



Government of **Western Australia**
Department of **Mines and Petroleum**

GUIDELINES FOR THE PREPARATION AND SUBMISSION OF AN ENVIRONMENT PLAN

Under the:

- Petroleum and Geothermal Energy Resources (Environment) Regulations 2011
 - Petroleum (Submerged Lands) (Environment) Regulations 2011
- Petroleum Pipelines (Environment) Regulations 2011



As amended 21 December 2011

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Definitions and Acronyms

Definitions relating to the content of an Environment Plan and these guidelines can be found mostly within Part 11 of the Regulations, AS/NZS 4360:2004, AS/NZ ISO 14001-2004 and HB 203:2006. Please note that these definitions may vary from those adopted by individual operators or in other documents.

| | |
|----------|---|
| ALARP | As Low as Reasonably Practicable |
| EP | Environment Plan |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999</i> |
| ERA | Environmental Risk Assessment |
| IS | Implementation Strategy |
| MARPOL | <i>International Convention for the Prevention of Pollution from Ships 1973</i> |
| Minister | The Minister for Mines and Petroleum |
| OSCP | Oil Spill Contingency Plan |

1 INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

This document provides guidance to petroleum operators for the preparation and submission of an Environment Plan (EP) under the

- *Petroleum and Geothermal Energy Resources (Environment) Regulations 2011;*
- *Petroleum (Submerged Lands) (Environment) Regulations 2011; and*
- *Petroleum Pipelines (Environment) Regulations 2011.*

This document is intended to reflect the State Government's policy for management of environmental aspects associated with petroleum activities, and complements statutory requirements for the regulation of these activities.

Particularly, these guidelines aim to:

- describe the process required when preparing and submitting an EP for activities related to titles issued under the Department's three petroleum Acts;
- clarify the Minister's expectations regarding the minimum structural and content requirements of an acceptable EP; and
- provide clear guidance regarding implementation of environmental petroleum legislation, in the context of the EP regime.

Please note that for the purposes of these Guidelines, in the Petroleum and Geothermal Energy Resources Regulations "petroleum" should be read as also including "geothermal".

1.2 LEGISLATIVE CONTEXT

1.2.1 WA PETROLEUM LEGISLATION

The Regulations have been made with the objective of ensuring that any petroleum or geothermal activity (where applicable) is:

- consistent with the principles of ecologically sustainable development;
- in accordance with an EP that has appropriate environmental performance objectives and standards as well as measurement criteria for determining whether the objectives and standards are met.

The Petroleum and Geothermal Energy Resources Act 1967 (PGERA) provides the regulatory framework for all onshore oil and gas exploration and production and in the internal waters.

The Petroleum (Submerged Lands) Act 1982 (PSLA) provides regulatory framework for the exploration and exploitation of petroleum resources and certain other resources of certain submerged lands adjacent to the coast of Western Australia and includes pipelines

The Petroleum Pipelines Act 1969 (PPA) provides the regulatory framework for the construction, operation and maintenance of pipelines for the conveyance of petroleum in the area covered by the PGERA.

All three Acts are supported by Regulations and Directions which can include matters such as safety, diving, petroleum resource management and environmental performance. Under the Act, the Regulations detail the requirements of the EP regime, which is detailed in Section 1.2.2 of these guidelines.

1.2.2 THE EP REGIME

In Australia, specific petroleum legislation is enacted to provide regulatory requirements for the exploration and extraction of petroleum resources in a safe and environmentally responsible manner. An approved petroleum activity must comply with all relevant legislation, including environmental legislation.

The environmental management of petroleum activities is regulated under the

- *Petroleum and Geothermal Energy Resources (Environment) Regulations 2011;*
- *Petroleum (Submerged Lands) (Environment) Regulations 2011; and*
- *Petroleum Pipelines (Environment) Regulations 2011.*

The Regulations allow for a risk-based approach for managing the environmental performance of the Western Australian petroleum industry through EPs. The EP regime promotes and enforces the reduction of environmental risks and impacts of petroleum activities, to a level which is 'as low as reasonably practicable' (ALARP). It is important to note that what is considered practical will evolve over time as technology and expertise improve. Operators should have a mechanism in place to monitor improvements in technology and practice.

The EP regime requires that petroleum operators prepare and implement an accepted EP for applicable activities.

The Regulations encourage petroleum operators to employ innovative and effective environmental protection measures that are tailored to their specific circumstances to achieve superior environmental practice and outcomes. In this sense, the EP regime is co-regulatory and encourages ongoing consultation between regulators and operators

The EP 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 on a national level.

An over-riding consideration in assessing an EP is that if the plan does not adequately address risks associated with the activity, it will not be accepted.

Construction or operation of the facility or any activity will also not be permitted.

The objective of the EP is to ensure that adverse impacts are managed to ALARP.

In addition to the requirements of the Regulations, some clauses from the Schedule of Onshore Petroleum Exploration and Production Requirements 1991 should be taken into consideration when seeking approvals for a petroleum activity (e.g. *Clause 615: Measurement of produced petroleum and water*, and *Clause 627: Approval to Flare or Vent*). Most of this Schedule has been revoked and included in Regulations and it is intended that the remaining clauses will be included in the proposed Petroleum and Geothermal Energy Resources (Resource Management and Administration) regulation currently being drafted.

1.2.3 PETROLEUM OPERATOR AND ACTIVITY

Under Regulation 4, an operator for a petroleum activity is defined as:

- a) if there is a person recorded by the Minister as the operator of the activity under regulation 41 - that person; or
- b) in any other case —
 - (i) if there is a petroleum instrument or geothermal instrument for the activity — the person responsible to the instrument holder for the overall management and operation of the activity (whether or not the activity has commenced); or
 - (ii) if there is no petroleum instrument or geothermal instrument for the activity — the person carrying out the activity;

Under Regulation 4, a petroleum activity is defined as:

- a) any operations or works carried out in the State under a petroleum instrument
- b) any other operations or works carried out in the State relating to petroleum exploration or development which may have an impact on the environment

More specifically, a petroleum activity can include any of the following:

- c) seismic or other surveys; and
- d) drilling; and
- e) hydraulic fracturing; and
- f) construction and installation of a facility; and
- g) operation of a facility; and

- h) modification of a facility; and
- i) decommissioning, dismantling or removing a facility, and
- j) storage of petroleum;

Any petroleum operator wanting to conduct a petroleum activity in WA must prepare and implement an adequate EP for the period of the activity. An EP must have undergone formal assessment and been accepted by the Minister before being implemented.

1.2.4 SUMMARY OF EP REQUIREMENTS

In summary, the Regulations require the submission of an EP which:

- is appropriate for the nature and scale of the activity or proposed use;
- demonstrates that the environmental impacts and risks of the activity will be ALARP;
- provides for appropriate environmental performance objectives, environmental performance standards and measurement criteria;
- includes an appropriate implementation strategy (IS) and monitoring, recording and reporting arrangements;
- demonstrates that there has been an appropriate level of consultation with authorities, persons and organisations in developing the plan; and
- complies with the Act and the Regulations and applicable State statutes.

An acceptable EP must identify environmental risks and effects, establish specific performance objectives and standards, including measurement criteria to assess performance against those standards, and incorporate an IS to achieve those standards. These elements must be interlinked in a systematic manner (see figure 2).

The EP, when accepted, becomes the legally binding agreement between the Minister and the operator, setting out environmental performance objectives, standards and criteria which the operator will be assessed against.

The intent of the EP regime is to ensure that the EP functions as a regulatory approval document and as a practical implementation and management tool to be used by the operators and their contractors when conducting the activity.

Full details on the requirements for each section of an EP are provided in Section 3.

A complete summary (overview) of EP requirements and the requirements of these guidelines is provided in Appendix A.

1.2.5 THE COMMONWEALTH EPBC ACT AND SEA DUMPING 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 (NES) must be referred to the Commonwealth Department of Sustainability, Environment, Water, Populations and Communities (SEWPAC) for assessment. This would include any activity covered by the following controlling provisions:

- Commonwealth marine area or Commonwealth land;
- World heritage property or national heritage place;
- Ramsar wetland of international significance;
- threatened species or ecological community;
- migratory species; and
- nuclear action.

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 proponent to decide whether a proposal needs to be referred for determination under the EPBC Act and early contact with SEWPAC will assist in this regard. Proponents referring their activity to SEWPAC may do this concurrently with the EP process.

In the same manner, some petroleum activities in State waters may require approvals under the *Environmental Protection (Sea Dumping) Act 1981*.

Details of EPBC Act administrative processes are available at the SEWPAC website: www.environment.gov.au

It should be noted that the requirements of the Regulations do not replace obligations under the EPBC Act or *Sea Dumping Act*. An EP produced under petroleum legislation should be consistent with any conditions set under the EPBC Act.

1.2.6 INTERNATIONAL AGREEMENTS AND CONVENTIONS

Australia is a signatory to various international agreements that have marine environment protection aspects. Activities in State waters are expected to comply with the relevant requirements of each agreement¹.

