Explanatory Guide to the Petroleum (Environment) Regulations

PETROLEUM (ENVIRONMENT) REGULATIONS
An Explanatory Guide

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<th>Full Form</th>
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<tr>
<td>AAPA</td>
<td>Aboriginal Areas Protection Authority</td>
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<tr>
<td>ALARP</td>
<td>As Low as Reasonably Practicable</td>
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<td>ALRA</td>
<td>Aboriginal Land Rights Act</td>
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<td>API</td>
<td>American Petroleum Institute</td>
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<td>AS</td>
<td>Australian Standard</td>
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<tr>
<td>BTEX</td>
<td>Benzene, Toluene, Ethelbenzene, Xylene</td>
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<td>CAS</td>
<td>Chemical Abstract Service</td>
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<td>CLC</td>
<td>Central Land Council</td>
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<td>CoNTC</td>
<td>Concentration of No Toxicological Concern</td>
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<td>DENR</td>
<td>Department of Environment and Natural Resources</td>
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<td>DIPL</td>
<td>Department of Infrastructure Planning and Logistics</td>
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<td>DoEE</td>
<td>Department of the Environment and Energy (Commonwealth)</td>
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<td>DPIP</td>
<td>Department of Primary Industry and Resources</td>
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<td>DTBI</td>
<td>Department of Trade Business and Innovation</td>
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<td>EA Act</td>
<td>Environmental Assessment Act</td>
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<td>Environment Management Plan</td>
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<td>EPBC Act</td>
<td>Environment Protection and Biodiversity Conservation Act 1999</td>
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<td>ERA</td>
<td>Environmental Risk Assessment</td>
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<td>Emergency Response Plan</td>
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<td>ESD</td>
<td>Ecologically Sustainable Development</td>
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<td>HFI</td>
<td>Hydraulic Fracturing Inquiry</td>
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<td>ISO</td>
<td>International Standards Office</td>
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<td>MNES</td>
<td>Matters of National Environmental Significance</td>
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<td>MSDS</td>
<td>Material Safety Data Sheet</td>
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<td>NEPM</td>
<td>National Environment Protection (Assessment of Site Contamination) Measure</td>
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<td>NEPC</td>
<td>National Environment Protection Council</td>
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<td>NICNAS</td>
<td>National Industrial Chemicals Notification and Assessment Scheme</td>
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<td>Northern Land Council</td>
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<td>NoI</td>
<td>Notice of Intent</td>
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<td>Northern Territory</td>
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<td>Native Title Act</td>
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<td>Northern Territory Environment Protection Authority</td>
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<td>Northern Territory Government</td>
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<td>OMPPII</td>
<td>Office of Major Projects Infrastructure and Investment</td>
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<td>PDWSA</td>
<td>Public Drinking Water Source Area</td>
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<td>PER</td>
<td>Public Environment Report</td>
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<td>SCP</td>
<td>Spill Contingency Plan</td>
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<td>SMP</td>
<td>Safety Management Plan</td>
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<td>SoR</td>
<td>Statement of Reasons</td>
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<td>TMP</td>
<td>Traffic Management Plan</td>
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<td>TTC</td>
<td>Threshold of Toxicological Concern</td>
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<td>WMP</td>
<td>Waste Management Plan</td>
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1 Introduction

1.1 Purpose of this document

This document provides guidance to the general public, interest holders in petroleum titles, government and other stakeholders for the preparation and submission of an Environment Management Plan (EMP) under the Petroleum (Environment) Regulations (the Regulations). An approved EMP is a statutory document that is enforceable through the Northern Territory (NT) legislation. Approval of an EMP is necessary for all activities that have an environmental impact or risk and is only one of several approvals required for the activity to proceed. Furthermore, this document clarifies the regulatory expectations for environmental management of petroleum activities in NT.

Particularly, this explanatory guide:

- describes the process required when preparing and submitting an EMP;
- clarifies the Minister’s expectations regarding the minimum structural and content requirements of EMP; and
- provides clear guidance regarding implementation of environmental legislation, in the context of the EMP regime for regulated activities.

1.2 Objectives of the Petroleum (Environment) Regulations

The objectives of the Regulations are to ensure that:

- onshore oil and gas activities are carried out in a manner consistent with the principles of ecologically sustainable development (ESD) and
- environmental impacts and risks associated with onshore oil and gas activities are reduced to a level that is as low as reasonably practicable (ALARP) and acceptable.

The Regulations achieve these objectives by requiring interest holders to have an approved EMP in place before a ‘regulated activity’ (see section 1.2.5) can be undertaken.

An EMP will be approved if the Minister for Resources (the Minister) is satisfied that certain approval criteria have been met. In particular, the EMP must demonstrate that all environmental impacts and risks associated with the activity are reduced to a level that is ALARP and acceptable. In making his decision, the Minister must ensure that the objectives and mandatory requirements of the Regulations and the Petroleum Act are met.

The EMP is not just an approval document. It is an implementation and management tool to manage field operations by the proponent and a statutory compliance document used by the regulator to verify that environmental outcomes are being achieved.

1.2.1 Definition of Environment

The term ‘Environment’ is defined in Section 117AAB(1) of the Petroleum Act to mean:

“land, air, water, organisms and ecosystems and includes:
(a) the well-being of humans;
(b) structures made or modified by humans;
(c) the amenity values of an area; and
(d) economic, cultural and social conditions.”
An important note is that this definition does not just cover the physical environment but includes the social and economic aspects of the environment as well.

1.2.2 Ecologically Sustainable Development

The NT Government (NTG), together with the Australian Government, is committed to the ecologically sustainable development (ESD) of natural resources. ESD is defined, in the Council of Australian Governments (COAG) endorsed National Strategy for ESD, as:

“Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life now and in the future can be increased.”

Put more simply, ESD is development, which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations. To do this, we need to develop ways of using those environmental resources, which form the basis of our economy in a way, which maintains and, where possible, improves their range, variety and quality. At the same time, we need to utilise those resources to develop industry and generate employment.

The Goal

Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

The Core Objectives

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations
- to provide for equity within and between generations
- to protect biological diversity and maintain essential ecological processes and life-support systems

The Guiding Principles

- decision-making processes should effectively integrate both long and short-term economic, environmental, social and equitable considerations;
- where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- the principle of inter-generational equity, meaning that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;
- improved valuation, pricing and incentive mechanisms should be promoted.

1.2.3 Environmental risks and environmental impacts

The Regulations operate around the concepts of environmental risks and environmental impacts. Environmental risk is defined as "the chance of something happening that will have an environmental impact, measured in terms of the environmental consequences and the likelihood of those consequences occurring". Environmental impact is defined as "any adverse change, or potential adverse change, to the environment resulting wholly or partly from a regulated activity".

It is acknowledged that environmental risks are inherent in some onshore oil and gas activities, and without control, environmental impacts may arise. As such, the Regulations require detailed assessment, reduction and control of these environmental risks and impacts through the development and implementation of the EMP for the project.

1.2.4 ALARP and Acceptable Risk

When deciding whether to approve an EMP, the Minister must be reasonably satisfied that environmental impacts and environmental risks are reduced to a level that is:

i. as low as reasonably practicable (ALARP); and

ii. acceptable.

ALARP essentially involves making a judgement about whether all reasonably practicable measures are in place to control a potential risk or impact considering the level of consequence and cost, time and resources involved to mitigate it. The concept of ALARP is well defined in legislation and case law. This term has been enshrined in UK case law since Edwards v. National Coal Board in 1949. The ruling was that the risk must be significant in relation to the sacrifice (in terms of money, time or trouble) required to avert it. Risks must be averted unless there is a gross disproportion between the costs and benefits of doing so.

The principle of ALARP is also applied in Australian Work Health and Safety legislation. Section 18 of the Work Health and Safety Act 2011. The Act defines “reasonably practicable” as follows:

“In this Act, reasonably practicable, in relation to a duty to ensure health and safety, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters including:

(a) the likelihood of the hazard or the risk concerned occurring; and
(b) the degree of harm that might result from the hazard or the risk; and
(c) what the person concerned knows, or ought reasonably to know, about:
   (i) the hazard or the risk; and
   (ii) ways of eliminating or minimising the risk; and
(d) the availability and suitability of ways to eliminate or minimise the risk; and
(e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.”

For the purpose of the Regulations, determining whether environmental risks and environmental harm are ALARP will be considered in a similar fashion to determinations made under the Work Health and Safety legislation. Put simply, when determining ALARP for an
understood risk, it must be asked whether environmental risks can be lowered further without a grossly disproportionate increase in impost.

Determining whether potential environmental risks are “acceptable” is a second test in the Regulations when determining whether an EMP should be approved. Acceptability is again a matter of judgement that is made on a case-by-case basis. Acceptability will depend on issues such as: the nature and extent of impacts on the environment, the social or economic benefits of the activity, the capacity of the proponent to deliver the environmental outcomes, and the views of the community as may be the case. In determining acceptability, the Regulations require the Minister to take account of the principles of ESD. In particular, demonstration that the principles of inter-generational equity and the maintenance of biological diversity and ecological processes is required.

1.2.5 Regulated Activities
All ‘regulated activities’ must have an EMP approved before the activity can commence. A decision point is therefore, whether or not, the proposed activity is a ‘regulated activity’.

A regulated activity is defined as: “an activity or a stage of an activity:

(a) carried out, or proposed to be carried out, in connection with a technical works programme for a petroleum interest; and
(b) that has, or will have, an environmental impact or environmental risk."

The definition ensures that all potential environmental impacts are assessed and, if required, managed. To provide clarity, the Regulations include the following list of activities which will always be considered a regulated activity:

- land clearing;
- earthworks (for example, cutting, filling, excavating or trenching);
- the construction or upgrading of access roads and tracks
- the construction, operation, modification, decommissioning, dismantling or removal of a well, pipeline, flowline or other facility;
- establishing seismic lines or drill pads;
- conducting seismic or other surveys;
- drilling, well construction, well stimulation and testing;
- the storage of petroleum; and
- anything the Minister determines in writing to be a regulated activity.

It is important to note that the list provided is by no means an exhaustive list of what may be regulated activities, and the criteria listed in a) and b) need to be considered in all circumstances.

DPIR recognises that some activities that are performed under a petroleum interest do not have an environmental impact because they do not cause any ground disturbance. Such activities include:

- taking water samples;
- taking rock samples without the use of heavy machinery;
- walking or driving on existing roads or tracks in connection with an activity mentioned in paragraph (a) or (b); and/or
Delivering this streamlined path for activities which do not pose environmental risks not only frees up government resources to focus on activities which do involve risks, but also incentivises interest holders to select non-disturbing alternatives where possible. It should also be noted that the Schedule of Onshore Petroleum Exploration and Production Requirements (Schedule) remains in place, which holds that interest holders are liable under a General Duty of Care and s58 General conditions of a Petroleum Permit or Licence under the Petroleum Act. The offences for causing material or serious environmental harm in the Petroleum Act also apply to all onshore oil and gas activities, regardless of whether or not they are considered to be “regulated activities”.

1.2.6 Land Access
Interest holders must reach a land access agreement with the landholder/manager prior to conducting any activity on private land. Details about stakeholder engagement and land access can be found on the DPIR website https://minerals.nt.gov.au/land-access.

It is required that interest holders and their designated operator give 14 days’ notice for any planned access to the property owner or occupier. Interest holders and operators must comply with any directions given about the time and locations where access is granted and to keep the property owner or occupier informed about the nature and timing of the anticipated activities. Interest holders and operators must provide regular updates during the activity and conduct a final meeting at the completion of the activities with the landowner and occupier.

1.3 The EMP Regime

1.3.1 Objective-based regulation
The Regulations are objective-based, which is preferred over “prescriptive" regulation. The focus is on outcomes and understanding of risks, rather than the specific process or approach taken to achieve the outcome. Objective-based regulation allows interest holders to adopt environmental management practices and technologies best suited to individual company circumstances, activities and locations, subject to demonstrating that all environmental risks and impacts are reduced to a level that is ALARP and acceptable.

Objective-based regulation is widely considered to be the most suitable form of regulation to manage the environmental risks associated with oil and gas activities. Most other Australian jurisdictions including the Commonwealth have adopted objective-based regulations. This approach fosters innovation and the adoption of best practices whilst reducing unnecessary “red tape”. Objective-based regulation allows regulation and management approaches to adapt as technology and techniques evolve.

While the Regulations will not prescribe minimum standards that must be achieved for specific matters, the Northern Territory Government routinely prepares a guidelines to outline expectations for a range of key technical and environmental management areas. These include baseline water sampling, chemical risk assessment for human health impacts, well integrity and hydraulic fracturing operations, waste management, fugitive emission reduction, socio-economic and sacred site management and a range of other guidelines will be developed as necessary and practical.
1.3.2 The EMP Framework
In Australia, petroleum legislation provides regulatory requirements for the exploration and extraction of petroleum resources in a safe and environmentally responsible manner. Specifically, the Petroleum Act in the Northern Territory has a specified objective of “the reduction of risks, so far as is reasonable and practicable, of harm to the environment during activities associated with exploration for or production of petroleum” and contains strict environmental offences.

