

Statement of Reasons

ORIGIN ENERGY LIMITED – ENVIRONMENT MANAGEMENT PLAN (EMP) FOR THE BEETALOO BASIN KYALLA EP117 N2 CIVIL CONSTRUCTION

PROPOSAL

The Environment Management Plan (EMP) for the Beetaloo Basin Kyalla Exploration Permit 117 (EP117 N2) Civil Construction (the Proposal)¹ was referred by Origin Energy Limited (the Proponent)² to the Northern Territory Environment Protection Authority (NT EPA) on 10 April 2019 for consideration under the *Environmental Assessment Act 1982* (EA Act).

The Proponent proposes to undertake a series of civil construction activities on EP117, required to enable their 2019/20 exploration petroleum well program. The civil construction program comprises land clearing of 6.6 hectares (ha) and involves the installation of, or upgrading of, access tracks, camp pad and lease pad, including:

- establishment of a 4.5 ha exploration lease pad and a 1.0 ha camp pad
- land clearing required for, and construction of, up to a total 650 metres (m) of access tracks and intersection upgrades (0.9 ha)
- stockpile laydown area (0.2 ha)
- use of existing approved gravel pits to provide material for improving stability and integrity of the access tracks and lease pads
- water extraction from existing licensed bores of approximately 20 megalitres (ML) for the construction of roads, lease pads and dust suppression
- estimated emissions of 550 tonnes of carbon dioxide equivalent (CO₂) for the activity
- installation of fencing, gates and grids.

Construction works are proposed for the 2019 Dry season. Construction would involve a workforce of 15 employees.

The Proposal does not include drilling, stimulation or well testing of a petroleum exploration well.

CONSULTATION

The EMP has been reviewed as a notification under the EA Act in consultation with Northern Territory Government (NTG) advisory bodies (see Attachment A) and the responsible Minister, in accordance with clause 8(1) of the Environmental Assessment Administrative Procedures.

The EMP did not require public consultation under the Petroleum (Environment) Regulations as it does not propose drilling or hydraulic fracturing activities.

JUSTIFICATION

The NT EPA assessed the potentially significant environmental impacts and risks associated with the Proposal in line with the NT EPA's environmental factors and objectives, and in accordance with the requirements under the EA Act. The NT EPA identified five environmental factors that could be

¹ 'Proposal' has the same meaning as 'Regulated Activity' under the *Petroleum Act 2014*.

² 'Proponent' has the same meaning as 'Interest Holder' under the *Petroleum Act 2014*.

significantly impacted by the proposal (Table 1). The NT EPA considered the importance of other environmental factors during the course of its assessment, however those factors were not identified as potentially significantly impacted. As this Proposal is a civil works activity that does not include any production of gas or significant land clearing, the NT EPA considers greenhouse gas emissions are minimal and the potential impacts are not significant.

Table 1: Key environmental factors considered for this assessment

Theme	Environmental factor	Objective
Land	1) Terrestrial flora and fauna	Protect the Northern Territory's flora and fauna so that biological diversity and ecological integrity are maintained.
	2) Terrestrial environmental quality	Maintain the quality of land and soils so that environmental values are protected.
Water	2) Inland water environmental quality	Maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected.
	3) Hydrological processes	Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.
People and Communities	1) Social, economic and cultural surroundings	Protect the rich social, economic, cultural and heritage values of the Northern Territory.

1. Terrestrial flora and fauna

Objective: Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.

Environmental values

The EMP risk assessment is based on extensive baseline surveys from 2004 – 2018. The terrestrial vegetation is bloodwood (*Corymbia*) low woodland with a tussock grass understorey community. This community is regionally extensive, intact and free of weeds at the proposal site.

The EMP identifies 20 listed threatened species that are likely to occur on EP117, based on availability of suitable habitat. Of these, three species were considered to have a 'medium' likelihood of occurrence (Table 2). A desktop review by the Department of Environment and Natural Resources (DENR), Flora and Fauna Division did not identify any additional species of potential concern.

Table 2: Listed threatened species assessed as potentially occurring in the vicinity of the Proposal

Common name	Scientific name	EPBC Act	TPWC Act
Gouldian Finch	<i>Erythrura gouldiae</i>	Endangered	Vulnerable
Grey Falcon	<i>Falco hypoleucos</i>		Vulnerable
Crested Shrike-tit	<i>Falcunculus frontatus</i>	Vulnerable	Near Threatened

The Grey Falcon occurs sparsely across the NT and is highly mobile. The Crested Shrike-tit occurs patchily and sparsely in savanna woodland in the Top End of the NT. Clearing of the relatively small area of vegetation (approximately 6.6 ha) has been assessed by DENR as unlikely to result in significant impacts to regional populations of these species.

