Australian Government

STREAMLINING OFFSHORE PETROLEUM ENVIRONMENTAL APPROVALS

Strategic Assessment Report

Strategic Assessment of the environmental management authorisation process for petroleum and greenhouse gas storage activities administered by the National Offshore Petroleum Safety and Environmental Management Authority under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.

February 2014

CONTENTS

Table of Contents

1 Executive Summary

1.1 Background

On 25 October 2013, the Minister for Industry, the Hon. Ian Macfarlane MP, the Minister for the Environment, the Hon. Greg Hunt MP and the CEO of the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), Ms Jane Cutler, agreed to undertake a strategic assessment of the Offshore Petroleum and Greenhouse Gas (OPGGS) Environmental Management Authorisation Process administered by NOPSEMA under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (the OPGGS Act) and Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (the OPGGS(E) Regulations).

The aim of the assessment is to deliver a 'one stop shop' for environmental approvals of offshore petroleum and greenhouse gas activities in Commonwealth waters, as well as in designated state or territory waters where relevant environmental management functions of those jurisdictions' powers have been conferred under legislation to NOPSEMA.

Currently all petroleum and greenhouse gas activities must have an accepted Environment Plan in force in accordance with the OPGGS Act in order to proceed. Activities that are likely to have a significant impact on matters protected under Part 3 of the EPBC Act also require assessment and approval by the Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The OPGGS Act and EPBC Act processes overlap in many respects, and largely adopt the same legislative objectives.

The strategic assessment comprises these documents as follows:

- The Strategic Assessment Report (this report), which provides a comprehensive assessment of how the Program provides for matters protected under Part 3 of the EPBC Act.
- The Program Report, which describes the Program and commitments by NOPSEMA in relation to matters protected under Part 3 of the EPBC Act.
- The Supplementary Report, which documents and provides responses to public comments and discussion, and describes any changes to the Program and Strategic Assessment Report resulting from consultation.

This Strategic Assessment provides the basis for the Minister for the Environment to consider endorsing the Program. If endorsed, the Minister for the Environment may then approve the taking of actions in accordance with the Program. For actions that fall within the scope of this approval, proponents will no longer need to seek separate approval under the EPBC Act. Accordingly, the proposal will deliver streamlined environmental approval processes for offshore petroleum and greenhouse gas activities in Commonwealth waters, and in state or territory waters where relevant environmental management powers have been conferred under legislation to NOPSEMA, while maintaining strong environmental safeguards.

1.2 The OPGGS Act and EPBC Act processes and outcomes

This Strategic Assessment Report demonstrates that the OPGGS Act processes for environmental management described in the Program, though different to processes under the EPBC Act, provide for the same environmental outcomes as the EPBC Act.

The scope of these processes is different. While the OPGGS Act and OPGGS(E) Regulations apply to the potential impacts on the whole environment for all petroleum and greenhouse gas activities, the EPBC Act's application is limited to activities likely to have a significant impact on matters protected under Part 3 of the EPBC Act, including:

- The World Heritage values of declared World Heritage properties
- The National Heritage values of declared National Heritage places
- The ecological character of RAMSAR wetlands
- Listed threatened species and ecological communities
- Listed migratory species
- The marine environment
- The environment on Commonwealth land.

The general approach of the EPBC Act and OPGGS Act processes are also different. The EPBC Act outlines prescriptive requirements to proponents of actions that are likely to have a significant impact on a matter protected under Part 3 of the EPBC Act to ensure that those actions do not have an unacceptable impact on any of those matters. If a proposed action is likely to have an impact on a matter protected under Part 3 of the EPBC Act, it will be deemed a 'controlled action' and subject to approval by the Minister for the Environment. The OPGGS Act and associated OPGGS(E) Regulations, on the other hand, outline objectives that titleholders must meet to ensure the impacts and risks of petroleum and greenhouse gas activities are of an acceptable level, and reduced to as low as reasonably practicable (ALARP). Both processes seek to ensure actions or activities proceed in accordance with the principles of ecologically sustainable development (ESD).

There are particular differences between the current EPBC Act and OPGGS Act in the public consultation and timeframes involved. Under the EPBC Act, proponents must undertake full public consultation in the preparation of assessment materials for a Controlled Action, whereas under the OPGGS Act current arrangements require consultation with persons whose interests, functions or activities may be impacted by the proposed activity in the preparation of an Environment Plan. In addition, approval of a Controlled Action under the EPBC Act is commonly sought after concept selection but prior to final investment decision in a proposed project, whereas under the OPGGS Act, acceptance of an Environment Plan for an activity is commonly (but not always) sought much closer to the proposed date of commencement of that activity.

These differences are related to the differences in scope between the EPBC Act and OPGGS Act. While the EPBC Act process currently provides for broader consultation, it does not provide for any consultation at all for activities that will not have a significant impact on a matter protected under Part 3 of the EPBC Act. The OPGGS Act process, however, provides for consultation for all petroleum and greenhouse gas activities, regardless of the magnitude of the impacts of those activities. Similarly, while the timing of EPBC Act approvals is commonly much earlier than for environmental regulatory decisions under the OPGGS Act, the level of detail required to be provided for an Environment Plan under the OPGGS(E) Regulations in relation to all the potential impacts and risks (not just those on matters protected under Part 3) means that titleholders are often (but not always) unable to provide all the information required at an earlier stage.

The Program that is proposed for endorsement by the Minister for the Environment includes amendments to the OPGGS(E) Regulations to address the differences between the OPGGS Act and EPBC Act processes, and to ensure the Program meets equivalent outcomes for matters protected under Part 3 of the EPBC Act.

1.3 The Program

Table 1.1 NOPSEMA's commitment to protection of matters protected under Part 3 of the EPBC Act

PART 3 MATTER PROTECTED	OUTCOMES
World heritage values of declared World Heritage properties	The outstanding universal value of world heritage properties will be identified, protected, conserved and transmitted to future generations.
National heritage values of declared National Heritage places	The outstanding value to the nation of national heritage places will be protected, conserved and transmitted to future generations of Australians.
The ecological character of declared Ramsar wetlands	The ecological character of each Ramsar wetland will be maintained, and the conservation use of each wetland will be promoted for the benefit of humanity in a way that is compatible with maintenance of the natural properties of the ecosystem.
Listed threatened species and ecological communities	The survival and conservation status of listed threatened species and ecological communities will be promoted and enhanced, including through the conservation of critical habitat and other measures contained in any recovery plans, threat abatement plans or conservation advices.
Listed migratory species	The survival and conservation status of listed migratory species and their critical habitat will be promoted and enhanced.
The marine environment	The ecosystem functioning and integrity of Commonwealth marine areas will be maintained and protected in conformity with relevant marine bioregional plans and plans of management for relevant marine reserves.
The environment on Commonwealth land	The environment on Commonwealth land will be maintained and protected in full conformity with relevant plans of management.

The Program and this Strategic Assessment Report describe the OPGGS(E) Regulations as amended and include changes to environmental management of offshore petroleum and greenhouse gas activities under the Regulations to ensure equivalent environmental outcomes are achieved to maintain strong environmental safeguards once NOPSEMA is the sole designated assessor for these activities.

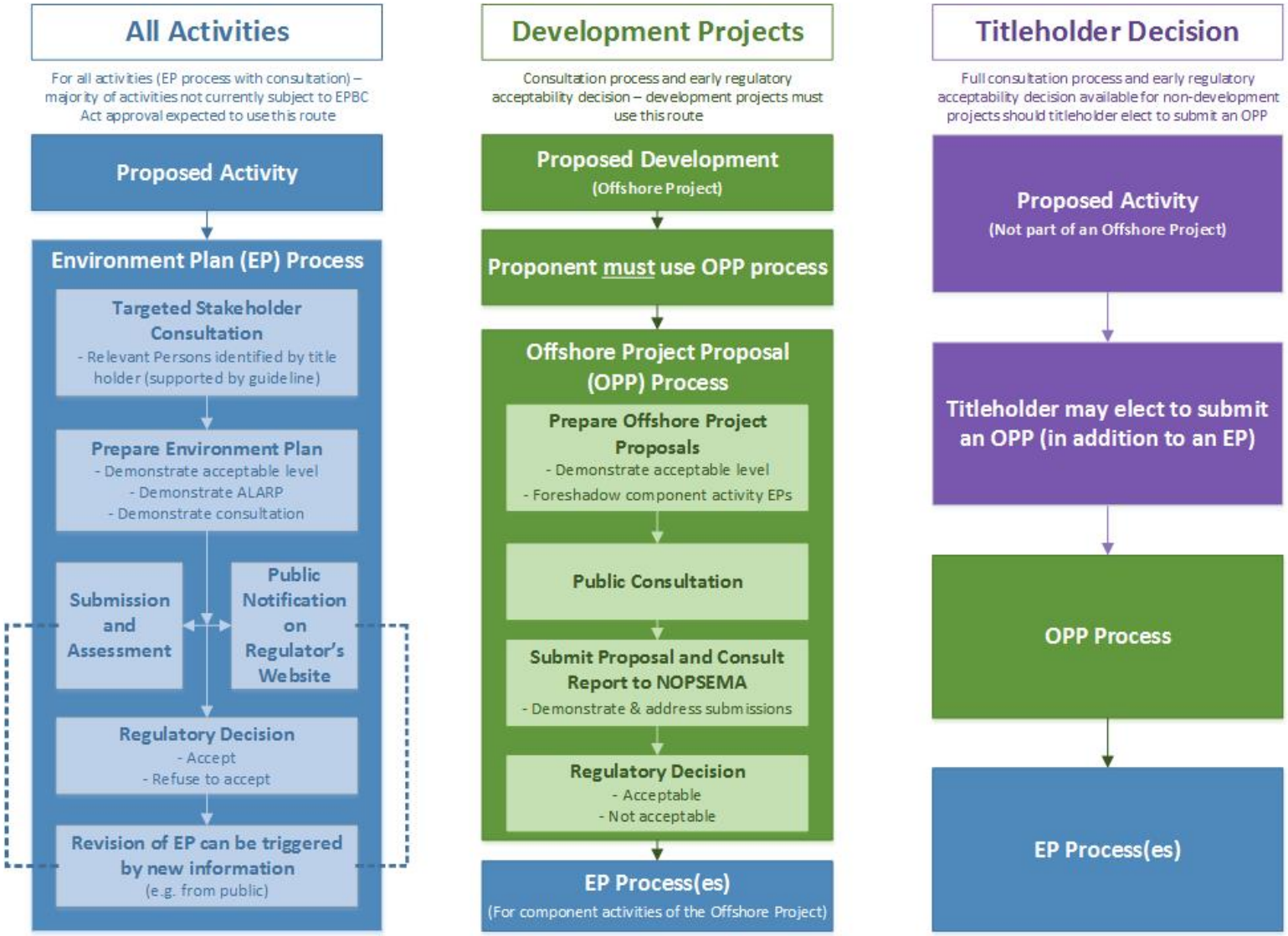
The Program comprises two environmental assessment paths: the Environment Plan and Offshore Project Proposal. Titleholders are required to submit an Environment Plan for assessment and acceptance by NOPSEMA prior to commencing any offshore petroleum or greenhouse gas activity. The activity must not commence unless NOPSEMA has accepted the Environment Plan. For development projects, the Program also requires submission of an Offshore Project Proposal for assessment and acceptance by NOPSEMA.

The Offshore Project Proposal process has been developed to capture large-scale offshore projects that may have an impact on a matter protected under Part 3 of the EPBC Act. It can be used for all petroleum and greenhouse gas activities and is mandatory for new development projects. For those development projects, the Offshore Project Proposal must describe the whole lifecycle of the proposed project. An Environment Plan accepted by NOPSEMA is also required for all activities encompassed in the project. NOPSEMA cannot accept the submission of an Environment Plan for a development activity unless there is an accepted Offshore Project Proposal for that project. As is currently the case, all petroleum and greenhouse gas activities, even where they are not likely to have an impact on a matter protected under Part 3 of the EPBC Act, require an Environment Plan accepted by NOPSEMA in order to proceed.

Titleholders may elect to prepare and submit an Offshore Project Proposal for a petroleum or greenhouse gas activity that is not part of a development project. NOPSEMA guidance will outline circumstances in which a titleholder may elect to submit an Offshore Project Proposal for these activities. The guidance will make reference to consideration of potential impacts on matters protected under Part 3 of the EPBC Act and outline consultation requirements.

Both Offshore Project Proposals and Environment Plans must identify and assess the potential impacts to matters protected under Part 3 of the EPBC Act as well as the broader environment. Offshore Project Proposals are subject to public consultation, and Environment Plans must demonstrate that appropriate consultation with persons or organisations whose functions, interests or activities could be impacted by the proposed petroleum or greenhouse gas activity has been undertaken. NOPSEMA guidance, published on its website, provides information to assist the interpretation of the requirements under the Program. This guidance is to be amended to indicate an inclusive approach for consultation, including early public notification and invitations for comment.

Figure 1.1 The OPGGS Environmental Assessment Processes under the Program



Offshore Project Proposal

An offshore petroleum or greenhouse gas project (offshore project), which must follow the Offshore Project Proposal assessment process, consists of one or more of the following:

- construction facilities or pipelines
- operation of facilities or pipelines
- recovery of petroleum other than on an appraisal basis
- injection of greenhouse gas
- permanent storage of greenhouse gas.

The Offshore Project Proposal requires the proponent to identify, assess and consult on all the potential impacts to matters protected under Part 3 EPBC Act and the broader environment in a systematic way that is consistent with environmental impact assessment processes.

A proponent proposing to undertake an Offshore Project must prepare and submit an Offshore Project Proposal to NOPSEMA for public comment, assessment and acceptance. NOPSEMA advice material will also outline that proponents, in accordance with good industry practice, should undertake early consultation with stakeholders in the lead up to the mandatory public comment period, to inform the preparation of the Offshore Project Proposal.

Following the mandatory public consultation period, proponents must include, in the final Offshore Project Proposal submitted to NOPSEMA, a summary of comments received, an assessment of the merits of those comments and a statement of the proponent's response or proposed response to any objection or claim, including a demonstration of changes (if any) made as a result. Proponents may also use the public consultation process to identify relevant persons or organisations to inform consultation requirements for subsequent Environment Plans.

NOPSEMA assesses the Offshore Project Proposal document against the acceptance criteria in the OPGGS (E) Regulations. Specifically, NOPSEMA will accept an Offshore Project Proposal if it contains environmental performance outcomes that ensure that the impacts and risks arising from the project and activities to be undertaken as a part of the project will be managed to an acceptable level. This means that NOPSEMA will not accept an Offshore Project Proposal unless the potential impacts on a matter protected under Part 3 of the EPBC Act will be managed to an acceptable level.

If an Offshore Project Proposal is accepted, the Program provides that NOPSEMA must publish the document on its website.

Environment Plan

The Environment Plan process applies to all petroleum and greenhouse gas activities. This requirement applies regardless of whether that activity relates to an Offshore Project that requires an Offshore Project Proposal. A titleholder must submit an Environment Plan to NOPSEMA for assessment and acceptance. In the Environment Plan, the titleholder must:

- identify and assess the impacts and risks of the activity to matters protected under Part 3 of the EPBC Act as well as the broader environment
- nominate environmental performance outcomes, controls standards and measurement criteria

- prepare an implementation strategy to ensure outcomes and standards are continuously met
- prepare an oil pollution emergency plan
- include a report on consultation.

A key difference between the Offshore Project Proposal and Environment Plan processes is in the approach required for consultation. In preparing the Environment Plan, the titleholder must undertake consultation with persons whose interests, functions or activity may be impacted by the proposed activity. This may include parties with an interest in matters protected under Part 3 of the EPBC Act. NOPSEMA guidance, published on its website, provides information to assist the interpretation of the requirements under the Program. This guidance is to be amended to indicate an inclusive approach for consultation, including early public notification and invitations for comment. Pursuant to this guidance and the Regulations, titleholders are expected to engage early and widely with the community to ensure that their consultation processes are robust and meet the requirements under the Program. The Environment Plan is required to document that consultation, including the full text of any comments, and indicate how those comments have been responded to. The Environment Plan is also required to indicate how the proponent will provide for appropriate ongoing consultation.

When the Environment Plan is submitted for assessment, the Program provides that NOPSEMA must place a public notification of the submission on their website. The notification must include the location and type of the proposed activity, and the name of the titleholder. If an Environment Plan is not accepted this is reflected in the notification on NOPSEMA's website.

NOPSEMA assesses the Environment Plan against the acceptance criteria in the OPGGS(E) Regulations. Specifically, NOPSEMA will accept an Environment Plan if it demonstrates that the environmental impact and risks of the activity will be of an acceptable level and reduced to as low as reasonably practicable. This means that NOPSEMA will not accept an Environment Plan unless the potential impacts on a matter protected under Part 3 of the EPBC Act will be of an acceptable level.

If an Environment Plan is accepted, the Program provides that a detailed summary of the Environment Plan is published on the NOPSEMA website. This summary is commonly 20–50 pages in length depending on the nature and scale of the activity and impacts, and includes the following information:

- location of the activity
- a description of the receiving environment
- a description of the activity
- details of major environmental hazards and controls
- a summary of the management approach
- details of consultation already undertaken, and plans for ongoing consultation
- contact details for the titleholder's nominated liaison personnel for the activity
- on-going monitoring of the titleholder's environmental performance
- oil pollution emergency response arrangements.

Meeting Equivalent Environmental Outcomes

The Offshore Project Proposal and Environment Plan processes together, as the Program, ensure that despite differences in approaches between the OPGGS Act and EPBC Act processes, both achieve equivalent environment outcomes and provide strong environmental safeguards from the potential impacts of petroleum and greenhouse gas activities:

- The objective-based OPGGS Act process under the Program requires proponents to continuously ensure that potential impacts from these activities will be of an acceptable level, thereby ensuring there will not be unacceptable impacts on matters protected under Part 3 of the EPBC Act.
- The Offshore Project Proposal provides equivalent public consultation requirements for development projects as required for Controlled Action documentation, and is published. The timeframe for the Offshore Project Proposal assessment and decision is also analogous to Controlled Action and other EPBC Act assessments and approvals.
- Titleholders may elect to prepare and submit an Offshore Project Proposal for a petroleum or greenhouse gas activity that is not part of a development project. The guidance to assist titleholders in deciding whether to submit an Offshore Project Proposal in these circumstances will make reference to consideration of potential impacts on matters protected under Part 3 of the EPBC Act and outline consultation requirements.

The Offshore Project Proposal and Environment Plan processes together ensure that the potential impacts and risks from petroleum and greenhouse gas activities to matters protected under Part 3 of the EPBC Act and the broader environment will be of an acceptable level, and reduced to as low as reasonably practicable.

1.4 The Strategic Assessment Report

This Strategic Assessment Report was developed in accordance with the Terms of Reference agreed between the Minister for the Environment, the Minister for Industry, and the CEO of NOPSEMA (Appendix 1) and to enable the Minister for the Environment to consider endorsing the Program under Part 10 of the EPBC Act.

Chapter 2 outlines the strategic assessment process, timeframes and key decision points.

Chapter 3 describes the potential actions – petroleum activities and greenhouse gas activities – that will be regulated under the Program, and outlines the potential impacts of those actions. It also provides an overview of how the Program, when implemented, will ensure that the impacts of those actions on matters protected under Part 3 of the EPBC Act will be of an acceptable level, and reduced to as low as reasonably practicable.

Chapter 4 demonstrates how the Program ensures petroleum and greenhouse gas activities will proceed in a matter consistent with the principles of ecologically sustainable development (ESD), and other broad objectives under the EPBC Act. This chapter includes a discussion of the treatment of cumulative impacts under the Program, and how potential impacts of cross-jurisdictional activities and projects will be addressed under the Program.

Chapter 5 describes the Offshore Petroleum Project and Environment Plan assessment processes under the Program in detail, including arrangements for public consultation and transparency. This Chapter also includes a table comparing the EPBC Act requirements and outcomes against the outcomes achieved under the Program to demonstrate that these are equivalent and provide for the protection of matters protected under Part 3 of the EPBC Act.