The detailed regulatory and operational requirements for the environmental management of onshore oil and gas activities in the NT are now provided for under the Regulations.

The Regulations implement a risk-based and outcome-focused approach for managing the environmental performance of the NT petroleum industry through EMPs. Importantly, determinations of ALARP and acceptability will evolve over time as technology, best practice and expertise improve. Interest holders should have a mechanism in place to monitor improvements in technology and practices. The EMP regime requires that petroleum interest holders prepare and implement an approved EMP for regulated activities. DPIR will prepare and continually update guidance material to set minimum standards and the Ministers’ expectations regarding the minimum structural and content of an EMP.

An approved EMP becomes a legally enforceable document. The Regulations allow the regulator to issue infringement notices for non-compliance. In this way, environmentally sustainable outcomes can be achieved while maintaining flexibility and competitiveness.

This EMP regime is in line with the 1992 Council of Australian Governments (COAG) ecologically sustainable development (ESD) principles, which encourage continuous improvement in environmental performance and best practice environmental management.

This regime also encourages petroleum interest holders to employ innovative and effective environmental protection measures that are tailored to their specific circumstances to achieve superior environmental practice and outcomes. As such, the EMP regime requires ongoing consultation between regulators and interest holders.

The EMP must be accompanied with the following documents where relevant:

- Stakeholder Engagement Plan (SEP);
- Emergency Response Plan (ERP);
- Spill Contingency Plan (SCP);
- Traffic Management Plan (TMP);
- Waste Management Plan (WMP);
- evidence of land access agreement(s);
- an assessment of rehabilitation liability; and
- other documents and plans as may be required (such as a water monitoring plan).

1.3.3 Summary of EMP Requirements
In summary, the Regulations require the submission of an EMP which:

- is appropriate for the nature and scale of the activity or proposed use;
- provides a description of activities, the existing environment and potential environmental risks and environmental impacts;
- demonstrates that the environmental impacts and risks of the activity will be ALARP and acceptable to the Minister;
• provides for appropriate environmental outcomes, environmental performance standards and measurement criteria;
• includes an appropriate implementation strategy and monitoring, recording and reporting arrangements;
• demonstrates that there has been an appropriate level of engagement with directly affected stakeholders in developing the plan; and
• complies with the Petroleum Act, the Petroleum (Environment) Regulations and applicable NT statutes.

A current EMP (an approved EMP) must identify environmental risks and impacts, establish environmental outcomes and performance standards with measurement criteria to assess performance against those standards, and incorporate an implementation strategy to achieve those standards. These elements must be linked in a systematic manner (see Figure 2).

As mentioned above, an approved EMP becomes legally binding and therefore the environmental outcomes, performance standards, measurement and reporting criteria become mandatory. The intent of the EMP regime is to ensure that the EMP functions as a regulatory approval document and as a practical implementation and management tool to be used by the interest holder and their contractors when conducting the activity.

Further details on the requirements for each section of an EMP are provided in Section 3. A comprehensive overview of EMP requirements is provided in Appendix A for reference only.

1.4 Legislative Context

1.4.1 Petroleum Act
The Petroleum Act provides the regulatory framework for onshore petroleum exploration and production in the NT. The Regulations are given a statutory head of power under the Petroleum Act to impose environmental management requirements. Additionally, the instrument by which the petroleum interest was first granted may include certain conditions that must be complied with. Under the Petroleum Act and the Schedule an interest holder is required to submit a work program, safety management plan (SMP) and evidence of a land access agreement with the property owner and/or occupier among other requirements under the land access guidelines.

The Petroleum Act Part V, Division 2 deals with environmental offences and provides definitions for ‘environmental harm’, ‘material environmental harm’ and ‘serious environmental harm’ as well as environmental offences consistent with the Environmental Offences and Penalties Act. Accordingly, interest holders may be prosecuted for causing environmental harm.

Depending on the nature of the proposed activity and in addition to the statutory instruments (such as an approval by the Minister) above, the following additional legislation may be applicable:

1.4.2 Commonwealth legislation
• Aboriginal and Torres Strait Islander Heritage Protection Act 1984
• Aboriginal Land Rights (Northern Territory) Act 1976
• Australian Heritage Council Act 2003
• Environmental Protection and Biodiversity Conservation Act 1999
• Native Title Act 1993
  o Air Toxics
Ambient Air Quality  
Assessment of Site Contamination  
Movement of Controlled Wastes Between States and Territories  
National Pollutant Inventory  
- National Greenhouse and Energy Reporting Act 2007

1.4.3 Northern Territory legislation
- Aboriginal Land Act 2010  
- Biological Control Act 2011  
- Bushfires Management Act 2016  
- Control of Roads Act 2015  
- Dangerous Goods Act 2012  
- Environmental Assessment Act 2013  
- Environmental Offences and Penalties Act 2011  
- Fire and Emergency Act 2015  
- Heritage Act 2011  
- Information Act 2016  
- Northern Territory Aboriginal Sacred Sites Act 2013  
- Northern Territory Environment Protection Authority Act 2012  
- Petroleum Act 2016  
- Plant Health Act 2015  
- Public and Environmental Health Act 2016  
- Radiation Protection Act 2016  
- Soil Conservation and Land Utilisation Act 2013  
- Territory Parks and Wildlife Conservation Act 2014  
- Traffic Act 2017  
- Waste Management and Pollution Control Act 2016  
- Water Act 2013  
- Water Supply and Sewerage Services Act 2016  
- Weeds Management Act 2013  
- Work Health and Safety (National Uniform Legislation) Act 2014


Please note that the list provided is not exhaustive and interest holders must identify and comply with all applicable legislation.

1.4.4 Schedule of Onshore Petroleum Exploration and Production Requirements
In addition to the requirements of the Regulations, the Schedule must be complied with when seeking approvals for a petroleum activity. The Schedule is regularly updated to reflect the provisions of the Regulations and to ensure best practice in onshore petroleum operations.
1.4.5  *Environmental Assessment Act (EA Act)*
Petroleum activities that could reasonably be considered to be capable of having a significant effect on the environment are referred to the NT Environment Protection Authority (NTEPA), pursuant to Section 7 of the *Environmental Assessment Act* (EA Act). DPIR administers the referral process in accordance with NTEPA guidelines. However, interest holders may self-refer to the NTEPA. See the next chapter for a comprehensive explanation.

1.4.6  *Environmental Protection and Biodiversity Conservation Act (EPBC Act)*
Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), any petroleum activity that has, or will have, the potential to have a significant impact on a matter of national environmental significance (MNES) must be referred to the Commonwealth Department of the Environment (DoEE) for assessment. The Department of the Environment and Energy operates under a self-referral process and has released Significant Impact Guidelines to assist in determining whether referral is required:


1.4.7  *Water Act*
The *Water Act* provides legislation for the sustainable and equitable use of groundwater and surface water and the discharge of waste water. The *Water Act* is administered by the Department of Environment and Natural Resources (DENR). Section 7 of the *Water Act* provides for exemption for mining and petroleum activities within an approved activity area for the extraction and discharge of water.

The NTG has recognised that with the increased interest in unconventional petroleum resources, there is a potential that the extraction of oil and gas from deep shales may require substantial volumes of water. The government is therefore preparing to make changes to the *Water Act* that remove the exemptions for oil and gas development (and mining) projects so that there is greater oversight in the sustainable use of the NT’s water resources. In the interim, water regulation will be managed in close cooperation between DPIR and DENR to ensure the objectives of the *Water Act* are met.
2 Environmental Assessment Process

2.1 Overview of the Environmental Assessment Framework

Figure 1 provides a schematic representation of the environmental assessment framework. For a flowchart of processes administered by the NTEPA please refer to Appendix B.
Environmental assessment, in addition to processes required under the Petroleum Act may trigger assessment under the EA Act and/or the EPBC Act. It is important for the timely approval of petroleum developments that all approval requirements are identified early. DPIR works pro-actively with interest holders in providing timely advice, guidance and support.

To facilitate this process, interest holders are encouraged to follow the processes outlined in this explanatory guide and information available from the NTEPA and the DoE. Please refer to Figure 1 in Section 2.1 for a broad overview of the assessment process.

**IMPORTANT:** It is recommended that administrative procedures under the EPBC Act and NT EA Act be initiated prior to submission of an EMP for approval.

Preliminary engagement with directly affected stakeholders and DPIR should be initiated well in advance of commencing preparation of an EMP. At this stage, providing information on the planned activity enables identification of the required process. Adequate stakeholder engagement is of particular importance for those petroleum activities that are in sensitive areas, or those that overlap with other uses. For more details on stakeholder engagement, see Section 4.

### 2.1.1 Assessment under the EPBC Act

As per Section 1.4.6 under the EPBC Act, any petroleum activity that has, or will have, the potential to have a significant impact on a matter of national environmental significance (MNES) must be referred to the DoE for assessment. This includes any activity covered by the following nine (9) controlling provisions:

- world heritage properties;
- national heritage places;
- wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed);
- nationally threatened species and ecological communities;
- migratory species;
- Commonwealth marine areas;
- the Great Barrier Reef Marine Park;
- nuclear actions (including uranium mining);
- a water resource, in relation to coal seam gas development and large coal mining development.

At the early stages of project planning, it is in the best interest of the proponent to verify whether the EPBC Act applies to a given petroleum proposal and, if so, clarify the required administrative processes. The onus is on the interest holder to consider whether a proposal needs to be referred for determination under the EPBC Act and early contact with DoE will assist in this regard. Details of EPBC Act administrative processes are available at the DoE website. [http://www.environment.gov.au/epbc](http://www.environment.gov.au/epbc).

Under the ‘assessment bi-lateral’ one-stop-shop agreement with the Commonwealth, the NTEPA may perform the assessment on behalf of the DoE if the DoE decides that the activity is a Controlled Action. However, the federal Minister for the Environment must make his/her own decision about whether to approve the project and this could be a different decision to that made by the NTEPA.
It should be noted that the requirements of the Regulations do not replace obligations under the EPBC Act or vice versa. An EMP produced under petroleum legislation must comply with any conditions set under the EPBC Act.

2.1.2 Assessment under the Environmental Assessment Act

Petroleum activities that could reasonably be considered to be capable of having a significant effect on the environment are referred to the NTEPA, pursuant to Section 7 of the EA Act. The NTEPA in consultation with DPIR defined triggers that may require interest holders to submit a notice of intent (NoI) to allow a decision to be made about the required level of environmental impact assessment (EIA) either a public environment report (PER) or an environmental impact statement (EIS). Alternatively, an EMP may be submitted to DPIR and may be referred by DPIR to the NTEPA for assessment whether a PER or EIS is required.

The Minister is required to refer any proposals that require assessment under the EA Act to the NTEPA and must take into consideration any recommendations in any assessment reports prepared under the EA Act in making his/her decision about the proposed activity. Please refer to Figure 1 in Section 2.1 for an overview of the assessment process in relation to assessment under the Regulations and Appendix B for a more comprehensive diagram for the assessment carried out by NT EPA.

Information about the EIA process, referral guidelines and NoI guidelines are available on the NTEPA website: [http://www.ntepa.nt.gov.au/](http://www.ntepa.nt.gov.au/). Interest holders are encouraged to liaise with DPIR early in the planning phase of all petroleum activities to determine if referral is required.

2.2 Assessment under the Regulations

2.2.1 Submission and Approval of an EMP

An interest holder may submit an EMP for approval at any time. Within 90 days of the submission of either a new or a revised EMP the Minister must take one of the following three actions:

1. approve the plan;
2. refuse to approve the plan and give the interest holder a reasonably opportunity to amend and resubmit; or
3. extend the time the Minister has to consider the plan.

The Minister may extend the 90-day period for any reason. If the Minister chooses to extend the period, the Minister must provide the interest holder with a new timetable as soon as possible.

At any time following submission of the draft EMP the Minister can ask for further information to assist with making a decision. The 90-day clock will not stop while the Minister waits for the interest holder to provide the requested information (note that the Minister can extend the period in the event the 90-day period will not be sufficient).

The Minister can only approve an EMP if the Minister is reasonably satisfied that the following criteria (the approval criteria) have been met:

1. the EMP is submitted in a form approved by the Minister and includes all the required information as per the Regulations and guidelines;
2. the EMP demonstrates that all environmental impacts will be reduced to a level that is ALARP and acceptable;

3. the environmental outcomes, performance standards, measurement criteria and implementation plan, which includes a monitoring plan and stakeholder engagement plan, are appropriate and were developed in consultation with stakeholders; and

4. the proposed activity is in accordance with the principles of ESD.

This ensures that the objectives of the Regulations are being met.

If the Minister is not reasonably satisfied the approval criteria have been met, he must refuse to approve the plan and give notice of his decision within the 90-day period. The notice must include a timeframe in which the interest holder can resubmit the plan for reconsideration.

If the interest holder resubmits within the specified timeframe, within 30 days of the resubmission the Minister must take one of the following actions:

1. if each of the approval criteria is satisfied, the EMP must be approved
2. if any of the approval criteria is not satisfied the Minister may:
   (a) refuse the plan and give another opportunity for resubmission
   (b) extend the time the Minister has to consider the plan
   (c) refuse (with no right to resubmit) or partially approve the EMP subject to conditions.

