Of the 21 environmental risks identified by the interest holder, 19 are considered ‘low’ risk, and therefore are ALARP and acceptable. The remaining two risks are considered ‘moderate’ and the interest holder has included mitigations that can/will be implemented such that the risks will therefore be managed at levels that are ALARP and acceptable. Specifically:

1. Impact to Greater Bilby burrows during line preparation and camp pad establishment: pre-clearance survey with an ecologist to record location of Greater Bilby burrows; avoiding active bilby burrows by at least 50 m and directly avoid inactive burrows; camp pads not to be constructed within 300 m of an active burrow site; vegetation clearing avoiding patches of Acacia shrubs in areas identified as having a high likelihood for the Greater Bilby. The moderate risk ranking was informed by a consequence rating of ‘major’ and the likelihood of the consequence occurring as ‘rare’, with the proposed controls in place.

2. Bushfire as a result of Project activities: fire extinguishers fitted to all vehicles; regular engine clean out; smoking only in designated smoking areas; all personnel and contractors inducted and abiding by the Bushfire Management Plan; no hot works on fire ban days. The moderate risk ranking was informed by a consequence rating of 'moderate' and the likelihood of the consequence occurring as unlikely', with the proposed controls in place.

The EMP also considers cumulative impacts to groundwater, flora and fauna, greenhouse gases, traffic and social and concludes these have been managed to ALARP and acceptable levels. The outcome of this project will inform any future development potential and opportunity. Any future production of gas would require a new EMP, in which the (cumulative) impacts of the proposed program will need to be addressed. This includes the mitigation of greenhouse gas emissions consistent with the NT Government net zero carbon by 2050 policy, as well as any relevant Australian government requirements.

The NT EPA considers that all reasonably practicable measures will be used to control the environmental impacts and risks, considering the level of consequence and the resources needed to mitigate them, and the nature, scale and location of the regulated activity. The NT EPA considers that the environmental impacts and risks will be reduced to a level that is ALARP and acceptable, considering the sensitivity of the local environment, relevant standards and compliance with the Code.

4. Summary of monitoring and inspections

Table 2 provides a summary of the monitoring and inspections committed to in the EMP. These programs are used by the interest holder to meet prescribed requirements and to confirm the effectiveness of the mitigations committed to.

Table 2: Monitoring and inspections relevant to the scope of the regulated activity

Aspect	Monitoring and inspections
Bushfire	• Daily monitoring of local weather and climate information (BoM) • Weekly checks of NAFI for hotspots during operations as well as scanning the surrounds for smoke • Daily monitoring for bushfire alerts (primarily via the https://securent.nt.gov.au/alerts and https://www.bushfires.nt.gov.au/incidentmap/ websites and notifying all site personnel of the risks of fire during toolbox meetings • Annual fire mapping
Chemicals	• Daily inspection of fuel and chemical storage areas
Erosion and sediment control	• Visual inspection and monitoring of existing tracks, seismic lines, camp pads, water waterway crossings and Gilgai: o during siting of seismic lines and camp pads o after completion of key phases of activity o after the wet season to look for signs of erosion o annually (post wet season) for up to five years • Visual inspections of creek and drainage line crossings: o weekly or following a rainfall event (> 20 mm over 24-hours)
Flora and fauna	• Record fauna encounters, injuries or deaths from seismic activity into fauna register
Air quality and emissions	• Daily visual monitoring of dust to ensure visibility for moving equipment and vehicles is not compromised • Greenhouse gas emissions measured from fuel consumption and methods in EMP Section 3.10 and included in annual environmental performance report
Groundwater	• Weekly recording of groundwater take using approved flow meter
Rainfall	• Daily monitoring of the 7-day forecast to determine the seismic works program around the forecasts
Rehabilitation	• Rehabilitation success to be monitored in accordance with Rehabilitation Plan:

Aspect	Monitoring and inspections
Waste and wastewater	• Weekly inspection of waste storage
Rehabilitation	• Rehabilitation success to be monitored in accordance with Rehabilitation Plan: o at the end of the wet season (Feb-Jun) between 6-9 months post rehabilitation works o annually thereafter until successful rehabilitation criteria have been met
Weeds	• Annual post wet-season weed survey of seismic lines and access tracks. • Inspection of all light vehicles, plant and equipment entering site and weed hygiene declaration form completed

5. Considerations under the *Environment Protection Act 2019*

In accordance with section 53(1) of the Environment Protection Act 2019 (NT) (EP Act), the NT EPA may provide a written notice (a call-in notice) to the proponent requesting the proponent refer the action, if it is believed on reasonable grounds that a proponent is taking an action that should be referred to the NT EPA for assessment. The NT EPA has considered the proposed regulated activity with regard to section 10 and 11 of the EP Act and has determined:

a) To the extent that major environmental stressors may arise from the proposed activity, they have been substantially reduced so those potential impacts are not significant

b) The location of the regulated activity has avoided impact to or influence on sensitive environmental values/receptors to the greatest extent possible and where unable to be avoided, potential impacts have been mitigated so those potential impacts, if they occur, would not be significant

c) At no stage of its lifecycle, could the regulated activity, on its own or cumulatively with other regulated activities at the location, have the potential to have a significant impact on the environment.

On this basis, the NT EPA has elected to not require the proponent refer the action.

6. Other relevant matters

Regulation 9 requires that an EMP provides a comprehensive description of the regulated activity, including provision of a detailed timetable for the activity. The EMP includes a schedule (Table 3-1), outlining the sequencing of works.

CONCLUSION

The NT EPA considers that, subject to the consideration of the recommended EMP approval conditions, the EMP:

- is appropriate for the nature and scale of the regulated activity
- demonstrates that the regulated activity can be carried out in a manner that potential environmental impacts and environmental risks of the activity will be reduced to a level that is as low as reasonably practicable and acceptable.

In providing this advice the NT EPA has considered the principles of ecologically sustainable development.

RECOMMENDATIONS

The NT EPA recommends that should the EMP for Blue Energy Ltd be approved, the Minister considers approval conditions to achieve the following outcomes:

1. Certainty as to the extent and location of clearing through provisions of spatial data for areas cleared.

2. Certainty as to the interest holder's compliance with the approved EMP through submission of an annual performance report and a rehabilitation progress report to DEPWS, to demonstrate the interest holder has met environmental outcomes and complied with the requirements set out in the Regulations, the Code, the Ministerial conditions and the EMP.
3. Certainty as to the timing of the submission of annual performance reports and rehabilitation progress reports.
4. Certainty as the extent of greenhouse gas emissions through provisions of an annual emissions report to DEPWS that summarises greenhouse gas emissions reported under the Australian Government's National Greenhouse and Energy Reporting Act 2007 versus the predicted emissions in the EMP.
5. Certainty that the land is free from contamination and can meet rehabilitation requirements through recording of all spills in an internal register that includes location, source and volume of the spill and corrective actions.

PAUL VOGEL AM

CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

10 JANUARY 2024