Chapter 6 describes the compliance monitoring and enforcement mechanisms under the Program to ensure that titleholders adhere to the legislative requirements and to ensure that there are no unacceptable impacts on any matter protected under Part 3 of the EPBC Act, or to the environment.

Chapter 7 describes each of the matters protected under Part 3 of the EPBC Act relevant to this Strategic Assessment (as outlined in the Terms of Reference).

This Chapter then outlines a scenario specific to each protected matter and demonstrates how the Program will apply to proposed petroleum and greenhouse gas activities that may have an impact on each matter.

Chapter 8 discusses adaptive management strategies and how the Program addresses scientific uncertainty or changing knowledge and thresholds to ensure that impacts on matters protected under Part 3 of the EPBC Act and the broader environment are continuously of an acceptable level and reduced to ALARP.

Chapter 9 outlines the auditing and reporting arrangements under the Program, including NOPSEMA's public reporting on its activities and reporting to the Minister for the Environment on matters protected under Part 3 of the EPBC Act to ensure the Australian Government can meet its international reporting obligations, for instance in relation to protection of World Heritage properties.

Chapter 10 describes the arrangements for ongoing review of the Program against the requirements of the EPBC Act for protection of matters under Part 3. This chapter also outlines procedures in the event that there are modifications to the Program.

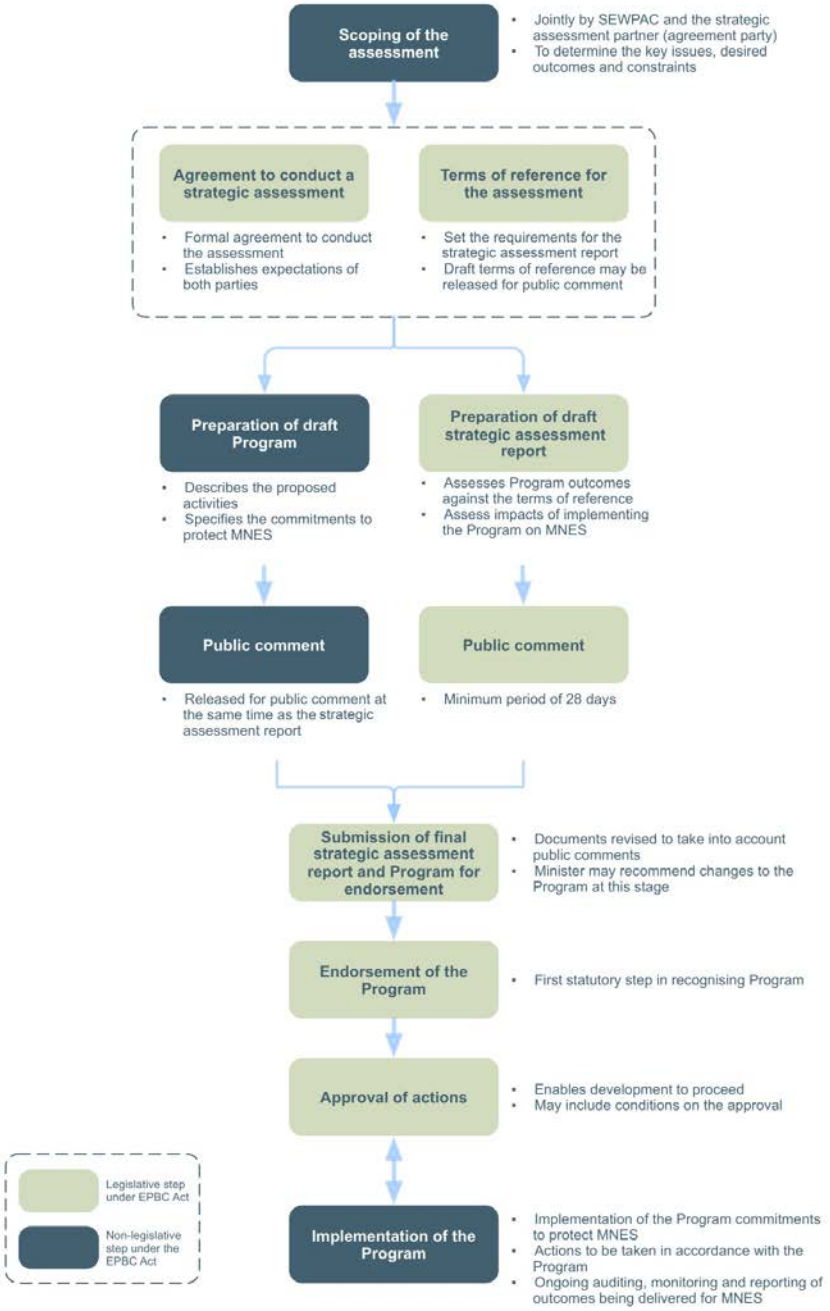
2 Introduction

On 25 October 2013, the Minister for Industry, the Hon. Ian Macfarlane MP, the Minister for the Environment, the Hon. Greg Hunt MP and the CEO of the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), Jane Cutler, agreed to undertake a Strategic Assessment of the Offshore Petroleum and Greenhouse Gas (OPGGS) environmental management authorisation process administered by NOPSEMA under the *Offshore* Petroleum *and Greenhouse Gas Storage Act 2006* (the OPGGS Act) and Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (the Regulations). The aim of the assessment is to deliver a 'one stop shop' for environmental approvals of offshore petroleum and greenhouse gas activities in Commonwealth waters, as well as in designated state or territory waters where relevant environmental management powers have been conferred under legislation to NOPSEMA.

A Strategic Assessment is an assessment under Part 10 of the EPBC Act of a plan, policy or program. It assesses the adequacy of the plan, policy or program to identify and manage impacts on matters

protected under Part 3 of the EPBC Act. It also assesses whether potential impacts on these matters would be acceptable when managed under the arrangements of that plan, policy or program.

Figure 2.1: Flow-diagram of the Strategic Assessment process



www.environment.gov.au

Note: 'SEWPAC' means the former Department of Sustainability, Environment, Water, Population and Communities, now the Department of the Environment.

2.1 Approach to this Strategic Assessment

This Strategic Assessment considers the implementation of the OPGGS environmental management authorisation process administered by NOPSEMA (the Program) as the "plan, policy or program"

under Part 10 of the EPBC Act. It provides a description of the potential impacts that may arise from activities under this Program, and outlines the processes or control that will be applied under the Program to identify, avoid and mitigate impacts on matters protected under Part 3 of the EPBC Act.

This Report describes the methods under the Program using examples to illustrate how the Program operates in practice to demonstrate that implementation of the Program will ensure that impacts on matters protected under Part 3 of the EPBC Act will be of an acceptable level.

2.2 Timeframe for this Strategic Assessment

This is a Strategic Assessment of a program: the OPGGS environmental management authorisation process for petroleum and greenhouse gas activities managed by NOPSEMA under the OPGGS Act and OPGGS(E) Regulations.

The Government has established a taskforce, chaired by the Department of Industry and including technical experts, to undertake the assessment. This Strategic Assessment Report assesses how the Program will ensure appropriate consideration and management of potential impacts on matters protected under Part 3 of the EPBC Act. The Program is described in more detail in a separate document.

The Strategic Assessment includes the following steps or stages, as provided for under Part 10 of the EPBC Act:

Stage	Status
Strategic Assessment Agreement	Signed 25/10/2013
Terms of Reference for the Strategic Assessment	Agreed 25/10/2013
Program	Prepared 22/11/2013
Draft Strategic Assessment Report	Prepared 22/11/2013
Public comment on Program and draft Strategic Assessment Report. Statutory consultation period of 28 days.	22/11/2013 – 20/12/2013
Public exhibition of draft Regulations to support the Program	6/12/2013
Supplementary Report, Final Strategic Assessment Report and Final Program Report	31/1/2014
Potential endorsement of the Program (Minister for the Environment)	mid February 2014
Potential approval of actions/classes (Minister for the Environment)	28/2/2014

3 Purpose and Description

3.1 Purpose of this Strategic Assessment

The purpose of this Strategic Assessment is to provide the basis for the Minister for the Environment to endorse the Program that describes the environmental management authorisation process administered by NOPSEMA. This endorsement then provides the basis for the Minister for the Environment to approve the taking of actions in accordance with the Program. For actions that fall within the scope of this approval, proponents will no longer need to seek separate approval under the EPBC Act. Accordingly, the proposal will deliver streamlined environmental approval processes for offshore petroleum and greenhouse gas activities.

The Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999* (the Hawke Review) recommended the Australian Government consider streamlining the OPGGS Act and EPBC Act[1] which was subsequently supported by the Australian Government in its response to the Hawke Review[2]. The Report of the Montara Commission of Inquiry[3] and the draft Productivity Commission Report on Mineral and Energy Resource Exploration[4] also recommended that the Government streamline these regulatory frameworks. The Government accepted the recommendation of the Montara Commission of Inquiry, and is currently considering the draft 2013 Productivity Commission report. In addition, the Government made a pre-election commitment to reduce regulatory burden for individuals, business and community organisations, targeting a $1 billion reduction per year with a focus on streamlining Regulations that are detrimental to productivity or impose higher costs than benefits.

The OPGGS Act and EPBC Act processes overlap in many respects, and largely adopt the same legislative objectives, such as requirements for activities to be carried out consistent with the principles of ecological sustainable development. In addition to the referral and assessment processes under the EPBC Act, titleholders of offshore petroleum activities are also required to submit an environmental plan for acceptance in accordance with the OPGGS(E) Regulations, demonstrating that risks to the environment are reduced to as low as reasonably practicable, and that any residual risks, taking into account the predicted effectiveness of the mitigation measures, are acceptable.

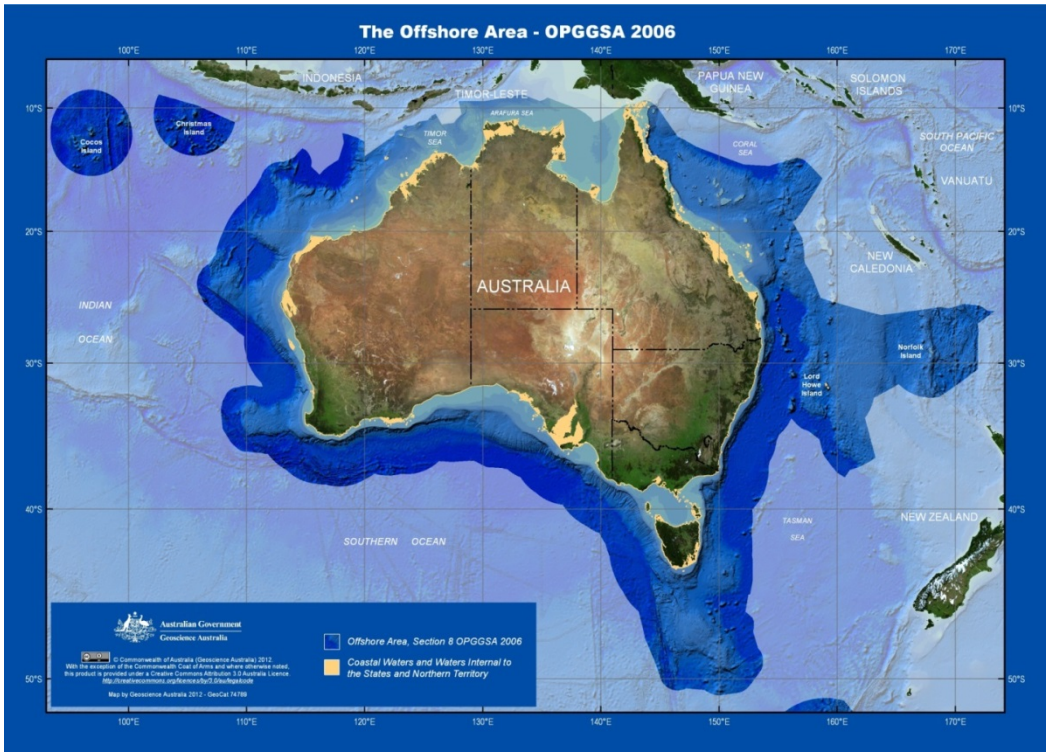
The OPGGS Act

All offshore petroleum and greenhouse gas activities in Commonwealth waters require assessment and authorisation under the OPGGS Act and subordinate Regulations, including the OPGGS(E) Regulations.

---

[1]Hawke, Allan (2009). Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Environment, Water, Heritage and the Arts (DEWHA) Canberra.
[2] Department of Sustainability, Environment, Populations and Communities (SEWPaC) (2011). Australian Government Response to the Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*. Canberra.
[3] Department of Resources Energy and Tourism (RET)(2010). Report of the Montara Commission of Inquiry.
[4]Productivity Commission (2013), Mineral and Energy Resource Exploration, Draft Inquiry Report, Canberra.

Figure 3.1: Map of Australia showing Commonwealth waters



Note: Petroleum activities are prohibited in certain marine reserves such as International Union for the Conservation of Nature (IUCN) [5] Categories I, II and IV zones, and would not be authorised under the OPPGS Act. Construction and maintenance of pipelines may be authorised in IUCN Category IV zones.

The legal framework within which petroleum exploration and production activities take place in Australia is a result of the Offshore Constitutional Settlement and the division of responsibilities between the Australian Government and the state/NT governments. Ultimate responsibility for Commonwealth waters (i.e. beyond three nautical miles seaward of the territorial sea baseline) rests with the Australian Government. Petroleum and greenhouse gas activities conducted onshore and as far as three nautical miles seaward of the baseline (referred to as 'coastal waters') are the responsibility of the individual state and territory governments unless powers for regulation of these activities have been conferred. This legislative framework provides for the orderly exploration for and production of petroleum and greenhouse gas resources, and set out a framework of rights, entitlements and responsibilities of governments and industry.

The arrangements for regulation of environmental management for petroleum and greenhouse gas activities conducted in Commonwealth waters arise from a Commonwealth policy decision in the early 1990s, following the release in the United Kingdom of the report of the Public Inquiry into the

[5] IUCN is a global conservation NGO which has the central aim to conservation of biodiversity. IUCN has developed a classification system for protected areas which is recognised as a global standard. It classifies protected areas into categories according to their management objectives. There are six categories: Ia strict nature reserve; Ib wilderness area; II national park; III natural monument or feature; IV habitat/species management area; V protected landscape/seascape; and VI protected area with sustainable use of natural resources.

Piper Alpha Disaster by the Hon. Lord Cullen, to adopt a safety case regime and new performance/objective based regulation for safety and environmental management. Under an objective-based regime, the titleholder(s) seeking to explore and develop petroleum resources in Commonwealth waters is responsible for the protection of the environment from the risks and impacts of its petroleum and greenhouse gas activities.

An important feature of this regime is that it places the duty of care for environmental management on the titleholder. Objective-based regulation is not self-regulation by industry, as industry must demonstrate to regulators – and regulators must assess and accept or not accept – that it has reduced the risks of an impact to as low as reasonably practicable. These environmental impacts and risks must also be of an acceptable level. This regime encourages continuous improvement rather than minimum compliance. It ensures flexibility in operational matters to meet the unique nature of differing projects, and avoids a 'lowest common denominator' approach to regulation.

'As low as reasonably practicable' means the point where the economic/health and safety costs required to reduce the environmental impacts and risks of the activity any further would be grossly disproportionate to the environmental benefit gained. This principle arises from the recognition that infinite time, effort and money could be spent on the attempt of reducing a risk to zero, which is not feasible and may result in little net benefit to the environment.[6]

A title is an authority granted by an instrument under the OPGGS Act for the carrying out of an offshore petroleum or greenhouse gas activity (i.e. permit, licence, authority, and lease). The titleholder is the registered person who holds the authority for carrying out a petroleum activity (i.e. a permit or licence). Titleholder means a greenhouse gas titleholder or a petroleum titleholder under the Program. The titleholder is responsible for all matters under the Program. The titleholder is ultimately responsible for ensuring – and must demonstrate to NOPSEMA – that risks and impacts to matters protected under Part 3 of the EPBC and the broader environment are of an acceptable level, and reduced to as low as reasonably practicable.

NOPSEMA is the national regulator for offshore petroleum occupational health and safety (OHS), the integrity of facilities, wells and well-related equipment, and the environment. Its jurisdiction covers Commonwealth waters and designated (state/territory) waters where the relevant state or territory has conferred powers to it. It is also the regulator for OHS and well integrity of petroleum activities, and is the delegated functions for regulation of environmental management of greenhouse gas activities.

[6] Department of Resources, Energy and Tourism, *Environment Regulations Review Issues Paper* (2012), www.ret.gov.au/environmentregulationsreview

The OPGGS(E) Regulations

The OPGGS(E) Regulations set the framework for environmental management of activities under the OPGGS Act. The primary object of the Regulations is that activities occur in accordance with the principles of ESD (see Chapter 4). It is also the Regulations' object that:

- environmental risks and impacts of any activity are acceptable
- environmental risks and impacts of any activity have been reduced to as low as reasonably practicable.

Under the OPGGS(E) Regulations, it is an offence for a titleholder to:

- commence an activity without 'an Environment Plan in force for the activity', that is, an Environment Plan for the activity that has been accepted by NOPSEMA
- carry out an activity in a way contrary to 'the Environment Plan in force for the activity'
- continue an activity if new or increased environmental risk is identified, and this new or increased risk is not provided for in 'the Environment Plan in force for the activity'.

The OPGGS(E) Regulations, as amended under the Program, will provide for two environmental assessment paths: the Environment Plan and Offshore Project Proposals.

Titleholders are required to submit an Environment Plan for assessment and acceptance by NOPSEMA prior to commencing any offshore petroleum or greenhouse gas activity. The activity must not commence unless NOPSEMA has accepted the Environment Plan. This Environment Plan must demonstrate that the risks to the environment are of an acceptable level, and reduced to as low as reasonably practicable. If the proposed activity does not meet these criteria, the petroleum activity is unable to proceed. The titleholder for an activity must consult with relevant persons including those whose functions, interests or activities may be affected by the activity in the course of preparing the Environment Plan or revising the Environment Plan. An accepted Environment Plan establishes the legally binding environment management conditions that must be met by the titleholder and against which NOPSEMA can secure compliance. A failure to comply with an Environment Plan is an offence, and also provides grounds upon which NOPSEMA can withdraw its acceptance of an Environment Plan.

For development projects, the Program also requires submission of an Offshore Project Proposal for assessment and acceptance by NOPSEMA. A titleholder cannot submit an Environment Plan for a development activity unless it has an accepted Offshore Project Proposal for the overarching project. The Offshore Project Proposal must be subject to full public notification and consultation. The Offshore Project proposal must identify and assess potential impacts on matters protected under Part 3 of the EPBC Act and on the broader environment. Under the Program, NOPSEMA must not accept an Offshore Project Proposal unless it contains environmental performance outcomes that ensure that the impacts and risks arising from the project and activities to be undertaken as a part of the project will be managed to an acceptable level.

The OPGGS Act and OPGGS(E) Regulations under the program also provide for compliance and enforcement powers and functions to NOPSEMA. NOPSEMA has inspection and investigatory powers to ensure ongoing compliance and investigate incidents or breaches of legislative

requirements where they may occur. NOPSEMA undertakes a graduated approach to enforcement, from positive enforcement through information promotion to penalties applied under the legislation, and ultimately withdrawal of acceptance of an Environment Plan. The latter enforcement strategy means that an activity can no longer continue. More information on this and other aspects of the Program is provided in the body of this report.

The EPBC Act

Certain petroleum and greenhouse gas activities also require assessment and approval under the EPBC Act. The EPBC Act provides the legal framework for the protection and management of nationally and internationally important flora, fauna, ecological communities, and heritage places. These are defined under the EPBC Act as matters of national environmental significance (known as MNES). The EPBC Act also protects, among other matters, the environment on areas of Commonwealth land and marine environment. Both of these categories of 'protected matters' are the subject of this Strategic Assessment (protected matters are defined in Part 3 the EPBC Act).