If the interest holder makes a late resubmission or does not resubmit the Minister can refuse the EMP or approve it subject to conditions. Any decision taken by the Minister shall be accompanied by a statement of reasons for the decision, which shall be made public. The statement of reasons will outline the compliance, or lack thereof, with the approval criteria set out in the Regulations. A template for the statement of reasons is provided at Attachment C.

2.2.2 Full Disclosure of EMPs
Approved EMPs will be disclosed on DPIR's website within 14 days following approval.

Full disclosure of EMPs:

- will let other interest holders see examples of what is expected, which will foster the development of an understanding of industry 'best practice' in the NT;
- will ensure consistency of message between the community, stakeholders, the government and interest holders;
- will make it easier for interest holders to assess the cumulative impact of petroleum activities; and
- is consistent with the approach being taken in other jurisdictions.

The NT Government acknowledges that certain information is confidential pursuant to the Information Act and will provide interest holders with an opportunity to redact confidential information from the document that is publicly disclosed.

The interest holder must include an executive summary as part of the EMP. The executive summary will allow non-technical people to have an overview of the project, and the risks and mitigation measures in place without reading a possibly very long, detailed and complex document.
2.2.3 Revision of an EMP

The revision of an EMP will be required:

1. if there is a change in circumstances (eg. a new environmental impact or risk)
2. at the Minister’s request
3. every five years.

A revised EMP must go through the same assessment and approval process as the original EMP.

Part of an EMP can be revised if permitted by the Minister. The part that has been revised, taken together with the part of the EMP that has not been revised, must satisfy the approval criteria.

The Minister can request the revision of an EMP or any part thereof for any reason. The Minister must give notice to the interest holder of the matters to be addressed, the reasons for the revision and a timetable for the revision to be submitted or an objection to the revision to be made.

The form of a revised EMP must include the entire document including a change log and version number of the EMP in accordance with accepted document control procedures.

Where the regulated activity will be modified or the existing environment has changed but this modification/change has not caused a new environmental impact or environmental risk, the interest holder must submit a notice to the Minister outlining detailing the modification/change.

2.2.4 Revocation of an EMP

The Minister can revoke the approval for an approved EMP if any of the following events occur:

1. there is an environmental offence under the Petroleum Act
2. the interest holder contravenes an approved EMP
3. a revision of a current EMP is not submitted on time or not submitted at all
4. a revision of a current EMP is not approved (in other words, the underlying EMP that has been approved can be revoked if a revision to that EMP has not been approved)
5. if the interest holder continues an activity where there is a new impact or increase in an existing impact (note that a revision of an approved EMP must be submitted and approved before the activity can recommence).

In each case, the Minister must give 30 days notice of his intention to revoke the approval. The Minister must give reasons for the proposed revocation and a date before which the interest holder can give the Minister a written submission in respect of the revocation. The Minister must consider all submissions in making a decision to revoke the approval.

If approval for a current EMP is revoked the activity must stop immediately. Notwithstanding, the Minister may stop the petroleum activities at any time before revoking the approval by the issuance of a direction under the Petroleum Act.
2.2.5 Review of decisions
The Regulations provide the power to interest holders to seek review of decisions by the NT Civil and Administrative Tribunal. Decisions which may be reviewed include:

- approving a plan subject to conditions
- refusing to approve a plan
- requiring a revision to a plan
- revoking a plan.
3 Content and Preparation of an Environment Management Plan

3.1 Overview
The minimum content requirements of an EMP are set out in the Regulations. An EMP must be a cohesive document in which all of the requirements of the Regulations are logically linked (Figure 2). It is not mandatory that an EMP is structured exactly as outlined in Figure 2 and Appendix A, but it must follow a logical sequence. The information and level of detail included in an EMP should be consistent with the nature and scale of the operations carried out during the activity.

It must be emphasised that the intent of the EMP is to act as an approval document, as well as a practical implementation/management tool to for use by interest holders, operators and contractors in the field.

3.2 Cover Letter
An EMP must be accompanied by an explanatory cover letter outlining the purpose of the submission. For example, the letter could explain that the EMP is a new submission, resubmission, or update. The letter should be signed by the company representative responsible for the activity the EMP relates to. This is the person DPIR will respond to regarding acceptability of the EMP.

3.3 Document Control
An EMP must be clearly identified with an appropriate title, document number, date and revision number. The revision number is particularly important, as there may be several iterations of the document during the assessment process. As the accepted revision constitutes a legally binding agreement between DPIR and the interest holder, the revision that is finally accepted by DPIR must be clearly identified and executed by an authorised representative of the interest holder accountable for the implementation of the plan.

The EMP should be kept up-to-date, as should all supporting documentation. The Regulations require to keep a record of all changes for inspection by auditors for the duration of the petroleum interest plus five (5) years, or as otherwise directed by DPIR.

3.4 The EMP Executive Summary
The final version of the EMP must include an Executive Summary to enable members of the public to familiarise themselves with the key aspects of the activity and the approved environmental management aspects. The executive summary should be approximately 5-10 pages in length, and must include:

- co-ordinates and locality maps (legible and at an appropriate scale) of the activity;
- description of the receiving environment;
- description of the activity (including best environmental practice);
- major environmental risks/impacts and controls;
- details of any chemicals or other substances that may be in, or added to, any treatment fluids to be used for the purposes of hydraulic fracturing undertaken in the course of the activity, or introduced into a well, reservoir or subsurface formation in the course of the activity (see Section 3.8.2.5 Details of Chemicals and Other Substances);
- an overall description of the management approach;
• the environmental outcomes in relation to the activity;
• a list of stakeholders;
• advice on consultation undertaken and provision for ongoing consultation;
• contact details of the interest holder’s nominated liaison personnel for the activity; and
• any other information as requested by DPIR.

The presentation, content and format of the summary may be discussed between the interest holder and DPIR prior to submission of the EMP. For clarity, the EMP will be disclosed in its entirety (subject to redaction of confidential information). However, a summary is still required so that stakeholders and the public are able to understand the nature of the activity and any risks or impacts that may arise from it.

3.5 Corporate Environment Policy
The corporate environment policy should demonstrate that the interest holder has a high level corporate commitment to protect the environment resulting from an activity consistent with, and at least equal to, other business aims and best practices.

The policy need not be a stand-alone document. For example, environmental policy can be included in broader corporate policy statements. The policy must include a concise public statement of the corporate commitment to protect the environment during petroleum activities. The policy must be relevant to the interest holder’s activities and should include statements to the effect that management is committed to reduce environmental impacts and risks of their activities to ALARP and acceptable levels.

The policy must be approved by senior management and should identify who is given the authority to oversee and implement the policy.

The policy should guide the setting of environmental outcomes and targets and should guide the interest holder towards monitoring appropriate technology and management practices. This is important for the development of environmental outcomes for the EMP.

3.6 Environmental Legislation and Other Requirements
An EMP should include a summary of legislative requirements that apply to the activity to demonstrate that an interest holder has considered the provisions of all relevant environmental legislation and other requirements to ensure that an EMP is consistent with these.

An EMP must identify all Commonwealth and NT legislation and other requirements that are relevant to the environment in which the proposed petroleum activity is to take place and which must be complied with. A list of relevant legislation and other requirements must be included in the EMP. Any specific statutory requirement that will affect the management of a petroleum project must also be identified in the EMP, and discussed as required.

For longer term petroleum activities (i.e. greater than one year), an EMP should outline a monitoring system that will accommodate changes in the relevant environmental legislation and other requirements. (see Section 1.4)

3.7 Overview of the Environmental Risk Assessment Process
The environmental risks assessment (ERA) is a robust process to reduce risks and impacts to ALARP and acceptable levels. As presented in Figure 2, these elements include an assessment
of available data, engagement with affected stakeholders and implementing audited mitigation measures.

Figure 2 Environmental Risk Assessment Process for an Environment Management Plan
3.8 Description of the Activity

3.8.1 Objective
The Regulations require that an EMP must contain a comprehensive description of the petroleum activity including location, construction details and layout, operational details, and any additional information relevant to the consideration of the environmental impacts and risks of the activity.

This is to provide an overview of an activity relevant to its interaction with the environment, including key elements and operational phases to verify that the assessment of the environmental impacts and risks is comprehensive. A key function of this description is to provide a platform for identifying the environmental aspects of the activity in each particular area in which it will be undertaken.

3.8.2 Guidelines

3.8.2.1 Location
An EMP must identify the relevant petroleum title(s), and include coordinates and distances and direction from the nearest landmark, population centre or sensitive areas.

3.8.2.2 Maps
The geographical location of the proposed activity must be adequately identified. Clear mapping must be included in all EMPs (accompanied by electronic shape files) and at a minimum, include the following information:

- scale bar;
- north arrow;
- legend;
- permit boundaries and labels;
- location of proposed activities and disturbance;
- existing disturbance within permit (e.g. previously drilled wells);
- topographical/bathymetrical features;
- reserves and proposed reserve boundaries;
- environmentally sensitive areas;
- any other site specific sensitivities.

Maps should also include (where relevant):

- aerial imagery;
- proposed line and track clearing;
- existing tracks/access onto permit and access to proposed work area;
- location of threatened species;
- information on vegetation types and communities;
- information on fauna habitat in the area;
- Freehold (private) land lots and relevant cadastral information including features such as:
  - residential land not exceeding 2,000 m²;
  - cemeteries or burial places;
  - any substantial improvements;
- fresh water reservoir, aquifers, natural or artificial storage of water, spring, dam, bore or artesian well;
- Public Drinking Water Source Areas (PDWSA);
- Aboriginal Sacred Sites (ASS) and protected areas, including sites registered with the Aboriginal Areas Protection Authority (AAPA).

3.8.2.3 General Details
General construction and/or layout details of any facility, structure, drill rig, heavy machinery or vehicle to be constructed/used should be described with sufficient detail to provide an understanding of the environmental impacts of the activity.

Where relevant, this should include, but is not limited to:

- name and description of facility, rig or equipment;
- names of contractors and sub-contractors (if known);
- technical specifications relevant to the interaction of the activity with the environment; and
- a diagram of the proposed site layout.

3.8.2.4 Operational Details
An EMP should outline the proposed operations of an activity and proposed commencement date and schedule for the activity.

The key activities in relation to the interaction between the proposed activity and the environment should be identified and adequately described. It is important to ensure that non-routine activities are also considered.

3.8.2.5 Details of Chemicals and Other Substances
The Regulations require that an EMP must include details of any chemicals or other substances that may be in, or added to, any treatment fluid to be used for the purpose of hydraulic fracturing. An EMP needs to include the following information in relation to chemicals and other substances utilised in petroleum operations:

- product/additive trade name;
- supplier name;
- purpose of use;
- list of substances & chemical ingredients;
- Chemical Abstract Service (CAS) Registry Number;
- maximum ingredient concentration in product/additive;
- maximum ingredient concentration in total fluid utilised in the proposed activity;
- Material Safety Data Sheets (MSDS) for all products/additives; and
- information on ecotoxicity for products/additives.

Interest holders must ensure that all chemicals and other substances to be used in the activity have been accurately disclosed within the EMP. A full risk assessment should be conducted for the use of toxic chemicals and a statement including alternatives considered to reduce overall exposure levels. All chemicals used and their maximum concentration in the stimulation fluids are posted on the DPIR website for public disclosure.
3.8.2.6 Rehabilitation
Details of progressive rehabilitation, rehabilitation outcomes and rehabilitation commitments for all areas to be impacted by the proposed activity must be included in the EMP. Rehabilitation must be appropriate to the nature and scale of the activity and the environmental values of the site. Detailed information on how rehabilitation will contribute to ensuring environmental risks and environmental impacts will be reduced to ALARP and acceptable will be required.

3.9 Description of the Environment

3.9.1 Objective
The Regulations require that an EMP must describe the existing environment that may be affected by the activity, including any relevant cultural, social and economic aspects of the environment that may be affected. The operator must clearly document the data source, accuracy and relevance forming the basis for the environmental assessment. Details of any relevant values and sensitivities of that environment are also required.

This is to demonstrate that an interest holder has a thorough knowledge and understanding of the environmental sensitivities and values that may be affected by the proposed activity and summarise these for affected stakeholders. This knowledge and understanding facilitates accurate identification of sources of environmental risks in the risk assessment phase of EMP development.

3.9.2 Guidelines
This description should be based on up-to-date information and must include the following elements:

3.9.2.1 Natural Environment
Aspects of the natural environment including air, water and land must be described. This can be further broken down into:

- physical environment including, where relevant, an overview of geography, geology, water resources, hydrology, climate, etc.; and
- biological environment including flora and fauna. The description of fauna should include where relevant invertebrates, birds, fish, reptiles and mammals, and should identify species listed under relevant legislation (for example, the EPBC Act and Wildlife Conservation Act). This section should also cover, where relevant, migration seasons and paths and breeding and nesting seasons and locations.