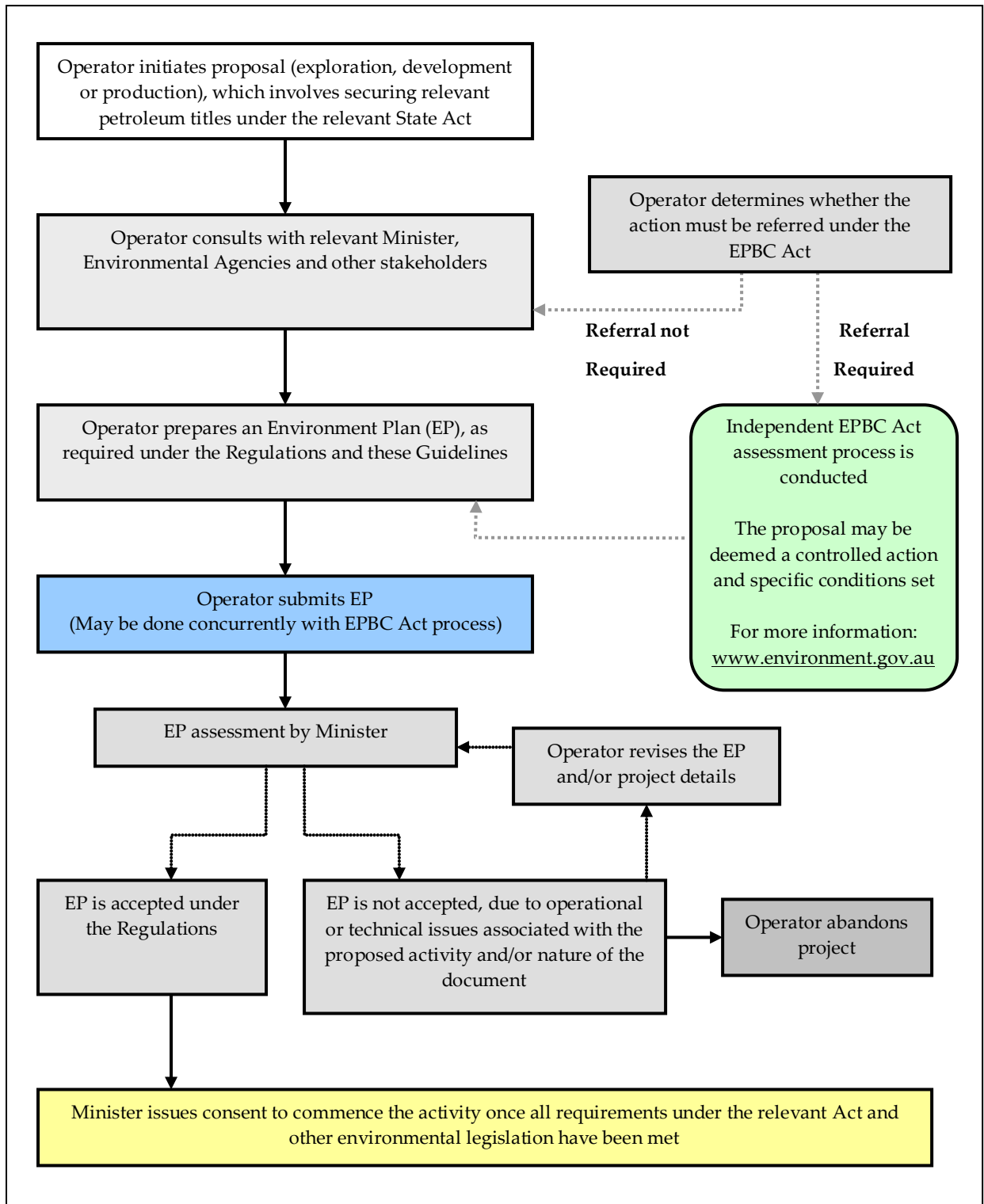
It is in the best interest of proponents to identify relevant international agreements and conventions early in the process so they can be considered during preparation of the petroleum proposal. A list of international agreements and conventions which may be applicable to petroleum activities is located in Section 3.3.3.

¹ If Australia is a signatory to international agreements or conventions then complementary Commonwealth, State and Territory legislation to regulate the matters prescribed will be in force.

2 THE EP SUBMISSION AND ASSESSMENT PROCESS

2.1 OVERVIEW OF THE ASSESSMENT PROCESS

Figure 1: Schematic Representation of the EP Assessment Process



2.2 PRE-SUBMISSION GUIDANCE

The following guidance points should be considered when developing a petroleum proposal and planning the associated EP documentation.

2.2.1 PRELIMINARY INFORMATION AND CONSULTATION

Applicable legislation, international conventions and guidance should be identified early in the conceptual phases of a proposal.

Preliminary consultation with all relevant stakeholders and the Minister should be initiated well in advance of commencing preparation of an EP. At this stage, providing information on the planned activity enables establishment of the required process.

Adequate consultation is of particular importance for those projects which are in sensitive areas, or those that overlap with other uses. For more information on consultation, see Section 3.10.

Planning the preferred document submission approach should be discussed early with the Minister (see Section 2.3 below).

It should be understood that the EP is only one element required for a petroleum application, which should be submitted in conjunction with a number of other documents, such as an Oil Spill Contingency Plan (OSCP), a safety case, drilling program, etc (as applicable). In light of the above, a coordinated submission approach should be developed.

It is recommended that administrative procedures under the EPBC Act and State environment impact assessment statutes be initiated prior to submission of an EP in accordance with the Regulations.

2.2.2 EP PREPARATION AND STRUCTURE

Relevant and adequate literature review, preliminary hazard scoping workshops, and stakeholder consultation should be conducted early in the process to facilitate the planning and preparation of a project EP.

The content and format of an EP should be discussed between the operator and the Minister prior to document preparation and submission. See Section 2.3 for guidance on submission of documentation, and Section 3 for guidance on the content of an EP.

External evidence supporting the conclusions reached in an EP must be referenced. The Minister will need to be given access by the operator to relevant documentation if required.

An operator must ensure that relevant studies supporting the assessment of environmental impacts for an activity are planned and conducted before preparing an EP (e.g. biological surveys, modelling, toxicity tests, literature reviews).

2.2.3 TIMEFRAMES FOR SUBMISSION AND ASSESSMENT

Standard Assessment

In order to allow the Minister adequate assessment time, as a minimum an EP must be submitted no less than 30 calendar days before the planned start date of the activity. However, it is preferable that the EP be submitted as early as possible. Regulation 10(1) states that the Minister must respond to the operator within 30 calendar days, however this does not mean that the Minister must *accept* the plan within this time.

It should be noted that the Minister may consult with other relevant government and non-government agencies on the content of an EP. In particular, such consultation will need to address issues regarding acceptable levels of environmental risks and impacts.

Within (or at the end of) the 30 calendar days the Minister may refuse the plan or request modifications as per Regulations 10(1) and 11(6). This process may necessitate resubmission of the plan, which will attract another 30 calendar day timeframe as per Regulation 10(3). Therefore, it is recommended that an EP not be submitted until an adequate level of certainty regarding the details of the activity exists.

Records of relevant communications and agreed outcomes during the consideration of a submitted EP should be kept to ensure common understanding by both parties.

Expedited Assessment

If requested, depending on the complexity of the submission, the Minister may agree to an expedited assessment, whereby it will agree to *respond* within a timeframe less than 30 calendar days. *In this case the operator must present the reasons for their request in writing.* The Minister will usually agree to carry out an expedited assessment if circumstances outside the control of the operator result in the need for an expedited assessment (e.g. changes in vessel availability, extreme weather). Requests for expedited assessments should not be made if inadequate planning by the operator has led to late submission.

2.3 SUBMISSION OF DOCUMENTATION

2.3.1 LEGISLATION

Regulation 9(3) requires that an EP must be in writing, or in a form approved by the Minister. In some cases, the Minister may accept an EP that relates to a particular activity that will take place in one or more identified locations, as specified in the plan.

2.3.2 OVERVIEW

To ensure efficiency in the submission, assessment and acceptance (and potential update or revision) of an EP, different options are available in relation to the submission and assessment of EP documentation. Table 2

summarises the different options. These options are discussed further in the sections below.

2.3.3 DEFINITIONS

As the different EP options provided for in Table 2 vary depending on the level of risk associated with each category of activity, definitions of the terminology used in Table 2 are provided in this section. Risk classification should be as per the operator’s risk assessment (see Section 3.6). However, rather than relating to any specific terminology used by the operator, the three risk levels used in Table 2 and Section 2.3 of these guidelines should be interpreted as follows:

- **Minor Risks** relate to impacts associated with the activity that have been ranked in the lower third of risk (likelihood × consequence) levels in the operator’s risk assessment for that activity (green zone in Table 1)
- **Moderate Risks** relate to impacts associated with the activity that have been ranked in the middle third of risk levels in the operator’s risk assessment for that activity (amber zone in Table 1)
- **Major Risks** relate to impacts associated with the activity that have been ranked in the upper third of risk levels in the operator’s risk assessment for that activity (red zone in Table 1)

It should be noted that the above are guidelines only. The Minister should be consulted prior to submission to discuss the specific approach

Table 1: Example Risk Classification Table Showing Indicative Risk ‘Zones’ for Determining Risk Levels for Table 2.

| | | Likelihood | | | | | |
|-------------|-----------|------------|---|---|---|---|-----------|
| | | Very low | 2 | 3 | 4 | 5 | Very high |
| Consequence | Very high | | | | | | |
| | E | | | | | | |
| | D | | | | | | |
| | C | | | | | | |
| | B | | | | | | |
| | Very low | | | | | | |

Upper third of risk levels
Major risk

Middle third of risk levels
Medium risk

Lower third of risk levels
Minor risk

Table 2: Guidelines for Submission of Environment Plan Documentation

(Note that these are guidelines only. The relevant Minister should be consulted prior to submission to discuss the specific approach for a given activity)

| Activity | Risk details | Full EP ³ | | Written notification ³ (2.3.6) | Bridging document ³ (2.3.7) | Revise EP ³ (2.5) | Summary required? (2.4) |
|---|--|-----------------------------|--------------------|--|---|---------------------------------|----------------------------|
| | | Specific (Section 2.3.4) | Generic (2.3.5) | | | | |
| New activity/activities ¹ | Not covered by an accepted EP | X | | | | | Y |
| New numerous repetitious activities ¹ | Not covered by an accepted EP | | X | | | | Y |
| New activity within the scope of an accepted generic EP | Activity limited to <i>minor</i> ⁴ risks covered in the accepted generic EP | | | X | | | N |
| | Activity related to <i>moderate</i> ⁴ to <i>major</i> ⁴ risks covered in the accepted generic EP | | | | X | | Y |
| Change to location or operational details ² previously described in an accepted EP | Covered in an accepted EP | | | X | | | N |
| | <i>Minor</i> ⁴ additional or modified risks not covered in an accepted EP | | | X | | | N |
| | <i>Moderate</i> ⁴ additional or modified risks not covered in an accepted EP | | | | X | | Y |
| | <i>Major</i> ⁴ additional or modified risks not covered in an accepted EP | | | | | X | Y |

¹For new risks, referral triggers (e.g. EPBC Act) must be considered

²Where there is a change to location or operational details, referral triggers (e.g. EPBC Act) must be re-considered

³A written response is required from the Minister before undertaking the activity

⁴ Risk classification should be as per the operator's risk assessment. **For the purposes of this matrix** *Minor* relates to the lower third of risk levels, *Moderate* to the middle third, and *Major* to the upper third (see Section 2.3.3 and Table 1 for more information).

2.3.4 SPECIFIC STAND-ALONE EP

This EP type applies in cases where a specific new activity is proposed and all specific details of the proposal are finalised. The EP will apply only to that specific activity in that specific location. In some cases, additional activities may be bridged to this EP type (see Section 2.3.7).

A stand-alone EP may also be used for multiple activities, provided that all specific details of each activity are included in the EP.

2.3.5 GENERIC EP

This EP type can be used in cases where numerous new, repetitious activities are proposed (e.g. a multi-well drilling campaign), and specific details (e.g. well timing, location, drilling fluids to be used) are not yet finalised. This EP type is designed to avoid the need for a separate EP for each repeated activity. It is important to note that only activities of a similar nature should be included in a generic EP. For example drilling activities should not be included with seismic activities, as the two activities have different issues.