An action – including a petroleum or greenhouse gas activity – will require approval from the Minister for the Environment if the action has, will have, or is likely to have, a significant impact on matters protected under Part 3 of the EPBC Act. There is an onus on the proponent (person responsible for the action) of an activity to refer the action to the Minister for the Environment if it is likely that there will be a significant impact on one or more of these matters. This is typically done on a project-by-project basis.

The Department of the Environment's EPBC Act Significant Impact Guidelines 1.1[7] describe the meaning of 'significant impact'. Under the guidelines, a significant impact is one which could be considered to be important, notable or of consequence, in terms of the context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. To be likely, it is sufficient that a significant impact on the environment is a real and not a remote chance or possibility.

The EPBC Act Significant Impact Guidelines 1.1 identify the key considerations that should inform whether or not a proposed action should be referred. These considerations include whether protected matters are present in the area of interest, whether they may be impacted (directly or indirectly), and whether there are measures that could be taken to avoid or mitigate any impacts to reduce those impacts to below the significance threshold. Consideration should also be given to the sensitivity, value and quality of the environment, as well as the intensity, duration, magnitude and geographic extent of the impacts. There are a range of assessment processes which must then be followed for actions determined as having significant impacts.

Public comment is invited on both initial referrals as well as draft environmental impact assessments. In addition, proponents must publish their referrals and assessments, including their

[7]Commonwealth of Australia (2013). Matters of National Environmental Significance *Significant Impact Guidelines 1.1*, *Environment Protection and Biodiversity Conservation Act 1999,* http://www.environment.gov.au/resource/significant-impact-guidelines-11-matters-national-environmental-significance, viewed 18 Nov 2013.

responses to public comments, and the Minister for the Environment must publish decisions and provide statements of reasons, if requested.

The EPBC Act also provides for compliance and enforcement of requirements. The Department of the Environment undertakes positive enforcement mechanisms through information sharing and promotion, and also conducts investigations and pursues enforcement where breaches of the legislative requirements may occur. The Minister for the Environment may revoke approvals or issue additional conditions to ensure there are not unacceptable impacts on matters protected under Part 3 of the EPBC Act.

3.2 Benefits of the Strategic Assessment

The major benefit of this Strategic Assessment is that a titleholder will not need to submit a referral under the EPBC Act if an action (a petroleum or greenhouse gas activity) is taken in accordance with the endorsed Program administered by NOPSEMA and under a class of actions approval.

Following the Strategic Assessment, the Minister for the Environment may endorse the Program, and approve actions or classes of actions to be undertaken in accordance with the endorsed Program. As part of the decision about whether to approve actions or classes of actions under the Program, the Minister for the Environment must inform other Ministers with administrative responsibilities relating to the actions of the proposed approval, and invite comments including about economic and social matters relevant to those actions.

If approved, petroleum or greenhouse gas activities under the Program are deemed to have been assessed and approved under the EPBC Act and further consideration is not needed under this legislation. This will streamline environmental assessments and approvals in Commonwealth waters while maintaining strong environmental safeguards.

The key benefits of this Strategic Assessment and subsequent approval of actions to be taken in accordance with the Program can be summarised into the following key points:

i. reduced duplication and overlap in regulatory approvals processes
ii. increased clarity, certainty and consistency in decision-making processes
iii. increased economic benefits for the Australian economy
iv. specific benefits associated with the application of the Program.

I. Reduced duplication and overlap in regulatory approvals processes

Duplication and overlap in the environmental regulation of offshore petroleum and greenhouse gas activities under the OPGGS Act and the EPBC Act have led to unnecessary economic burden on the sector that the Government believes can be alleviated while retaining strong environmental safeguards.

In 2009, it was estimated that unnecessary regulatory burden was potentially diminishing the value of the petroleum resource extraction in Australia by billions of dollars each year[8]. Addressing

[8]Productivity Commission (2009). Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, Research Report, Melbourne.

unnecessary duplication in environmental regulation is one mechanism that can contribute to the reduction of unnecessary costs to industry, where environmental approvals are a critical path to project approval, while maintaining environmental safeguards.

In 2009, it was estimated that unnecessary regulatory burden was potentially diminishing the value of the petroleum resource extraction in Australia by billions of dollars each year[9]. Addressing unnecessary duplication in environmental regulation is one mechanism that can contribute to the reduction of unnecessary costs to industry, where environmental approvals are a critical path to project approval, while maintaining environmental safeguards.

Duplication and overlap in the environmental regulation of upstream petroleum activities under the OPGGS Act and the EPBC Act have led to unnecessary economic burden on the sector that the Government believes can be alleviated while retaining strong environmental safeguards.

There is duplication in the development, assessment, approval, compliance, monitoring, reporting and enforcement of the environmental impacts of offshore petroleum activities in Commonwealth waters. This duplication has resulted because there are two separate, but overlapping schemes that currently apply:

- If a proponent is seeking to undertake an offshore petroleum and greenhouse gas activity, they must prepare an Environment Plan for assessment and authorisation under the OPGGS Act and the OPGGS(E) Regulations.
- In addition, there is an onus on proponents to ensure that their activities are not in breach of the provisions of the EPBC Act. If an activity is likely to have a significant impact on matters of national environmental significance or another EPBC Act protected matter (for example, Commonwealth Land), the proponent must 'refer' the activity to the Department of the Environment for a decision as to whether it is a controlled action and, if it is, approval from the Minister for the Environment under the EPBC Act. This requires a separate referral and assessment process.

Where a proponent has referred an activity to the Department of the Environment, four outcomes may result. The Minister for the Environment or his/her delegate:

- Determines the activity will have a significant impact on a protected matter, deems it a "controlled action", and further assessment under the EPBC Act is required before approval. If approved, conditions may (and commonly) apply to that approval.
- Determines the activity will not have a significant impact on a protected matter, deems it a "not controlled action", and no further assessment under the EPBC Act is required.
- Determines the activity will not have a significant impact on a protected matter, deems it a "not controlled action: particular manner", and no further assessment under the EPBC Act is required as long as the activity is undertaken in accordance with the "particular manner".
- Determines the activity is clearly unacceptable and cannot proceed.

[9]Productivity Commission (2009). Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, Research Report, Melbourne.

In the first three cases, regardless the Department of the Environment's decision and conditions, proponents must also prepare an Environment Plan for every activity for submission, assessment, and acceptance by NOPSEMA under the OPGGS(E) Regulations. Proponents must then comply with the Environment Plan, as well as any conditions placed on an EPBC Act approval and any prescribed "particular manners" conditions. This may also result in inconsistencies in regulatory requirements.

If the Minister for the Environment endorses the Program and approves petroleum and greenhouse gas activities in Commonwealth waters as actions or classes of actions under the endorsed Program, then these activities will only be subject to one regulatory approvals process, administered by one regulator. This Strategic Assessment demonstrates how the Program provides for equivalent environmental protection as that achieved under the EPBC Act to ensure that in reducing regulatory burden, strong environmental safeguards are maintained.

Endorsement of the Program by the Minister for the Environment means he is satisfied the Program affords acceptable environmental outcomes and maintains high environmental standards. If the Minister for the Environment approves petroleum and greenhouse gas activities in Commonwealth waters as actions or classes of actions under the endorsed Program, then these activities will only be subject to one regulatory approvals process, administered by one regulator. There is no 'call-in' provision for the Minister for the Environment within the Program. If actions or classes of actions are approved by the Minister for the Environment proponents have certainty that they have approval, via the Program, under the EPBC Act. Actions or classes of actions not covered by the Program will still be subject to the normal operation of the EPBC Act.

This endorsement and approval will include matters which require additional permits under the EPBC Act. Permits are required under Part 13 of the EPBC Act for activities that will affect cetaceans, listed threatened species or communities or migratory species in a Commonwealth marine area. Certain exemptions apply, including for actions covered by an approval under Part 9 of the EPBC Act that applies to the Commonwealth marine area (refer to s231 EPBC Act). Activities undertaken in accordance with the Program and for which a Part 10 class approval applies are taken to be approved under [Part 9 of] the EPBC Act and will not require a Part 13 EPBC Act Permit.

Permit requirements also apply to Commonwealth marine reserves. All commercial activities within Commonwealth marine reserves (multiple use zones) require approval under Part 15 of the EPBC Act and must be consistent with statutory plans of management; approval would generally be a permit, except where a 'class approval' is in place. Class approvals are used to avoid duplication of assessment and approval processes, where possible, so that the values of the marine reserve are protected in accordance with plans of management and the EPBC Act. The Director of National Parks has issued a class approval for mining operations in the South-east Commonwealth Marine Reserves Network to authorise operations that have been approved under Part 9 of the EPBC Act. So, similar to Part 13 permits (above), any activity undertaken within that marine reserve, in accordance with the Program and for which a Part 10 class approval applies, will not require a Commonwealth reserve permit.

A network of Commonwealth marine reserves has recently been proclaimed in Australia. With the exception of the South-east Network of Commonwealth Marine Reserves Management Plan 2013–23, no plans of management are in place at present. Transitional management arrangements for all

Commonwealth marine reserves, except the South-east Network, are currently based on a 'no change on the water' policy, which will remain in place until plans of management come into effect.

Under these transitional arrangements, different requirements apply to new reserve areas and the areas that were formerly under reserve.

i. For new areas, general approvals have been issued to authorise a range of activities, including mining operations.
ii. For areas that were under reserve prior to November 2012, such as the Great Australian Bight Benthic Protection Zone, individual permits may be required, in addition to NOPSEMA authorisations, to undertake activities until such time that a Management Plan is in place.

The Program will provide consistency in the requirements for these permits, as currently afforded by the EPBC Act.

Other legislative controls will continue to apply to offshore petroleum and greenhouse gas activities. For instance, under the provisions of *Historic Shipwrecks Act 1976* (the Shipwrecks Act), any proposed action involving contact with the seabed or operations in close proximity to the seabed that could potentially damage, destroy or interfere with historic shipwrecks or relics should be referred for assessment and approval from the relevant state and Northern Territory authority. The Shipwrecks Act is administered in partnership with the states and the Northern Territory, as such the States and the Northern Territory environment and planning authorities are delegated to make decisions on permits to access and modify protected shipwrecks.

Under the Program, proponents must demonstrate that proposed activities will be taken in accordance with all legislative and other requirements. Under the Program, NOPSEMA will not be able to accept an Environment Plan unless the proponent's activity will be undertaken in accordance with other legislation, including the Shipwrecks Act.

ii. Increased clarity, certainty and consistency in decision-making processes.

The Productivity Commission has reported that current regulatory arrangements for mineral and energy exploration were viewed as discouraging exploration and economic development through increasing compliance costs, extending approval times and increasing regulatory uncertainty.[10] Clear, efficient and consistent decision-making approaches have significant benefits to industry by increasing certainty and improving investment opportunities at an early stage of project planning and assessment.[11] The community also benefits where there is certainty in the regulatory framework to ensure petroleum and greenhouse gas development is pursued responsibly and according to the principles of ecologically sustainable development (see Chapter 4).

The potential for inconsistent decisions made in accordance with two separate environmental assessment regimes for offshore petroleum and greenhouse gas activities creates uncertainty for proponents, shareholders, potential investors and the community, particularly if authorisations for the activity conflict. Multiple timelines associated with two approval processes can also result in

[10]Productivity Commission (2013), Mineral and Energy Resource Exploration, Draft Inquiry Report, Canberra.
[11]Productivity Commission (2013), Major Project Development Assessment, Draft Research Report, Canberra.

uncertainty with negative economic and social consequences for the community associated with reducing flexibility for projects to respond to market conditions that can impede the financing of projects.[12] This can lead to the unnecessary deferral of revenues and reduction in royalties and taxation income from development.

A Strategic Assessment will increase the clarity of the assessment process to foster development – where appropriate and acceptable. Following the Strategic Assessment, endorsement of the Program and approval of a class of actions will result in:

- removing the risk of conflicting approval requirements
- increasing consistency in decision-making
- ensuring only one assessment timeline
- creating an overall reduction in the costs to industry, government and the community.

iii. Increased economic benefits for the Australian community

The upstream petroleum sector represents a major contributor to the Australian economy. In terms of industry value-add, statistics from the last decade indicate that oil and gas extraction contributed to approximately two per cent of GDP.[13]

As the 'owner' of energy resources, the community is the primary economic beneficiary of successful petroleum exploration and production activities. Any action taken by government to reduce economic costs associated with duplicative regulatory requirements will benefit the broader Australian community by increasing the return on industry's investment in Australia's natural resources.

Duplicative and overlapping environmental regulatory requirements can threaten the full potential of economic returns to the community from this sector through project delays, uncertainty and the foregoing of market windows and investment opportunities.[14] For example, regulatory compliance costs can substantially impact on cash flows leading to some marginal activities becoming unviable or ceasing to operate.[15] In addition, unnecessary approvals costs and delays add to the existing barriers for entry of smaller companies into the petroleum sector, potentially reducing opportunities for competition and innovation.[16]

Oil and gas projects must meet all reasonable requirements from environmental, heritage, social and health and safety perspectives while avoiding unnecessary non-beneficial costs to industry which necessarily impact on the broader community.[17] The endorsement of the Program and approval of certain classes of actions to streamline environmental approvals will ensure these reasonable and essential requirements are met while removing unnecessary non-beneficial costs that result from

[12] Productivity Commission (2009), Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, Research Report, Melbourne
[13] Productivity Commission (2009), ibid.
[14] Australian Petroleum Production and Exploration Associated Ltd (APPEA) (2013). Cutting Green Take – Streamlining Major Oil and Gas Project Environmental Approvals Processes in Australia. Canberra.
[15] APPEA (2013), ibid.
[16] Productivity Commission (2009), op. cit.
[17] Productivity Commission (2009), op.cit.

duplication of environmental approvals. These actions will also increase confidence in project certainty and enhance Australia's attractiveness to overseas investors.

iv. Specific benefits to environmental outcomes associated with the application of the Program

The Program currently applies to all petroleum and greenhouse gas activities, regardless of whether an approval under the EPBC Act is required. This means that an accepted Environment Plan must be in place for all petroleum and greenhouse gas activities in the offshore area. The application of the Program presents certain benefits that will be enhanced when environmental approvals are streamlined such that it is the only assessment and approvals regime that applies to offshore petroleum activities.

Independent regulator

NOPSEMA is an independent statutory authority established by the OPGGS Act. As an independent regulator, NOPSEMA's decision-making processes are based entirely in law. This is a robust regulatory system, which provides confidence to the Australian community that the regulator will not make decisions on any basis other than those enshrined in law that has passed both houses of Parliament.

Proactive inspection, compliance monitoring and enforcement

NOPSEMA has a well-resourced, direct and proactive inspection, compliance, monitoring and enforcement regime to ensure titleholders comply with all legislative requirements. It schedules and conducts inspections according to a risk rating of the potential impacts of activities, and implements a graduated enforcement strategy to educate and promote compliance with the legislation (including the EPBC Act and protection of matters under Part 3).

Objective-based regulation

Objective-based regulation places a duty of care on the titleholder (as the duty holder) to meet the objectives of the legislative framework. In the case of the Program, objective-based regulation places the onus on the titleholder to demonstrate to NOPSEMA that it has identified, assessed and sought to avoid or mitigate any and all risks from an activity, to demonstrate that the impacts and risks will be of an acceptable level. In addition, the titleholder must demonstrate to NOPSEMA that it has reduced those impacts and risks to as low as reasonably practicable. It requires the setting of performance outcomes and standards (that must be accepted by NOPSEMA) to ensure that these levels will be met continually throughout the activity.

The key benefit of this method of regulation is that it does not rely on specific prescribed standards or directions from NOPSEMA, which can be difficult to keep current in an innovative technology-focussed industry. It is also difficult to ensure that prescriptions exist for every eventuality associated with an offshore petroleum development in a variety of receiving environments in the Commonwealth marine area. Instead, this method of regulation places the duty on the proponent as the duty holder to meet the legislated objectives. Proponents must demonstrate that they meet an objective by presenting a case to NOPSEMA. Under the OPGGS(E) Regulations, a key objective to be met is that the impacts and risks on matters protected under Part 3 of the EPBC Act and the broader environment will be of an acceptable level. NOPSEMA must not accept an Offshore Project Proposal

or Environment Plan unless it is reasonably satisfied that the impacts and risks on matters protected under Part 3 of the EPBC Act (and the broader environment) will be of an acceptable level and (for Environment Plans) reduced to as low as reasonably practicable.

Objective-based regulation encourages the adoption of leading practice environmental management systems and continuous improvement in all aspects of a company's environmental performance. Through the Program, objective-based regulation ensures the relevance, currency, and ongoing appropriateness of regulatory controls placed on petroleum and greenhouse gas activities. For activities that pose the greatest risk, proponents must demonstrate the highest controls to demonstrate the acceptability of the activity, and that all risks are reduced to as low as reasonably practicable. Objective-based regulation offers flexibility to account for changing circumstances.

Objective-based regulation also promotes adaptive management practices through this flexibility. Under the Program, industry must continually demonstrate that impacts and risks are reduced to as low as reasonably practicable. This means titleholders must adapt environmental management approaches to new information, changes in technology, innovations, improved environmental management practices and industry standards. Objective-based regulation encourages the adoption of solutions that are fit for purpose to achieve best practice environmental management systems and continual improvement in all aspects of a company's environmental performance.

Cost recovery

Cost recovery for regulatory activities promotes efficiency in regulation and ensures adequate capacity of regulators to ensure compliance with legislative requirements. The 2010 Montara Commission of Inquiry noted the importance of adequate capacity and resourcing for regulators in implementing environmental regulation,[18] and the 2011 Hawke review of the EPBC Act recommended full cost recovery for regulatory activities under the EPBC Act.[19]

NOPSEMA operates on a fully cost-recovered basis provided for under the *Offshore Petroleum and Greenhouse Gas Storage (Regulatory Levies) Act 2003* and the Offshore Petroleum and Greenhouse Gas Storage (Regulatory Levies) Regulations 2004. Assessment of Environment Plans is funded through an Environment Plan activity levy, and compliance inspections are funded through an Environment Plan compliance levy, collected from titleholders on submission of an Environment Plan to NOPSEMA under the OPGGS(E) Regulations.

The endorsement of the Program would mean that assessments and compliance for the classes of actions approved under the endorsed Program would be fully cost recovered.

[18] Department of Resources Energy and Tourism (RET)(2010). Report of the Montara Commission of Inquiry.
[19] Hawke, Allan (2009).op. cit.

Polluter pays:

The 'polluter pays' principle is a means of allocating liability in the case of pollution. At its core is the idea that 'the costs of pollution should be borne by the person responsible for causing the pollution'.[20] Therefore, the government should not bear the costs of pollution.[21] The polluter pays principle was first formally recognised by the Organisation for Economic Cooperation and Development (OECD) in 1972 (and subsequently) when it supported the principle as an economic principle for allocating the costs of pollution control. The OPGGS Act highlights prevention as the primary means to ensure there are no unacceptable impacts on matters protected under Part 3 of the EPBC Act or the broader environment. The OPGGS Act provides that, in the unlikely event of such impact occurring, it is the responsibility of the titleholder as the duty holder under the OPGGS Act to stop, control, clean up and remediate the impacts of any incident, including hydrocarbon spills.

Amendments to the OPGGS Act in 2013 strengthen this requirement. The OPGGS Act explicitly requires titleholders, in the event of an escape of petroleum, to eliminate or control the escape, clean up the escaped petroleum and remediate any resulting damage to the environment, and carry out environmental monitoring of the impact of the escape on the environment. If the titleholder fails to do any of these things NOPSEMA or the responsible Commonwealth Minister may do them instead. The titleholder must reimburse NOPSEMA or the Commonwealth for the costs and expenses of any such action.

The OPGGS Act further provides for remedial directions by NOPSEMA with regard to the restoration of the environment by the current or former titleholders for the following matters: the removal of property, plugging or closing off of wells, conservation and protection of natural resources, and the making good of damage to the seabed or subsoil.

Under the Program, the duties on the titleholder are reinforced by the polluter pays provisions under the OPGGS Act. The risk of potential impacts to matters protected under Part 3 of the EPBC Act and the broader environment is further minimised through the application of the objective-based regime. The titleholder is responsible for ensuring that any impacts on the environment will be of an acceptable level, and for remediating any incidents.