3.9.2.2 Baseline Water Monitoring
Petroleum activities that are may include risks to water resources must demonstrate a high level of understanding of the water resource. It is currently best practice that interest holders commence baseline monitoring studies of aquifers for the monitoring of water quality and the capacity of water resources (aquifers or surface waters) to deliver water for petroleum activities, taking into consideration the quantity and duration for which water will be extracted, and considering other users of the water source.

Ongoing monitoring of aquifers and water resources is required to demonstrate to the satisfaction of DPIR and other NTG officials that there has been no contamination of fresh
water aquifers and water use has been sustainable. Water quality and usage data will be made publically available.

Any baseline monitoring program must be designed and validated by a qualified hydrologist or hydrogeologist.

3.9.2.3 Flora and Fauna Surveys
If clearing of native vegetation is to be undertaken, the description of the biological environment in an EMP is to be supported by on ground flora and fauna surveys. Flora and fauna surveys are to be undertaken by suitably qualified personnel and in accordance with the relevant NTEPA guidance statements see [www.ntepa.nt.gov.au](http://www.ntepa.nt.gov.au) and consider seasonal climate variations (wet season and dry season conditions and shoulder season conditions).

3.9.2.4 Cultural Environment
The presence of culturally sensitive features including Indigenous, European and other heritage issues should be outlined. Relevant registers and information held under the Heritage Conservation Act 2008 and the Northern Territory Aboriginal Sacred Sites Act 2004 must be reviewed and presented.

3.9.2.5 Socioeconomic Environment
Items that should be described where relevant include, recreational and commercial fishing, tourism, agricultural land use and proximity of the proposed activities to towns and population centres. In addition, potential interactions with other petroleum activities in the area should be outlined.

3.9.2.6 Values and Sensitivities
All relevant local and regional values and sensitivities should be included in the description of the environment. Where relevant, the spatial relationship between the proposed activity and the identified environmental sensitivities should be identified on a map.

Areas considered to be sensitive environments include:

- cultural and sacred sites;
- natural heritage listed areas;
- aquatic/marine and terrestrial protected areas;
- areas of protected or rare and threatened flora or fauna;
- areas of significant habitat (including mangroves, and wetlands); and
- areas of temporal significance (including breeding grounds, migration routes and nesting and aggregation areas).

Early consultation with relevant stakeholders will assist in ensuring that relevant local and regional values and sensitivities are adequately identified.

3.10 Environmental Risk Assessment
The planned and potential interactions between the described activity (aspects) and the described environment represent a source of risk (or impact) which has potential to impair the described environment. Environmental Risk Assessment (ERA) involves assessment of the likelihood and consequence of these impacts.

The Risk assessment methodology must:
• clearly identify the causes and consequences of risks and impacts;
• identify the controls required that reduce the likelihood of the risk or impact occurring;
• the controls required to reduce the consequences of the risk or impact to as low as reasonably practicable; and
• for proposed controls, identify performance standards, measurement criteria and implementation measures.

The residual risk must be demonstrated to be ALARP and acceptable in consideration of the principles of ESD in order for the activity to be approved.

3.10.1.1 Useful Environmental Risk Assessment Definitions
The following definitions are consistent with Australian Standards AS/NZS ISO 31000:2009, AS/NZ ISO 14001:2004 and HB 203:2006. Please note that these definitions may vary from those adopted by individual interest holders or in other documents:

• Aspect: Elements of the organisation’s activities or products or services that can interact with the environment. These include routine and non-routine activities (see Table 3).
• Source of Risk (Hazard): Source of potential harm, or situation with the potential to cause loss or adverse impact. These should also include sources which may only have potential unplanned interactions with the environment (i.e. accidents/incidents).
• Environmental Impact: Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s environmental aspects.
• Risk: The chance of something happening that will have an impact on objectives. It is measured in terms of consequences, and their likelihood of occurrence.
• Consequence: The outcome of an event expressed qualitatively or quantitatively, being a loss, injury, an expressed concern, disadvantage or gain. There may be a range of possible outcomes associated with an event.
• Likelihood: Description of probability or frequency of an event occurring.

3.10.1.2 Risk Assessment Methodology
The risk assessment process categorises risks using the following equation and definitions;

• Level of Risk = Likelihood x Consequence
• Definitions and Terms of Reference are required for the classification of Likelihood and consequence to reduce bias

An example of a risk matrix is provided in Figure 3.
Interest holders must provide the terms of reference used for the respective Likelihood and Consequence ratings. For instance, terms of reference for consequence ratings may be categorised as per Table 1 or equivalent in line with corporate standards and Likelihood ratings may be categorised as per Table 2.
Table 1: Example Terms of Reference for Consequence Ratings

<table>
<thead>
<tr>
<th>Natural Environment</th>
<th>Health of Personnel</th>
<th>Public Health</th>
<th>Community Social/Cultural Heritage</th>
<th>Financial Impact (compensation or rehabilitation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor - 1</td>
<td>Moderate - 2</td>
<td>Serious - 3</td>
<td>Major - 4</td>
<td>Critical - 5</td>
</tr>
<tr>
<td>Minor environmental consequence, no impairment to ecosystem, no permanent consequences, local response and full recovery of the environment expected within 1 month</td>
<td>Loss of containment within declared activity area with minor short term damage to an area of limited significance but not affecting ecosystem functions</td>
<td>Moderate effect on biological and physical environment with significant short term effect on ecosystem functions</td>
<td>Reportable event with significant environmental impact on ecosystems or species. Widespread medium and long term impact</td>
<td>Severe environmental damage, rehabilitation &gt; 100 years. Major oil spill or release, significant impact on highly valued species or habitat causing risk of extinction or impairment of the ecosystem.</td>
</tr>
<tr>
<td>Injury or illness requiring first aid or medical treatment without lost time</td>
<td>Temporary injury or illness requiring medical treatment with less than a week restricted duty or lost time at work</td>
<td>Medical treatment for injury or condition by a health practitioner with only minor temporary impact</td>
<td>Injuries or illness requiring medical treatment for injury or condition by a specialist or health practitioner with impact lasting more than a week but less than 3 weeks</td>
<td>Multiple fatalities, permanent disability or illness of more than two people</td>
</tr>
<tr>
<td>Greater than $1,000 but less than $250,000</td>
<td>Greater than $25,000 but less than $250,000</td>
<td>Greater than $250,000 but less than $1 million</td>
<td>Greater than $1 million but less than $10 million</td>
<td>Greater than $10 million but less than $100 million</td>
</tr>
</tbody>
</table>

It is recommended that interest holders review the definitions of environmental harm, material environmental harm and serious environmental harm as per Part V, Division 2 of the Petroleum Act.

Table 2: Example Terms of Reference for Likelihood Ratings

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Highly Unlikely - 1</th>
<th>Unlikely - 2</th>
<th>Possible - 3</th>
<th>Likely - 5</th>
<th>Almost Certain - 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability</td>
<td>Not known to occur in a comparable activity internationally but plausible 1 in 100,000 to 1,000,000</td>
<td>Known to occur in a comparable activity internationally but unlikely 1 in 10,000 to 100,000</td>
<td>Has occurred or could occur for this or a comparable activity in Australia 1 in 1,000 to 10,000</td>
<td>Expected to occur infrequently during this activity 1 in 10 to 100</td>
<td>Expected to occur frequently during this activity</td>
</tr>
<tr>
<td>Frequency</td>
<td>&gt;100 years</td>
<td>&lt;100 years</td>
<td>&lt;10 years</td>
<td>&lt;1 year</td>
<td>&lt;1 month</td>
</tr>
</tbody>
</table>

Using an everyday example of a risk of a collision when driving, a risk assessment may follow the following process. An initial risk identification and identification of stakeholders such as in Table 3.

Table 3: Example Risk Identification and Preliminary Risk Assessment

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Potential Source of Risk or Impact</th>
<th>Before Risk Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collision</td>
<td>Speed Weather Mechanical Failure Human Error Road Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Followed by setting outcomes, implementing controls with specific performance standards, implementation measures and levels of reliability as per Table 4.
<table>
<thead>
<tr>
<th>Aspect</th>
<th>Outcome</th>
<th>Potential Source of Risk or Impact</th>
<th>Performance Standards for Controls</th>
<th>Measurement Criteria (method, accuracy, frequency etc.)</th>
<th>Implementation Measures</th>
<th>Robustness of Treatment Method (% effective)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Weather (S)</td>
<td>Accurate weather information check w BOM prior to departure, SMS services and Tyres in good condition, balanced, 1 mm thread</td>
<td>Hourly updates, acute weather warnings via sms (cylinder) BOM weather service and Min. 1 mm thread, check monthly using gauge at 6 points</td>
<td>Include in vehicle maintenance handbook or Check rearview mirror and review speed limits for hot spots</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Speed limits adjusted for conditions (40% reduction in icy conditions, 20% reduction in wet)</td>
<td></td>
<td>In vehicle monitoring system or Sign maintenance logbook</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Warning signs at hot spots in good condition</td>
<td>Quarterly check by visual inspection</td>
<td>Sign maintenance logbook or ABS mandatory requirement for all fleet vehicles, include in annual checklist</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Car fitted with ABS</td>
<td>check ABS warning light operational, function test at annual vehicle inspection</td>
<td>checklist completed prior to every trip over 100km or included in annual inspection checklist</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mechanical Failure (S)</td>
<td>Annual inspections</td>
<td>Check driver logbook annually</td>
<td>company policy or checklist developed and mandatory</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-trip checks (oil, water fluid, coolant, brakes, lights, tyres)</td>
<td>checklist completed prior to every trip over 100km or included in annual inspection checklist</td>
<td>checklist developed and mandatory or Reminder notices</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Age/mileage of car</td>
<td>Cars &lt; 5 yrs of age, &lt;100,000 kms</td>
<td>company policy or Reminder notices</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Regular maintenance</td>
<td>Maintenance, checks at 20,000 km intervals or 6 months whichever first</td>
<td>Reminder notices or Reminder notices</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Human Error (S)</td>
<td>Driver Training in defensive driving once every 2 years</td>
<td>Training by RTO, training records reviewed annually</td>
<td>HR department to maintain training records and implement training</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Licensing all drivers current Australian Licence w/o conditions</td>
<td>Check conditions annually through national database, mandatory reporting</td>
<td>Company policy or HSE Manager trained and responsible for implementation as per procedure</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Random drug and alcohol tests all drivers once per month BAC &lt; 0.03</td>
<td>using breathaliser, calibrated daily if positive test refer for blood sample taken within one hour</td>
<td>HSE Manager trained and responsible for implementation as per procedure or Reminder notices</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Alcohol locks fitted on all vehicles</td>
<td>all locks fitted and tested at annual vehicle inspection or used in annual inspection checklist</td>
<td>checklist developed and mandatory or Reminder notices</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Driver fatigue, 15 min stops required at 2hr intervals, no driving at dusk/night</td>
<td>weekly review of invehicle monitoring system or Reminder notices</td>
<td>all cars fitted in vehicle monitoring system or Reminder notices</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speed (S)</td>
<td>cars fitted with speed delimiter</td>
<td>annual check delimiter functioning and set at upper speed limit in accordance with corporate policy</td>
<td>HSE Officer implementation procedure or Reminder notices</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>cars fitted with in vehicle monitoring system</td>
<td>all vehicles fitted with system on delivery</td>
<td>HSE Officer implementation procedure or Reminder notices</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Speed limits adjusted for conditions (40% reduction in icy conditions, 20% reduction in wet)</td>
<td>Weekly speed monitoring of in vehicle monitoring system against conditions</td>
<td>HSE Officer implementation procedure or Reminder notices</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weekly speed monitoring of in vehicle monitoring system against conditions</td>
<td>HSE Officer implementation procedure or Reminder notices</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupant Injury/Fatality (I)</td>
<td>airbags fitted and working</td>
<td>function testing at annual inspection, check warning light in pre-trip inspection, included in checklist</td>
<td>company policy or annual checks or Reminder notices</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>seatbelt worn at all times by all occupants</td>
<td>company policy or annual checks or Reminder notices</td>
<td>company policy or annual checks or Reminder notices</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ABS fitted and working</td>
<td>function testing at annual inspection, check warning light in pre-trip inspection, included in checklist</td>
<td>company policy or annual checks or Reminder notices</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ANVACAP Rating (min 4)</td>
<td>Minimum ANVACAP rating 4 for all fleet vehicles or Monthly checks in accordance with procedure</td>
<td>company policy or annual checks or Reminder notices</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Speed limit observed</td>
<td>in vehicle monitoring system against GPS tracking data</td>
<td>Monthly checks in accordance with procedure or Reminder notices</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Third Party Injury/Fatality (I)</td>
<td>Pedestrian Crossings in crowded areas, particularly schools</td>
<td>Annual review of traffic statistics and potential hot spots or the best methods needed first</td>
<td>Review of frequently used library’s and find alternatives when necessary</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Barriers in places with increased numbers of pedestrians, particularly schools and playgrounds</td>
<td>Annual review of traffic statistics and potential hot spots or the best methods needed first</td>
<td>Ultimate use of built up areas, pre-trip planning and management procedure</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Damage to Property (I)</td>
<td>Comprehensive Insurance for all fleet vehicles with up to date level of cover</td>
<td>Annual check of insurance compliance</td>
<td>HSE Manager trained and responsible for implementation as per procedure</td>
<td>20%</td>
</tr>
</tbody>
</table>
The final risk assessment should consider whether the controls put in place have reduced the risks and impacts of the activity to levels that are as low as reasonably practicable and acceptable with reference to the principles of ecologically sustainable development. The final risk assessment may take the form as in Table 5.