The Gouldian Finch has specific requirements including suitable roost trees (e.g. *Eucalyptus leucophloia*) and appropriate sources of grass seed and water. The DENR Flora and Fauna Division considers that it is unlikely that the proposal area provides suitable breeding habitat and that the clearing activities would pose no significant risk to this species.

The area of disturbance for the proposal has been assessed as non-critical habitat, based on regional extensiveness and lack of sensitive, significant or essential vegetation/habitat types.

Threatening processes

The whole area is subject to periodic fires, with almost the whole region having been burnt at some time in the last decade.

Based on weed baseline surveys in all areas that will be disturbed, there is no evidence of weeds on access tracks, camp and lease pad areas. Origin has committed to implement a weed management plan to control weeds during construction, operation and for 3 years after completion of works. Mitigation measures include inspection and cleaning of construction equipment prior to accessing the site, and onsite weed control.

The property falls within the Savanna Fire Management Zone. When a Fire Danger Period has been declared, no burning may take place except where a permit to burn has been obtained from a fire control officer or a fire warden. A fire management plan has been developed for EP117.

Effective fire management requires the fire management plan be implemented, including that fire suppression equipment be available and that fire control zones, established around each of the well sites, be cleared of vegetation and maintained to limit the risk of fire spread during project activities.

NT EPA Assessment

The NT EPA considers that the potential impacts and risks to terrestrial flora and fauna can be mitigated through implementation of the management measures presented in the EMP and that its objective for terrestrial flora and fauna is likely to be met.

2. Terrestrial environmental quality

Objective: Maintain the quality of land and soils so that environmental values are protected.

The EMP describes the three main soils types within the vicinity of the activity as very strongly leached soils of the Tertiary land surface: Tertiary Lateritic Red Earths, Tertiary Lateritic Red Sands and Tertiary Lateritic Podzolic Soils. An erosion risk assessment indicates these soils have a 'very low' risk rating during the dry season when the civils construction is scheduled to occur. To address the risk of erosion in the subsequent wet season, the Proponent has committed to ensuring its contractors implement an Erosion and Sediment Control Plan (ESCP). The ESCP would be prepared by a suitably qualified professional with experience in erosion and sediment control planning. The NT EPA has made a recommendation to the Minister that the implementation of this ESCP become a condition of the EMP approval and that the ESCP is prepared in accordance with the International Erosion Control Association Best Practice standard.

A Spill Management Plan has been prepared as a component of the EMP. Effective spill management requires the EMP mitigation measures related to handling, storage, bunding and transport of chemicals to be implemented.

A comprehensive rehabilitation plan is essential to minimise the risk of subsequent erosion and return the disturbed land to its original condition and uses. The rehabilitation plan must be implemented progressively, commencing before the wet season, and include the borrow pits. The NT EPA has made a recommendation to the Minister that the implementation of the rehabilitation plan become a condition of the EMP approval.

The NT EPA considers that the potential impacts and risks to terrestrial environmental quality can be mitigated through implementation of the management measures presented in the EMP, which are consistent with the International Erosion Control Association Best Practice Erosion and Sediment Control standard, the draft NT Code of Practice (1 April 2019): Onshore Petroleum Activities and the NT Land Clearing Guidelines and that its objective for terrestrial environmental quality is likely to be met.

3. Inland water environmental quality

Objective: Maintain the quality of groundwater and surface water so that environmental values including ecological health, land uses, and the welfare and amenity of people are protected.

The closest major creek system to the proposal site is Newcastle Creek approximately 60 km from the proposal area. The EMP identifies that a number of small ephemeral streams (Stream Order 1 and 2) located along existing access tracks. The streams are overland flow paths that only flow for a short period during the wet season.

The EMP specifies that waste water and sewage will be managed via transport offsite to a licenced disposal facility. The exploration lease pad and camp pad will be bunded to a sufficient height to contain waste water in the event of a major spill. Pad surfaces will be compacted to minimise impacts of infiltration from spills. Stormwater will be collected in purpose built retention ponds and either used for dust suppression or released, after water quality testing.

The EMP includes a Spill Management Plan that outlines estimated volumes of hazardous materials, required storage and containment practices and a spill response strategy. Pad surfaces will be compacted to minimise impacts of infiltration from spills.

Provided that the mitigation and management measures outlined in the EMP are implemented, the NT EPA considers that the proposal is unlikely to have a significant impact on surface water and groundwater quality, and the NT EPA's objective for inland water environmental quality is likely to be met.

4. Hydrological processes

Objective: Maintain the hydrological regimes of groundwater and surface water so that environmental values are protected.

