

Onshore Petroleum Activity – NT EPA Advice

IMPERIAL OIL & GAS PTY LTD – ENVIRONMENT MANAGEMENT PLAN (EMP) FOR 2D SEISMIC WORK PROGRAM ON EP187

BACKGROUND

The Minister for Environment and Natural Resources 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));
- 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 reasonable practicable and acceptable (Regulation 9(1)(c));
- the principles of ecologically sustainable development (Regulation 9(2)(a)); and
- 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

Interest Holder	Imperial Oil & Gas Pty Ltd
Petroleum interest(s)	Exploration Permit 187
Environment Management Plan (EMP) title	2D Seismic Work Program
EMP document reference	NTEPA2019/0060-004
Regulated activity	The Proposal is for a 231 km two dimension (2D) seismic survey to be conducted in an area encompassing approximately 1200 km ² in the North-Western section of EP187. The activity includes land clearing up to 72 hectares (ha) of native vegetation along a 4 metre (m) wide track, across six (6) approximately linear intersecting survey lines. One of the E-W survey lines will use 20ha of previously cleared road corridor, the Carpentaria Highway, which bisects EP187.

Public consultation	Public consultation on the EMP was not required under the Petroleum (Environment) Regulations as the EMP does not propose drilling or hydraulic fracturing activities.
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NT EPA ADVICE

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

The seismic survey program involves land clearing up to 72 hectares of native vegetation along a 4m wide track for a distance of 231km. The work program is scheduled to commence in the third quarter of 2019, which reduces the risk of soil erosion and potential for weeds to contaminate the site as the onset of the Wet season is likely to stimulate rapid regeneration and growth.

A progressive rehabilitation plan has been developed to return the disturbed land to provide an environment similar to the original conditions.

Information on the location and scale of the proposal is provided in the EMP. The existing environment has been adequately described through baseline surveys and suitably understood. There are no areas of high conservation value, or cultural significance in the vicinity of the regulated activity.

The impacts and risks of the regulated activity have been identified by the Interest Holder and these impacts and risks should be reduced to an acceptable level through the proposed mitigation and management measures. Environmental performance standards and measurement criteria have been provided in the EMP.

The level of detail and the quality of information provided in the EMP is sufficient to inform the evaluation, assessment and management of environmental impacts and risks, and meets the approval criteria under Regulation 9 for the Minister's decision about approval of the environment management plan.

2. Principles of ecologically sustainable development (regulation 9(2)(a))

Conservation of biological diversity and ecological integrity

The EMP for the regulated activity has been informed by two separate field surveys from 2015 and post-Wet 2018, as well as opportunistic assessments at locations along the proposed seismic lines, observation via helicopter, detailed desktop analysis incorporating a variety of sources and historical surveys, and anecdotal evidence.

The EMP identifies 2 listed threatened species that have previously been recorded in the activity area: the golden-backed tree-rat, recorded over 100 years ago and now considered locally extinct; and the Gouldian finch, which was not identified through any official search methods but has been included based on anecdotal evidence.

The Department of Environment and Natural Resources (DENR) Flora and Fauna Division also included in its assessment of the EMP the following species as having habitat that may overlap with the proposed work area: the Gouldian finch, crested shrike-tit (Northern), red goshawk, grey falcon and ghost bat (listed as Vulnerable under Environment Protection and Biodiversity Act 1999 (EPBC Act)) and Merten's water monitor (Listed as Vulnerable under the TPWC Act).

Table 1: Listed threatened fauna species assessed as potentially occurring in the vicinity of the regulated activity

Common name	Scientific name	EPBC Act	TPWC Act
Gouldian finch	<i>Erythrura gouldiae</i>	Endangered	Vulnerable
Crested shrike-tit (Northern)	<i>Falcunculus frontatus whitei</i>	Vulnerable	
Red goshawk	<i>Erythrotriochis radiates</i>	Vulnerable	Near Threatened
Grey falcon	<i>Falco hypoleucos</i>		Vulnerable
Ghost bat	<i>Macroderma gigas</i>	Vulnerable	
Merten's water monitor	<i>Varanus mertensi</i>		Vulnerable

The Gouldian finch and crested shrike-tit have specific requirements including suitable roost trees (e.g. *Eucalyptus leucophloia*) and appropriate food sources including grass seed and water. Potential foraging habitat for Gouldian finches may also be disturbed during clearing, however the total area affected is very small relative to the remaining intact habitat within the exploration permit EP 187. Red goshawks and grey falcons are highly mobile and prefer large trees and riparian vegetation which have been excluded from the work area. The DENR Flora and Fauna Division advises that it is unlikely that the proposed area provides suitable breeding habitat and that the activities pose no significant risk to these species.