Table 5 Example Final Risk Assessment including reference to ALARP and Acceptability

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Potential Source of Risk or Impact</th>
<th>Objective</th>
<th>Likelihood</th>
<th>Consequence</th>
<th>Risk Rating</th>
<th>ALARP</th>
<th>Acceptable</th>
<th>Accept Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collision</td>
<td>Speed, Weather, Mechanical Failure, Human Error, Road Design, Disability, Fatality, Multiple Fatalities, Property Damage</td>
<td>Reduce Fatalities due to Collisions to 1 in 100 million hours</td>
<td>1</td>
<td>4</td>
<td>M</td>
<td>Modern technology has allowed significant reductions in collisions and fatalities resulting from collisions. Responsible vehicle use is highly unlikely to result in collisions let alone fatalities. The implemented mitigation measures reduce the risk to ALARP because further reductions in speed or additional cost would not substantially improve the risk outcome</td>
<td>The residual risk is deemed acceptable because the driver accepts responsibility to ensure that all mitigation and prevention measures are adopted when operating the vehicle and therefore accepts responsibility for their own safety. Pedestrians and other road users remain vulnerable but pedestrian crossings, traffic lights and speed control measures sufficiently reduce the risks.</td>
<td>Y</td>
</tr>
</tbody>
</table>
3.10.2 Identification of Sources of Risk and Their Impacts

3.10.2.1 Objective
To demonstrate that an interest holder has systematically identified all the environmental sources of risk and their impacts likely to directly or indirectly arise from the activity, whether arising from normal operations or potential emergency conditions (incidents), accidental or otherwise.

3.10.2.2 Guidelines
Risk Identification Methodology
It is the responsibility of the proponent to demonstrate that the environmental sources of risk and consequent impacts arising from the proposal are identified and can be managed to avoid, reduce or mitigate environmental harm. The Australian standard AS/NZS ISO 31000:2009 Risk Management provides a guide for carrying out risk assessments.

This standard states that “comprehensive identification using a well-structured and systematic process is critical, because a potential risk not identified at this stage is excluded from further analysis.” Furthermore, if an impact and source of risk is not identified, measures to mitigate that risk will not be put in place.

An EMP should outline the risk identification methodology used in the development of the EMP. AS/NZS ISO 31000:2009 Risk Management and HB 203:2006 Environmental risk management – principles and process, outline the main elements required in the risk identification process.

The risk assessment must be comprehensive and logically organised so that it can be demonstrated that all risks and impacts arising from the activity have been comprehensively assessed. Interest holders may consider referring to guidance material provided by industry bodies (ie. such as the American Petroleum Institute [API], Norwegian Standards [NORSOK] and Det Norske Veritas [DNV]). In relation to petroleum activities it would be expected that matters such as the following are addressed:

- air emissions (including venting of natural gas, Carbon Dioxide [CO₂], dust etc.);
- noise;
- visual impacts (including light sources and structures);
- traffic hazards and increased road use;
- water (including sustainable extraction, disposal, pollution and treatment);
- hazardous materials (management during transport, on-site storage and disposal);
- waste management;
- fire and explosion;
- seismicity;
- chemicals used;
- flora and fauna;
- matters of cultural significance and aboriginal sacred sites;
- impacts on existing land use (including traditional owners and indigenous peoples, residential, recreational, agricultural, industrial and tourism);
- cumulative impacts;
- rehabilitation and resilience of the natural environment to recover from impacts;
- impacts on health and wellbeing of affected stakeholders;
- impacts on existing infrastructure (power stations, rail, roads telecommunications etc.);
- local content and workforce development; and
- decommissioning of wells, pipelines and facilities.

**Identification of Sources of Risk and Their Impacts**

It is common practice to conduct a workshop to identify sources of risk and their impacts. This may include asking what can happen, how it can happen and why. This is best undertaken with a multidisciplinary team of personnel who have different perspectives and specialist knowledge of the proposal. Additionally, adequate literature reviews should be conducted, and appropriate specialist advice sought to ensure that all risks and associated impacts have been adequately identified. The persons participating in the risk assessment and their area of expertise should be included in the risk assessment.

Sources of risks and their associated impacts must be identified both for planned (routine and non-routine) and unplanned (accidents/incidents) activities for any given activity. Unplanned activities that are considered in this process should be those with a reasonable potential to occur (i.e. a credible event). Good knowledge of industry precedents is essential in identifying these sources of risks and their impacts.

**3.10.3 Risk Assessment of Environmental Impacts**

**3.10.3.1 Objective**

To demonstrate that an interest holder has systematically evaluated all the environmental impacts likely to directly or indirectly arise from the activity, and has assessed their causes, likelihood, consequences and control measures.

**3.10.3.2 Guidelines**

**Assessment Methodology**


For each risk identified in the proposal, the likelihood of an impact occurring, and the consequence of the impact should be identified and justified.

Pre-treatment risk levels and post-treatment risk levels must be provided in the EMP and the EMP must identify any treatments applied to reduce the risk to the post-treatment level and their effectiveness. These treatments must then be applied though the implementation strategy (see Section 3.12).

Where quantitative data is not available, or uncertainty exists, the best possible semi-quantitative or qualitative measures should be provided. A precautionary approach should be adopted in the consideration of risk to the environment.

The EMP should contain details of the scoping process employed in identifying environmental impacts and risks for the activity, including details of the ERA process, hazard identification workshops conducted and any other consultation process.
The use of industry-standard models in quantifying environmental risks is supported, although it is the responsibility of the interest holder to provide any additional information on model verification and validation, which may be required.

For example, the use of results from toxicity tests, plume modelling, biological surveys, literature reviews may be necessary to support the ERA.

For any assessment of environmental impacts, the limitations or uncertainty in the assessment should be presented and discussed, particularly when quantitative data is unavailable.

**Risk Matrices and Terminology**

In order to provide clarity on the ERA process undertaken, the EMP should contain a description of the ERA methodology used. In most cases, this involves presenting the corporate ERA matrix and terms of reference (ToR) used (see Table 1 and Table 2).

A clear description of consequence and likelihood levels must also be provided. Descriptions may be of a semi-quantitative or qualitative nature.

For example, the likelihood level for a given impact may relate to the known frequency of such an event occurring, based on available industry data or a statistical review. Qualifiers can also be used to separate different likelihood levels (e.g. remote, highly unlikely, unlikely, possible, likely, almost certain).

Consequence levels should be allocated based on the effects of a given impact on specific ecological values, physical or social parameters and should take into account the sensitivity of the area in which the activity is taking place.

In some cases, consequence levels are determined based on a combination of different parameters. This may vary depending on the type of ERA methodology used by an interest holder.

**Risk Assessment Format**

It is common practice to present a summary of the risk assessment results in the form of a table located in the EMP. An example is presented in Table 4.

It should be noted that Table 4 is provided as guidance only and is not an exhaustive source of mitigation measures to be implemented to manage the potential impacts described.

**3.11 Environmental Outcomes, Performance Standards, Measurement Criteria**

An EMP must include environmental outcomes, performance standards and measurement criteria.

Figure 2 outlines the main elements and linkages involved in identifying environmental outcomes, standards and measurement criteria for each of the impacts identified during the risk assessment. There can be more than one performance standard applicable to a given objective and more than one criterion applicable to a given standard.
3.11.1 Environmental Outcomes

3.11.1.1 Objective
The Regulations require that an EMP must include environmental outcomes that address the legislative and other controls that manage the environmental aspects of the activity. These outcomes must be defined in such a way that the interest holder’s performance in protecting the environment can be measured.

This is to define the environmental outcomes that an interest holder will be required to achieve to ensure the proposed activity meets the principles of ESD, reduces the risks and impacts to ALARP and that the residual risks and impacts from the activity are acceptable.

3.11.1.2 Guidelines
To meet the objective above, the specific environmental outcomes should relate to the identification and assessment of environmental impacts and risks. Each impact and risk (or group of impacts and risks) should have an environmental objective that is specifically related to that impact or risk.

All risks identified during the ERA process must be carried through to the outcomes, standards and criteria for the project. This is especially important when the ERA assesses residual risks. If risk treatments (management measures) are incorporated prior to determining the risk level, these treatments must also have a corresponding objective, standard and measurement criteria.

Outcomes must be related to the activity and the ERA. Overly general outcomes that are poorly linked to the impacts and risks should be avoided.

The outcomes must be consistent with the principles of ESD and other legislative requirements (Section 1.4) outlined in the EMP.

3.11.2 Environmental Performance Standards

3.11.2.1 Objective
The Regulations require that an EMP must include environmental performance standards intended to validate the controls put in place to manage the environmental risks of the activity and that in aggregate deliver the environmental outcomes committed to.

3.11.2.2 Guidelines
While the environmental outcomes define what is to be achieved, the performance standards relate to the quality of the control in place including people, systems, equipment and procedures. For example, an environmental objective may state that the interest holder will ‘minimise impact on the marine environment from routine discharges’; common standards associated with this objective are ‘MARPOL 73/78 Annex IV’, ‘Company Standards Manual 101’ and ‘Company Procedure XYZ’.
For each environmental objective, an EMP should include one or more related performance standard that either reduce the likelihood of the risk or impact occurring or reduce the impact or consequence of the risk and therefore meeting the objective. In this way, the performance standards will be linked to the identified impacts and risks associated with the activity (see Figure 2).

The performance standards must be clearly specified and linked to enable evaluation of interest holders’ performance.

In addition, the performance standards should be consistent with the requirements of the environmental policy (Section 3.5) and legislation (Section 1.4) outlined in the EMP.

Industry codes of practice such as provided by the American Petroleum Institute (API), Australian Standards (AS), the International Standards Organisation (ISO), NORSOK, APPEA and other suitably recognised standards may provide useful examples of robust controls to manage risks.

3.11.3 Measurement Criteria

3.11.3.1 Objective
The Regulations require that an EMP must include measurement criteria that verify the reliability and effectiveness of controls that manage the environmental risks of the activity. These criteria must enable determination of whether the outcomes and performance standards are being consistently met.

3.11.3.2 Guidelines
For each objective and related set of standards, auditable and measurable criteria must be defined. In this way, the criteria will be linked to the identified impacts and risks associated with the activity and will allow performance against the outcomes and standards to be measured (see Figure 2).

The measurement criteria should:

- Include the frequency and accuracy of measurement and reporting;
- cover the full range of environmental outcomes and performance standards; and
- allow direct measurement of performance by monitoring, data analysis, inspection or audit.

The criteria may relate to:

- a certain activity being carried out (e.g. monitoring);
- certain procedures or requirements being followed;
- certain equipment being in place;
- measurement of certain parameters against specific discharge criteria;
- the keeping of records; or
- the absence of a specific undesirable condition.
3.12 Implementation Strategy
The Regulations require that an EMP include an implementation strategy for the activity.

The primary purpose of an implementation strategy is to provide details to direct, review and manage activities so that environmental impacts and risks are continually being reduced to ALARP and environmental outcomes and performance standards are met over the life of the facility or activity.

Interest holders are free to determine appropriate technology, systems, practices and procedures if they demonstrate they can meet the agreed environmental outcomes and performance standards and all relevant environmental legislation. Once approved in the EMP, the implementation strategy must be executed as detailed.

3.12.1 Systems, Practices and Procedures

3.12.1.1 Objective
The Regulations require that the implementation strategy of an EMP include specific systems, practices and procedures to be used to ensure that the environmental impacts and risks of the activity are and continue to be reduced to ALARP and that the environmental outcomes and performance standards in the EMP are met.

This is to ensure that fit for purpose systems, practices and procedures are used to manage the environmental impacts and risks of the activity as outlined by the environmental outcomes and performance standards.

3.12.1.2 Guidelines
To demonstrate that the environmental risks can be acceptably managed, an EMP must include details of systems, practices and procedures that will be followed to avoid, reduce or mitigate the identified environmental impacts and risks. They should be properly planned, organised, led and controlled in a way that will ensure best practice environmental protection.

The systems, practices and procedures must be directly related to, and address, the environmental outcomes, performance standards, and risk mitigation measures outlined in the EMP, including measures applied to reduce risk to a residual level. This relationship should be clearly outlined in the EMP.

For example, the implementation strategy could include a separate section for each group of outcomes or standards outlining the systems, practices and procedures that will be in place to address them. For instance, to address the objective of minimising hydrocarbon spills to exposed surfaces, the implementation strategy could include, or refer to, a refuelling procedure, a bulk handling procedure, the use of bunds with sufficient capacity to contain a potential spill from the containers inside the bund allowing for rainfall to prevent spills contaminating the site.
Procedures must be included (attached in appendices or embedded in the text) or referred to in the EMP and referenced in the environmental commitments. Where the procedures are not included as appendices it is important that they are clearly identified through the use of document numbers or specific titles. It is also necessary for the text to summarise the key features of the procedure that are relevant to risk minimisation.