The generic EP will need to describe all possible activities proposed within a specified geographic range and timeframe, and outline management/mitigation measures for the highest possible sources of risks and their impacts (i.e. 'worst-case scenario') associated with the proposed activities.

It is important to note, that a generic EP is not a stand-alone document. The specific details of each proposed activity (e.g. well timing, location, drilling fluids to be used) must be provided to the Minister in the form of a bridging document (see Section 2.3.7) and accepted before the activity can take place.

2.3.6 WRITTEN NOTIFICATION

To enable the efficient processing of minor updates to an accepted EP due to a change to the activity which results in minor additional or modified risks, the Minister may agree to the written notification process. Written notification from the operator to the Minister may be in the form of a letter or email. The changes that may be processed in this way are limited to:

- a new activity within the scope of an accepted EP that relates to minor risks covered in the accepted EP;
- a change to location or operational details previously described in an accepted EP, where the risks associated with the change are covered by the accepted EP; or
- a change to location or operational details previously described in an accepted EP that results in minor additional or modified risks not covered in an accepted EP.

If the information contained in the written notification is adequate and the proposed changes are acceptable to the Minister, the Minister will communicate its acceptance to the operator and consider the written notification to be part of the accepted EP.

For changes outside this scope, such as change to an activity resulting in, or related to, moderate or higher additional or modified risks, a bridging document (Section 2.3.7) or revised EP (Section 2.5) may be required.

2.3.7 BRIDGING DOCUMENT

An EP bridging document links a specific activity to the mitigation measures outlined in a generic EP or specific stand-alone EP. The activity described in the bridging document must be within the scope of an accepted generic EP or be related to operational details previously described in an accepted EP. For example, a bridging document may be used to provide specific details of a well, which will be managed as per a generic drilling EP for a multi-well drilling campaign.

As a minimum, a bridging document must include the following:

- location of activity;
- timing of activity;
- any other specifics not included in the EP being bridged to (e.g. drilling fluid to be used, rig or vessel to be used, discharge volumes);
- a statement that all risks associated with the activity are included in, and will be managed as per the management/ mitigation measures outlined in the EP being bridged to; and
- identification of any other documents bridged to (e.g. OSCP).

If there are minor to moderate additional or modified risks associated with the activity that are *not* included in the EP being bridged to, the bridging document must discuss, assess and rank those risks, and outline the management/mitigation measures for those risks.

If there are major additional or modified risks associated with the activity, which are *not* included in the EP being bridged to, a revised EP (Section 2.5) or stand-alone EP (Section 2.3.4) must be submitted.

The Minister, having already accepted the EP being bridged to, will assess the bridging document only, but will ensure that it is consistent with the EP being bridged to, before issuing acceptance of the bridging document. The maximum assessment timeframes in section 2.2.3 also apply to bridging documents.

2.3.8 COVER LETTER

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

2.3.9 EP FORMAT

As per Regulation 9(3), an EP must be in writing or in a form approved by the Minister. Generally, at least two hardcopies and an electronic copy of an EP must be submitted. In some cases, the Minister may request additional hardcopies. It is important that operators liaise with the Minister before preparation and submission to properly determine the desired format of an EP.

2.3.10 DOCUMENT CONTROL

An EP 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 the Minister and the operator, the revision that is finally accepted by the Minister must be clearly identified.

The EP should be kept up-to-date, as should all supporting documentation. Under Regulation 31, it is necessary to keep a record of all changes for inspection by auditors for a period of at least five (5) years, or as otherwise directed by the Minister.

2.4 THE EP SUMMARY

2.4.1 LEGISLATION

Regulation 11(7) states that within ten (10) days after receiving notification that the Minister has accepted an EP, the operator must submit a summary of the plan to the Minister for public disclosure. The EP Summary must be to the satisfaction of the Minister.

2.4.2 GUIDELINES

The relevant assessor will provide a response on receipt and acceptance, or refusal, of the EP Summary to the operator (e.g. via email).

Following acceptance of the EP Summary by the Minister, the summary will be posted on the Minister's website. Therefore, an electronic copy of the EP Summary should be submitted by the operator to the Minister. The summary should be a written submission, approximately 5-10 pages in length, and must include the information stipulated in Regulation 11(8). This could include:

- co-ordinates and locality maps (legible and at an appropriate scale) of the activity;
- description of the receiving environment;
- description of the action (including best environmental practice);
- details of chemicals used if hydraulic stimulation of a well is to be undertaken;
- major environmental hazards and controls;

- an overall description of the management approach;
- advice on consultation undertaken and provision for ongoing consultation; and
- contact details of the operator's nominated liaison personnel for the activity
- any other information as requested by the Minister.

The presentation, content and format of the summary may be discussed between the operator and the Minister prior to submission of the document.

2.5 REVISION OF AN EP

2.5.1 LEGISLATION

Regulation 8(1) states that an operator is guilty of an offence if the operator continues an activity after the occurrence of a significant new, or increased risk, that is not provided for in the accepted EP for that activity. However, Regulation 8(2) outlines that if a new or increased risk occurs, the operator must submit a revised EP to the Minister in accordance with Regulation 18.

Regulation 18 requires that a revised EP be submitted to the Minister if there is any change, or proposed change, in circumstances or operations.

Regulation 18 states that this requirement applies when there is a new activity, or a significant modification, change or new stage of an existing activity, that results in a significant additional or modified risk not provided for in the accepted EP for the activity.

Regulation 19 states that the Minister may request the operator to revise and resubmit the EP at any time during the life of an activity. In this case, the Minister is required to specify the reasons for its request.

Regulation 20 requires that in all cases, whether or not there have been changes to the EP the operator must revise, resubmit and have an updated EP accepted every five (5) years from the date it was last accepted.

Regulations 25, 26 and 27 allow a Minister to withdraw acceptance of an EP if activities are taking place outside the existing plan without the plan being modified. Other grounds for withdrawal of acceptance include refusal by the operator to revise the EP after five (5) years of operation, or as requested by the Minister.

2.5.2 GUIDELINES

Where changes to the EP resulting from developments or intended action by the operator have the potential to alter the previously accepted level of environmental risks and impacts, the operator must seek the Minister's consent before implementing changes.

Examples of changes that may require the EP to be revised and resubmitted include:

- change in permit title holder or operator in relation to an activity;

- significant change in timing or location;
- introduction of a new stage of an existing activity, new facilities or activities or modification of existing facilities or activities that fall outside the accepted EP; and
- following an event which highlights that environmental impacts or risks of an activity are greater than those predicted and agreed to in the accepted EP.

Apart from cases where the Minister may agree to the revision of part of an EP under Regulation 21, the revision of an EP must include the following:

- up-to-date description of the activity;
- up-to-date description of the environment;
- re-evaluation of all sources of risks and their impacts;
- re-evaluation of the environmental risk assessment;
- re-evaluation of environmental performance objectives, standards and criteria; and
- re-evaluation of the implementation strategy.

These items are discussed in detail in Section 3.

2.6 PARTIAL ACCEPTANCE OF AN EP

2.6.1 LEGISLATION

Regulation 11(4) and 11(5) state that the Minister may accept an EP in part for a particular stage of the activity.

2.6.2 GUIDELINES

At one or more stages of an EP assessment, the Minister may accept the EP in part for a particular stage of the activity, or impose limits or conditions applying to operations for the activity. No activity outside the accepted components may be carried out.

3 CONTENT AND PREPARATION OF AN ENVIRONMENT PLAN

3.1 OVERVIEW

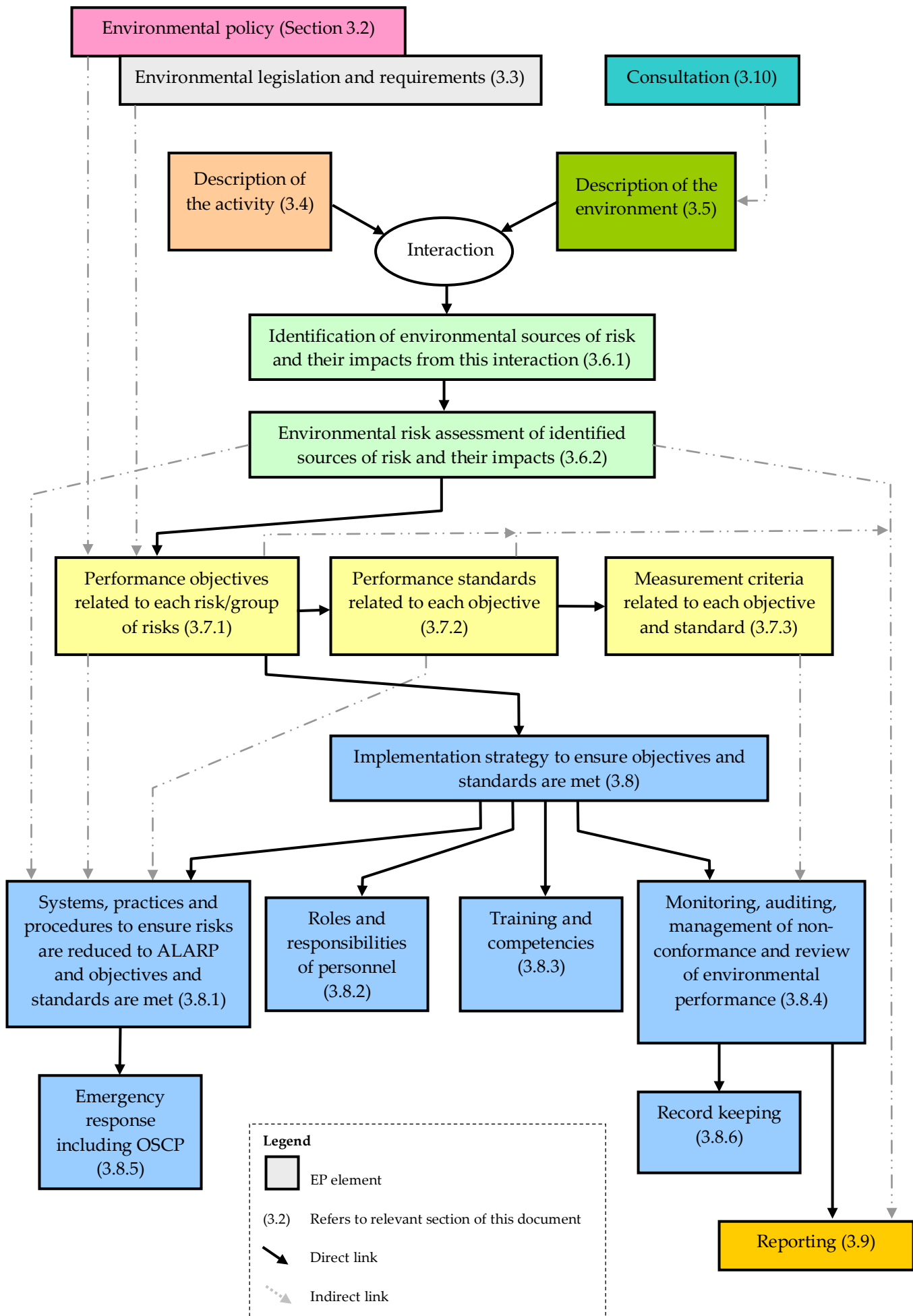
An EP should be a cohesive document in which all of the elements required by the Regulations are logically linked (Figure 2). The content of each element should reflect or address the content of the preceding element(s) in the sequence. It is not mandatory that an EP be structured exactly as outlined in Figure 2, but it must follow a logical developmental sequence.