Ghost bat roosts are not likely to be disturbed by the seismic survey, although a small impact to foraging habitat is possible. Seismic surveys will clear only a very small proportion of ghost bat habitat and risks to these species are considered to be low.

The Merten's water monitor is restricted to heavily vegetated riparian zones, which are excluded from the work area.

The EMP proposes to minimise impacts to lancewood (*Acacia shirleyi*) by retaining surface cover and root stock to facilitate regrowth of vegetation along the seismic lines and where patches of lancewood cannot be avoided to be cleared, the proposed clearing areas does not represent significant biodiversity impact. Lancewood woodland is not considered to be a significant or sensitive vegetation.

The DENR Flora and Fauna Division considers that the proposed activities do not pose a significant risk to threatened species or significant habitats and vegetation types, and that mitigation measures are adequate to ensure that impacts on biodiversity have been reduced to as low as reasonably practicable. This includes clearing for the activity avoiding riparian vegetation and additional disturbance to watercourses and avoiding larger trees with trunk diameters greater than 25cm at 1.3m above the ground to minimise disturbance to potential nesting trees.

The EMP outlines measures to minimise impacts on affected environmental values, including the management of threatening processes such as weeds and fire. Where relevant, management measures for the aforementioned threatening process are consistent with the requirements of the Code, NT Land Clearing Guidelines and Weed Management Planning Guideline: Onshore Petroleum Projects. Specific examples of mitigation measures include: training for all personal on the use of protective gear and bushfire awareness including practice drills to refresh knowledge; daily inspection of all machinery and vehicles for any trapped vegetation that may cause a spark

or ignite a fire; ensuring the proposed vehicle and machinery wash-down, inspection, and scheduling the order of the seismic lines so the areas in which weeds are known to be present will be actioned last, to limit any spread or introduction into areas where weeds are not currently established. The NT EPA considers that implementation of the EMP for the regulated activity will ensure the conservation of biological diversity and ecological integrity.

Integration of long-term and short-term economic, environmental, social and equitable considerations

The regulated activity is low impact and of short duration. It forms one component of broader gas exploration aimed to inform the Interest Holder on the potential for gas production in the Northern Territory. In EMPs for subsequent stages (if they proceed) the Interest Holder will need to address cumulative impacts.

The EMP assesses the environmental risks and impacts associated with the regulated activity and outlines appropriate avoidance and mitigation measures. This includes the assessment and management of social risks and impacts, including the appropriate management of cultural heritage, fire and weeds.

The Interest Holder has undertaken stakeholder engagement with landholders and land managers, traditional owners, the Northern Land Council (NLC), NT Government agencies and McArthur River Mine. The interest Holder is committed to local participation in education, training, employment and enterprise opportunities, should exploration prove successful.

The regulated activity is covered by an Authority Certificate (C2018/016) issued by the Aboriginal Areas Protection Authority on 28 February 2019.

There are no conflicting economic, environmental, social or equitable considerations associated with the regulated activity.

Precautionary principle

The NT EPA considers there is no 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.

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 no threat of serious or irreversible damage existing and the presence of a satisfactory scientific basis to assess potential impacts and risks.

Principle of inter-generational equity

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

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

Promotion of improved valuation, pricing and incentive mechanisms

The Interest Holder would be 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 progressive rehabilitation of all disturbed areas to an acceptable standard would be at the cost of the Interest Holder. Prior to works commencing the interest holder will be required to provide an environmental rehabilitation bond to ensure environmental rehabilitation objectives are met.

3. Relevant matters raised through public submissions

Public consultation on the EMP was not required under the Petroleum (Environment) Regulations 2016 as the EMP does not propose drilling or hydraulic fracture stimulation activities.

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

The EMP demonstrates a systematic identification and assessment of environmental impacts and risks associated with the regulated activity. Through this assessment the Interest Holder concludes that the environmental impacts and risks have been reduced to a level that is ALARP and acceptable.

The Interest Holder has undertaken a site selection process to avoid impacts on environmental values, informed by appropriate baseline studies.