3.12.2 Roles and Responsibilities of Personnel

3.12.2.1 Objective
The Regulations require that the implementation strategy establish a clear chain of command, which sets out the roles and responsibilities of personnel in relation to the implementation, management and review of the EMP.

This is to ensure that responsibility and accountability for the implementation, management and review of the EMP is assigned to specific persons, and that powers and resources are assigned to enable these responsibilities to be met.

3.12.2.2 Guidelines
An EMP should describe the responsibilities of all personnel in relation to implementing the tasks, systems, practices and procedures identified in the implementation strategy. This should cover all relevant authority levels ranging from senior management through to rig, facility or vessel crews.

The descriptions should relate directly to the implementation, management and review of the EMP. Specifically this should outline:

- the authority given to each person to implement appropriate responses to the environmental impacts and risks of the activity; and
- the resources assigned for those responses.

The responsibilities and accountability of staff should be documented and should be commensurate with authority levels.

Responsibilities and accountability for liaison with external groups should be defined.

3.12.3 Training and Competencies

3.12.3.1 Objective
The Regulations require that the implementation strategy include measures to ensure that all personnel associated with the activity are aware of their EMP-related responsibilities. These measures must also ensure all personnel have appropriate competencies and training.

This is to ensure all personnel clearly understand what is required of them in relation to the management of the environmental impacts and risks of the activity, and to ensure they are competent to carry out these responsibilities.

3.12.3.2 Guidelines
Where relevant, an EMP should provide details of procedures for identifying training needs and the upgrading of skills of personnel in relation to their environmental responsibilities.
An EMP should include a commitment to the provision of appropriate training for personnel (for example environmental inductions and spill response exercises), and should outline how the competence of personnel will be assessed and reviewed.

An EMP should include, as a minimum, an overview of the training programs and their content (for example, a list of topics that will be covered in the crew induction) and how these relate to the responsibilities of personnel. In some cases, inductions may need to be customised for personnel with special responsibilities or requirements.

### 3.12.4 Monitoring, Auditing and Management of Non-Compliance

#### 3.12.4.1 Objective

The Regulations require that the implementation strategy provides for the monitoring, audit, management of non-compliance and review of the interest holder’s environmental performance and the implementation strategy.

This is to ensure that procedures are in place to monitor the management of the environmental impacts and risks of the activity against the performance outcomes, standards and measurement criteria with a view to continuous improvement of the environmental management of the activity.

#### 3.12.4.2 Guidelines

**Monitoring**

Where relevant, periodic review of the effectiveness (and deficiencies) of the implementation strategy should be undertaken with a view to continuous improvement of the environmental performance of the activity.

An EMP should outline the arrangements for the monitoring and auditing of the environmental performance of the activity as outlined by the measurement criteria for each objective and related standards. The monitoring must enable the Minister to determine whether measurement criteria (and consequently environmental outcomes and performance standards) are being met.

Monitoring and measurement of environmental performance should be appropriate to the activity, with the results systematically recorded (see section 3.13.1). For example, this may include routine environmental monitoring, analysis of performance indicators, random checks, agenda items for daily meetings, regular inspections or audits with the completion of checklists or audit reports.

Where relevant, the EMP must also include monitoring of discharges or emissions, such as produced water or flaring. In addition, monitoring measures and methodology should be outlined (for example, the type of oil-in-water analyser used and an outline of the laboratory method used to calibrate/test the analyser).

**Audits**

Audits are an essential aspect of a governance system to ensure that the EMP is meeting its outcomes. The interest holder should incorporate an audit and verification plan in the EMP.

Audits should be used to:
• ensure all significant environmental aspects of an activity are covered in the EMP;
• ensure that management strategies to achieve environmental outcomes are being implemented, reviewed and where necessary amended;
• identify non-compliances and opportunities for continuous improvement; and
• ensure that all environmental completion criteria have been met before completing, suspending or decommissioning an operation.

The EMP should identify on-site internal or third-party environmental audits planned commensurate with the scale of the activity to ascertain compliance with the EMP. Pre-start and close-out internal environmental audits should also be planned when appropriate.

Management of Non-compliance
An EMP should outline the arrangements for the handling and investigation of non-compliance with the performance outcomes, standards and measurement criteria, and the implementation strategy. This should also include arrangements for following up of regulatory non-compliance.

Any corrective or preventative actions taken should be commensurate with the magnitude of the non-compliances identified. Arrangements for the tracking and close out of action items should be outlined (for example, the use of a corrective action register and tracking system).

It should be noted that non-compliance against regulatory requirements may result in penalties being imposed.

Reporting

It is a requirement that results of monitoring and auditing must be reported to the Minister at least every 12 months. Further details are provided in Section 3.13.

3.12.5 Emergency Contingency Plan

The Regulations require that the implementation strategy must establish and provide for the maintenance of an up-to-date Emergency Contingency Plan containing detailed response arrangements for known risks such as hydrocarbon release, chemical spills, fluid release and well blowouts.

This is to ensure that all plausible spill situations that could arise as a result of the proposed petroleum activity are identified and to demonstrate that adequate response strategies are in place.

The EMP should make reference to the appropriate emergency response documentation in place for the activity. Adequate referencing and linkage for these documents should be identified. An Emergency Contingency Plan may be submitted as a separate document or be incorporated into the implementation strategy of an EMP.

An Emergency Contingency Plan associated with a given EMP must be prepared in accordance with the relevant legislation and must be accepted by DPIR before the activity can commence. The Emergency Contingency Plan must be consistent with National and State plans for prevention and response to oil and hazardous material spills.
3.12.6 Record Keeping

The EMP should identify types of environmental records for the activity that will be retained. These must include records that are linked to relevant measurement criteria, standards, commitments, monitoring and reporting requirements, as well as any additional information that the interest holder’s environmental management system addresses.

The following list provides examples of the types of records that may need to be included in the EMP:

- induction records;
- waste records;
- emission and discharge records;
- hazardous goods manifests;
- fuel usage;
- weeds and seeds;
- non-compliances and corrective action records;
- internal audits and inspection records;
- management of change records; and
- any records included as part of reporting information (as per Section 3.13 below)

An interest holder must store and maintain records (including the EMP, monitoring and emissions records, reportable and recordable incidents, and calibration reports etc.) for a period of five (5) years following the surrender of the petroleum interest. The interest holder must make these records available to DPIR in a timely manner. This is to ensure that an interest holder keeps a systematic auditable record of the results of the monitoring and auditing of the environmental performance of the activity against the environmental performance outcomes, standards and measurement criteria.

A summary of environmental record-keeping commitments can be simply in the form of a list or table. Records must be linked to the associated measurement criteria or legislation.

3.12.7 Commitments Table

The EMP must contain a table of environmental commitments that clearly spell out the environmental outcomes, the controls in place that can be measured to performance standards to ensure that those outcomes are being met and measurement criteria for the measurement of those performance standards including method frequency and accuracy. Table 6 builds on the example in section 3.10.
Table 6 Commitments Table

<table>
<thead>
<tr>
<th>Implementation Measure / Action / Procedure</th>
<th>Performance Standard</th>
<th>Measurement Criteria</th>
<th>Responsible</th>
<th>Reporting (frequency, format etc.)</th>
<th>Auditing (in/external, frequency etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Policy: IVMS fitted in all fleet vehicles</td>
<td>IVMS fitted and operational in all fleet vehicles</td>
<td>Weekly check of IVMS stats for all drivers, compliance with company driving behaviours</td>
<td>HSE Manager</td>
<td>Weekly</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Company Policy: Drug and Alcohol</td>
<td>BAC &lt; 0.03</td>
<td>Random testing to cover all fleet drivers to be subject to testing a minimum of 2 x per quarter</td>
<td>HSE Manager</td>
<td>Daily</td>
<td>Internally Monthly Externally Quarterly</td>
</tr>
<tr>
<td>Company Policy: Fleet vehicle safety</td>
<td>ANCAP rating &gt; 4</td>
<td>ANCAP rating &gt; 4 for all existing and new fleet vehicles, monitor vehicle safety announcements for all makes and models in fleet monthly</td>
<td>Asset Manager</td>
<td>Monthly</td>
<td>Externally Quarterly</td>
</tr>
<tr>
<td>Driver Training and Awareness Program as per company procedure P5670</td>
<td>All drivers fully trained and certified prior to driving for business purposes. Standard S9340</td>
<td>Driver training program certified, all employees with duties that involve vehicle use trained with 6 weeks, check through training and competency register</td>
<td>HR Manager</td>
<td>Monthly</td>
<td>Internally Monthly Externally Quarterly</td>
</tr>
<tr>
<td>Vehicle Condition meets company standards per plan P6530</td>
<td>All vehicles meet requirements of company standard S7650</td>
<td>Annual mechanical checks against standard by independent certified mechanic, requiring full compliance</td>
<td>Asset Manager</td>
<td>Annually</td>
<td>Externally Quarterly</td>
</tr>
<tr>
<td>Vehicle Maintenance in accordance with company policy P6640</td>
<td>Scheduled Maintenance in accordance with Procedure P9120</td>
<td>Maintenance at 10,000km or 6 months whichever the earlier, maintenance in strict accordance with vehicle maintenance handbook issued by supplier, only OEM parts accepted</td>
<td>Maintenance Manager</td>
<td>6 monthly</td>
<td>External Annually</td>
</tr>
<tr>
<td>Journey Management requirement as per company policy P2320</td>
<td>Journey Management Plans in place on all eligible trips P4540</td>
<td>If trips over 100km require a journey management plan to be approved by line manager, mandatory completion of pre-trip vehicle safety checklist</td>
<td>Line Managers</td>
<td>Weekly &amp; Monthly</td>
<td>Internally Monthly Externally Quarterly</td>
</tr>
</tbody>
</table>

3.13 Reporting

The following information is provided to assist interest holders in complying with environmental reporting requirements under the Regulations. Additional regulatory requirements for environmental incident reporting are also identified in this section. Relevant reporting requirements must be clearly identified in an EMP.

3.13.1 Routine Reporting

3.13.1.1 Objective

The Regulations require that the EMP include arrangements for recording, monitoring and reporting sufficient information about the activity (including any information required under the relevant Act, Regulations or other applicable environmental legislation) that will enable DPIR to determine if the environmental outcomes and performance standards have been met.

This is to ensure that the EMP identifies the system in place for routine environmental performance monitoring and reporting to DPIR (as determined appropriate for the activity between the interest holder and DPIR).
3.13.1.2 Guidelines

Recommended routine reporting requirements that should be identified in the EMP and implemented as applicable are outlined below:

**Regular Reporting**

Reporting for environmental outcomes and standards that relate to routine activities of significant importance must be made on a regular basis for all petroleum activities. Reporting of relevant parameters should address the associated measurement criteria.

In many cases, internal operation reports (e.g. monthly reports) may be adequate if they already contain the relevant environmental components.

Examples of aspects that may be covered by routine reporting include:

- flaring volumes, oil-in-water in produced formation water, process chemical dosages and usage;
- depth of drilling, volume of cuttings, average oil-on-cuttings; and
- status updates on the rehabilitation of a site.

Depending on the duration and type of activity being conducted, different reporting strategies for routine activities can be implemented. These should be discussed with DPIR during the EMP preparation phase and must be adequately identified in the final document.

Quarterly routine reporting may be suitable for most activities; however weekly reporting may be more suitable for specific aspects of the activity. In some instances, (for example an exploration well or seismic survey) it may be sufficient to provide a single close-out report at the completion of the activity whilst including key environmental data in a section of the daily operations report.

**Annual Reports**

For long-term activities, as a minimum, annual reports must be provided to DPIR. Annual reporting is an effective manner of summarising the activities undertaken during the year and the findings of internal compliance audits conducted. The report should assess the activity’s annual compliance with the accepted environmental outcomes, performance standards and measurement criteria and identify opportunities for continuous improvement. This must clearly outline any non-compliances and contain sufficient monitoring results to demonstrate performance against the measurement criteria, standards and outcomes. It should also be noted that where compliance issues are also reportable or recordable incidents or constitute a change of circumstance, additional more onerous reporting obligations apply as below.

An annual environmental report should also contain additional information such as:

- a summary of environmental incidents that occurred during the year (i.e. reportable and recordable incidents that occurred, lessons learned and improvement actions);
- trends in discharges and emissions;
- environmental studies or research associated with the activity;
- technical improvements;
- consultation undertaken; and
- results of related research or of an ongoing monitoring program, etc.
Essentially, any information which may provide further demonstration that outcomes are being met should be included in annual reports.

3.13.2 Incident Reporting

3.13.2.1 Objective

Reportable Incidents

Under the Regulations, a reportable incident means an incident arising from a regulated activity that has caused, or has the potential to cause, *material environmental harm* or *serious environmental harm* as defined under the *Petroleum Act*.