Although the structure and minimum contents of an EP must follow the guidance provided in this document, the information and level of detail included in an EP should be consistent with the nature and scale of the operations carried out during the activity.

It should be emphasised that the intent of the EP is to act as an approval document, as well as a practical implementation/management tool to be used by the operators in the field.

DRAFT

Figure 2: Content, Structure and Linkages of an Environment Plan



3.2 CORPORATE ENVIRONMENT POLICY

3.2.1 LEGISLATION

Regulation 17(1)(a) requires that an EP must contain a statement of the operator's corporate environmental policy.

3.2.2 OBJECTIVE

To demonstrate that the operator 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 good oil-field practices.

3.2.3 GUIDELINES

The policy need not be a stand-alone document. For example, environmental policy can be included in broader corporate policy statements.

The policy should include a concise public statement of the corporate commitment to protect the environment during offshore petroleum activities.

The policy should be relevant to the operator's activities and should state that management has a high level of commitment to reduce environmental impacts and risks of their activities to ALARP.

The policy should 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 objectives and targets and should guide the operator towards monitoring appropriate technology and management practices. This is important for the development of environmental performance objectives for the EP.

3.3 ENVIRONMENTAL LEGISLATION AND OTHER REQUIREMENTS

3.3.1 LEGISLATION

Regulation 13(6) requires that an EP must contain a list of all legal, environmental and other requirements that apply to the activity.

3.3.2 OBJECTIVE

To demonstrate that an operator has considered the provisions of all relevant environmental legislation and other requirements to ensure that an EP is consistent with these.

3.3.3 GUIDELINES

An EP should identify all Commonwealth and State/Territory 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 including international agreements must be included in the EP.

Any specific statutory requirement that will affect the management of a petroleum project must also be identified in the EP, and discussed as required.

The following legislation may be applicable to petroleum activities:

- *Petroleum and Geothermal Energy Resources Act 1967;*
- *Petroleum and Geothermal Energy Resources (Environment) Regulations 2011;*
- *Petroleum and Geothermal Energy Resources (Management of Safety) Regulations 2010;*
- *Petroleum (Submerged Lands)(Environment) Regulations 2011*
- *Petroleum Pipelines (Environment) Regulations 2011*
- *Environment Protection and Biodiversity Conservation Act 1999;*
- *Environment Protection (Sea Dumping) Act 1981;*
- *Australian Heritage Commission Act 1975;*
- *Historic Shipwrecks Act 1976;*
- *Native Title Act 1993;*
- *Quarantine Act 1908 and Regulations; and*
- *Protection of the Sea (Prevention of Pollution from Ships) Act 1983.*
- *Environmental Protection Act 1986*
- *Wildlife Conservation Act 1950,*
- *Aboriginal Heritage Act 1972*

Copies of all Commonwealth legislation can be found at the Commonwealth of Australia Law website at www.comlaw.gov.au. and WA legislation at www.slp.wa.gov.au

The following international agreements and conventions may also be applicable to certain petroleum activities:

- Agreement Between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and Their Environment (Japan Australia Migratory Birds Agreement or JAMBA)²;
- Agreement Between the Government of Australia and the People's Republic of China for the Protection of Migratory Birds and Their Environment (Chinese Australia Migratory Birds Agreement or CAMBA)³;
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)⁴;
- Convention on Wetlands of International Importance Especially as Waterfowl Habit (RAMSAR)⁵;

² <http://www.environment.gov.au/biodiversity/migratory/waterbirds/>

³ <http://www.environment.gov.au/biodiversity/migratory/waterbirds/>

⁴ <http://www.cms.int/about/intro.htm>

- Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer⁶;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal⁷;
- United Nations Framework Convention on Climate Change⁸;
- International Convention for the Prevention of Pollution from Ships, London, 1973 (MARPOL)⁹;
- United Nations Convention on the Law of the Sea 1982 (UNCLOS)¹⁰; and
- Protocol to International Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, 7 November 1996 (Previously known as the London Dumping Convention)¹¹.

Depending on the location of the project, a petroleum operator should also identify State and Territorial legislation which may apply to the project. This is particularly relevant if aspects of the proposal extend into another jurisdiction.

NB: The above lists are not exhaustive. Users should be aware that the legislative context is evolving, and that the information provided here may be dated.

The onus is on the operator to ensure all relevant legislation is identified as a basis for project compliance systems.

For longer term projects (i.e. greater than one year), an EP should outline a monitoring system that will accommodate changes in the relevant environmental legislation and other requirements.

3.4 DESCRIPTION OF THE ACTIVITY

3.4.1 LEGISLATION

Regulation 14(1) requires that an EP must contain a comprehensive description of the 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.

Definition and clarification of the term 'activity' is provided in Regulations 4 and 5.

⁵ <http://ramsar.org/index.html>

⁶ <http://www.austlii.edu.au/au/other/dfat/treaties/1988/26.html> and <http://hq.unep.org/ozone/Montreal-Protocol/Montreal-Protocol2000.shtml>

⁷ <http://www.basel.int/>

<http://unfccc.int/2860.php>

⁸ <http://unfccc.int/2860.php>

⁹ http://www.londonconvention.org/marpol_73.htm

¹⁰ <http://www.unclos.com/>

¹¹ <http://www.londonconvention.org/>

3.4.2 OBJECTIVE

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.

3.4.3 GUIDELINES

Location

The geographical location of the proposed activity must be adequately identified. Especially useful are legible maps of appropriate size and scale. An EP should also identify the relevant petroleum title(s), and include coordinates and/or distances and direction from the nearest landmark, population centre or sensitive areas (for example: 50km north west of the boundary of the marine park).

General Details

General construction and/or layout details of any facility, structure, drill rig or vessel 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 vessel (including support vessels);
- names of contractors and sub-contractors (if known); and
- technical specifications relevant to the interaction of the activity with the environment.

Operational Details

An EP should outline the proposed operations of an activity and proposed commencement date and schedule for the activity.

The key elements 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. This includes details of all chemicals and concentrations if hydraulic stimulation is to be carried out as part of a petroleum activity.

Where relevant, this should include but is not limited to the elements in Table 3.

Table 3: Examples of Operational Aspects Linked to Specific Types of Activities

| Activity | Environmental Aspects (as defined in Section 3.6) |
|--|--|
| Seismic & Other Surveys | <ul style="list-style-type: none"> ▪ Physical presence of vessel(s) – (quarantine, lighting, noise) ▪ Use of seismic air gun array and strength of received signal ▪ Refuelling ▪ Anchoring ▪ Solid & liquid waste management (containment/discharge) ▪ Atmospheric emissions ▪ Spill incidents |
| Drilling | <ul style="list-style-type: none"> ▪ Physical presence of rig & vessels – (quarantine, lighting, noise) ▪ Anchoring, jack-up leg placement ▪ Use of vertical seismic profiling ▪ Drilling fluids & drill cuttings (types, quantity, separation & disposal systems) ▪ Refuelling & bulk transfers ▪ Solid & liquid waste management (containment/discharge) ▪ Deck drainage management & monitoring ▪ Well clean-up & testing systems ▪ Atmospheric emissions ▪ Spill incidents |
| Facility/Secondary Pipeline Construction | <ul style="list-style-type: none"> ▪ Physical presence of vessels – (quarantine, lighting, noise) ▪ Physical presence of permanent infrastructure ▪ Piling, blasting, trenching & dredging operations ▪ Hydrotesting & commissioning discharges ▪ Deck drainage management & monitoring ▪ Solid & liquid waste management (containment/discharge) ▪ Atmospheric emissions ▪ Spill incidents |
| Facility/Pipeline Operation | <ul style="list-style-type: none"> ▪ Production systems ▪ Drainage systems ▪ Chemical injection and dosage ▪ PFW management and monitoring ▪ Gas flaring and fugitive emissions ▪ Re-injection systems (e.g. PFW, CO₂, natural gas) |
| Decommissioning | <ul style="list-style-type: none"> ▪ Well abandonment information ▪ Areas of seabed disturbance expected ▪ Disposal/re-use options for structural and waste material (normal and hazardous) ▪ Flushing and retrieval of sub-sea structures, risers, etc ▪ Recovery options for anchors and other structures ▪ Barges, rigs and support vessel operations and associated risks |
| Generic Aspects (common to most activities) | <ul style="list-style-type: none"> ▪ Waste production and management ▪ Deck drainage ▪ Noise and light ▪ Physical presence of structures and vessels (obstacles, benthic disturbance, vegetation clearing) ▪ Emissions ▪ Dropped objects overboard resulting in environmental impact ▪ Details and quantities of fuels and chemicals to be stored, used, transferred, discharged |

3.5 DESCRIPTION OF THE ENVIRONMENT

3.5.1 LEGISLATION

Regulation 14(2) requires that an EP must describe the existing environment that may be affected by the activity, as well as any relevant cultural, social and economic aspects of the environment that may be affected. Details of any relevant values and sensitivities of that environment are also required.

A definition of the term 'environment' is included in Regulation 4.

3.5.2 OBJECTIVE

To demonstrate that an operator has a good knowledge and understanding of the environmental receptors that may be affected by the proposed facility or activity. This knowledge and understanding facilitates accurate identification of sources of environmental risks in the risk assessment phase of EP development.

3.5.3 GUIDELINES

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

Natural Environment

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

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

Cultural Environment

The implications of the activity for cultural aspects including Indigenous, European and other heritage issues should be outlined.

Socioeconomic Environment

Items that should be described where relevant include, recreational and commercial fishing, shipping and tourism. In addition, potential interactions with other petroleum activities in the area should be outlined.