Ongoing Environment Plan revisions

The duration of Environment Plans varies depending on the nature and scale of the petroleum or greenhouse gas activity. At all times, the titleholder is responsible for ensuring that the impacts and

[20] Phillippe Sands, *Principle of International Environmental Law* (2nd ed, 2003) 279-80; Secretariat of the International Law Commission ('ILC'), *Survey of Liability Regimes Relevant to the Topic of International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law (International Liability in Cases of Loss from Transboundary Harm arising out of Hazardous Activities)* UN Doc A/CN.4/543 (2004) [263]; Chester Brown, 'International Environmental Law in the Regulation of Offshore Installations and Seabed Activities: The Case for a South Pacific Regional Protocol' (1998) 17 *Australian Mining and Petroleum Law Journal* 109; 119; Régis Chemain, 'The "Polluter Pays" Principle' in James Crawford, Alain Pellet and Simon Olleson (eds.), *The Law of International Responsibility* (2010) 881.

[21] Organisation for Economic Co-operation and Development ('OECD'), *Recommendation of the Council on the Implementation of the Polluter-Pays Principle*, adopted on 14 November 1974, C(74)223, III.1] ('1974 Recommendation')

risks to matters protected under Part 3 of the EPBC Act and the broader environment are continually of an acceptable level and reduced to as low as reasonably practicable. The titleholder must also revise the Environment Plan if there is a significant new or increased risk to the environment – or at the request of NOPSEMA.

For longer-term projects, the OPGGS(E) Regulations also provide for an automatic revision every five years. This ensures that the performance outcomes, measures and controls (mitigations) are subject to regulatory assessment at least every five years. The Program therefore ensures continually reduction of impacts and risks to matters protected under Part 3 of the EPBC Act and the broader environment through a robust revision cycle.

3.3 Classes of actions for approval and potential impacts of those actions

The Program identifies the petroleum and greenhouse gas activities that constitute the actions or classes of actions for approval following this Strategic Assessment. These are:

- petroleum exploration
- petroleum recovery operations
- constructing or reconstructing an infrastructure facility
- constructing or reconstructing or operating a pipeline
- exploring for:
  - a potential greenhouse gas storage formation; or
  - a potential greenhouse gas injection site.
- carrying on operations to inject a substance into the seabed or subsoil of an offshore area
- decommissioning.

The OPGGS(E) Regulations further define both “petroleum activity” and “greenhouse gas activity” (Regulation 4):

A petroleum activity:

> Operations or works in an offshore area carried out for the purpose of exercising a right conferred on a petroleum titleholder under the OPGGS Act by a petroleum title or discharging an obligation imposed on a petroleum titleholder by the OPGGS Act or a legislative instrument under the Act.

A greenhouse gas activity:

> Operations or works in an offshore area carried out for the purpose of exercising a right conferred on a greenhouse gas titleholder under the OPGGS Act by a greenhouse gas title or discharging an obligation imposed on a greenhouse gas titleholder by the OPGGS Act or a legislative instrument under the Act.

The definition of petroleum activity under the OPGGS(E) Regulations includes a combination or one of the following:

- seismic surveys
- drilling

- construction and installation of a facility
- operation of a facility
- significant modification of a facility
- decommissioning, dismantling or removing a facility
- construction and installation of a petroleum pipeline
- operation of a petroleum pipeline
- significant modification of a petroleum pipeline
- decommissioning, dismantling or removing a petroleum pipeline
- storage, processing or transport of petroleum.

The definition of greenhouse activity under the OPGGS(E) Regulations includes a combination or one of the following:

- seismic surveys
- drilling
- construction and installation of a facility
- operation of a facility
- significant modification of a facility
- decommissioning, dismantling or removing a facility
- construction and installation of a greenhouse gas pipeline
- operation of a greenhouse gas pipeline
- significant modification of a greenhouse gas pipeline
- decommissioning, dismantling or removing a greenhouse gas pipeline
- injection and storage of greenhouse gas.

For both petroleum activities and greenhouse gas activities, there are four general activity types to consider when identifying potential impacts:

- **operation** of a facility or pipeline
- **construction**, installation, modification or decommissioning of a facility or pipeline
- **drilling**
- **seismic** surveys.

For each of these, the Program requires titleholders to demonstrate that the environmental impacts and risks are acceptable, and that those impacts and risks are further reduced to as low as reasonably practicable, in order for the activity to proceed. The Program requires titleholders to make this demonstration and implement the strategies to ensure the avoidance and mitigation of any impacts, particularly on matters protected under Part 3 of the EPBC Act, such that the overall impacts are of an acceptable level, and reduced to as low as reasonably practicable.

While this section discusses potential impacts arising from petroleum activities, there is very little, if any, difference between these and the potential impacts and risks arising from the equivalent greenhouse gas activities. For example, the potential impacts and risks of a seismic survey undertaken for the purposes of a petroleum title are the same as for a seismic survey undertaken for the purpose of a greenhouse gas title. In both cases, the activity itself is a seismic survey. The key

exception to this is for injection and storage of greenhouse gas and operation of a greenhouse gas facility (discussed in this section).

Figure 3.2 provides an indication of the possible environmental impacts or risks that these activities may present to matters protected under Part 3 of the EPBC Act. Potential facilitated impacts from ancillary activities such as vessel movements, spills, emissions and visual impacts are included in the impact of each relevant activity type. A Glossary of industry terms is provided at Appendix 13.

Figure 3.2: Petroleum and Greenhouse gas activity matrix

Sources of ***risks***	Activities				Potential ***impacts***	**Matters protected under Part 3** **WH: World Heritage** **NH: National Heritage** **Ramsar: Wetlands of international importance** **TSEC: Listed threatened species and communities** **MS: Listed migratory species** **CMA: Marine Environment** **CL: Commonwealth Land**
	Operations	Construction	Drilling	Seismic		
Removal of habitat (dredging, excavation, vessel anchoring, platform anchoring, pipeline lay)	X	X	X	X	Loss of habitat, reduced water quality, loss of marine flora.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Use of seismic arrays / streamers				X	Marine fauna disturbance, dropped streamers on benthic habitats, habitat disturbance, reduced water quality, loss of marine flora.	WH, NH, Ramsar, TSEC, MS, & CMA
Artificial light	X	X	X	X	Disturbance to light sensitive fauna e.g. marine turtles and seabirds. For marine turtles this is a particular stressor during nesting and hatchling seasons. For seabirds, this is particular stressor during breeding and migratory season. Impacts associated with artificial lighting include disorientation, attraction, injury and/or unnecessary expenditure of energy.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Noise impact to fauna (blasting, vibration, seismic shots, marine vessels and aircraft such as helicopters)	X	X	X	X	Disturbance to protected marine fauna during important life stages. This can include physical damage and/or behavioural change in marine mammals and sea turtles. The impacts on	WH, NH, Ramsar, TSEC, MS, & CMA

Sources of ***risks***	Activities				Potential ***impacts***	Matters protected under Part 3 WH: World Heritage NH: National Heritage Ramsar: Wetlands of international importance TSEC: Listed threatened species and communities MS: Listed migratory species CMA: Marine Environment CL: Commonwealth Land
	Operations	Construction	Drilling	Seismic		
					protected shark species are not well understood.	
Altered visual amenity	X	X	X		Loss of cultural services, impacts to tourism values, loss of aesthetic values. Decline in the intrinsic, heritage and aesthetic values of World Heritage properties and National Heritage places.	WH, NH, Ramsar, CMA, & CL
Physical or indirect disturbance to Heritage areas and archaeological sites	X	X	X	X	Decline in the heritage values of heritage sites protected within National Heritage places or World Heritage properties.	WH, NH, CMA, & CL
Vessel anchoring	X	X	X	X	Loss of / or damage to habitat (e.g. coral assemblages), reduced water quality and loss of marine flora, such as seagrasses.	WH, NH, Ramsar, TSEC, MS, & CMA
Erosion and dust (including marine sedimentation)		X	X		Water quality decline, loss of habitat, loss of marine flora, loss of aesthetic values of a national heritage place or world heritage property.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Flaring/venting (including fugitive emissions)	X	X			Loss of aesthetic values. Impacts to migratory birds, including injury and incineration. Decline in intrinsic values or world heritage properties of national heritage places.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Exhaust emissions (power generation)	X	X	X	X	Pollution and loss of habitat over time.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Ozone depleting substances	X	X	X	X	Pollution and loss of habitat overtime.	WH, NH, Ramsar, TSEC, MS, CMA, & CL

Sources of ***risks***	Activities				Potential ***impacts***	**Matters protected under Part 3** **WH: World Heritage** **NH: National Heritage** **Ramsar: Wetlands of international importance** **TSEC: Listed threatened species and communities** **MS: Listed migratory species** **CMA: Marine Environment** **CL: Commonwealth Land**
	Operations	Construction	Drilling	Seismic		
Well testing (including fallout)			X		Loss of habitat, decline in water quality, loss of marine flora and fauna species.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Waste incineration	X	X	X	X	Greenhouse gas emissions, decline in air quality.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Pigging and/or hydrotest fluids (erosion and additives)	X	X			Water quality decline, loss of habitat.	WH, NH, Ramsar, TSEC, MS, & CMA
Commissioning discharge or well-completion fluids	X	X	X		Water quality decline, loss of habitat, toxic effects on marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, & CMA
Produced formation water disposal (including during well testing)	X		X		Water quality decline, loss of habitat e.g. filter-feeder communities, benthic primary producing habitats. .	WH, NH, Ramsar, TSEC, MS, & CMA
Sand/sludge disposal	X	X	X		Water quality decline, loss of habitat, sediment quality decline, benthic smothering.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Chemical usage and disposal	X	X	X	X	Water quality decline, sediment quality decline, loss of habitat, disturbance to the food chain, toxicity impacts on marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Cooling water disposal	X	X		X	Change in water temperature, loss of habitat, disturbance to some species and likely localised mortality due to the temperature sensitivities of many marine organisms.	WH, NH, Ramsar, TSEC, MS, & CMA

Sources of ***risks***	Activities				Potential ***impacts***	**Matters protected under Part 3** **WH: World Heritage** **NH: National Heritage** **Ramsar: Wetlands of international importance** **TSEC: Listed threatened species and communities** **MS: Listed migratory species** **CMA: Marine Environment** **CL: Commonwealth Land**
	Operations	Construction	Drilling	Seismic		
Brine disposal (reverse osmosis process)	X	X		X	Toxic impact on marine fauna and flora, decline in water quality, loss of habitat.	WH, NH, Ramsar, TSEC, MS, & CMA
Hydraulic controls (subsea discharges)	X	X	X		Water quality decline, loss of habitat.	WH, NH, Ramsar, TSEC, MS, & CMA
Contaminated deck drainage/oily bilge water	X	X	X	X	Water quality decline, acute toxic impacts on marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, & CMA
Drill fluids and additives			X		Water quality decline. Toxic impacts on marine flora and fauna.	WH, NH, Ramsar, TSEC, MS, & CMA
Cuttings separation and disposal options			X		Loss of habitat, sediment and water quality decline. Loss of marine flora	WH, NH, Ramsar, TSEC, MS, & CMA
Discharge of drill cuttings			X		Benthic smothering, loss of habitat, decline in water quality, decline in sediment quality.	WH, NH, Ramsar, TSEC, MS, & CMA
Bulk water based muds discharge to sea			X		Loss of habitat, decline in sediment and water quality. Loss of marine flora. Benthic smothering.	WH, NH, Ramsar, TSEC, MS, & CMA
Sewage and grey water	X	X	X	X	Water quality decline (increased nutrients).	WH, NH, Ramsar, TSEC, MS, & CMA
Solid waste (non-hazardous and food waste)	X	X	X	X	Water quality decline.	WH, NH, Ramsar, TSEC, MS, & CMA
Hazardous waste (including empty	X	X	X	X	Water quality decline, sediment quality decline, loss of habitat, toxic impacts to marine fauna and	WH, NH, Ramsar, TSEC, MS, & CMA

Sources of ***risks***	Activities				Potential ***impacts***	**Matters protected under Part 3** **WH: World Heritage** **NH: National Heritage** **Ramsar: Wetlands of international importance** **TSEC: Listed threatened species and communities** **MS: Listed migratory species** **CMA: Marine Environment** **CL: Commonwealth Land**
	Operations	Construction	Drilling	Seismic		
chemical containers)					flora.	
Hull cleaning / antifouling, presence of vessels in shallow water environments and ballast water discharge	X	X	X	X	Water quality decline. Introduction of non-indigenous marine species resulting in loss of habitat, species competition for habitat, introduction of disease, decline in habitat quality, decline in ecological integrity. Collisions with marine mammals and sea turtles causing injury and/or death.	WH, NH, Ramsar, TSEC, MS, & CMA
Hydrocarbon spills from refuelling	X	X	X	X	Decline in water quality, potential loss of habitat, fauna disturbance and/or mortality.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Bulk single buoy mooring transfer			X		Decline in water and sediment quality, loss of habitat, toxic impacts on marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, & CMA
Hydrocarbon spills from product transfer/off take	X				Decline in water quality, potential toxic effects on organisms in receiving waters.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Chemical and hydrocarbon spill from storage, transport and transfer	X	X	X	X	Decline in water and sediment quality, loss of habitat and potential toxic effects on marine fauna and flora. Mortality of marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Hydraulic hose failure (or loss of seismic steamer fluid)	X	X	X	X	Localised changes to water quality.	WH, NH, Ramsar, TSEC, MS, & CMA

Sources of ***risks***	Activities				Potential ***impacts***	**Matters protected under Part 3** **WH: World Heritage** **NH: National Heritage** **Ramsar: Wetlands of international importance** **TSEC: Listed threatened species and communities** **MS: Listed migratory species** **CMA: Marine Environment** **CL: Commonwealth Land**
	Operations	Construction	Drilling	Seismic		
Pipeline, flowline, tank or bund failure	X	X	X		Decline in water and sediment quality, toxic impacts on marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, & CMA
Blowout (loss of well control) resulting in large scale hydrocarbon spill	X	X	X		Water and sediment quality impacts, loss of habitat, smothering and toxic impacts on marine fauna and flora, loss of world heritage and national heritage values, change in ecological character of Ramsar wetlands, decline in populations of threatened species and migratory species and flora. Light pollution, noise pollution, habitat disturbance and collision with marine mammals and sea turtles causing injury and/or death from clean-up activities.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Hydrocarbon spill resulting from vessel collision or grounding due to multiple vessels and vessel operations in close proximity to shallow reef	X	X	X	X	Decline in water quality, toxic effects on marine fauna and habitats, loss of ecological integrity, loss of aesthetic, cultural and social values of World Heritage properties or National Heritage places. Change in ecological character of Ramsar wetland. Light pollution, noise pollution and collision with marine mammals and sea turtles causing injury and/or death.	WH, NH, Ramsar, TSEC, MS, CMA, & CL

Sources of ***risks***	Activities				Potential ***impacts***	**Matters protected under Part 3** **WH: World Heritage** **NH: National Heritage** **Ramsar: Wetlands of international importance** **TSEC: Listed threatened species and communities** **MS: Listed migratory species** **CMA: Marine Environment** **CL: Commonwealth Land**
	Operations	Construction	Drilling	Seismic		
Movement of objects between support vessels and facilities resulting in dropped objects	X	X	X	X	Direct habitat impacts, localised habitat loss, direct impact on individual threatened or migratory species.	TSEC, MS, and CMA
Decommissioning of infrastructure	X	X	X	X	Decline in water quality from pollution. Seabed disturbance, dropped objects on seabed, underwater noise, impacts on marine fauna and flora.	WH, NH, Ramsar, TSEC, MS, CMA, & CL
Injection of carbon dioxide into the seabed	X				Potential for activities to cause a leak of carbon dioxide from the seabed. A carbon dioxide leak may acidify and de-oxygenate water in the vicinity of the leak. A large and sudden leak would also result in a physical perturbation that may impact on species.	WH, NH, Ramsar, TSEC, MS, and CMA

The following description of petroleum and greenhouse gas activities is intended to provide an indication of the range of activities covered by the Program. It is important to note, however, that the potential impacts identified will be greatly minimised through the application of the Program: activities authorised under the endorsed Program will not have unacceptable impacts on matters protected under Part 3 of the EPBC Act, and the risks and impacts of activities authorised under the endorsed Program will be reduced to as low as reasonably practicable using a methodology which is analogous to the 'avoid, mitigate and offset' principles under the EPBC Act. A description of the Program, process mapping and specific examples to illustrate this are included later in this report.

The specific nature and extent of impacts likely to arise from these risks on matters protected by the EPBC Act are broad and potentially significant. Activities may:

- lead to a long-term decrease in the size of a population
- reduce the area of occupancy of a species or ecological community
- fragment an existing population or ecological community into two or more populations
- adversely affect habitat critical to the survival of a species or ecological community
- disrupt the lifecycle of species or ecological communities
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful becoming established in an habitat or the environment
- introduce disease
- interfere with the recovery of a species or ecological community
- modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns
- cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through flora or fauna harvesting
- cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including but not limited to assisting invasive species that are harmful to the listed ecological community to become established
- causing regular mobilisation of chemicals or pollutants into an ecological community which kill or inhibit the growth of species in the ecological community
- cause a change in a hydrological regime an environmental feature
- lead to a change in water quality
- lead to an adverse impact on ecosystem functioning or integrity
- impact on a population of a marine species or cetacean including its lifecycle and spatial distribution
- result in chemicals, heavy metals, or other potentially harmful substances accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected

- cause a substantial adverse impact on heritage values.[22]

Seismic activities

Seismic surveying is widely used in the marine environment to define and analyse subsurface geological structures and explore for oil and gas reserves. Seismic surveying utilises a technique that directs acoustic energy (sound) into the rock beneath the sea floor from equipment towed behind a purpose-built seismic vessel. The loudest sound sources used in seismic survey operations are produced by air guns, which generate short, intense pulses of sound directed at the seafloor.

Hydrophone arrays called streamers are used as detectors and the hydrophones are grouped into so-called channels. For a petroleum seismic system, typical frequencies recorded are 8 to 250 Hz. In contrast systems using sparker sources instead of air guns operate at frequencies in the 100 Hz to 1 kHz range and are generally used on small vessels for intermediate depth and higher resolution purposes. They often use smaller receive arrays. Other sub-bottom profilers use even higher frequency piezo-electric transducers, which operate in the 500 to 5Khz range. These will typically penetrate between 10 and 100 metres but obtain decametre resolution.

Commercial streamers can be over five kilometres in length and in the case of oil exploration, can be deployed behind the seismic vessel as 3D systems where eight or more streamers are deployed side-by-side. The signal sources are deployed as arrays of air guns, which hang from floats metres below the sea surface immediately behind the survey vessel. They are fed by compressed air from shipboard compressors, are synchronised and typically fire at 37–50 metre intervals timed by global positioning system controlled navigation systems.

In typical system surveys for petroleum exploration, streamers are towed behind seismic vessels at speeds of 5–10 km per hour, with streamers towed 5–8 m often, below the surface. The distance between streamers, the intensity of seismic pulses and intervals between pulses vary between seismic surveys. In addition to the seismic survey vessel(s), support vessels are used primarily to transfer personnel and supplies on and off vessels, to scout ahead for sensitivities, to ensure safe distances between towed array and other vessels to manage interactions with shipping and fishing activities and to mitigate against vessel grounding.

Seismic surveys can range in duration from days to months. This will vary depending on the area to be surveyed and data acquisition requirements.

Seismic activities can vary in nature and scale and subsequent risk based on a number of factors including (but not limited to):

- duration, seasonal timing and location
- seismic source including the intensity of pulses discharged into the water column and the seafloor
- depth of seismic arrays and streamers

[22] Commonwealth of Australia (2013), *EPBC Act Significant Impact Guidelines 1.1*. http://www.environment.gov.au/resource/significant-impact-guidelines-11-matters-national-environmental-significance, viewed 18 Nov 2013.