The interest holder must notify (this may be oral or in writing) DPIR of a reportable incident as soon as practicable but no later than 2 hours after the first occurrence of the incident or after the time the interest holder becomes aware of the incident. If there is any doubt about whether the incident is a reportable incident, the interest holder should not hesitate to report the incident and work with the regulator to minimise the consequences and deal with the incident efficiently.

If it is confirmed that the incident is a reportable incident, a written report must be submitted within three (3) days. The report must contain:

- all material facts and circumstances about the incident;
- information about any action taken to avoid or mitigate adverse environmental impacts;
- information about any corrective actions necessary to prevent re-occurrence of a similar incident;
- details and timing of any further corrective actions required (such as a full root cause analysis and investigation); and
- if applicable a proposed date for the submission of a closeout report to the Minister.

In addition, the interest holder must provide a final report about a reportable incident 30 days after the clean up or rehabilitation of the area affected by the reportable incident is completed. The final report must include a comprehensive and detailed root cause analysis of the reportable incident. At no longer than 90 day intervals or as often as required by the Minister, progress reports must be submitted about the incident investigation and steps taken to mitigate any environmental harm.

Recordable Incidents

The Regulations define a recordable incident as an incident arising from the activity that breaches an environmental objective or performance standard in the EMP that applies to the activity, and is not a reportable incident.

A written report of recordable incidents must be provided quarterly to DPIR. This is to allow DPIR to understand how the activity is performing against the EMP and to be informed on a regular basis how non-compliances with the plan are being addressed. It also ensures that any recordable incidents that have been identified are dealt with appropriately and that trends of improving or deteriorating performance can be identified in a timely manner.
**Incident Reporting Procedure**

The Regulations state that the notification within twenty-four (24) hours must be verbal or in writing, however a written notification (by mail, fax or email) should not be taken to fulfil the requirement until DPIR provides confirmation of receipt.

Notwithstanding the above, to avoid any doubt, verbal notification of a reportable incident is preferable. This should be made as soon as possible by contacting DPIR Operations Team

**Emergency number:**

1 300 935 250

The verbal notification should provide as much preliminary information as is available about the incident (e.g. interest holder, location, type of incident, affected stakeholders, initial assessment of environmental harm, initial response).

A written report must be sent to DPIR as soon as practicable, but within the statutory timeframe in the Regulations. This written report should contain detailed information about the incident, the outcomes of any investigation and the corrective actions implemented.

Environmental incident report forms for petroleum activities can be found on the DPIR website.

**Further Information**

At the request of DPIR, the following information may subsequently be required, depending on the level of actual environmental harm caused by the reported incident:

- immediate cause analysis;
- root cause analysis and a full report; and
- actions taken to prevent recurrence of the incident with the responsible party and completion date.

**3.14 Rehabilitation**

Finally, the EMP should include a preliminary plan for the rehabilitation of land and the decommissioning of the wells and facilities built for the petroleum activity with the aim of restoring the land to its original condition once the activity is completed or otherwise in an ecologically sustainable manner. Sufficient detail about rehabilitation requirements must be provided in order for an estimate of security required to be held to cover rehabilitation liability to be verified. Progressive rehabilitation whereby disturbed areas can be reduced in size or are no longer required should be provided for in the plan to the maximum extent practicable.
4 Stakeholder Engagement

4.1 Preparatory Stakeholder Engagement

4.1.1 Objective
An EMP must include information about all stakeholder engagement between the interest holder and directly affected stakeholders undertaken in the course of developing the EMP. The objective is to ensure that affected stakeholders have been engaged in the planning of the proposed activity and that specific issues have been considered and addressed.

The legislation does not prescribe the level of engagement interest holders must undertake with individual stakeholders but rather sets an expectation that appropriate stakeholder engagement is undertaken on the basis of the level of impact on the affected stakeholder and their willingness and ability to engage with the interest holder to reduce impacts.

Interest holders must indicate what changes were made to the EMP as a result of the stakeholder engagement undertaken.

4.1.2 Guidelines
Levels of public participation have been defined by the International Association for Public Participation (IAP²) and have been adapted as per Table 7 to provide guidance for the stakeholder engagement required to be undertaken by interest holders to develop an EMP.

<table>
<thead>
<tr>
<th>Stakeholder Participation Goal</th>
<th>Inform</th>
<th>Consult</th>
<th>Involve</th>
<th>Collaborate</th>
<th>Empower</th>
</tr>
</thead>
<tbody>
<tr>
<td>To provide the stakeholder with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.</td>
<td>To provide the stakeholder feedback on analysis, alternatives and/or decisions.</td>
<td>To work directly with the stakeholder throughout the process to ensure that stakeholder concerns and aspirations are consistently understood and considered.</td>
<td>To partner with the stakeholder in each aspect of the decision including the development of alternatives and the identification of the preferred solution.</td>
<td>To place final decision making in the hands of the stakeholder.</td>
<td></td>
</tr>
<tr>
<td>We will keep you informed.</td>
<td>We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how stakeholder input influenced the decision. We will seek your feedback on drafts and proposals.</td>
<td>We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how stakeholder input influenced the decision.</td>
<td>We will work together with you to formulate solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.</td>
<td>We will implement what you decide.</td>
<td></td>
</tr>
</tbody>
</table>
Depending on the nature of the petroleum activity and the particular impacts associated with the development, there may be a large number of stakeholders to be considered. Following the development of the initial risks and impacts register, interest holders should identify the stakeholders affected and engage with them to establish their role in assisting the proponent to reduce impacts to those stakeholders and the environment.

Affected stakeholders for a petroleum activity in the NT are likely to include:

- traditional owners;
- land owners/pastoralists;
- NT Government agencies;
- local government;
- local communities; etc.
A useful tool to determine the level of engagement based on levels impact to the affected stakeholder and their capacity to engage to reduce impacts may take the form of the matrix shown in Figure 4, which is provided as guidance only.

In this section of the EMP, the interest holder should clearly identify all relevant stakeholders engaged. It should include a description of the nature of engagement, including the information provided to stakeholders, the date of the engagement, the issues and concerns raised by those stakeholders and how they were resolved.

### 4.2 Ongoing Consultation

The Regulations require that the implementation strategy must provide for appropriate engagement with relevant authorities of the State and other relevant interested persons or organisations on an ongoing basis. This is to ensure that the implementation strategy includes
processes to communicate with relevant persons, organisations and agencies on a regular basis, throughout the life of the project and that issues can be identified and addressed early if needed.

This Regulation aims to ensure that government agencies and other stakeholders are kept up-to-date on the progress of petroleum activities. This includes providing updates on any unforeseen changes to the activity, such as delays to the commencement or completion of the activity.

The implementation strategy should provide an avenue for stakeholders to communicate any concerns, queries or feedback to the interest holder during progress of the activity and for the interest holder to respond accordingly, as far as practicable.

The implementation strategy should identify how information will be supplied to stakeholders throughout the project and how regularly this will be provided. The EMP should identify the basic ongoing communication protocols in place.

5 **Implementation and Review of these Guidelines**

- These Guidelines were developed to assist interest holders to prepare EMP documents that are compliant with the Petroleum (Environment) Regulations.
- Recognising the principles of good regulation, DPIR will ensure these Guidelines are effective and efficient in practice and are being implemented consistently.
- These Guidelines are intended to be a living document, subject to change in the light of working experience and will be reviewed at least every five years with stakeholder involvement.
- Subsequent revisions of these Guidelines will be made available to the public on the DPIR website [https://nt.gov.au/industry/mining-and-petroleum](https://nt.gov.au/industry/mining-and-petroleum)

6 **Other Environment Assessment Guidelines**

**NT EPA Guidelines**

2. NT Environmental Impact Assessment Process Flowchart
3. When a Notice of Intent is not required for onshore petroleum exploration or production proposals submitted under the Petroleum Act Version 3.0, NTEPA, April 2014

**Commonwealth Department of Environment Guidelines**

6. Summary information to assist with a pre-referral meeting - Guidance for proponents and consultants – 2015
7. 1.1 Significant impact guidelines - matters of national environmental significance - 2013
8. 1.2 Significant impact guidelines - actions on, or impacting upon, Commonwealth land and actions by Commonwealth agencies - 2006
9. 1.3 Significant impact guidelines: coal seam gas and large coal mining developments - Impacts on water resources - 2013

7 Links
CLC  http://www.clc.org.au/
DENR  https://nt.gov.au/environment
DoEE  https://www.environment.gov.au/
NLC  http://www.nlc.org.au/
Appendix A – Overview of EMP Content Requirements

This section provides an overview of the guidelines discussed in this document. However, to gain full understanding of the requirements, this guide should be consulted in conjunction with the Regulations. For the avoidance of doubt, the Regulations take precedence over this guide and ultimately the Petroleum Act takes precedence over the Regulations. Each section below summarises the required components of an EMP, in line with the information provided throughout this Guideline.

Figure 2 illustrates the content, structure and linkages of an EMP.

Environmental Policy
The EMP should include a copy of, or clear outline of the Corporate Environmental Policy. This policy should contain the organisation’s environmental outcomes, targets and commitments. Refer to Section 3.5 for further details and examples.

Environmental Legislation and Requirements
The EMP should include a list of all legal, environmental and other requirements that apply to the activity (e.g. Commonwealth/State legislation, international agreements and conventions, etc.). Providing this information demonstrates the interest holder is aware of all relevant environmental legislation and other requirements relevant to that specific activity to be undertaken. Refer to Section 1.4 for a legislative context summary. Interest holders should identify the relevant sections in the legislation that applies to the activity.

Referrals
The EMP should include information related to referral to agencies other than DPIR such as the NTEPA and federal Department of Environment. Information should include triggers identified for initiating the referral, date document referred, agency referred to, date approved with or without conditions, or not approved, level of assessment (PER/EIS) and any other relevant information.

Description of the Activity
The EMP should include a comprehensive description of the activity including its location, construction details and layout, operational details and any additional information (detailed maps and coordinates, etc.) relevant to the consideration of the environmental impacts and risks of the activity.

Description of the Environment
The EMP should include a description of the existing environment that may be affected by the activity. This section should include details of the natural environment (biological and physical), cultural environment, socioeconomic environment, and details of any values and sensitivities of the specific area and that of the surrounding environment. Section 3.9.2 contains more specific details about elements to include.

Identification of Environmental Risks and Impacts of the Activity
All environmental sources of risk and their impacts either directly or indirectly resulting from the activity should be identified in the EMP, whether they arise from normal operations or potential be identified for planned (routine and non-routine) and unplanned (accidents/incidents) activities for any given activity.
Consultation with Affected Stakeholders

The EMP must clearly identify all relevant stakeholders consulted. It must include a description of the nature of consultations including the level of information provided to stakeholders, and the issues and concern raised by those stakeholders and how they were resolved. Ongoing consultation arrangements should also be included.

Assessment of Identified Environmental Risks and Impacts

ERA involves the assessment of the likelihood and consequence of identified impacts (or potential impacts) occurring before and after implementation of the implementation strategy. Figure 2 provides a conceptual structure of the ERA process required when preparing an EMP. Section 3.10 provides useful definitions and methodology related to risk assessment. This section is used to evaluate all environmental impacts likely to directly, or indirectly, arise from the activity, as well as assess their causes, likelihood, consequences and control measures. Ultimately the objective of the risks assessment process and the engagement with stakeholders is to ensure that the risks are ALARP and acceptable as defined in Section 1.2.3.

The EMP should include details of the methodology used in the ERA process. The ERA matrix used by the interest holder should be provided in this section. Figure 3 provides an example risk classification matrix showing indicative risk zones for determining risk levels. It is common practice to present a summary of the risk assessment results in the form of an organised table such as Table 4. It is expected that the following environmental matters are addressed where relevant:

- fresh water aquifers (sustainable extraction, potential for contamination etc.);  
- air quality (including impacts from natural gas venting, dust and CO₂ emissions);  
- noise;  
- visual amenity (light sources, structures);  
- seismicity;  
- chemical use;  
- hazardous materials;  
- waste management;  
- flora and fauna;  
- traffic;  
- impacts on existing infrastructure;  
- existing land use;  
- cultural heritage;  
- public health;  
- fire and explosion;  
- weather impacts;  
- fire and explosion;  
- cumulative impacts;  
- local content and workforce development;  
- rehabilitation and decommissioning;  
- etc.
Environmental Outcomes, Performance Standards and Measurement Criteria
The EMP should include environmental outcomes, performance standards and measurement criteria that address the legislative and other controls that manage the environmental risks and impacts of the activity.

Environmental outcomes
The EMP should define the aims and outcomes that are identified by the interest holder to ensure environmental protection. These outcomes should relate to each risk and impact identified during the ERA process, and be consistent with commitments and targets presented in the Corporate Environment Policy.

Environmental performance standards
The EMP should define the quality of the performance the interest holder is aiming for. Each environmental objective should include at least one related performance standard (usually there is more than one standard required per objective). The standards should be consistent with the Corporate Environmental Policy and legislation relevant to the activity.