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 heritage sites;
- marine protected areas;
- areas of protected or rare and endangered flora or fauna;
- areas of significant habitat (including corals, seagrasses, mangroves, and macroalgae); and
- areas of temporal significance (including breeding or spawning grounds, migration routes and resting and aggregation areas).

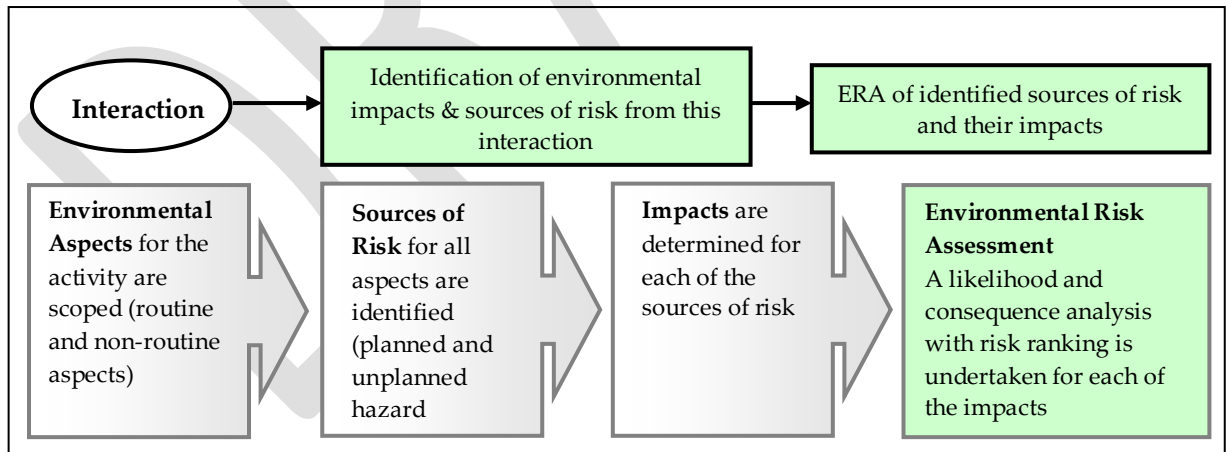
Early consultation with relevant stakeholders will assist in ensuring that relevant local and regional values and sensitivities are adequately identified.

3.6 ENVIRONMENTAL RISK ASSESSMENT

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

The ERA is the core of an EP. Figure 3 outlines the main elements and linkages of the ERA process.

Figure 3: Conceptual Structure of the ERA Process Required When Preparing an EP



Useful ERA Definitions

The following definitions are consistent with Australian Standards AS/NZS 4360:2004, AS/NZ ISO 14001:2004 and HB 203:2006. Please note that these definitions may vary from those adopted by individual operators 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.

3.6.1 IDENTIFICATION OF SOURCES OF RISK AND THEIR IMPACTS

3.6.1.1 Legislation

Regulation 14(3)(a) requires that an EP must include the details of the environmental impacts and risks for the activity.

Consideration should also be given to Regulation 8 which states that operations must not continue if a new or increased environmental risk is identified. If the new or increased risk is of a minor nature, operations may be allowed to continue while the EP is being updated. However, if there is a major change in risk, operations may be required to cease. In this case, a new or revised EP must be submitted and accepted before the activity can continue.

A penalty may apply for non-compliance with this regulation.

3.6.1.2 Objective

To demonstrate that an operator 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.

3.6.1.3 Guidelines

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 4360:2004 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 EP should outline the risk identification methodology used in the development of the EP. AS/NZS 4360:2004 Risk Management and HB 203:2006 Environmental risk management – Principles and process, outline the main elements required in the risk identification process.

Identification of Sources of Risk and Their Impacts

It is common practice to conduct a workshop to identify sources of risk and their impacts. Identification entails 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 are adequately identified.

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 useful in identifying these sources of risks and their impacts.

Table 4 outlines some common environmental aspects and sources of risk and their associated environmental impacts. It should be emphasised that the information included is indicative only, and provides an overview of the types of associations which must be made when identifying the sources of risks and their associated impacts during the ERA process.

Table 4: Examples of Associations Existing Between Common Environmental Aspects, Sources of Risk, and Impacts of Offshore Petroleum Activities.

| Environmental Aspects | Sources of Risk (Hazards) | Impacts |
|--------------------------------------|---|---|
| Physical presence | <ul style="list-style-type: none"> ▪ Timing and location of activities | <ul style="list-style-type: none"> ▪ Disturbance of migration and breeding patterns ▪ Interference with fishing operations |
| | <ul style="list-style-type: none"> ▪ Anchoring ▪ Placement of platform or drill rig legs ▪ Placement of subsea equipment ▪ Placement of pipelines or flowlines | <ul style="list-style-type: none"> ▪ Smothering or displacement of benthic fauna ▪ Damage to subsea habitat |
| Use of seismic equipment | <ul style="list-style-type: none"> ▪ Generation of acoustic signals | <ul style="list-style-type: none"> ▪ Acoustic disturbance to marine fauna ▪ Disturbance of migration and breeding patterns |
| | <ul style="list-style-type: none"> ▪ Physical loss of streamers ▪ Loss of streamer fluid | <ul style="list-style-type: none"> ▪ Interference with fishing operations ▪ Toxic effects of streamer fluid to marine biota |
| Use of fuel and hazardous chemicals | <ul style="list-style-type: none"> ▪ Loss of hydrocarbons/chemicals to aquifers or ocean | <ul style="list-style-type: none"> ▪ Toxic effects to marine biota ▪ Oiling of marine animals and birds ▪ Oiling of coastlines |
| Drill fluids and drill cuttings | <ul style="list-style-type: none"> ▪ Loss of synthetic based drill fluids to aquifers or ocean ▪ Oil on cuttings discharged to ocean ▪ Cutting disposal ▪ Leaching of hydrocarbons and chemicals from cuttings pile on seabed | <ul style="list-style-type: none"> ▪ Acute and chronic toxicological effects to marine biota ▪ Smothering of benthic biota |
| Drainage systems | <ul style="list-style-type: none"> ▪ Discharge of hydrocarbons and chemicals to aquifers or ocean | <ul style="list-style-type: none"> ▪ Acute and chronic toxic effects to marine biota |
| Production/separation systems | <ul style="list-style-type: none"> ▪ Discharge of produced formation water containing hydrocarbons and process chemicals | <ul style="list-style-type: none"> ▪ Ongoing plume resulting in acute and chronic toxic effects to marine biota |
| | <ul style="list-style-type: none"> ▪ Flaring | <ul style="list-style-type: none"> ▪ Atmospheric pollution and contribution to greenhouse effects ▪ Light impacts on particular local fauna sensitivity |
| Removal or abandonment of structures | <ul style="list-style-type: none"> ▪ Seabed disturbance | <ul style="list-style-type: none"> ▪ Disturbance/death of benthic fauna |
| | <ul style="list-style-type: none"> ▪ Flushing of structures | <ul style="list-style-type: none"> ▪ Toxic effects to marine biota |

3.6.2 RISK ASSESSMENT OF ENVIRONMENTAL IMPACTS

3.6.2.1 Legislation

Regulation 14(3)(b) requires that an EP must include an evaluation of the environmental impacts and risks for the activity.

Consideration should also be given to Regulation 8, which states that operations must not continue if a new or increased environmental risk is identified. In this case, a new or revised EP must be submitted and accepted before the activity can continue. A penalty may apply for not adhering to this regulation.

3.6.2.2 Objective

To demonstrate that an operator 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.

3.6.2.3 Guidelines

Assessment Methodology

Both AS/NZS 4360:2004 and HB 203:2006 give guidance on the analysis and evaluation of risks.

Risk is defined in AS/NZS 4360:2004 as the chance of something happening that will have an impact upon objectives. It is measured in terms of likelihood and consequence. For each impact identified in the proposal, the likelihood of an event occurring, and the consequence of the event should be identified.

Pre-treatment risk levels do not necessarily need to be provided in the EP. Post-treatment risk levels must be provided in the EP and the EP must identify any treatments applied to reduce the risk to the post-treatment level. These treatments must then be applied through the implementation strategy (see Section 3.8).

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 EP 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 process.

The use of industry-standard models in quantifying environmental risks is supported, although it is the responsibility of the operator 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.

Risk Matrices and Terminology

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

Clear category descriptors for identification of consequence and likelihood levels must also be provided. These category descriptors 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. rare, 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 categories are determined based on a combination of different parameters. This may vary depending on the type of ERA methodology used by an operator.

Reportable Incidents and the ERA

It is important to note that any potential or actual unplanned impact (i.e. an accident/incident) identified through the ERA process as having a consequence level falling within the 'moderate to catastrophic' category is deemed to be a Reportable Incident, as per Regulations 4 and 28 (also see Section 3.9).

For the purpose of implementing the legislation in a consistent manner, the Minister will consider that any consequence descriptor relating to the middle and top third of the identified consequence scale implies a 'moderate to catastrophic' consequence (see Table 5).

This qualitative categorisation is provided as standard regulatory guidance and is independent to the actual terminology used in different operator's ERA methodologies.

As a result, it is critical that when conducting an ERA, an operator attributes clear descriptors for consequence levels. The Minister must be in a position to interpret the adequacy of the reportable incident classification for unplanned events, based on the consequence level categorisation used by an operator.

Table 5: Generic Consequence Classification Table Showing Indicative Consequence 'Zones' and Examples of Common Qualifying Terms for Impacts

| | | Common ERA impact consequence qualifier | |
|--------------------|---------------------|---|------------------------------------|
| Consequence | Catastrophic | Catastrophic | Upper third of consequence levels |
| | | Very Significant | |
| | | Critical | |
| | | Extensive | |
| | | Major | |
| | Moderate | High | Middle third of consequence levels |
| | | Serious | |
| | | Moderate | |
| | | Significant | |
| | | Localised | |
| | Low | Temporary | Lower third of consequence levels |
| | | Limited | |
| | | Minor | |
| | | Not Significant | |
| | | Negligible | |
| | Low | | |

} Reportable if unplanned

Presentation of Risk Assessment

It is common practice to present a summary of the risk assessment results in the form of a table located in the EP. An example is presented in Table 6.