- the distance between hydrophone streamers and length of streamers
- depth of water column and geological characteristics of the seabed
- sensitivity of habitats within and adjacent to seismic sites
- the presence of marine fauna sensitive to acoustic and vibrational emissions, such as cetaceans
- the presence of marine fauna during critical life stages, such as feeding, breeding, calving or resting.

Key environmental hazards associated with seismic include physical presence of vessels and streamers in the marine area and the seismic equipment and emissions. A detailed listing of potential impacts is at Appendix 3.

Drilling activities

Drilling is the mechanical process where a wellbore is drilled through the seabed to target formations within geological formations below the seabed. This can take place using a variety of different drilling equipment including drilling rigs that are placed on the seabed, for example jack up rigs, or a combination of seabed founded and floating platforms and deep-water mobile offshore drilling units (MODUs), which include semi-submersible and drill ships. Drilling units are capable of operating in water depths of 3000 m whereas the drilling units that are anchored to the seabed are normally used in shallow water environments. Drilling can be for the exploration/appraisal of petroleum reservoirs to determine whether potential formations have commercially recovery volumes of oil or gas, and drilling for the future of production of hydrocarbons in reservoirs that have been determined to be of commercially recoverable value.

Drilling occurs with regular stop intervals to enable the installation of purpose built steel pipes, known as drill casings, to be inserted into the drill boreholes. The gap between the casing and the boreholes is filled with cement to form a non-porous barrier, which prevents petroleum seepage into the overlying marine water body and the geological formation. The casing and the cement barriers are continually tested to ensure that they can tolerate the expected pressures of the reservoir during the life of the well.

Drilling fluids are used during both exploration and production drilling activities for a number of reasons. These include the transport of drill cuttings to the surface, the maintenance and assembly of drill equipment, the control of formation pressures and the sealing of permeable formations to prevent formation leakage and invasion. The disposal of drill cuttings is generally a key activity associated with drilling and normally includes processes and equipment for transporting drill cuttings up the borehole by circulating drilling muds and separating the cuttings from drilling muds with separation shakers on the drilling unit.

In relation to exploration drilling, vertical seismic profiling is often undertaken in conjunction with drilling to evaluate the well. Vertical seismic profiling is a form of borehole seismic measurement, which is used to correlate with seismic data from the surveys to improve the resolution of surface imaging. Blow out prevention equipment is used to control the flow of formation fluids from wellheads that have undergone the failure of barrier systems or if pressure exceeds the working reservoir of the control equipment. Well plugging and abandonment or suspension activities are normally undertaken at the completion of drilling.

Exploration and production drilling can vary in nature and scale and the approach can vary based on a number of factors including (but not limited to):

- exploration versus production
- the number of wells to be drilled
- the proximity of sensitive environments to the activity
- seasonal timing and duration of the drilling program
- the pressure of the target formation
- the geological formations that must be intercepted, for example stability
- the type of target reservoir
- the level of understanding of the reservoir characteristics, particularly in relation to production wells
- the depth of the target formation
- the presence of key sensitivities and values such as matters protected under Part 3 of the EPBC Act or potential for impact on these matters.

Key environmental hazards associated with drilling include the physical presence of drilling units including anchoring and support vessel activity. A detailed listing of potential impacts is at Appendix 3.

Construction (including modification and decommissioning)

If sufficient, commercially viable volumes of oil or gas are confirmed during exploration or appraisal drilling, oil and gas fields are connected with pipelines and associated infrastructure to enable the transport of hydrocarbons from production fields to production facilities. The construction of the infrastructure required to exploit the viable resources, the subsequent decommissioning of this infrastructure and the cessation of the production period are discussed in this section.

Key elements associated with the installation and construction of infrastructure in preparation for production include the installation of pipelines, manifolds, umbilicals, and other subsea infrastructure required to transport hydrocarbons from the well to the production facility. Construction activities include the connection of wells to manifolds, which are connected to pipeline structures that transport the hydrocarbon from pipeline to offshore production platforms or onshore facilities. The construction of flow lines to provide hydraulic and electrical power, contingency chemicals and fibre optic controls to production field also form a component of the construction elements associated with the production phases of petroleum activities. Construction activities may also include stabilisation activities such as the temporary flooding and discharge of pipelines and/or umbilicals, rock armouring, trenching of and the use of support vessels. Flexible flowlines and risers are often constructed in this phase to transport hydrocarbon fluids from the manifold to the production facility if offshore protection is proposed.

Decommissioning activities include the activities that take place when production activities decrease or cease. These include activities associated with the removal or tying off and abandonment of production infrastructure such as subsea wells, and flowlines. Specifically this phase can include the full recovery of disconnectable items such as moorings, umbilicals, production flow lines, anchors and gravity bases, the removal of wellhead infrastructure, manifolds, subsea umbilical termination units and associated well plug in and abandonment activities.

Construction and decommissioning activities can vary in nature and scale and subsequent risk based on a number of factors including (but not limited to):

- number of pipelines to be laid and length of pipelines
- if armouring is to be used, the type of armouring activities
- hydrocarbon characteristics in the production field
- area/extent of seabed to be disturbed
- if trenching is to be used, the footprint of the trenching activity and any associated blasting
- seasonal timing
- sensitivity environments at the location within close proximity to the construction area
- number of support vessels and associated vessel movements and refuelling activities
- subsea infrastructure installation methods and techniques
- types of decommissioning and well abandonment activities.

Key environmental hazards associated with construction and decommissioning activities include physical presence of a variety of vessels and installations, as well as seabed disturbance. A detailed listing of potential impacts is at Appendix 3.

Operational activities

Once production drilling subsea infrastructure is installed and pipelines have be laid for transporting produced hydrocarbons, the operational stage of hydrocarbon production can commence. This requires a wellhead to be placed on the surface that contains barriers, valves, seals and gas/water separation and allows pressure of the well and flow fluids to be controlled at the surface. The well head(s) must be pressure tested to ensure safety and integrity prior to commencement of production. Hook up and commissioning activities can then commence. The first stage is to test the non-production utility system to verify functional and operational performance.

The operational phase includes the operations of all subsea infrastructure, pipelines and any associated production and export activities that occur in the offshore environment.

The recovery and processing of petroleum offshore occurs via a production platform (manned or unmanned) or floating mobile facility known as a Floating Production, Storage and Offloading unit (FPSO).

An FPSO is a floating vessel used by the offshore oil and gas industry in processing and storage of hydrocarbons. FPSOs are commissioned to retrieve hydrocarbons from nearby platforms or subsea wells, process the hydrocarbons and store processed hydrocarbons until they are loaded onto a tanker or transported via a pipeline to an onshore processing facility. In some cases a vessel may be used to store oil only, with no processing involved. These vessels are known as storage and off-loading units. FPSOs can be advantageous in remote deep water locations where seabed pipelines are not cost effective.

Major physical characteristics of FPSOs include processing and treatment systems, helideck, accommodation and control facilities, crude oil and/or gas separation systems, production formation water treatment systems, drainage systems, diesel systems, low pressure steamer boilers, laydown crane and supply offloading areas, cooling systems, chemical storage areas, produced formation

water treatment and injection systems, separators systems, gas compressors, turret infrastructure, flare towers, gas vents, cranes, bunkering station, lifeboats and fire water pumps.

Production platforms can either be manned or unmanned. Unmanned platforms consist of a fixed structure without processing equipment. Platforms with processing capability are manned platforms. They generally consist of equipment and facilities for flaring, laydown, hydrocarbon compression (gas), chemical injection and storage, cooling and heating systems, platform power generators, accommodation and control facilities, helidecks, rigging lofts, wellheads, test and gas lift manifolds, reverse osmosis seawater lift pumps and filters, firewater pumps, diesel fuel treatment and storage and produced water treatment and disposal systems.

Key activities on offshore production facilities include the processing of production fluids to production quality for storage and offloading with the production of production formation water, which is re-injected into the reservoirs, released to the marine environment or a combination of both. Key elements of offshore production and operational facilities include:

- oil/gas separation
- oil/gas treatment
- gas treatment
- produced formation water treatment, reinjection and/or discharge
- seawater intake, treatment and injection
- sand recovery, drainage systems and refuelling systems.

Key activities associated with operations of production facilities include:

- **Produced formation water.** Processes associated with the treatment of hydrocarbons which include the treatment and disposal of production formation water and seawater, produced formation water reservoir reinjection. Produced formation water treatment often consists of multiple stages of treatment to achieve oil in water levels suitable for reinjection or discharge overbroad. In some cases, the treated water is reinjected to minimise the volumes of discharge of reject oil to the marine environment.
- **Water injection.** This is also required in most cases to maintain reservoir pressure and enable continual oil exploitation and production. Any waste water created during this process may be reinjected or discharged with produced formation water to the marine environment.
- **Brine water discharge.** This comes from desalinisation systems on platforms or FPSOs resulting in changes to water quality and potential toxic impacts on marine organisms and benthic habitats.
- **Flaring.** Offshore production facilities require emergency flaring systems to ensure the pressure in the system does not exceed the design pressure of the facility. Flare systems are designed to safely dispose of hydrocarbons using the process of flaring during normal operations, emergency pressure release caused by overpressure, and continual discharge from any low pressure sources.
- **Chemical storage and injection.** These activities are required during production. The chemicals include methanol, corrosion inhibitor, scale inhibitor, water clarifiers, biocides, antifoaming agents and polyelectrolytes. They are delivered via an offshore vessel and are lifted onto decks by cranes and stowed in lay down areas.

- **Diesel transfer and storage.** This includes refuelling/bunkering, which are also activities that form part of production facilities. Diesel is either stored in storage tanks on board platforms or in vessel hulls on board FPSOs.
- **Support vessels.** These may be required during operations. They include vessels for the transport of materials, fuel and chemicals for offloading on the production platform or FPSO. Vessels may also be used for any seabed/infrastructure surveys required during the operation of the production facility.
- **Offloading to tankers.** Operations take place specifically for FPSOs. This includes taking seawater on board in dedicated ballast tanks to maintain FPSO stability. Offloading is performed via an offtake station through flexible floating hoses.
- **Transport of hydrocarbons to processing facilities.** Via operation of pipelines, flowlines and umbilicals are transported to processing facilities.

Production and operational activities can vary in nature and scale and subsequent risk, based on a number of factors including (but not limited to):

- volume produced
- number of platforms
- FPSO versus fixed platforms
- proximity to sensitive environments
- area of physical footprint
- hydrocarbon type
- volumes and toxicity of produced formation water
- other discharges including volume and toxicity.

Key environmental hazards and potential impacts of operational activities include physical presence and seabed disturbance from support vessels, as well as potential emissions and discharges. A detailed list of potential impacts is at Appendix 3. It should be noted that although this description of environmental hazards and potential impacts relates to operational activities under a petroleum title, the hazards and impacts for operational greenhouse gas activities would be of a similar nature, with the exception of injection and storage activities.

The impact of implementing the Program

The Program requires titleholders to ensure these and any other impacts and risks on matters protected under the EPBC Act and the broader environment are of an acceptable level, and reduced to as low as reasonably practicable. If there will be an unacceptable impact on a matter protected under Part 3 of the EBPC Act, NOPSEMA will not allow that activity to proceed. The Program, its processes, and implementation for matters protected under the EPBC Act are further explored in the next section and chapters of this report.

NOPSEMA has developed considerable expertise in environmental regulation since its commencement on 1 January 2012. As at November 2013, NOPSEMA had completed 143 Environment Plan assessments under the OPGGS Act and its associated Regulations. Eleven have been refused and four have been accepted with limitations/conditions.

In undertaking its assessment, the Program requires NOPSEMA to be consistent with particular requirements and have regard to relevant documents and online information sources maintained on the Department of the Environment website, including EPBC Act policy statements and guidelines, as well as Australian Government management and recovery plans. These requirements further bolster NOPSEMA's assessment and decision-making abilities regarding acceptability of impacts on matters protected under Part 3 of the EPBC Act through being informed by extant EPBC policy guidance and assessment and recovery documentation, which has been developed and refined over the past decade.

NOPSEMA also ensures compliance under the Program with regard to potential impacts for all regulated activities, to ensure there are no unacceptable impacts on matters protected under Part 3 of the EPBC Act.

3.4 Overview of the Program

The Program for this Strategic Assessment is the environmental management authorisation of offshore petroleum and greenhouse gas activities. It provides for the protection of matters protected under Part 3 of the EPBC Act and the broader environment, defined in a manner consistent with that used in the EPBC Act.

The Program has the objective of ensuring any petroleum or greenhouse gas activity is carried out in a manner in which impacts on matters protected under Part 3 of the EPBC Act and the broader environment are of an acceptable level and reduced to as low as reasonably practicable. In addition, all activities carried out under the Program must be in a manner consistent with the principles of ecologically sustainable development. 'As low as reasonably practicable' means the point where the economic/health and safety costs required to reduce the environmental impacts and risks of the activity any further would be grossly disproportionate to the environmental benefit gained. This principle arises from the fact that infinite time, effort and money could be spent on trying to reduce a risk to zero, which is not feasible and may result in little net benefit to the environment.[23] The processes under the Program to determine that potential impacts and risks are of an acceptable level and reduced to as low as reasonably practicable reflect the EPBC Act's philosophy to avoid, mitigate and offset potential impacts on protected matters.

The Program sets up a system for regulating petroleum or greenhouse gas activities by creating offences for undertaking activities without an Environment Plan in force for all activities; failing to comply with an Environment Plan; and continuing activities where there is a significant increase or new impact or risk arising from the activity, which is not provided for in the Environment Plan. Titleholders must carry out the activity in compliance with the accepted Environment Plan. Failing to do so could constitute an offence and also result in the withdrawal of acceptance for the Environment Plan. In this scenario, the titleholder would not be able to undertake the activity.

[23]Department of Resources, Energy and Tourism, *Environment Regulations Review Issues Paper* (2012), www.ret.gov.au/environmentregulationsreview

Offshore Project Proposals and Environment Plans

The Program comprises two environmental assessment paths: the Environment Plan and Offshore Project Proposal. These are depicted in Figure 3.3. Titleholders are required to submit an Environment Plan for assessment and acceptance by NOPSEMA prior to commencing any offshore petroleum or greenhouse gas activity. The activity must not commence unless NOPSEMA has accepted the Environment Plan. For development projects, the Program also requires submission of an Offshore Project Proposal for assessment and acceptance by NOPSEMA.

The Offshore Project Proposal process has been developed to capture large-scale offshore projects that may have an impact on a matter protected under Part 3 of the EPBC Act. It can be used for all petroleum activities and is mandatory for development projects. For those development projects, the Offshore Project Proposal must describe the whole lifecycle of the proposed project. An Environment Plan accepted by NOPSEMA is also required for all activities encompassed in the project. NOPSEMA cannot accept the submission of an Environment Plan for a development activity unless there is an accepted Offshore Project Proposal for that project. As is currently the case, all petroleum and greenhouse gas activities, even where they are not likely to have an impact on a matter protected under Part 3 of the EPBC Act, require an Environment Plan accepted by NOPSEMA in order to proceed.

Titleholders may elect to prepare and submit an Offshore Project Proposal for a petroleum or greenhouse gas activity that is not part of a development project. NOPSEMA guidance will outline circumstances in which a titleholder may elect to submit an Offshore Project Proposal for these activities. The guidance will make reference to consideration of potential impacts on matters protected under Part 3 of the EPBC Act and outline consultation requirements under the OPGGS(E) Regulations.

Both Offshore Project Proposals and Environment Plans must identify and assess the potential impacts to matters protected under Part 3 of the EPBC Act as well as the broader environment. Offshore Project Proposals are subject to public consultation, and Environment Plans must demonstrate that appropriate consultation with persons or organisations whose functions, interests or activities could be impacted by the proposed petroleum or greenhouse gas activity has been undertaken. NOPSEMA guidance, published on its website, provides information to assist the interpretation of the requirements under the Program. This guidance is to be amended to indicate an inclusive approach for consultation, including early public notification and invitations for comment.

Consultation

A key difference between the Offshore Project Proposal and Environment Plan processes is in the approach to consultation and public notification required.

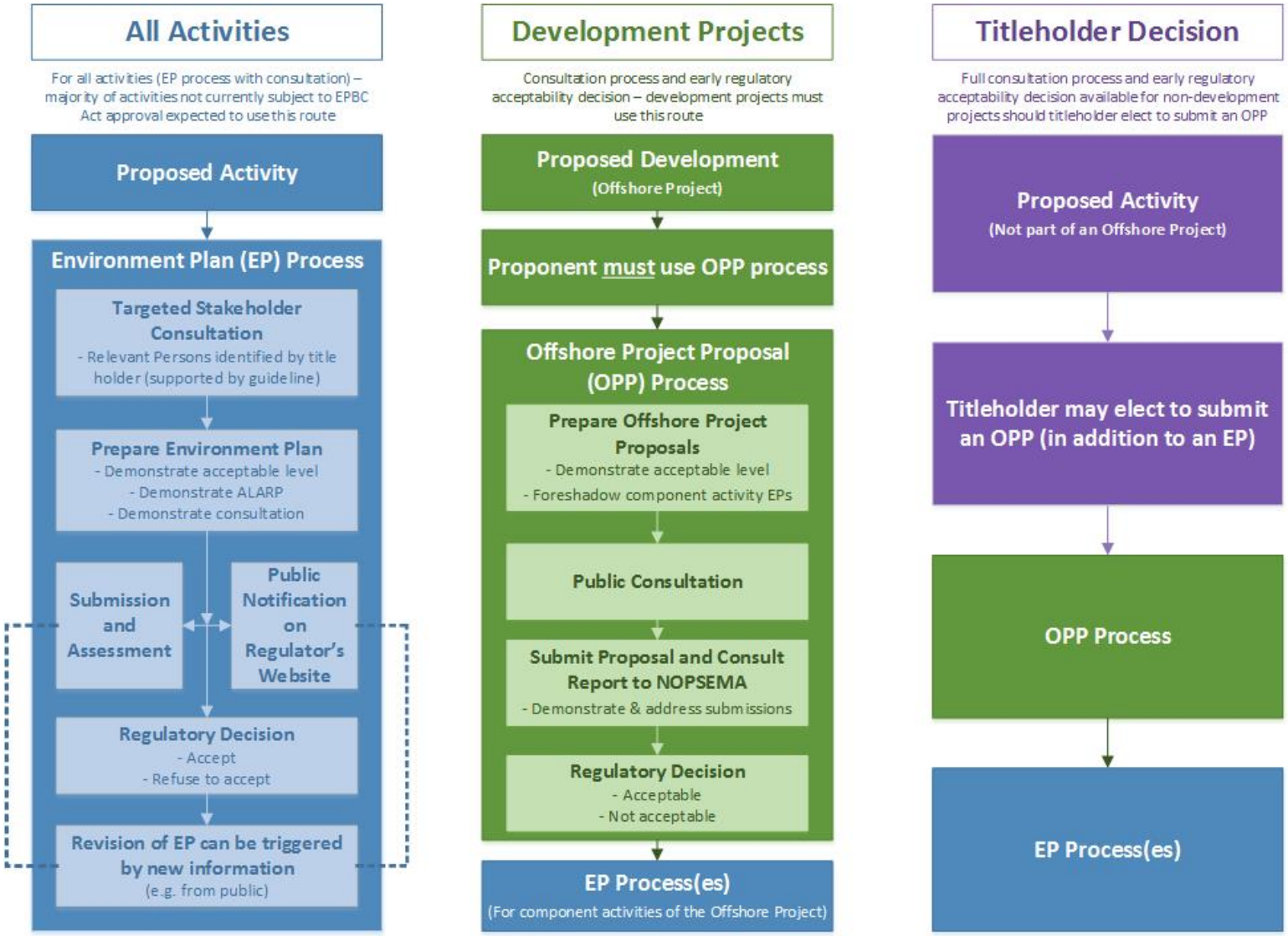
NOPSEMA guidance material will also outline that proponents, in accordance with good industry practice, should undertake early consultation with stakeholders in the lead up to the mandatory public comment period, to inform the preparation of the Offshore Project Proposal. This early consultation will inform the identification of environmental sensitivities, impacts, risks and the

development of environmental performance outcomes to demonstrate that impacts and risks will be managed to an acceptable level.