Groundwater

Groundwater from the Cambrian Limestone Aquifer (CLA) – Gum Ridge Formation will be extracted from existing bores and the estimated groundwater volume required for the proposed activities is 20 ML. Based on transmissivity analysis, this volume is well within sustainable recharge levels. The nearest sensitive receptor is a pastoralist bore situated 16 km from the proposed activity.

Groundwater extraction volumes will be recorded and submitted to the DENR Water Resources Division, in accordance with the requirements of the relevant of a groundwater extraction licence.

Surface water

The Proposal is situated on higher ground than the surrounding areas and measures have been taken to avoid surface water flow impacts, including the design of the pads to divert any overland flow around the pad.

The NT EPA considers that the potential impacts and risks on hydrological processes can be mitigated through implementation of the management measures presented in the EMP and that its objective for hydrological processes is likely to be met.

5. Social, economic and cultural surroundings

Objective: Protect the rich social, economic, cultural and heritage values of the Northern Territory.

Social considerations

The Proponent has undertaken stakeholder engagement with NT Government, landholders and land managers, traditional owners, the Northern Land Council (NLC) and the Aboriginal Areas Protection Authority (AAPA). The EMP cites several current agreements and operating consents associated with the Proposal, and the AAPA have confirmed the relevant AAPA Authority Certificate is in place.

The nearest homestead and community are 21 km and 29 km away from the Proposal respectively. To reduce traffic and travel times for site personnel, the Proponent intends to provide self-contained, caravan units near the site to accommodate civil contractors. Noise is not considered a significant issue. Dust will be managed through use of water carts and vehicle speed restrictions.

Cultural heritage

An Aboriginal and Historic Cultural Heritage Assessment was completed and provided in the EMP and the proposal is covered by AAPA Certificate C2019/014.

The assessment report refers to several mitigation and management strategies for the protection of Aboriginal and cultural heritage including:

- a) description of the cultural heritage induction
- b) an 'unexpected heritage (artefact) finds stop work procedure'.

The NT EPA considers that the potential impacts and risks on social, economic and cultural surroundings can be mitigated through implementation of the management measures presented in the EMP and that its objective for social, economic and cultural surroundings is likely to be met.

CONCLUSION

The NT EPA considers that the potential environmental impacts and risks associated with the proposal are not significant and that the proposal does not require assessment under the EA Act.

Comments from NTG advisory bodies have been provided to the Proponent. The NT EPA has provided recommendations to the Proponent to ensure that potential impacts on the environment are minimised and responsibilities under the legislation can be met.

The Minister for Environment has asked the NT EPA to provide advice under the Petroleum (Environment) Regulations as to whether the EMP meets the requirements of the Regulations. As part of the assessment to provide that advice, the NT EPA may make recommendations to the Minister for Environment on conditions to further ensure environmental outcomes are achieved. The NT EPA's decision not to assess the EMP under the EA Act is not reliant on the Minister for Environment accepting the EPA recommendations.

DECISION

The proposed action by Origin Energy has been examined by the NT EPA and investigations and inquiries conducted. The NT EPA has decided that the potential environmental impacts and risks of the proposed action are not so significant as to warrant environmental impact assessment by the NT EPA under provisions of the EA Act. The Proposal will require assessment and approvals under the Petroleum (Environment) Regulations. Groundwater extraction will be subject to a licence under the *Water Act 1992*. Environmental management of the potential environmental impacts is the responsibility of the Proponent through implementation of procedures and management plans

specified in the EMP and any conditions imposed by the Minister for Environment under the Petroleum (Environment) Regulations 2016.

This decision is made in accordance with clause 8(2) of Environmental Assessment Administrative Procedures, and subject to clause 14A the administrative procedures under the *Environmental Assessment Act 1982* are at an end with respect to the proposed action.

A handwritten signature in blue ink, appearing to read 'P. Vogel', is written over a horizontal line.

DR PAUL VOGEL AM MAICD

CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

10 MAY 2019

Attachment A: Northern Territory Government Advisory bodies consulted on the Environment Management Plan

Department	Division
Department of Environment and Natural Resources	Flora and Fauna Water Resources Weeds Environment Bushfires NT Rangelands
Department of Infrastructure, Planning and Logistics	Infrastructure Transport
Department of Primary Industry and Resources	Petroleum
Department of Tourism and Culture	Heritage Tourism NT
Department of Health	Environmental Health
Department of Trade, Business and Innovation	Strategic Policy and Research
Power and Water Corporation	
Aboriginal Areas Protection Authority	Technical
Department of the Chief Minister	Economic and Environmental Policy