The measures proposed to minimise the disturbance footprint and manage environmental impacts and risks arising from the activity are appropriate and consistent with the Code of Practice: Onshore Petroleum Activities in the Northern Territory (the Code). The EMP demonstrates how the requirements of the Code will be met, including:

- compliance with the NT Land Clearing Guidelines with respect to the protection of soils, natural waterways and flora and fauna
- implementation of Erosion and Sediment Control Plan, developed by a suitably qualified person in accordance with the International Erosion Control Association Best Practice Erosion and Sediment Control standard
- the protection of flora and fauna through minimising the project footprint by taking advantage of existing infrastructure, such as the Carpentaria Highway, where possible
- the management of threatening processes through the development of a Weed Management Plan that meets the requirements of DENR, and a Bushfire Management Plan
- contaminant and spill management strategies such as spill kits, drip trays and arrangements for a licensed waste contractor to manage contaminated waste, should the need arise
- a site-specific rehabilitation plan to begin progressively as work on a line completes, with commitments that include intermittent independent audits, quarterly photo-point monitoring reports and a final Environmental Report to be submitted to DENR upon completion. The Proponent has committed to continuing rehabilitation until the disturbed land is restored to an environment similar to the original conditions.

The Interest Holder has committed to the following measures to ensure potential impacts and risks to terrestrial flora and fauna values have been reduced to ALARP:

- avoidance of large trees (including *Corymbia* and *Eucalyptus* species) with a trunk diameter greater than 25cm at 1.3m above the ground wherever practical during clearing for seismic lines
- clearing for seismic lines avoids riparian vegetation and additional disturbance to watercourses
- good hygiene procedures are implemented and enforced to minimise risk of weed spread.

The proposed activity does not require any water use. All water for workers will be sourced from the commercial accommodation facility: Heartbreak Hotel, Borroloola.

The NT EPA has advised the Minister for the Environment and Natural Resources to request high resolution aerial imagery of the work area no less than 3 months after the conclusion of the proposed activity. This will enable verification the activity did not exceed approved area limits.

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 involved to mitigate them.

The environmental impacts and risks will be reduced to an acceptable level, considering the principles of ecologically sustainable development as discussed above, sensitivity of the local environment, and relevant standards and the requirements of the Code.

5. Other relevant matters

Regulation 9 requires that an environment management plan give a comprehensive description of the regulated activity, including provision of a detailed timetable for the activity. To meet this requirement, the NT EPA recommends that the Interest Holder be required to submit a detailed timetable for the regulated activity to DENR prior to commencement of the regulated activity. The timetable should address all aspects of the activity and include, but not be limited to: dates for the implementation of commitments and associated hold points, dates for receipt of the Land Clearing Permit, land access, and progress reporting. The NT EPA recommends that the timetable be updated each month.

CONCLUSION

The NT EPA considers that, subject to 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 environmental impacts and risks of the activity will be reduced to a level that is as low as reasonable practicable and acceptable

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

RECOMMENDATION

The NT EPA advises that should the EMP for Imperial Oil & Gas Pty Ltd EP187 2D Seismic Work Program be approved, the following conditions be considered:

Condition 1: The Interest Holder must provide a report to DENR where there is a non-compliance of an approval condition within 48 hours of becoming aware of the non-compliance.

Condition 2: The Interest Holder must submit to DENR a timetable for the regulated activity prior to commencement of the activity and update the timetable each month.

Condition 3: The Interest Holder must provide to DENR within 3 months of completion of the regulated activity:

- i. high resolution aerial imagery of the disturbance area
- ii. digital aerial photography or UAV imagery, ortho-rectified using ground control points measured using a differential GPS (DGPS) and spatial accuracy of approximately 1 – 2 metres
- iii. a spatial assessment report on the disturbance footprint for the approved regulated activity.

Condition 4: The Interest Holder must provide to DENR, an updated rehabilitation plan within 3 months of completion of the regulated activity that includes:

- i. commitment to the continuation of rehabilitation and monitoring for three years after completion of activities, or until demonstration by an independent suitably qualified person, that rehabilitation objectives have been met.
- ii. a rehabilitation monitoring report detailing alternative methodologies for monitoring the progress of rehabilitation, including the use of remote sensing monitoring using high resolution satellite imagery.

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

11 SEPTEMBER 2019