Table 6: Example Risk Assessment Table

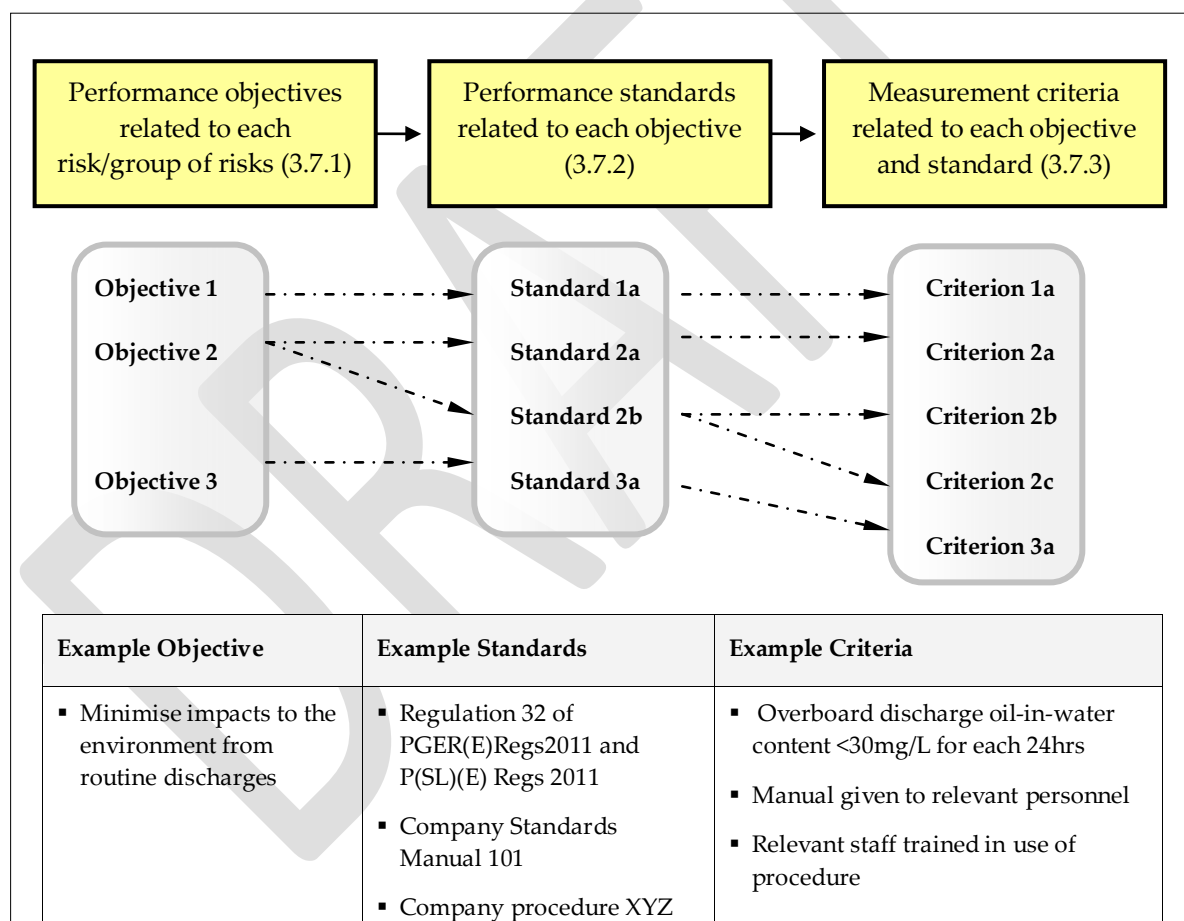
| Aspect | Source of Risk | Impacts | Likelihood | Consequence | Risk |
|------------------------|---|------------------------|------------|-------------|----------|
| Deck drainage to ocean | Contamination of water from dirty decks | Toxic effects on biota | 3 | A | Minor |
| Drilling fluids | Accidental release | Toxic effects on biota | 3 | C | Moderate |
| Refuelling operation | Large spill to ocean | Toxic effects on biota | 2 | F | Major |
| | | Oiling of shorelines | 3 | F | Major |

3.7 PERFORMANCE OBJECTIVES, STANDARDS AND MEASUREMENT CRITERIA

As per Regulation 13(5), an EP must include environmental performance objectives, environmental performance standards and measurement criteria. As presented in Figure 2, these three elements should be linked in a logical way.

Figure 4 outlines the main elements and linkages involved in identifying performance objectives, 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.

Figure 4: Conceptual Representation of Associations That May Occur Between Performance Objectives, Standards and Measurement Criteria in an EP



3.7.1 ENVIRONMENTAL PERFORMANCE OBJECTIVES

3.7.1.1 Legislation

Regulation 13(5) requires that an EP must include environmental performance objectives that address the legislative and other controls that manage the environmental features of the activity. These objectives must be defined in such a way that the operator's performance in protecting the environment can be measured.

It should be noted that a breach of a performance objective constitutes a recordable incident as defined in Regulation 4, and must be reported to the Minister as per Regulation 30. See Section 3.9.2 for further details.

3.7.1.2 Objective

To agree and define the environmental performance objectives that an operator will be required to achieve to ensure environmental protection.

3.7.1.3 Guidelines

To address Regulation 14(5)(a) the objectives 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 associated performance objective that is specifically related to those impacts or risks.

All risks identified during the ERA process must be carried through to the objectives, 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.

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

The objectives should be consistent with the requirements of the environmental policy (Section 3.2) and legislation (Section 3.3) outlined in the EP.

3.7.2 ENVIRONMENTAL PERFORMANCE STANDARDS

3.7.2.1 Legislation

Regulation 13(5) requires that an EP must include environmental performance standards intended to address the legislative and other controls that manage the environmental features of the activity. These standards must be such that the operator's performance in protecting the environment can be measured against them.

It should be noted that a breach of a performance standard constitutes a recordable incident as defined in Regulation 4, and must be reported to the Minister as per Regulation 30. See Section 3.9.2 for further details.

3.7.2.2 Objective

To agree and define the environmental performance standards that an operator will be required to achieve to ensure environmental protection.

3.7.2.3 Guidelines

While the performance objectives define *what* is intended, the performance standards relate to the *quality* of the performance. For example, a performance objective may state that the operator 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 performance objective, an EP should include at least one related standard, although it is common that a number of standards will be listed (because it is not likely that one standard will cover all aspects of an objective). In this way, the standards will be linked to the identified impacts and risks associated with the activity (see Figure 4).

The standards must be clearly identified to enable evaluation of operator performance.

In addition, the standards should be consistent with the requirements of the environmental policy (Section 3.2) and legislation (Section 3.3) outlined in the EP.

It should also be noted that industry codes of practice and guidelines can contain suitable standards.

3.7.3 MEASUREMENT CRITERIA

3.7.3.1 Legislation

Regulation 14(5) requires that an EP must include measurement criteria that address the legislative and other controls that manage the environmental features of the activity. These criteria must enable determination of whether the objectives and standards have been met.

3.7.3.2 Objective

To agree and define the measurement criteria for determining whether the objectives and standards have been met for the activity.

3.7.3.3 Guidelines

For each objective and related set of standards, a range of specifically related measurable criteria should be included (because it is not likely that one criterion will cover all aspects of an objective or related standards).

In this way, the criteria will be linked to the identified impacts and risks associated with the activity and will allow performance against the objectives and standards to be measured (see Figure 4).

The measurement criteria should:

- relate to the full range of performance objectives and standards; and
- allow direct measurement of performance by 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;
- specific discharge limits not being exceeded;
- the keeping of records; or
- the absence of an undesirable condition.

3.8 IMPLEMENTATION STRATEGY

Regulation 15(1) requires that an EP include an implementation strategy (IS) for the activity.

The primary goal of an IS is to direct, review and manage activities so that environmental impacts and risks are continually being reduced to ALARP and performance objectives and standards are met over the life of the facility or activity.

Operators are free to adopt appropriate technology, systems, practices and procedures if they demonstrate they can meet the agreed performance objectives and standards and all relevant environmental legislation.

3.8.1 SYSTEMS, PRACTICES AND PROCEDURES

3.8.1.1 Legislation

Regulation 15(3) requires that the IS of an EP include specific systems, practices and procedures to be used to ensure that the environmental impacts and risks of the activity are reduced to ALARP and that the environmental performance objectives and standards in the EP are met.

3.8.1.2 Objective

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 performance objectives and standards.

3.8.1.3 Guidelines

To demonstrate that the environmental risks can be acceptably managed, an EP should 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 should be directly related to, and address, the environmental performance objectives, standards, and risk mitigation measures outlined in the EP, including measures applied to reduce risk to a residual level. This relationship should be clearly outlined in the EP.

For example, the IS could include a separate section for each group of objectives 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 the ocean, the IS could include, or refer to, a refuelling procedure, a bulk handling procedure, the use of dry-break couplings and the use of scupper plugs to prevent deck spills entering the ocean.

Procedures can be included (attached in appendices or embedded in the text) or referred to in the EP. Where the procedures are not included as appendices it is important that, where possible, they be 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.

3.8.2 ROLES AND RESPONSIBILITIES OF PERSONNEL

3.8.2.1 Legislation

Regulation 15(4) requires that the IS 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 EP.

3.8.2.2 Objective

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

3.8.2.3 Guidelines

An EP should describe the responsibilities of all personnel in relation to the EP. 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 EP. 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.

3.8.3 TRAINING AND COMPETENCIES

3.8.3.1 Legislation

Regulation 15(5) requires that the IS include measures to ensure that all personnel associated with the activity are aware of their EP-related responsibilities. These measures must also ensure all personnel have appropriate competencies and training.

3.8.3.2 Objective

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.

3.8.3.3 Guidelines

Where relevant, an EP should provide details of procedures for identifying training needs and the upgrading of skills of personnel in relation to their environmental responsibilities.

An EP 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 EP 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 different inductions may be required for personnel with different responsibilities.

3.8.4 MONITORING, AUDITING, MANAGEMENT OF NON-CONFORMANCE AND REVIEW

3.8.4.1 Legislation

Regulation 15(6) requires that the IS provides for the monitoring, audit, management of non-conformance and review of the operator's environmental performance and the IS.

3.8.4.2 Objective

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

3.8.4.3 Guidelines

Monitoring, Auditing and Review

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

An EP 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.

Monitoring and measurement of environmental performance should be appropriate to the activity, with the results systematically recorded (see section 3.8.6). For example, this may include spot checks, agenda items for daily meetings, regular inspections or audits with the completion of checklists or audit reports.

The EP may also include monitoring of long-term discharges, 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).

The EP should identify if any on-site internal or third-party environmental audits have been planned for the activity.

Commensurate with the scale of the activity, a number of environmental audits should be planned during the activity, to ascertain compliance with the EP. Pre-start and close-out internal environmental audits should also be planned when appropriate.

Environmental audits should be used to:

- ensure all significant environmental aspects of an activity are covered in the EP;
- ensure that management strategies to achieve environmental performance objectives 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.