Following the mandatory public consultation period, proponents must include, in the final Offshore Project Proposal submitted to NOPSEMA, a summary of comments received, an assessment of the merits of those comments and a statement of the proponent's response or proposed response to any objection or claim, including a demonstration of changes (if any) made as a result. Proponents may also use the public consultation process to identify relevant persons or organisations to inform consultation requirements for subsequent Environment Plans.

In preparing the Environment Plan, the titleholder must undertake consultation with persons whose interests, functions or activity may be impacted by the proposed activity. This may include parties with an interest in matters protected under Part 3 of the EPBC Act. NOPSEMA guidance, published on its website, provides information to assist the interpretation of the requirements under the Program.

Figure 3.3 The OPGGS environmental assessment processes under the Program



NOPSEMA guidance material is to be amended to indicate an inclusive approach for consultation, including early public notification and invitations for comment. Pursuant to this guidance and the Regulations, titleholders are expected to engage early and widely with the community to ensure that its consultation processes are robust and meet the requirements under the Program. The Environment Plan is required to document that consultation, including the full text of any comments, and indicate how those comments have been responded to. It is also required to indicate how the proponent will provide for appropriate ongoing consultation.

When the Environment Plan is submitted for assessment, the Program provides that NOPSEMA must place a public notification of the submission on its website. The notification must include the location and type of the proposed activity, and the name of the titleholder. If an Environment Plan is not accepted, this is indicated in the notification on NOPSEMA's website.

Acceptance requirements

Offshore Project Proposals must provide for appropriate environmental outcomes, which ensure the project and activities to be undertaken as part of the project will be carried out in a manner that ensures that:

- the potential impacts and risks to matters protected under Part 3 of the EPBC Act and the broader environment will be managed to an acceptable level when mitigation measures are taken into account
- the project will be carried out in a manner that is consistent with the principles of ecologically sustainability development.

NOPSEMA assesses Offshore Project Proposals and Environment Plans against the acceptance criteria in the OPGGS(E) Regulations. Specifically:

- NOPSEMA will accept an Offshore Project Proposal if it contains environmental performance outcomes that ensure that the impacts and risks arising from the project and activities to be undertaken as a part of the project will be managed to an acceptable level. This means that NOPSEMA will not accept an Offshore Project Proposal unless the potential impacts on a matter protected under Part 3 of the EPBC Act will be managed to an acceptable level.
- NOPSEMA will accept an Environment Plan if it demonstrates that the environmental impact and risks of the activity will be of an acceptable level and reduced to as low as reasonably practicable. This means that NOPSEMA will not accept an Environment Plan unless the potential impacts on a matter protected under Part 3 of the EPBC Act will be of an acceptable level.
- NOPSEMA cannot accept an Offshore Project Proposal that involves an activity or part of an activity being undertaken in any part of a declared World Heritage property.
- NOPSEMA cannot accept an Environment Plan that involves the activity or part of the activity, other than arrangements for environmental monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act.

Further information on these requirements and assessment processes is provided in Chapter 5.

The Program requirements, in relation to how they address matters protected under Part 3 of the EPBC Act in general for both Offshore Project Proposals and Environment Plans, are outlined in the

following tables. They focus on the content requirements for plans and proposals and the decision (acceptance) criteria used by NOPSEMA to determine whether a plan or proposal should be accepted.

- Table 3.1 describes the **content requirements** for Environment Plans and Offshore Project Proposals submitted by titleholders to NOPSEMA. Note the documents prepared against these assessment criteria vary depending on the size and complexity of the proposal or activity; they are appropriate to the nature and scale of the proposal or activity and must consider potential impacts to matters protected under Part 3 of the EPBC Act.
- Table 3.2 describes **NOPSEMA's decision-making (acceptance) criteria** for deciding whether to accept Environment Plans and Offshore Project Proposals submitted by proponents. Note that the Program requires NOPSEMA to be reasonably satisfied that an Environment Plan meets the acceptance criteria. NOPSEMA must not accept an Environment Plan unless the document meets this test. This includes that the information and evidence provided in the documents are from legitimate information sources and that any uncertainties are manageable.

In undertaking Offshore Project Proposal and Environment Plan assessments under the Program, NOPSEMA will also have regard to relevant documents, such as guidelines, plans of management and information databases on the Department of the Environment website.

Table 3.1 Content requirements for Environment Plans and Offshore Project Proposals

Program requirements	How EPBC Act requirements are addressed
Description of activity	An Environment Plan or Offshore Project Proposal developed under the Program must contain a comprehensive description of the activity, sufficient to determine the risks and impacts on matters protected under Part 3 of the EPBC Act. For an Offshore Project Proposal this must include the location of the activity, the facilities required for implementing the activity (including the whole lifecycle of the project and operational details including a proposed timetable for implementation). Both would identify and describe all activities relevant to environmental impacts and risks, including those to any matters protected under Part 3 of the EPBC Act.
Description of environment	The definition of the environment, which must be described in an Environment Plan or Offshore Project Proposal developed under the Program includes: ecosystems and their constituent parts, including people and communities; natural and physical resources; the qualities and characteristics of locations, places and areas; the heritage value of places; and the social, economic and cultural features of these matters. It is consistent with the definition in the EPBC Act. The description must include the existing environment as well as any relevant cultural social and economic aspects that may be affected, and any relevant values and sensitivities. This must include any matters protected under Part 3 of the EPBC Act and have regard relevant documents such as to Recovery Plans, Conservation Advices and Threat Abatement Plans under the EPBC Act. The description must also have regard to other activities, planned or current,

Program requirements	How EPBC Act requirements are addressed
	that may contribute to the cumulative impact of the activity.
Description of environmental impacts and risks	An Environment Plan or Offshore Project Proposal developed under the Program must include details of the environmental impacts and risks for the activity. This must include all impacts and risks, arising directly or indirectly, from all operations of the activity and potential emergency conditions. The description must include the impacts and risks to matters protected under Part 3 of the EPBC Act. Offshore Project Proposals must consider longer-term, potential, direct and indirect impacts on the environment.
Evaluation of impacts and risks	An Environment Plan or Offshore Project Proposal must include an evaluation of all impacts and risks arising directly or indirectly from all operations of the activity and potential emergency conditions. This must include the environmental impacts and risks to matters protected under Part 3 of the EPBC Act. An additional requirement for Offshore Project Proposals is that, if reasonably practicable, feasible alternatives must be described and compared, indicating reasons for the preferred alternative. This will ensure consideration of alternatives as part of addressing matters protected under the EPBC Act.
Requirements	An Environment Plan or Offshore Project Proposal must describe all requirements that apply and are relevant to environmental management. This includes any legislation, plans and policies or other documents that may affect standards or outcomes in the plan or proposal, including any relevant to matters protected under Part 3 of the EPBC Act. Appendix A of the Program report outlines relevant EPBC Act requirements.
Environmental performance outcomes and standards	An Environment Plan or Offshore Project Proposal developed under the Program must include environmental performance outcomes, and an Environment Plan must include environmental performance standards and measurement criteria against those outcomes, which address legislative and other controls that manage environmental features of the activity. This means that any policies, guidelines and plans relevant to matters protected under Part 3 of the EPBC Act (e.g. Recovery Plans, Conservation Advices, Threat Abatement and plans of management under the EPBC Act where relevant such as a World Heritage Property Management Plan) must be considered in setting the outcomes and standards against which performance is to be measured, and include measurement criteria for determining whether the outcomes and standards have been met.
Implementation strategy	An Environment Plan developed under the Program must include an appropriate implementation strategy that provides a systematic approach to ensure the environmental performance outcomes and environmental performance standards of the plan, which are aimed at protecting the environment, including matters protected under Part 3 of the EPBC Act, are

Program requirements	How EPBC Act requirements are addressed
	implemented and monitored on an ongoing basis. The implementation strategy must describe the systems, practices and procedures that will be in place to ensure that impacts and risks, including to matters protected under Part 3 of the EPBC Act, will be continuously reduced to as low as reasonably practicable, and that requirements are met for monitoring, recording, incident reporting and oil pollution emergency planning. The implementation strategy must also be consistent with any relevant requirements such as Recovery Plans, Conservation Advices, Threat Abatement and plans of management under the EPBC Act.
Oils Pollution Emergency Plans	The Program requires the titleholder to provide an oil pollution emergency plan as part of the implementation strategy for an Environment Plan and must provide for the maintenance of the plan. The spill response activities, including emergency response arrangements, must be adequately evaluated and described to demonstrate that the plan ensures impacts on identified environmental sensitivities, including matters protected under Part 3 of the EPBC Act, will be of an acceptable level and reduced to as low as reasonably practicable.
Consultation	Proponents must conduct public consultation on Offshore Project Proposals for a minimum of four weeks for Offshore Project Proposals. NOPSEMA advice material also outlines that proponents should undertake early consultation with stakeholders in the lead up to the mandatory public consultation period. Following the mandatory public consultation period, proponents must include, in the final Offshore Project Proposal submitted to NOPSEMA, a summary of comments received, an assessment of the merits of those comments and a statement of the proponent's response or proposed response to any objection or claim, including a demonstration of changes (if any) made as a result. In the course of preparing the Environment Plan, or a revision of an Environment Plan, the titleholder for an activity must consult with relevant persons who may be affected by the activities to be carried out or any other person or organisation that the titleholder considers relevant. This may include parties with an interest in matters protected under Part 3 of the EPBC Act. The Environment Plan must demonstrate that consultation processes are in place and that the titleholder has undertaken appropriate consultation in preparation of the Environment Plan, has adopted any appropriate management measures resulting from the consultation and has provided for appropriate ongoing consultation.

Table 3.2 Acceptance criteria for Offshore Project Proposals and Environment Plans as part of the Program.

Program requirements	How EPBC Act requirements are addressed
Appropriate to nature and scale of the activity	An Environment Plan or Offshore Project Proposal developed under the Program must only be accepted by NOPSEMA where it is reasonably satisfied that the plan is appropriate to the nature and scale of the activity or proposed use. Whether a plan is appropriate is relative to the sensitivity of the receiving environment, including consideration of relevant matters protected under Part 3 of the EPBC Act, and also the size and complexity of an activity and its potential and actual environmental consequences. This means a large and complex activity in a sensitive environment with a high potential for environmental impact and risk, and predictive uncertainty, would require increased depth, detail, comprehensiveness, information support, analysis, justification and evidence than a smaller or more straightforward activity in an area of low environmental sensitivity with more certain impact prediction. NOPSEMA cannot accept an Offshore Project Proposal that involves an activity or part of an activity being undertaken in any part of a declared World Heritage property NOPSEMA cannot accept an Environment Plan that involves the activity or part of the activity, other than arrangements for environmental monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act.
'As Low As Reasonably Practicable' and Acceptable	In order to be accepted, an environment plan developed under the Program is required to contain an evaluation of and demonstrate that impacts and risks (including direct and indirect impacts from operational and potential emergency conditions) are as low as reasonably practicable and acceptable, and this would include any matters identified that are protected under Part 3 of the EPBC Act. Demonstrating that impacts and risks are as low as reasonably practicable requires the provision of evidence that the impacts and risks have been modified to a level that is as low as reasonably practicable. Acceptable levels should clearly indicate that matters protected under Part 3 of the EPBC Act should not be compromised, degraded or be adversely impacted. NOPSEMA provides guidance for proponents about these terms.
Performance outcomes, standards and measurement criteria	Acceptance requirements for an Environment Plan developed under the Program include that it must define the environmental performance outcomes and set the environmental performance standards against which the environmental performance of the titleholder can be measured during the operational phase. This would include addressing management and monitoring of matters protected under Part 3 of the EPBC Act. The Environment Plan must also provide for appropriate measurement criteria that will allow the titleholder and

Program requirements	How EPBC Act requirements are addressed
	regulator to determine if the performance outcomes and performance standards have been met, particularly with respect to matters protected under Part 3 of the EPBC Act. For acceptance of Offshore Project Proposals, documentation must contain appropriate environmental outcomes relevant to the identified impacts and risks, which are consistent with the principles of ecologically sustainable development. Proponents will be able to seek advice about relevant EPBC reference materials that they should consider in preparing these documents. Acceptable outcomes should clearly indicate that matters protected under Part 3 of the EPBC Act should not be compromised, degraded or adversely impacted.
Implementation strategy	To be accepted, an Environment Plan must contain an implementation strategy that provides for monitoring, recording and reporting, including in relation to impacts and risks to matters protected under Part 3 of the EPBC Act.
Consultation	In the course of preparing the Environment Plan, or a revision of an Environment Plan, the titleholder for an activity must consult with relevant persons who may be affected by the activities to be carried out or any other person or organisation that the titleholder considers relevant. This may include parties with an interest in matters protected under Part 3 of the EPBC Act. To be accepted the Environment Plan must demonstrate that appropriate consultation has been undertaken, identify where appropriate measures have been adopted as a result, and identify that appropriate ongoing consultation has been provided for. The Program provides for publication of Offshore Project Proposals for public comment. NOPSEMA advice material also outlines that proponents should undertake early consultation with stakeholders in the lead up to the mandatory public comment period. Following the mandatory public consultation period, proponents must include, in the final Offshore Project Proposal submitted to NOPSEMA, a summary of comments received, an assessment of the merits of those comments and a statement of the proponent's response or proposed response to any objection or claim, including a demonstration of changes (if any) made as a result.

The Program reflects the requirements under the OPGGS(E) Regulations. These Regulations are to be amended in February 2014 following a broad policy review, which included a three month public consultation period on an Issues Paper from December 2012 to February 2013, and this Strategic Assessment. The Program and this Strategic Assessment Report describe the OPGGS(E) Regulations as amended. Draft amendment Regulations were provided for public comment in December 2013, for finalisation in February 2014.

NOPSEMA's administration of the Program will ensure that the Australian Government's outcomes in ensuring that matters protected under Part 3 of the EPBC Act are being protected will be met. The

matters protected under Part 3 of the EPBC Act that are relevant to this strategic assessment and the Program's overarching commitment to environmental protection outcomes are outlined in Table 3.3. Further detail of these matters and how the Program addresses them are set out at Part 8 and Appendix A of the Program.

Table 3.3 NOPSEMA's commitment to protection of matters protected under Part 3 of the EPBC Act

PART 3 MATTER PROTECTED	OUTCOMES
World heritage values of declared World Heritage properties	The outstanding universal value of world heritage properties will be identified, protected, conserved and transmitted to future generations.
National heritage values of declared National Heritage places	The outstanding value to the nation of national heritage places will be protected, conserved and transmitted to future generations of Australians.
The ecological character of declared Ramsar wetlands	The ecological character of each Ramsar wetland will be maintained, and the conservation use of each wetland will be promoted for the benefit of humanity in a way that is compatible with maintenance of the natural properties of the ecosystem.
Listed threatened species and ecological communities	The survival and conservation status of listed threatened species and ecological communities will be promoted and enhanced, including through the conservation of critical habitat and other measures contained in any recovery plans, threat abatement plans or conservation advices.
Listed migratory species	The survival and conservation status of listed migratory species and their critical habitat will be promoted and enhanced.
The marine environment	The ecosystem functioning and integrity of Commonwealth marine areas will be maintained and protected in conformity with relevant marine bioregional plans and plans of management for relevant marine reserves.
The environment on Commonwealth land	The environment on Commonwealth land will be maintained and protected in full conformity with relevant plans of management.

3.5 Summary of guidelines, policy statements and environment procedures

NOPSEMA develops guidance documents to inform and assist titleholders to interpret and meet the requirements of the Program.

These documents have been developed under NOPSEMA's legislated function to advise persons, either on its own initiative, or on request, on matters relating to offshore petroleum environmental management; they are updated from time to time.

There are four broad categories of these advice documents.

- **Policies** outline the objectives of the Program and provide guiding principles on how NOPSEMA administers the requirements of the Program.
- **Guidelines** provide operators with specific details on the approach, expectations or criteria that NOPSEMA sets in applying its regulatory discretion.
- **Guidance notes** advise industry on what is explicitly required by the Program, discuss good practice and suggest possible approaches for environmental management.
- **Information papers** provide general information, consistent with the Program, as a means to foster industry best practice.

Table 3.4 (below) details how these different guidance documents will ensure titleholders meet the Program's commitments to matters protected under Part 3 of the EPBC Act when preparing Environment Plans and will continue to meet these requirements when undertaking activities in accordance with an accepted Environment Plan.

These are 'live' documents that will be regularly reviewed and updated to reflect leading practice in protection of the environment regimes.

In addition to the existing documents outlined below, NOPSEMA will develop further guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:

- stress the need to consider the matters protected under Part 3 of the EPBC Act
- include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans, such as EPBC Act guidance documents and online information databases.

This guidance will be developed as soon as practicable, and no later than six months following endorsement and approval of actions or classes of actions by the Minister for the Environment. NOPSEMA will update existing guidance to reflect consideration of matters protected under Part 3 of the EPBC Act, to be in place at the time of endorsement and approval of actions.

Table 3.4 NOPSEMA guidance documents

Guidance document	**Description of content**
Policies	
NOPSEMA Assessment Policy	Provides overarching NOPSEMA information on the assessment policy for activities regulated by NOPSEMA (including those not covered by the Program such as safety cases).
Environment Plan Assessment Policy	Supports and provides detail to the overarching NOPSEMA assessment policy to assist titleholders on the approach for the assessment of Environment Plans submitted under the Program. The Policy will be amended and in place at the time of endorsement and approval of actions and will include details relating to matters protected

Guidance document	Description of content
	under Part 3 to be considered such as relevant guidelines, policies, plans of management and information databases on the Department of the Environment website. This will ensure titleholders are directed to relevant consideration on matters they should have regard to in preparing Environment Plans.
Environmental Management Inspection Policy	Provides information on the conduct of inspections under the Program for accepted Environment Plans.
Compliance and Enforcement Policy	Provides an overview of the legislative framework within which NOPSEMA operates and how the compliance and enforcement strategy is applied to activities regulated under the Program (including those not covered by the Program such as safety cases).
Guidelines	
Making Submissions to NOPSEMA Guideline	Provides overarching NOPSEMA information on assessment submissions to assist with timely assessments for activities regulated by NOPSEMA (including those not covered by the Program such as safety cases).
Guidance Notes	
Environment Plan Content Requirements Guidance Note	Provides assistance in regulatory interpretation of the Program to assist titleholders in preparing Environment Plans. NOPSEMA's existing guidance notes will be updated by the time of approval to make reference to consideration of matters protected under Part 3 of the EPBC Act and include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as EPBC Act guidance documents and information databases on the Department of the Environment website. This will ensure titleholders are directed to consider relevant matters when preparing Environment Plans.
Petroleum Activity Guidance Note	Provides assistance in the regulatory interpretation of what constitutes a petroleum activity under the Program.
Oil Spill Contingency Planning Guidance Note	Provides assistance in the regulatory interpretation of what is required to be included in an oil pollution emergency plan under the Program.
Notification and Reporting of Environmental Incidents Guidance Note	Provides overarching NOPSEMA information on reporting environmental incidents for activities regulated by NOPSEMA (including those not covered by the Program such as safety cases).
Information papers	
Operational Scientific Monitoring Programs	Provides general advice to assist titleholders in planning and implementing operational scientific monitoring programs.

4 Meeting environmental objectives & principles of ecologically sustainable development

The purpose of the Program is set out in the objects of the OPGGS(E) Regulations (Regulation 3), which are to ensure:

1. that petroleum and greenhouse gas activities are undertaken in a manner consistent with the principles of ecologically sustainable development
2. that the environmental impacts and risks of petroleum and greenhouse gas activities are acceptable
3. that the environmental impacts and risks of petroleum and greenhouse gas activities are reduced to as low as reasonably practicable.

This chapter provides an overview of how the Program, in meeting these objects, also:

- meets the objects of the EPBC Act
- addresses the principles of ecologically sustainable development (ESD)
- meets broader environmental objectives such as cumulative impacts and consistent protections across jurisdictions
- provides for particular benefits for meeting environmental objectives.