Measurement Criteria
For each objective and its standards, specifically related measurable criteria should be included in order to measure environmental performance against the outcomes and standards. The measurement criteria should allow for direct measurement of performance by inspection or audit.

Implementation strategy
The primary objective of the implementation strategy is to direct, review and manage activities to continually reduce environmental impacts and risks to ALARP, and to ensure environmental outcomes and performance standards are met over the life of the activity. This section of the EMP can be divided into the following components:

Systems, practices and procedures
This section should include details of systems, practices and procedures that will be followed to avoid, reduce or mitigate the identified environmental impacts and risks.

Roles and responsibilities of personnel
This section should describe the responsibilities of all personnel (cover all roles from senior management to rig, facility and vessel crew), relating directly to the implementation, management and review of the EMP.

Training and competencies
This section should include details of procedures for identifying training needs and upgrading skills of personnel regarding environmental responsibilities, commitment to provision of appropriate training (for example environmental inductions, spill response exercises, etc.), and how personnel competency will be reviewed.
Monitoring, auditing and management of non-compliance
This section should identify the procedures in place for regularly monitoring and improving the management of environmental impacts and risks of the activity against the environmental outcomes, performance standards and measurement criteria. Arrangements for the recording of monitoring and measurement data should be described.

This section should also identify any on-site internal or third party environmental audits planned, and arrangements for handling and investigation of non-compliance with the EMP. This should include the arrangements for tracking and close-out of corrective actions.

Emergency Contingency Plan
This section should make reference to the appropriate Emergency Contingency Plan and emergency response documentation in place for the activity. Adequate referencing and linkage for these documents should be identified.

Record Keeping
This section should identify the types of environmental records relevant to the activity that will be maintained (records that are linked to relevant measurement criteria, standards, commitments, monitoring and reporting requirements and any other additional information). Records should be linked to the associated measurement criteria or legislation.

Reporting Arrangements
Reporting requirements fall into two categories:

Routine reporting
This section should describe arrangements for routine regulatory reporting to DPIR that is sufficiently detailed and conducted in a manner that demonstrates whether specific environmental outcomes and performance standards are being met.

Incident reporting
This section should describe arrangements for reportable and recordable incident reporting. Incidents that are reportable to DPIR should be clearly identified, along the correct reporting protocols. This section should also describe arrangements for tracking recordable incidents applicable to the activity.

Rehabilitation Plan
The EMP should include a preliminary plan for the rehabilitation of land and the decommissioning of the wells and facilities built for the petroleum activity with the aim of restoring the land to its original condition as far as practically possible once the activity is completed or otherwise in an ecologically sustainable manner.

Table of Commitments
A list of all environmental commitments against performance standards and outcomes with details about the frequency and responsible officer against each commitment.
Appendix B – NT Environmental Impact Process

NORTHERN TERRITORY
ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
Pursuant to the NT Environmental Assessment Act & Environmental Assessment Administrative Procedures

Proposed Action

- Notice of Intent
- Is the environmental impact significant?
  - YES
    - Assessment Approach
    - NTEPA notifies proponents and Environment Minister notices Responsible Minister
    - Draft Terms of Reference developed and advertised for public and government review for 14 days
    - Final Terms of Reference prepared and issued by NTEPA within 14 days
    - Proprietor prepares and submits PER (environment under EPBC Act)
    - Public and government review within 28 days
    - NTEPA provides Assessment Report to the Australian Minister for the Environment for purposes under the EPBC Act
    - Assessment complete

- NO
  - PER
  - RIS

EPBC Act Referral

Controlled action may be assessed by the NTEPA at the request of an RIS or PER on behalf of the Australian Government

Further information may be required by NTEPA

Assessment complete

The decision in accordance with the EPBC Act is subject to clause 14A and 15 of the EPBC Act
Appendix C – Statement of Reasons (Pro Forma)

Approval notice and statement of reasons

Petroleum (Environment) Regulations (NT) (Regulations)

<table>
<thead>
<tr>
<th>Interest holder</th>
<th>[COMPANY NAME]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum interest/s</td>
<td>[PERMIT or LICENCE]</td>
</tr>
<tr>
<td>Environment management plan (EMP) title</td>
<td>[DOCUMENT NAME]</td>
</tr>
<tr>
<td>EMP document reference</td>
<td>[DOCUMENT NUMBER]</td>
</tr>
<tr>
<td>DPIR EMP assessment document reference</td>
<td>[Record number for EMP assessment checklist]</td>
</tr>
<tr>
<td>Regulated activity</td>
<td>[eg Conducting seismic survey / drilling / testing - refer to reg 5 and match the language used there if possible]</td>
</tr>
</tbody>
</table>

Was the regulated activity referred\(^1\) for consideration whether an environmental impact assessment or public environmental report was required? [Yes or No] [Record number for NOI] [Record number for SOR from NT EPA]

Was an environmental impact assessment or public environmental report required? [Yes or No] [Record number for EIS or PER]

Date EMP was first submitted under reg 6 [INSERT]

Date further information was submitted under reg 10, if applicable [INSERT]

Date of resubmission notice under reg 11(2)(b), if applicable [INSERT]

Date EMP was resubmitted under reg 11(3), if applicable [INSERT]

Date of decision [INSERT]

Decision maker [Name], [title, delegate of the] Minister of Primary Industry and Resources

1. Approval notice

1. The EMP is approved. reg 11(a)

2. The approval [is not subject to conditions.] [is subject to the following conditions:]

   a. [Insert conditions if relevant – consider seeking legal advice on drafting.]
   b. [Insert conditions if relevant – consider seeking legal advice on drafting.]
   c. [Insert conditions if relevant – consider seeking legal advice on drafting.]
   d. [Insert conditions if relevant – consider seeking legal advice on drafting.]

---

\(^1\) This means a referral under the Environmental Assessment Act (NT) or the Environment Protection and Biodiversity Conservation Act 1994 (Cth).
2 Statement of reasons

1. The EMP meets the approval criterion in reg 9(1)(a), because it contains all the information required by Schedule 1 of the Regulations.

2. The EMP meets the approval criterion in reg 9(1)(b) for the following reasons:

   a. The nature of the regulated activity is as follows:
      
      i. [INSERT]

   b. The scale of the regulated activity is as follows:
      
      i. [INSERT]

3. The EMP meets the approval criterion in reg 9(1)(c) for the following reasons:

   a. I have considered reg 4(d) (which requires that I give fundamental consideration to the conservation of biological diversity and ecological integrity) as follows:
      
      i. I believe the information I have regarding the existing biodiversity and ecosystems that are to be affected by the regulated activity; the effects that are likely; and the mitigative measures reasonably available, is sufficient.

      ii. [Address the flora, fauna and ecosystems involved and the effect/risk the regulated activity will have on/to the conservation of biological diversity and ecological integrity].

      iii. The conservation of biological diversity and ecological integrity is vital to the achievement of ecologically sustainable development. Given the fundamental nature of this consideration, I have given central importance to the conservation of biodiversity and ecological integrity in weighing whether I am satisfied the approval criterion in reg 9(1)(c) has been met.

      iv. If carried out in accordance with the EMP, the risks of the regulated activity to the conservation of biological diversity is considered to be [describe].

      v. If carried out in accordance with the EMP, the risks of the regulated activity to the conservation of ecological integrity is considered to be [describe].

   b. I have considered reg 4(a) (which concerns the integration of long-term and short-term economic, environmental, social and equitable considerations) as follows:
      
      i. [Insert if correct - An environmental report or statement has been prepared in relation to the regulated activity. Such an assessment is a procedural means of implementing the concept of integration.]

      ii. The expression environment as defined in the Regulations relevantly includes the well-being of humans, structures made or modified by
humans, amenity values of an area and economic, social and cultural conditions. The requirements under the Regulations include stakeholder engagement and a broad consideration of the environmental impacts and environmental risks of the regulated activity in question. In making that broad consideration, the long-term and short-term environmental impacts and environmental risks were identified and assessed in the EMP. In this way, the concept of integration has been implemented.

iii. In carrying out the regulated activity [there is no particular contest between economic, social and environmental considerations that requires further mention.] [a contest between [describe any conflict between economic, social or environmental considerations].

iv. [If there are other conflicts, describe each one

v. [Describe the prevailing interest or the resolution of the conflict]

vi. [If there are considerations of intra-generational equity, identify how they are addressed under the EMP - See Note 14]

vii. Accordingly, I am satisfied that the concept of integration has been taken into account.

c. I have considered reg 4(b) (which concerns the 'precautionary principle') as follows:

i. [The regulated activity does not pose a threat of serious or irreversible environmental damage which warrants the application of the precautionary principle.] [The regulated activity does pose a threat of serious or irreversible environmental damage, being [describe]. It [is / is not] clear that the significance of the threat warrants the application of the precautionary principle.]

ii. [Insert this paragraph if there is a relevant threat] On the basis that the threat does warrant the application of the principle, it is necessary to consider if there is a high degree of uncertainty as to the nature and scope of the environmental damage that may occur. In relation to the regulated activity under consideration, [describe extent of scientific certainty/uncertainty including the sufficiency of evidence; the level and type of uncertainty eg technical, methodological, epistemological; and the potential to reduce uncertainty having regard to what is possible in principle, economically and within a reasonable timeframe]. On this basis, I [do not] consider that the threat involves scientific uncertainty of a degree that triggers the application of the precautionary principle.

iii. [Insert this paragraph if there is a relevant threat] On the basis the principle applies, I must assume the threat of serious environmental damage is certain and real and the onus is on the interest holder to demonstrate otherwise. The interest holder contends as follows:

(1) [Describe the interest holder's arguments, if any, that the threat is not serious or irreversible]
iv. [Insert this paragraph is there is a relevant threat] The appropriate precautions are [describe – eg further research before proceeding, allowing a margin for error in favour of the environment, adaptive management, refusal to allow the regulated activity to occur]. The EMP reflects those precautions in a satisfactory manner, and to the extent they require amendment I have included a condition on this approval.

d. I have considered reg 4(c) (which concerns the principle of intergenerational equity) as follows:
   i. The environmental burdens of the regulated activity will [not] disproportionately affect particular [future or present] stakeholders. Accordingly I [do not] believe that the carrying out of the regulated activity in accordance with the EMP would have an effect contrary to the principle of intergenerational equity.
   ii. [Insert further discussion if there is an inequity issue]

e. I have considered reg 4(e) (which concerns the promotion of improved valuation, pricing and incentive mechanisms) as follows:
   i. [Use only if this principle applies] In accordance with the ‘polluter pays principle’:
      (1) The interest holder will cover the cost of remediation of the impacts of the regulated activity, as is set out in [reference EMP sections]
      (2) If the interest holder fails to remediate the impacts, a security [is/is not] held by the Minister which [is/is not] considered adequate to cover the resulting costs.
   ii. [Use only if there is a ‘market failure’ that is being addressed by a mechanism to counter it] The regulated activity involves [describe issue – eg subsidy, market failure] which means that environmental costs of the regulated activity have not been appropriately accounted for. To counteract this issue, [describe measure – eg particular conditions, securities, or offsets] is to be carried out.
   iii. Through the above, [summarise effect of the mechanisms eg the interest holder is incentivised to complete rehabilitation work to recover their security].

f. [An/No] environmental report or statement has been required to be prepared in relation to the regulated activity. [If yes - The environmental assessment recommendations are set out in the assessment report prepared by the Northern Territory Environment Protection Authority (NT EPA) dated [date]. The content of the recommendations have been incorporated into the comments in this statement of reasons] [Insert if no EIS/PER has been required – This indicates that the NT EPA was not of the opinion that the regulated activity is reasonably considered to be capable of having a significant effect on the environment.]
g. [Use if the NT EPA has made recommendations when confirming no EIS/PER is required] The NT EPA did provide some preliminary recommendations arising from its review of the referral of the regulated activity, which were taken into account, as relevant, by the interest holder in finalising the EMP, and me in making this decision.

h. The existing environment along with its particular values and sensitivities is appropriately identified in [section X/table X] of the EMP.

i. The anticipated environmental risks are appropriately identified in [section X/table X] of the EMP.

j. I agree with the risk assessment set out in [section X/table X] of the EMP, and to the extent I do not agree I have imposed a condition or conditions to address the relevant risk or risks.

k. The anticipated environmental impacts are appropriately identified in [section X/table X] of the EMP. I agree this is a reasonable identification of the environmental impacts of the regulated activity, and to the extent I do not agree I have imposed a condition or conditions to appropriately address the environmental impacts.

l. [Describe measure] could be implemented to mitigate [describe risk or impact], however such measures are not considered reasonably practicable because [of their cost] [the residual risk is acceptable] [on balance, the environmental impact or risk is not considered to be significant enough to warrant the measure] [no particular environmental values or sensitivities will be affected].

m. There are no environmental impacts or environmental risks relating to the proposed regulated activity, which I consider to be unacceptable.

n. Overall, having regard to the above, I am satisfied that the EMP demonstrates that the regulated activity is to be carried out in manner by which the environmental impacts and environmental risks are reduced to a level that is:

i. as low as reasonably practicable; and

ii. acceptable.