Management of Non-conformance

An EP should outline the arrangements for the handling and investigation of non-conformance with the performance objectives, standards and measurement criteria, and the IS. This should also include arrangements for following up of regulatory non-conformances.

Any corrective or preventative actions taken should be commensurate with the magnitude of the non-conformances 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).

3.8.5 EMERGENCY RESPONSE (INCLUDING OIL SPILL CONTINGENCY PLAN)

3.8.5.1 Legislation

Regulation 15(9) requires that the IS must establish and provide for the maintenance of an up-to-date emergency response manual (ERM), including an OSCP containing detailed response arrangements.

3.8.5.2 Objective

To ensure that all plausible emergency situations associated with the activity that have the potential for environmental impact, are identified and adequately tested emergency response strategies are in place.

3.8.5.3 Guidelines

The EP should make reference to the appropriate OSCP and ERM in place for the activity. Adequate referencing and linkage for these documents should be identified. These documents should be separate to the EP.

An OSCP associated with a given EP must be prepared in accordance with the relevant legislation and must be accepted by the Minister before the activity can commence. The OSCP must be consistent with National and State/Territory plans for prevention and response to oil spills.

In some cases, an OSCP may not be required and it may be sufficient for the EP to identify the relevant maritime Shipboard Oil Pollution and Emergency Plan associated with the activity.

3.8.6 RECORD KEEPING

3.8.6.1 Legislation

Regulation 15(7) requires that the IS must provide for the maintenance of an accurate quantitative record of routine and non-routine emissions and discharges to the environment that can be monitored and audited against the environmental performance standards and measurement criteria.

Regulation 31 requires that an operator must store and maintain records (including the EP, monitoring and emissions records, reportable and recordable incidents, and calibration reports) for a period of five (5) years.

The operator must make these records available to the Minister, as outlined in Regulation 32.

3.8.6.2 Objective

To ensure that an operator keeps a systematic auditable record of the results of the monitoring and auditing of the environmental performance of the activity against the environmental performance objectives, standards and measurement criteria.

3.8.6.3 Guidelines

The EP should identify types of environmental records for the activity that will be kept. These should include records that are linked to relevant measurement criteria, standards, commitments, monitoring and reporting requirements, as well as any additional information that the operator's environmental management system addresses.

The following list provides examples of the types of records which may need to be mentioned in the EP:

- induction records;
- waste records;
- emission and discharge records;
- hazardous goods manifests;
- bunkering records;
- bilge and ballasting records;
- non-compliances and corrective action records;
- internal audits and inspection records; and
- any records included as part of reporting information (as per S.3.9 below)

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.

3.9 REPORTING

The following information is provided to assist operators 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 EP.

Table 7: Summary of Routine and Incident Reporting Requirements for Petroleum Activities

| Requirement | | Timing |
|--|---|---|
| Routine reporting (Planned Impacts) as per Regulation 15(a) | | |
| | <p>As required by the Minister, to demonstrate that the environmental performance objectives and standards are met.</p> <p>E.g. Weekly cetacean sightings, monthly PFW discharged, monthly flaring, chemical usage, weekly drilling discharges, annual performance report for a facility, end of project report, etc.</p> | <p>An agreed frequency (Weekly, Monthly, Annual)</p> <p>Annual reports are a minimum for long-term activities</p> |
| Incident Reporting (Unplanned Impact) as per Regulation 26 & Additional Minister requirements | | |
| Reportable | <p><i>A- Consequence based</i></p> <p>The operator must notify the Minister of any unplanned event identified as having a 'moderate to catastrophic' consequence level during the ERA process (see Section 3.6.2.3 & Table 5).</p> <p>E.g. Uncontrolled release or blow-out of hydrocarbons, ongoing loss of containment from subsea infrastructures, breach of quarantine procedure, disturbance to a particular sensitivity associated with a project, etc.</p> <p><i>B- Additional Minister reporting requirements</i></p> <ul style="list-style-type: none"> a) 80L or more of hydrocarbon or hazardous chemical discharged to sea; b) An unplanned gaseous release to atmosphere 500m³ or more; c) Death or injury to individual(s) from a Listed Species during an activity; d) Unplanned impact caused to a matter of national environmental significance (NES) during an activity (as per the EPBC Act). | <p>Verbally, as soon as practicable, but within 2hrs; then in writing, within 3 days</p> |
| Recordable | <p><i>C- Recordable incident report</i></p> <p>Any incident arising from the activity that breaches a performance objective or standard identified in the EP</p> <p>E.g. Small spill of hydraulic fluid (<80L), inadequate waste management, small unplanned gaseous release (<500m³), loss of equipment to the ocean, exceedence of regulatory limits for concentration of oil in discharged produced water, etc.</p> | <p>Monthly, on or prior to the 15th day of each month</p> |

3.9.1 ROUTINE REPORTING

3.9.1.1 Legislation

Regulation 16(a) requires that the EP include arrangements for recording, monitoring and reporting sufficient information about the activity (including any information required under the Act, Regulations or other applicable

environmental legislation) that will enable the Minister to determine if the environmental performance objectives and standards have been met.

Regulation 16(b) also requires that such reporting be made at intervals agreed with the Minister, but no less often than annually.

3.9.1.2 Objectives

To ensure that the EP identifies the system in place for routine environmental performance reporting to the Minister (as determined appropriate for the activity between the operator and the Minister).

3.9.1.3 Guidelines

Routine regulatory reporting must be sufficiently detailed and conducted in a manner that demonstrates whether specific environmental performance objectives and standards are being met.

Due to the wide variety of petroleum activities with different temporal and operational characteristics, routine reporting requirements must be determined on a case-by-case basis, following discussion between the operator and Minister during EP preparation stages.

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

Regular reporting

Reporting for environmental objectives and standards which 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. weekly and 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 (PFW), process chemical dosages and usage;
- length of pipeline constructed, amount of dredging completed, length of seismic lines shot, whale sightings recorded; and
- depth of drilling, volume of cuttings discharged, average oil-on-cuttings.

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

It should be noted that, where relevant, monthly production reports providing information on produced formation water and gas flaring are also required under clauses 641 of the Schedule of Onshore Petroleum Exploration and Production Requirements 1991.

Monthly routine reporting is recommended for production activities, while weekly reporting may be more suitable for short exploration or construction projects. In some instances, (for example a very short-term activity) it may be sufficient to provide a single close-out report at the completion of the activity.

Annual Reports

For long-term production activities, as a minimum, annual reports must be provided to the Minister. Annual reporting is an effective manner of summarising the findings of internal compliance audits conducted during the year. The report should assess the activity's annual compliance with the accepted environmental objectives, standard and criteria and identify opportunities for future improvements.

It is also recommended that an annual environmental report contain additional information such as a summary of environmental incidents that occurred on the facility during the year (i.e. number of reportable and recordable incidents that occurred, lessons learnt), trends in discharges and emissions, environmental studies or research associated with the activity, technical improvements, consultation undertaken, results of related research or of an ongoing monitoring program, etc.

Essentially, any information which may provide further demonstration that objectives are being met should be included in annual reports.

3.9.2 INCIDENT REPORTING

3.9.2.1 Legislation

Reportable Incidents

Under Regulation 4, a reportable incident is defined as an incident mentioned in the activity EP that has caused, or has the potential to result in, moderate to catastrophic environmental consequences, as categorised by the risk assessment process undertaken as part of the preparation of the EP.

Regulation 28 requires that the operator must notify (this may be oral or in writing) the Minister of a reportable incident as soon as practicable but not later than two hours after the first occurrence of the incident or after the time the operator becomes aware of the incident.

Under Regulation 29, a written report must be submitted as soon as practicable, but not later than three (3) days after the first occurrence of the reportable incident.

Recordable Incidents

Under Regulation 4, a recordable incident is defined as an incident arising from the activity that breaches a performance objective or standard in the EP that applies to the activity, and is not a reportable incident.

Under Regulation 30, a written report of recordable incidents must be provided monthly to the Minister not later than 15 days after the end of the calendar month.

3.9.2.2 Objective

To ensure that the EP contains sufficient information to determine what incidents are reportable to the Minister, and identifies the adequate protocols for initial notification of a reportable incident, written reportable incident reporting, and monthly recordable incident reporting.

3.9.2.3 Guidelines

A- Reportable Incidents – Consequence Based

In preparing an EP, the operator should ensure that reportable incidents are clearly identified in the form of a list or table presenting relevant unplanned sources of risks and their impacts. These should have been identified through ERA process, and highlighted as reportable incidents based on their consequence levels (see Section 3.6.2.3 and Table 5).

Classification and reporting triggers

The definition of a reportable incident focuses on the environmental *consequence* of the incident. Therefore, environmental incidents and how they relate to associated consequence level thresholds must be clearly identified in the ERA section of the EP.

Any incident identified in the risk assessment as having a potential or actual impact of ‘moderate to catastrophic’ environmental consequence must be reported to the Minister as soon as practicable, but within 2 hours, as required by the Regulations.

It is important that clear triggers are identified for given incidents, to avoid any doubt as to what is reportable:

- if a particular discharge or emission is concerned, a quantitative trigger should be associated with the incident (e.g. size of spill, quantity of gas, etc). These quantitative triggers should be linked to the consequence thresholds used throughout the risk assessment; and
- some incident triggers may need to be qualitative (e.g. injury or death on an individual of a specific species, dropping a container containing a specific hazardous substance, conducting a given activity in a prescribed area, etc.).

More information on evaluating the classification of incidents based on consequence levels is included in Section.3.6.2.

Examples of reportable events may include:

- uncontrolled release of hydrocarbons of a given quantity, depending on the distance from a sensitive location and modelling data;
- ongoing loss of containment from subsea infrastructure;

- breach of quarantine procedure; and
- significant unplanned disturbance to a sensitive receptor associated with the project.

B- Reportable Incidents – Additional Minister reporting requirements

A number of additional incidents also require reporting as soon as possible whether or not they have been captured by the operator's ERA, and whether or not they have been classified within the 'moderate to catastrophic' impact category.

An EP should identify these additional reporting requirements (where applicable):

- | |
|--|
| <ul style="list-style-type: none"> a) An unplanned hydrocarbon or hazardous chemical spill > 80 L. b) An unplanned gaseous release > 500m³. c) Death or injury of individual(s) from a Listed Species during an activity. d) Unplanned impact caused to a matter of national environmental significance (NES) during an activity (as per the EPBC Act). |
|--|

These additional requirements have been established following consultation with the State and Territory Ministers and other stakeholders, and capture the principal environmental incidents which may require a coordinated response or result in public inquiries.