4.1 Objects of the EPBC Act

The objects of the EPBC Act are outlined in ss3(1).

A brief description of how the Program addresses each of the objects of the EPBC Act is provided in Table 4.1. This Strategic Assessment Report demonstrates how the Program meets these objects, with further detail provided in Chapters 5 and 7, in particular.

Table 4.1 Overview of how the Program addresses the objects of the EPBC Act

Object of the EPBC Act	How the Program addresses the objects of the EPBC Act
(a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance	The Program ensures protection of the environment as a whole, which necessarily includes matters of national environmental significance and the matters protected under Part 3 of the EPBC Act. It requires that all environmental impacts and risks to the environment resulting from petroleum or greenhouse gas activities be of an acceptable level, and reduced to as low as reasonably practicable.
(b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources	The primary object of the OPGGS(E) Regulations under the program is to ensure that petroleum and greenhouse gas activities occur in a manner consistent with the principles of ecologically sustainable development. The Program's application of these principles is discussed further in the next part of this chapter.
(c) to promote the conservation of biodiversity	Part 13 of the EPBC Act provides mechanisms, including recovery plans, threat abatement plans, and conservation plans for migratory and marine species to promote the conservation of biodiversity. The Program ensures

Object of the EPBC Act	How the Program addresses the objects of the EPBC Act
	that petroleum and greenhouse gas activities are consistent with these mechanisms. Under the Program, Offshore Project Proposals and Environment Plans for petroleum and greenhouse gas activities must consider and be consistent with them.
(ca) to provide for the protection and conservation of heritage	The Program ensures protection of the environment as a whole, which necessarily includes the protection and conservation of heritage, as a matter protected under Part 3 of the EPBC Act, in accordance with the relevant plans and principles to ensure its conservation. The Program requires that all environmental impacts and risks to the environment resulting from petroleum or greenhouse gas activities are of an acceptable level, and reduced to as low as reasonably practicable.
(d) to promote a cooperative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples	The Program requires public consultation for offshore petroleum projects, and further direct stakeholder engagement, including governments, the community, land-holders and indigenous peoples for Environment Plans. The Program describes administrative arrangements between NOPSEMA and other regulators for linear or cross-jurisdictional projects. The Program also describes information sharing and reporting requirements. In particular, NOPSEMA will establish administrative arrangements with the Department of the Environment to share compliance information, and report as appropriate to the Minister for the Environment on its regulatory activities and matters protected under Part 3 of the EPBC Act.
(e) to assist in the cooperative implementation of Australia's international environmental responsibilities	The Program requires NOPSEMA to share information with the Department of the Environment and provide reports to the Minister for the Environment as appropriate to assist in the cooperative implementation of Australia's international environmental responsibilities (Table 3, Program Report).
(f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity	The Program requires public consultation for offshore petroleum projects, and further direct stakeholder engagement, including governments, the community, land-holders and indigenous peoples for Environment Plans. Titleholders must address and implement, as appropriate, the resulting inputs of all relevant stakeholders.
(g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge	The Program requires full public consultation for offshore petroleum projects, and further direct stakeholder engagement, including governments, the community, land-holders and indigenous peoples, for Environment Plans. Titleholders must address and implement, as appropriate, the resulting inputs of all relevant stakeholders.

4.2 Principles of Ecologically Sustainable Development

ESD principles were identified in the National Strategy for Ecologically Sustainable Development[24] and the Intergovernmental Agreement on the Environment, both of which were adopted by all levels of Australian governments. As a result, ESD principles have since been progressively incorporated into policies and programs of all Australian governments. The explanatory memoranda for both the OPGGS(E) Regulations and the EPBC Act indicate that the aim of ESD was a main driver behind their inception. The EPBC Act defines the ESD Principles in s3A (below) and OPGGS(E) Regulations refer to the EPBC Act in defining ESD.

Section 3A of the EPBC Act: Principles of ecologically sustainable development

The following principles are principles of ecologically sustainable development:

a. decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;

b. if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;

c. the principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;

d. the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;

e. improved valuation, pricing and incentive mechanisms should be promoted.

A brief description of how the Program addresses ESD principles is provided below. This Strategic Assessment Report demonstrates that the principles of ESD are applied to petroleum and greenhouse gas activities and that titleholders will continue to implement these principles in a cycle of continuous improvement. Chapter 8, in particular, addresses the adaptive management strategies.

The following description provides an overview of the Program in relation to ESD principles and Chapters 5 and 7 of this report provide more detail on the Program's decision-making mechanisms.

(a) The integration principle

The Program describes the processes under the OPGGS Act and OPGGS(E) Regulations in support of the orderly exploration for and recovery of offshore petroleum in line with the integration principle. The OPGGS Act sets out a basic framework of rights, entitlements and responsibilities of governments and industry, including for workplace safety and environmental management. More broadly, the Australian Government seeks to ensure,

[24]Council of Australian Government (1992) National Strategy for Ecologically Sustainable Development. http://www.environment.gov.au/resource/national-strategy-ecologically-sustainable-development

through this and other pieces of Commonwealth legislation (including the EPBC Act), that these non-renewable resources are developed for the equitable social and economic benefit of all Australians, while ensuring adequate environmental protection and the occupational health and safety of the workforce.

(b) The precautionary principle

The *precautionary principle* is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage (EPBC Act, s391).

The Program is risk-based and seeks to prevent the occurrence of any incident that could lead to damage to the environment. This includes risk assessments, setting of environmental outcomes, standards and measures, and monitoring and reporting requirements. In preparing an Environment Plan under the Program, titleholders must describe the environment and all environmental impacts and risks that could occur as result (in whole or in part) of the activity. NOPSEMA must not accept an Environment Plan – and the activity cannot proceed – unless NOPSEMA is reasonably satisfied that the impacts and risks are of an acceptable level and reduced to as low as reasonably practicable.

Factors that may have bearing on whether NOPSEMA can be reasonably satisfied include the level of certainty, the severity, and the anticipated permanence of impacts and risks on matters protected under Part 3 of the EPBC Act and the broader environment. If the nature of these or any other relevant factors means that NOPSEMA cannot be reasonably satisfied, NOPSEMA will not accept the Environment Plan and the activity cannot proceed.

(c) The principle of intergenerational equity

The Program requires that titleholders demonstrate the environmental impacts and risks of an activity are of an acceptable level, and reduced to as low as reasonably practicable. This includes the protection of species, ecological systems and all other aspects of the environment for future generations in accordance with the principle of intergenerational equity.

(d) The biodiversity principle

The Program requires that titleholders demonstrate the environmental impacts and risks of an activity are of an acceptable level, and reduced to as low as reasonably practicable. This includes the conservation of biological diversity and ecological integrity in accordance with the biodiversity principle.

(e) The valuation principle

The Program describes an objective-based regulatory regime. Objective-based regulation is a cost effective approach to regulation as it encourages ongoing innovations and efficiency in pursuit of particular objectives and outcomes. In addition, NOPSEMA is a full cost-recovery agency whereby its regulatory activities are paid for through fees and levies on the industry required under legislation. These are charged on the basis of regulatory activity and ensure

adequate ongoing funding levels to support the achievement of the objects of the OPGGS and EPBC Acts.

4.3 Broader environmental objectives under the EPBC Act

The objectives of the EPBC Act and the Program are broader than individual activities or projects, although it is these activities and projects that are legally subject to regulation under both the Act and the Program. For this reason, both regulatory regimes provide for consideration of cumulative impacts of activities (as a category of impacts). In addition, the EPBC Act considers projects that span one or more jurisdictions, while the scope of the Program is limited to NOPSEMA's jurisdiction. This section of the Strategic Assessment Report therefore considers how the Program addresses cumulative impacts and how environmental objectives will continue to be met for cross-jurisdictional projects under the endorsed Program.

Cumulative impacts

Both the EPBC Act and the Program seek to ensure there are no unacceptable cumulative impacts on matters protected under Part 3 of the EPBC Act as a result of offshore petroleum and greenhouse gas activities. The Program provides enhanced assurances that there will be no unacceptable cumulative impacts as the Program applies to all activities, not just those that are likely to impact on a matter protected under part 3 of the EPBC Act.

Cumulative impacts are the changes to the environment that are caused by an action in combination with other past, present and future human actions (Gunn and Noble, 2012). In an environmental impact assessment context, the concept of cumulative impacts refers to the impacts associated with the activities of a proposed development interacting with existing and other proposed developments and future uses in the environment of the immediate locality or region. As a process focused on identifying, assessing and managing cumulative environmental change, cumulative impact assessment is intended to mitigate and ideally avoid activities that may result in detrimental changes to ecological, social, economic or cultural components. In developing an understanding of cumulative impacts, the compounded and additive effects of their activity must be considered, taking into account historical impacts, other existing users and the biological and ecological sensitivities in the receiving environment.

If not addressed appropriately and sufficiently, cumulative impacts can be ignored or the severity may remain undetected in project assessments. This stems from impact assessment processes that evaluate activities independently of other activities resulting in the conclusion that the activity is "unlikely" to cause significant or unacceptable environmental effects (Gunn and Noble, 2012). Thus it is important to gain an understanding of the cumulative impacts of activities based on the notion that significant or unacceptable impacts can result over time due to the culmination of seemingly insignificant or acceptable actions. General considerations for cumulative impact assessment are provided in Appendix 4.

In the context of the offshore petroleum activities endorsed under the Program, cumulative impacts refers to the direct and indirect impacts of a number of different petroleum activity actions that may influence the natural environment or other users within a locality or region, which when considered together, have a greater impact on the offshore marine environment than each action or influence

considered individually. For example, the effects of a single seismic activity that may be deemed marginal or acceptable when evaluated in isolation however, can result in significant and unacceptable impacts when combined with other existing seismic surveys in the locality that affect the same environmental sensitivities over time.

In general, cumulative impacts of petroleum activities may refer to one or all of the following depending on the 'nature and scale' of the activity:

- Cumulative impact of the same stressor type - The additive effects of the proposed activity and other existing or proposed activities within a locality or region with similar stressors e.g. cumulative impacts of acoustic emissions from multiple seismic surveys on relevant sensitivities, such as cetaceans, within the same migration season or between consecutive migration seasons; and / or

- Cumulative impact of different stressor types - The additive effect of the '*whole of life cycle*' impacts from an activity starting from initial exploration and appraisal activities through to exploration and production drilling, operations and decommissioning taking into account the intensity and duration of impacts on the ecological, social, cultural and economic environment; and / or

- Multiple activities - The additive effects of multiple separate activities over time affecting habitats, marine fauna or water quality such as the presence of production facilities discharging produced formation water over time to the receiving environment within an appropriately defined locality or region, combined with underwater noise, seabed disturbance and vessel activity within the same cumulative impact assessment leading to compounded impacts on marine fauna; and / or

- Cumulative impacts on other users - The additive impact on environmental sensitivities of a number of different uses within a locality or region such as the combined effect of other petroleum activities, fishing effort, tourism impacts, vessel activity and historical impacts from all anthropogenic disturbances. For example, the additive impacts of habitat loss from physical footprints associated with facility and pipeline construction, combined with habitat loss from petroleum activities discharges, combined with habitat loss from past and present fishing and petroleum activities resulting in a net reduction of overall habitat; and / or

- External variables - The additive impact of the activity and any external variables such as sea level rise, climate change and the potential impacts of a large scale spill coastal and submerged sensitivities; and / or

- Combination of all cumulative impacts – The culmination of some or all of the above which will be governed by actual environmental values and the nature and number of activities within a locality or region of the offshore marine environment.

As noted above, the processes under the EPBC Act seek to ensure that there are no unacceptable cumulative impacts on matters protected under Part 3 of the EPBC Act. Detailed information about these processes is at Appendix 4. Generally, they consider:

- The extent, seriousness or intensity of the relevant impacts of an action in their surrounding context on a protected matter in the context of other related actions, proposed, approved or already taken
- The likelihood of the action proceeding
- Evidence of a trend arising from similar past actions (e.g. increasing numbers of actions in a sensitive area)
- Other actions happening in the same geographical location at the same time:
    - Consideration of other proposed actions
    - Consideration of other approved actions
    - Consideration of actions which have already occurred
- Whether the action will facilitate 'further actions' which will also have an impact on a protected matter
- Events or circumstances caused by natural trends or phenomena (climate or sea level change).

The processes under the Program (Chapter 5 refers) provide for the same outcome as those under the EPBC Act in that it ensures there will be no unacceptable impacts on matters protected under Part 3 of the EPBC Act. Specifically, the Program ensures that the risk of any cumulative impacts on the environment – including direct and indirect impacts – will be of an acceptable level and are reduced to as low as reasonably practicable. The extent to which cumulative impact considerations will be required in Offshore Project Proposals and Environment Plans for offshore petroleum activities will be largely influenced by the '*nature and scale*[25]' of the activity.

Similar to the current assessment process under the EPBC Act, the Program requires cumulative impact assessment at the early stage of project submission in that Offshore Project Proposal process provides for the consideration of cumulative impacts for the life of the activity, including cumulative impact considerations on those matters protected under Part 3 of the EPBC Act. The Program provides additional mechanisms that allow cumulative impacts to be considered, assessed, mitigated and managed to acceptable levels and reduced to as low as reasonably practicable.

In particular, the Program ensures:

- Cumulative impacts to be considered for all activities. All impacts and risks must be evaluated in accordance with the OPGGS(E) Regulations, not just those activities that are likely to have a significant impact on matters protected under Part 3 of the EPBC Act.

- NOPSEMA has access to information on all existing and proposed activities as every activity must have an accepted environment plan. This enables assessors to identify projects whereby cumulative impact assessment would be a critical component of an environment plan in demonstrating that impacts and risks are acceptable.

[25] "Scale" relates to the relative size of extent and comparative or proportionate magnitude of the potential impact area of the petroleum activity which includes all planned and unplanned components.
"Nature" relates to the basic or inherent features or characteristics of the activity, the combination of characteristics of the activity, the characteristics of the environment in which the activity takes place and the type of impacts and risks.

- To meet the acceptance criteria for an Offshore Project Proposal or Environment Plan, the proponent is required to demonstrate that all impacts and risks have been considered and will be acceptable and reduced to as low as reasonably practicable, including cumulative impacts.

- NOPSEMA has the ability to assign specific detailed assessment scopes. This means that cumulative impacts may be assessed as a 'detailed topic' in addition to the general assessment undertaken for all activities. The assignment of a detailed cumulative assessment topic scope would be determined based on the nature and scale of the activity.

- The titleholder must monitor compliance against environmental performance outcomes to continually meet the acceptance criteria. If new or different impacts are detected or if the plan is not meeting the environmental performance outcome, there are provisions to adapt an environment plan to demonstrate that environmental impacts, including cumulative impacts where relevant, remain within defined acceptable levels.

The content requirements set out under the OPGGS(E) Regulations ensure that all types of cumulative impacts, whether from multiple activities in a locality or region or from 'whole of life cycle' impacts over time that would be identified in an Offshore Project Proposal, must be appropriately considered and evaluated by the titleholder.

As described in the Program, Environment Plans and Offshore Project Proposals must meet the acceptance criteria to be accepted. In assessing an Environment Plan, NOPSEMA considers whether the plan describes the receiving environment, including all other known (existing and proposed) activities or operations that may contribute to cumulative environmental impacts if cumulative impacts are appropriate to the proposal. NOPSEMA's internal assessment procedures include triggers and prompts for the consideration of cumulative impacts during Offshore Project Proposal and Environment Plan assessments against the acceptance criteria.

NOPSEMA will not accept an Environment Plan if all the impacts from the activity, such as the cumulative impacts on the environment, have not been demonstrated to be of an acceptable level and as low as reasonably practicable taking into account the nature and scale of the activity.

- Table A4.1 of Appendix 4 provides an overview of the content requirements and how each content requirement provides the mechanism to ensure that titleholders sufficiently assess cumulative impacts commensurate with the nature and scale of the activity.
- Table A4.2 of Appendix 4 provides an overview of how NOPSEMA considers cumulative impact assessment against the acceptance criteria in the OPGGS(E) Regulations when deciding whether to accept an Environment Plan or Offshore Project Proposal.

NOPSEMA guidance provides further information for titleholders in the preparation of Offshore Project Proposals and Environment Plans, including specific guidance in relation to evaluating cumulative impacts of the proposed activity on the ecological, social, cultural and economic features of that environment. Existing guidance will be updated prior to approval of actions in accordance with the Program, while interim new guidance will be prepared prior to approval of actions, and finalised within six months of that approval.

Cross-jurisdictional considerations

The EPBC Act applies across Commonwealth waters, designated state or territory waters, as well as Commonwealth and state or territory lands. The Program, however, applies specifically to activities undertaken in Commonwealth waters and designated state or territory waters where the relevant environmental management powers have been conferred under legislation to NOPSEMA. The Program does not apply to petroleum or greenhouse gas activities on land. This means that while a petroleum and greenhouse gas activity or project may extend across jurisdictional boundaries into state jurisdiction (water or land), the Program may not apply across the entirety of the activity or project.

Considering only part of a multi-jurisdictional project may prevent adequate consideration of the larger action's impacts on matters protected under Part 3 of the EPBC Act. It may also result in inconsistent or incompatible decision outcomes and/or conditions by regulators. The Program provides for appropriate interactions with partner regulatory agencies to ensure environmental objectives are upheld for petroleum and greenhouse gas activities that extend beyond NOPSEMA's jurisdiction.

In state waters and on land, relevant state legislation and the EPBC Act apply for environmental approvals. NOPSEMA works closely with adjacent jurisdictions and regulators through various communication mechanisms, including memoranda of understanding (MoUs) to ensure the protection of matters in Part 3 of the EPBC Act.

Where petroleum or greenhouse gas activities extend across more than one jurisdiction – for instance a pipeline from Commonwealth waters to shore, or a seismic survey that crosses into designated state waters – the Program, state legislation and the EPBC Act all apply to that activity. This means that the titleholder must seek approval from NOPSEMA, the relevant state authority, and (if there is likely to be a significant impact on a matter protected under Part 3 of the EPBC Act, and if there is no relevant approval bilateral agreement with that jurisdiction) the Minister for the Environment.

Under the Program, NOPSEMA will work with relevant agencies responsible for environmental assessments to establish administrative arrangements with each jurisdiction, including through MoUs where appropriate, to ensure consistent regulation of activities that may impact on matters protected under Part 3 of the EPBC Act. The relevant agencies may be state or territory agencies (where a relevant approval bilateral agreement is in place), or the Department of the Environment.

For these cross-jurisdictional projects:

- if NOPSEMA does not accept the Environment Plan in relation to the proposed activity in Commonwealth waters, it cannot proceed in Commonwealth waters
- if the relevant state or territory authority or the Minister for the Environment do not provide the required approvals for state or territory jurisdiction, the activity cannot proceed
- if NOPSEMA accepts an Environment Plan, but another agency or the Minister for the Environment approves an action for the same project with a condition that contradicts the Environment Plan, the titleholder must consider how to ensure it continues to meet all legislative requirements.

States may currently confer powers to NOPSEMA under the OPGGS Act in relation to State waters. Conferral of relevant environmental management powers under this legislation would enhance the effectiveness of offshore streamlining. While the Program ensures adequate protection of the environment, it highlights the limitations of this Strategic Assessment in streamlining environmental assessments and approvals if state and territory governments do not confer the relevant environmental management powers to NOPSEMA under legislation in respect of designated waters. The greatest reduction in unnecessary duplication will be achieved where state and territory governments confer the relevant powers to NOPSEMA for designated state waters.

In addition, the Program, through the OPGGS Act and OPGGS(E) Regulations, defines petroleum activity and greenhouse gas activity as activities that are authorised under an OPGGS Act title. This means that while an activity may be associated with a petroleum development (for example the construction of a supply base), the Program may not apply because that activity is not authorised by a title.