These additional requirements ensure that consistent minimum reporting triggers are maintained across industry irrespective of the different ERA approaches that may be taken by various operators.

Incident reporting procedure

The Regulations state that the notification within two (2) hours can be oral or in writing, however a written notification (by mail, fax or email) should not be taken to fulfil the requirement until the Minister provides confirmation of receipt.

In spite of the above, to avoid any doubt, verbal notification of a reportable incident is preferable. This should be made within 2 hours by contacting the Minister's emergency contact number.

The verbal notification should provide as much preliminary information as is available about the incident (e.g. operator, location, type of incident, initial response).

Furthermore, a written report must be sent to the Minister as soon as practicable, but within 3 days after the initial notification. This written report should contain detailed information about the incident, the outcomes of any investigation and the corrective actions implemented.

Under Regulation 28(3)(c) and 29(3)(d), both the initial notification and written report should cover, as a minimum:

- all material facts and circumstances concerning the recordable incidents that the operator knows of, or is able, by reasonable search or enquiry, to find out;
- any action taken to avoid or mitigate any adverse environmental impacts of the recordable incidents; and
- the corrective action that has been taken, or is proposed to be taken, to prevent similar recordable incidents.

Table 8 contains the type of information that may be included in a written incident report.

Table 8: Example of Information Required in a Written Incident Report

| |
|--|
| <p>General Details</p> <ul style="list-style-type: none"> ▪ Facility name, site name or location where the incident occurred. ▪ Name and business address of the employer who controls the work site. ▪ Time and date of the incident. ▪ Names and contact details of any witnesses. ▪ Name, position and telephone number of person(s) submitting the details. <p>Incident Details</p> <ul style="list-style-type: none"> ▪ Description of the incident. ▪ Work/activity being undertaken at the time of the incident. ▪ Estimated quantity, composition and known toxicity of fluids that escaped. ▪ Duration of escape. ▪ Details of extent of the impact – including: type, date, location, and details of environmental damage. <p>Response, investigation and close-out details</p> <ul style="list-style-type: none"> ▪ Immediate action taken to control further impact to the environment, including details of any disturbance of the work site. ▪ Arrangements for internal investigation (regulatory investigation may be required and will be evaluated once the report is received). ▪ Corrective actions proposed to prevent recurrence of similar incidents. |
|--|

The relevant Minister should be consulted to ensure the specific reporting requirements for that State/Territory are well understood and complied with.

Further Information

At the request of the relevant Minister, 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.

C- Recordable Incidents

Some minor incidents are not categorised as reportable incidents, but still represent a breach of an environmental objective or standard. These should be communicated to the Minister.

Collecting such information allows the Minister to track industry performance, follow and compile trends, and also maintains good communication between operators and the regulator.

The EP must define the scope of what represents recordable incidents, based on the objective and standards. It must also describe the requirements for a monthly report and how it will be communicated to the Minister.

Recordable incidents do not need to be reported immediately. Regulation 30 requires written monthly reports to be submitted at the end of each calendar month, no later than 15 days after the end of the month. Recordable incidents can be incorporated into the routine monthly reports.

As a minimum, the following information must be included in a recordable incident report, as per Regulation 30(4)(d):

- a record of all recordable incidents that occurred during the calendar month;
- all material facts and circumstances concerning the recordable incidents that the operator knows of or is able, by reasonable search or enquiry, to find out;
- any action taken to avoid or mitigate any adverse environmental impacts of the recordable incidents; and
- the corrective action that has been taken, or is proposed to be taken, to prevent similar recordable incidents.

Monthly reporting can be conducted by an email or mail correspondence, by submitting internal incident reports or a summary table (see example below, Table 9).

Table 9: Example of a Monthly Reporting Table for Recordable Incidents, to Address Regulation 30(4)(d)

| Date | Recordable incident | Performance Objective or Standard breached | Immediate Action taken | Corrective Action |
|------|---|--|---|--|
| - | Spill of 45L of hydraulic fluid discharged to sea due to split hose | No discharge to marine environment | The hydraulic system was isolated and hose replaced | Review of maintenance program on system |
| - | Small gas leak identified on injection port seal | Minimise gaseous emissions from facility | Close valve to injection port | Port isolated and the seal was changed Similar seals to be inspected during upcoming shutdown |

In situations where there may be no recordable incidents for that month, it is recommended that operators inform the Minister within the same time frame that no recordable incidents have occurred during the month ('Nil Reporting').

This can be done in the form of a short communication identifying that no recordable incidents occurred during the calendar month.

3.10 CONSULTATION

3.10.1 PREPARATORY CONSULTATION

3.10.1.1 Legislation

Regulation 17(1)(b) requires that an EP must contain a report on all consultations between the operator and the relevant authorities, interested persons and organisations undertaken in the course of developing the EP.

3.10.1.2 Objective

To provide a comprehensive list of stakeholders consulted, the nature of the consultations and any key issues that arose during those consultations, during project planning.

3.10.1.3 Guidelines

This requirement allows regulators to determine whether the relevant stakeholders have been identified and properly consulted before submission of the EP.

In this section of the EP, the operator should clearly identify all relevant stakeholders consulted. It should include a description of the nature of consultations, including the level of information provided to stakeholders, the date of the consultations, the issues and concerns raised by those stakeholders and how they were resolved.

Where relevant, consultation to be conducted after submission of the EP, but before its acceptance should also be explained. A supplementary update on these consultation outcomes may need to be submitted to the Minister prior to approval of the EP.

3.10.2 ONGOING CONSULTATION

3.10.2.1 Legislation

Regulation 15(10) requires that the IS must provide for appropriate consultation with relevant authorities of the State and other relevant interested persons or organisations.

3.10.2.2 Objective

To ensure that the IS includes processes to communicate with relevant persons, organisations and agencies on a regular basis, throughout the life of the project.

3.10.2.3 Guidelines

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

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

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

If the project is short-term, or there are no particular sensitivities at the proposed location, an ongoing consultation program may not be required.

4 IMPLEMENTATION AND REVIEW OF THESE GUIDELINES

- These guidelines were developed to assist operators to prepare Environment Plan documents which are compliant with the Regulations.
- Recognising the principles of good regulation, DMP 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 DMP website www.dmp.wa.gov.au

APPENDIX A – SUMMARY OF EP CONTENT REQUIREMENTS

This section is intended to provide an overview of the guidelines, however, to gain full understanding of the requirements, the guidelines should be read in their entirety. Each section below summarises the required components of an EP, in line with the information provided throughout the guidelines.

Figure 2 displays the content, structure and linkages of an EP.

Environmental Policy

The EP should include a copy of, or clear outline of the Corporate Environmental Policy. This policy should contain the organisation's environmental objectives, targets and commitments. Refer to Section 3.2 for further details and examples.

Environmental Legislation and Requirements

The EP should include a list of all legal, environmental and other requirements that apply to the activity (e.g. Commonwealth/State/Territory legislation, international agreements and conventions, etc). Providing this information demonstrates the operator is aware of all relevant environmental legislation and other requirements relevant to that specific activity to be undertaken. Refer to Section 3.3 for examples of legislation and further information.

Referrals

The EP should include information related to referral to agencies other than the Minister. Information should include triggers identified for initiating the referral, date document referred, agency referred to, date approved or not approved, level of assessment and any other relevant information.

Description of the activity

The EP 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. Refer to Section 3.4 for more information and examples. Table 3 provides examples of operational aspects linked to specific types of activities.

Description of the Environment

The EP 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 3.5 contains more specific details on 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 EP, whether they arise from normal operations or potential emergency conditions (incidents), accidental or otherwise. An EP should outline the risk identification methodology used in the development of the EP (e.g. HAZID workshop, literature review, past experience, etc.). Sources of risk and their associated impacts must be identified for planned (routine and non-routine) and unplanned (accidents/incidents) activities for any given activity. Table 4 provides examples of associations existing between common environmental aspects, sources of risk and impacts of offshore petroleum activities. Refer to Section 3.6.1 for more detailed information.

Assessment of identified environmental risks and impacts

Environmental risk assessment (ERA) involves the assessment of the likelihood and consequence of identified impacts (or potential impacts) occurring. Figure 3 provides a conceptual structure of the ERA process required when preparing an EP. Section 3.6 provides useful definitions 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.

The EP should include details of the methodology used in the ERA process. The ERA matrix used by the operator should be provided in this section. Table 1 provides an example risk classification table 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 a table (refer to Table 6: Example risk assessment table).

Performance objectives, standards and measurement criteria

The EP should include environmental performance objectives, standards and measurement criteria that address the legislative and other controls that manage the environmental features of the activity. Figure 4 provides conceptual representation of associations that may occur between performance objectives, standards and measurement criteria in an EP.

Environmental performance objectives

The EP should define the aims and objectives that are identified by the operator to ensure environmental protection. These objectives 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. Refer to Section 3.7.1 for more detailed information.

Environmental performance standards

The EP should define the quality of the performance the operator is aiming for. Each performance objective should include at least one related standard

(usually there is more than one standard required per objective). The standards should be consistent with the Corporate Environment Policy and legislation relevant to the activity. Section 3.7.2 provides further information.

Measurement criteria

For each objective and its standards, specifically related measurable criteria should be included in order to measure environmental performance against the objectives and standards. The measurement criteria should allow for direct measurement of performance by inspection or audit. Refer to Section 3.7.3 for further details.

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 performance objectives and standards are met over the life of the activity. This section of the EP 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. Refer to Section 3.8.1.

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 EP. Refer to Section 3.8.2.

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. Refer to Section 3.8.3.

Monitoring, auditing, management of non-conformance and review

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 performance objectives, 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-conformance with the EP. This should include the arrangements for tracking and close-out of action items. Refer to Section 3.8.4.

Emergency response

This section should make reference to the appropriate Oil Spill Contingency Plan (OSCP) and Emergency Response Manual (ERM) in place for the activity. Adequate referencing and linkage for these documents should be identified. Refer to Section 3.8.5.

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. Refer to Section 3.8.6.

Reporting Arrangements

Table 7 provides a summary of routine and incident reporting requirements for petroleum activities. This section can be divided into two categories:

Routine reporting

This section should describe arrangements for routine regulatory reporting to the Minister that is sufficiently detailed and conducted in a manner that demonstrates whether specific environmental performance objectives and standards are being met. Refer to Section 3.9.1.

Incident reporting

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

Table 8 provides an example of information required in a written incident report. Table 9 provides an example of a table for monthly reporting of recordable incidents to the Minister. Refer to Section 3.9.2 for detailed requirements.

Consultation

The EP should clearly identify all relevant stakeholders consulted. It should 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. Refer to Section 3.10 for more details.