Where non-petroleum or non-greenhouse gas activities take place in association with a project for which NOPSEMA is otherwise the regulator – for instance a supply base on land, or a shipping activity that is not within the OPGGS regime – the following laws apply rather than the Program, as appropriate:

- state/territory legislation
- the *Navigation Act 2012*
- the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*
- the EPBC Act.

It should be noted, the strategic assessment is one step of a multi-level government approach to streamlining of environmental approvals. The ‘one stop shop’ Commonwealth-State/Territory streamlining reform, which as a Council of Australian Governments (COAG) process currently underway, is anticipated to deliver further streamlining and reduction of duplication. This process is necessarily more complex and time consuming. The full benefits will be realised gradually as each tranche of streamlining is completed. The intention of the Program and this strategic assessment is to achieve the best offshore streamlining outcome possible. Integration with other related streamlining processes is provided for in the Program and will be realised as other streamlining approaches are completed.

4.4 Additional strengths of the Program in meeting environmental objectives

Independence of the decision maker

As an independent regulator, NOPSEMA’s decision-making processes are based entirely in law. This means that all decisions made under the Program will be based on the environmental objectives of the Program and that the legislated requirements under the Program will be met.

Precautionary principle

The precautionary principle is one of the four principles of ESD that is set out as an objective of the Program and defined in the OPGGS(E) Regulations. The precautionary principle means that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures that prevent environmental degradation.

The Program ensures this objective is met, as titleholders must describe and evaluate the environment and all environmental impacts and risks that could occur as result (in whole or in part) of the activity when preparing an Environment Plan under the Program, and demonstrate that those impacts and risks are of an acceptable level and reduced to as low as reasonably practicable.

Under the Program, NOPSEMA must not accept the Environment Plan if it is not reasonably satisfied with this demonstration. Therefore, in the event that there is not sufficient scientific certainty in relation to an environmental impact or risk – or the impacts and risks of any mitigation measures, the Offshore Project Proposal and Environment Plan will not be accepted. Factors that may have bearing on whether NOPSEMA can be reasonably satisfied include the level of certainty, the severity, and the anticipated permanence of impacts and risks on matters protected under Part 3 of the EPBC Act and the broader environment. If the nature of these or any other relevant factors means that NOPSEMA cannot be reasonably satisfied, NOPSEMA will not accept the Environment Plan and the activity cannot proceed. If there is insufficient scientific or other data such that NOPSEMA cannot be reasonably satisfied of acceptability, NOPSEMA will not accept the Environment Plan and the activity cannot proceed.

Positive impacts

Under the EPBC Act, at the time of a referral decision, the EPBC Act stipulates that the Minister for the Environment must not consider any beneficial impacts the action may have on matters protected by Part 3 of the EPBC Act. If a proposed action is deemed a controlled action, however, the Minister for the Environment may then consider beneficial impacts including proposed offsets to the proposed action.

When describing and evaluating all environment risks in an Environment Plan, the titleholder is able to incorporate positive impacts in the environmental assessment to demonstrate how the residual adverse impacts of the activity meets the acceptable test and is as low as reasonably practicable. These may include direct or indirect measures to offset negative impacts on the environment. Where this is the case, those offsets are usually related to the proposed activity or environment that may be impacted.

NOPSEMA's evaluation of Offshore Project Proposals and Environment Plans may therefore consider how adverse impacts are offset by any positive impacts, where these are included to demonstrate that overall impacts will be of an acceptable level.

For example, an Environment Plan that describes the impacts of physical disturbance during the construction phase of an operational facility can also describe the beneficial impacts of the resulting subsea infrastructure on benthic habitats and fauna assemblages. (This infrastructure provides the basis for the growth and colonisation of these habitats and assemblages, particularly for fish communities.) The beneficial impacts of the subsea infrastructure offsets the impact of the physical

disturbance experienced during construction, thereby contributing to the titleholder's demonstration that overall impacts will be of an acceptable level. It should be noted that the adverse impacts of an aspect of the environment, such as an EPBC Part 3 listed migratory species, must be determined to be acceptable, and cannot be offset by beneficial impacts on any other aspect of the environment. This is consistent with existing policy under the EPBC Act in relation to offsets.[26]

NOPSEMA resourcing and cost recovery

NOPSEMA operates on a full cost recovery basis, which ensures NOPSEMA has the resources to maintain appropriate and specialist environmental expertise to implement the Program. NOPSEMA's activities and functions are funded through levies on the petroleum industry and a fee-for-service arrangement. This ensures that NOPSEMA's resourcing is consistent with the level of regulatory activity required and provides the flexibility to manage the changing requirements presented by the implementation of the Program and its management. NOPSEMA also has the ability to seek external expertise on a case-by-case basis where in-house expertise is not available.

The arrangements for levies are provided for under the Offshore Petroleum and Greenhouse Gas Storage (Regulatory Levies) Act 2003 and the Offshore Petroleum and Greenhouse Gas Storage (Regulatory Levies) Regulations 2004. Specifically, assessments of Environment Plans are funded through an Environment Plan activity levy, and compliance inspections are funded through an Environment Plan compliance levy. The specific levy amounts under these arrangements are set out and approved by the Australian Government on a regular basis through a Cost Recovery Impact Statement (CRIS). The CRIS development process must include stakeholder consultation.

For Offshore Project Proposal assessment under the Program, a fee-for-service will apply according to time required to undertake assessment. NOPSEMA already applies a fee-for-service arrangement for early engagement on Safety Cases under the Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009. NOPSEMA will issue guidance in relation to the proposed fees (prior to the Minister for the Environment's approval of actions taken in accordance with the endorsed Program).

The Program provides that NOPSEMA will enter into administrative arrangements with the Department of the Environment to ensure appropriate information sharing for implementation of the Program. These arrangements will address matters such as: transitional arrangements, data, information and expertise sharing arrangements. At a minimum, interim arrangements will be in place at the time of any approval of actions taken in accordance with the Program.

[26] EPBC Act *Environmental Offsets Policy, October 2012*

5 How the Program meets EPBC Act requirements – mapping the process

5.1 Comparison of the OPGGS environmental management authorisation process and regulatory requirements of the EPBC Act

The Terms of Reference for this Strategic Assessment call for a comparison of the environmental management authorisation process under the Program against the requirements of the EPBC Act using process mapping, and a comparison of the outcomes achieved by the Program against EPBC Act requirements.

An overview of the processes under the EPBC Act is in Appendix 5. This appendix also shows how the Program identifies and assesses potential impacts on matters protected under Part 3 of the EPBC Act, including how it requires proponents to:

i. describe the nature of proposed petroleum and greenhouse gas activities and the baseline environment
ii. provide a description of type and likelihood of risks considered and conduct a risk assessment to evaluate the potential risks and prepare appropriate response strategies that adequately address protected matters
iii. implement an approach that firstly seeks to avoid impacts on protected matters, and then seeks to mitigate residual impacts
iv. apply relevant policies, industry practices and administrative guidelines for the protection of protected matters, including existing policy statements, Recovery Plans, Conservation Advices, Threat Abatement Plans, Marine Bioregional Plans and other relevant Australian Government documents
v. undertake appropriate and timely public consultation commensurate to the activity
vi. address direct and indirect impacts of activities under NOPSEMA's jurisdictions
vii. describe the baseline environment and consider the other long-term influences, including potential impacts of climate change, that may also impact on protected matters in the receiving environment (for example, information available from the public domain).

A table (5.1) comparing the outcomes achieved by the Program against the requirements of the EPBC Act is below.

This Strategic Assessment has also considered the *Draft Framework of Standards for Accreditation*, prepared in 2012 by the then Department of Sustainability, Environment, Water, Population and Communities. This draft Framework was developed to assist state and territory governments to streamline their environmental assessment and approval processes with those of the Commonwealth. While not directly applicable to this Strategic Assessment, the draft Framework provides a plain English description of requirements under the EPBC Act, many of which are applicable.

In particular, the draft Framework provides guidance in relation to protection of matters under Part 3 of the EPBC Act, which are addressed in Chapter 7 of this Report. The draft Framework also provides guidance on risk-based assessment, assessment and approvals policy, and transparency of

processes and decisions. These matters are addressed in this chapter (as well as Chapter 3), which highlight the key features of the Program, including:

- objective-based regulation on the basis of environmental impact and risk assessment
- clarity of legislative and regulatory requirements under the Commonwealth OPGGS Act and OPGGS(E) Regulations, providing the sound policy basis for regulatory assessment and decision-making
- transparency of processes and decision-making through notification, consultation and publication of key information.

Table 5.1 Comparison of the EPBC Act requirements and the Program

EPBC Act regulatory requirement	The Program
Referral A person proposing to take an action that will have or is likely to have a significant impact on a matter protected under Part 3 of the EPBC Act must refer their proposal to the Department of the Environment, for a decision by the Minister on whether further assessment is required. Compliance actions may apply to a person who takes (or intends to take) such an action without approval. Outcome: Matters that are referred under the EPBC Act will be assessed for a decision on whether further assessment is required. There is a risk that actions with the potential to significantly impact on protected matters may not be referred and may not be assessed for approval.	***All activities*** Actions likely to have an impact on a matter protected under Part 3 of the EPBC Act are subject to regulation under the Program and assessment against the Program's commitments in relation to matters protected under the EPBC Act. Titleholders must submit an Environment Plan for all activities, whether they are likely to have a significant impact on a matter protected under Part 3 of the EPBC Act or not. Each Environment Plan must demonstrate that all environmental impacts and risks (whether or not they are significant, or in relation to a matter protected under Part 3 of the EPBC Act), are of an acceptable level and reduced to as low as reasonably practicable. Proponents of development projects will also need to prepare an Offshore Project Proposal, demonstrating that the project is acceptable.
Assessment Not all referred actions require further assessment (see Approvals below). For those actions that do require further assessment, a level of assessment is set. The Minister for the Environment considers the scale and nature of impacts, the complexity of the issues, and the degree of public concern. The level of assessment can range from assessment on the referral information already submitted to a public inquiry. Once the method of assessment is determined, the EPBC Act and Regulations provide further details about the process, including additional content requirements (if any) and the public comment	***Assessment*** The Program's objective-based approach to regulation ensures that the level of assessment is commensurate with the nature and scale of the activity, and its risk-based approach ensures it is appropriate to the potential impacts and risks to matters protected under Part 3 of the EPBC Act. Development projects must seek acceptance of an Offshore Project Proposal, as well as seek acceptance of Environment Plans for all component activities of the Project. This is a heightened level of assessment. The Program, through the OPGGS(E) Regulations, sets out clear content and acceptance requirements for Offshore Project Proposals and Environment Plans.

EPBC Act regulatory requirement	The Program
process. Outcome: That the level of assessment is appropriate to the nature, scale, and potential impacts and risks to matters protected under Part 3 of the EPBC Act.	This provides certainty for industry and the community that consistent environmental outcomes will be achieved for all activities.
Approvals Once a proposed action is referred under the EPBC Act the Minister must decide whether the action is: • not a controlled action (NCA) • not controlled provided it is conducted in a particular manner (NCA PM) • controlled action (CA – requires assessment) • clearly unacceptable (cannot proceed). If an action is deemed controlled, further assessment is required, including an opportunity for public comment. The Department of the Environment or relevant state agency prepares a report for the Minister and the Minister (or delegate) makes a decision on whether or not to approve the action. In making this decision, the Minister for the Environment considers the impacts of the proposed action on matters protected by the EPBC Act, social and economic matters, as well as other matters for consideration as set out under the EPBC Act. If that decision is to approve the action, the Minister for the Environment may place conditions on the approval. Outcomes: • Actions that could have an unacceptable impact on matters protected under Part 3 of the EPBC Act are not allowed to proceed. • Actions that could have a significant impact on matters protected under Part 3 of the EPBC Act are further assessed and, if approved, are regulated to manage such impacts and ensure development proceeds in accordance with the principles of ecologically sustainable development.	***Acceptances*** The Program does not allow activities to proceed if they are unacceptable. Proponents must demonstrate that potential impacts and risks to matters protected under Part 3 of the EPBC Act and the broader environment will be of an acceptable level in their Offshore Project Proposals and Environment Plans. In doing so, they must have regard to relevant requirements under the EPBC Act. The Program also provides that all environmental impacts and risks – including those to matters protected under Part 3 of the EPBC Act – must be of an acceptable level and reduced to as low as reasonably practicable. Titleholders must submit an Offshore Project Proposal to NOPSEMA for all development projects under the Program, and may elect to do so for non-development projects. NOPSEMA guidance will describe circumstances in which titleholders may consider such submissions. NOPSEMA must decide whether the project is acceptable or not. In making this decision, NOPSEMA must abide by the Program and acceptance criteria in the OPGGS(E) Regulations (new Regulations) within the Program. Key among these is that the proposal contains appropriate environmental performance outcomes that demonstrate that impacts to matters protected under Part 3 of the EPBC Act and the broader environment will be managed to an acceptable level, and that the project will proceed in a manner consistent with the principles of ecologically sustainable development. If a project is deemed acceptable, titleholders must also submit Environment Plans to NOPSEMA for each and every activity before it is able to proceed. NOPSEMA may accept or refuse an Environment Plan. In making this decision, NOPSEMA must abide by the Program and acceptance criteria in the OPGGS(E) Regulations (Regulation 11) within the Program. Key among these is that the Environment Plan

EPBC Act regulatory requirement	The Program
	demonstrates that all environmental impacts and risks are: • of an acceptable level • reduced to as low as reasonably practicable. If NOPSEMA accepts the Environment Plan, it may place conditions or limitations on this acceptance.
Transparency Actions referred to the Department of the Environment under the EPBC Act are published on that Department's website and there is a public invitation to comment. Public comments must be taken into account in both referral and approval decisions. Notifications of key stages of the assessment are posted on the website, including a notice of all decisions (e. g. referral, approval decisions). All decisions are subject to judicial review. Conditions on approvals are published on the Department of the Environment's website, as are all approved documents. The Minister may condition approvals to require publication of additional documents or reports such as monitoring plans. <u>Outcomes:</u> • The community is aware of proposed actions and afforded appropriate opportunity to comment and inform the development of approval documentation. • The community and industry are aware of the reasons for regulatory decisions. • The community is aware of the terms of those decisions and details in relation to the approved actions.	***Transparency*** The Program ensures public notification of proposed actions, appropriate opportunity for comment, and awareness of regulatory decisions. The Program also ensures the publication of key information in relation to the approved actions. The consultation requirement means Offshore Project Proposals must be released for comment on NOPSEMA's website for a minimum four week period, and the titleholder must address public comments in the final Offshore Project Proposal submitted to NOPSEMA. In addition, all titleholders must undertake consultation with relevant persons in developing an Environment Plan, and must address comments provided in the plan submitted to NOPSEMA. The full text of all correspondence and comments must be included in the submitted plan. Under the Program, NOPSEMA publishes notifications on its website when Environment Plans are submitted for assessment. This notification includes information on the titleholder, the location of the proposed action, and the nature of the action. While this notification is not an invitation for public comment, it helps to ensure public awareness of all proposed activities. NOPSEMA also updates the existing notification information on its website when Offshore Project Proposals are submitted for assessment. In making a decision, NOPSEMA must abide by the strict acceptability requirements in the OPGGS(E) Regulations (Regulation 11 for Environment Plans; new Regulation for Offshore Project Proposals). The reasons for an acceptance decision are embodied in these Regulations. Once accepted, a summary of each Environment Plan

EPBC Act regulatory requirement	The Program
	is published on NOPSEMA's website. It includes: • a description of the activity, the environment, and the environmental impacts and risks • oil spill modelling, prevention measures, and mitigation and remediation strategies. Accepted Offshore Project Proposals are also published on the NOPSEMA website. If NOPSEMA refuses to accept an Environment Plan, this is indicated in the notification on NOPSEMA's website. If NOPSEMA refuses to accept the Offshore Project Proposal, a statement of reasons is also published on its website.
Compliance & Enforcement The EPBC Act compliance framework includes a broad range of enforcement mechanisms for monitoring and/or managing potential non-compliance of both referred and non-referred actions. Compliance measures include post-approval reporting, monitoring with approval conditions and compliance auditing. Enforcement mechanisms to address non-compliance include revocation of approvals, civil and criminal penalties, remediation orders and enforceable undertakings. <u>Outcome:</u> That all actions approved under the EPBC Act are undertaken in accordance with the relevant legislative and regulatory controls. The community has confidence that actions with significant impacts are regulated effectively.	**Compliance & Enforcement** The Program provides for ongoing compliance monitoring and graduated enforcement mechanisms to ensure actions proceed in accordance with the Program. Under the Program, NOPSEMA undertakes a planned program of compliance monitoring inspections. Where non-compliance is detected NOPSEMA may apply graduated enforcement mechanisms, up to and including the withdrawal of acceptance of an Environment Plan. Where acceptance of an Environment Plan is withdrawn, it is an offence for the activity to proceed. NOPSEMA has the power to direct a titleholder to do (or not do) anything in respect of the activity if there is an imminent threat to the environment as a result of that activity. Penalties for non-compliance are also in place for specific sections of the OPGGS Act and Regulations.

As indicated earlier in this report, aspects of the Program – in particular in relation to the Offshore Project Proposal – are to be implemented through amendments to the OPGGS(E) Regulations. Draft amendments were provided for consultation in December 2013, and are to be finalised and in force by the end of February 2014.

5.2 Processes under the Program

The Program comprises two environmental assessment paths: the Environment Plan and Offshore Project Proposal. These processes have already been depicted together in Figure 3.3, and are illustrated in more detail in Figures 5.1 and 5.2 of this chapter.

Titleholders are required to submit an Environment Plan for assessment and acceptance by NOPSEMA prior to commencing any offshore petroleum or greenhouse gas activity. The activity must not commence unless NOPSEMA has accepted the Environment Plan. For development projects, the Program also requires submission of an Offshore Project Proposal for assessment and acceptance by NOPSEMA except for projects that already have relevant approvals in place.

Titleholders may elect to prepare and submit an Offshore Project Proposal for a petroleum or greenhouse gas activity that is not part of a development project. NOPSEMA guidance will outline circumstances in which a titleholder may elect to submit an Offshore Project Proposal for these activities. The guidance will refer to the need to consider potential impacts on matters protected under Part 3 of the EPBC Act and outline the requirements of the OPGGS(E) Regulations.

The Offshore Project Proposal process has been developed to capture large-scale offshore projects that may have an impact on a matter protected under Part 3 of the EPBC Act. It can be used for all petroleum activities and is mandatory for development projects. For those development projects, an Environment Plan accepted by NOPSEMA is required for all activities encompassed by the project. NOPSEMA cannot accept the submission of an Environment Plan for a development activity unless there is an accepted Offshore Project Proposal for that project. As is currently the case, all petroleum and greenhouse gas activities, even where they are not likely impact on a matter protected under Part 3 of the EPBC Act, require an accepted Environment Plan to proceed.

The processes for Environment Plans and Offshore Project Proposals are therefore linked but differ in their purpose and scope. An *Offshore Project Proposal* is a broader document that commonly encompasses multiple activities as part of a development project, and encompasses its whole lifecycle, although it can apply to discrete activities where titleholders opt in to the additional process. An offshore Project Proposal is a demonstration that a proposed project will not have an unacceptable impact on the environment, including matters protected under Part 3 of the EPBC Act. An *Environment Plan* is a detailed demonstration that potential environmental impacts and risks of discrete activities are of an acceptable level and reduced to as low as reasonably practicable.

Both Offshore Project Proposals and Environment Plans must identify and assess the potential impacts to matters protected under Part 3 of the EPBC Act as well as the broader environment. Offshore Project Proposals are subject to public consultation, and Environment Plans must demonstrate that appropriate consultation with persons or organisations whose functions, interests or activities could be impacted by the proposed petroleum or greenhouse gas activity has been undertaken. NOPSEMA guidance, published on its website, provides information to assist the interpretation of the requirements under the Program. This guidance is to be amended to indicate an inclusive approach for consultation, including early public notification and invitations for comment. Figures 5.1 and 5.2 depict the processes involved for the development, consultation and assessment of both Offshore Project Proposals and Environment Plans.

The processes under the Program ensure those activities with the potential for higher environmental impacts undergo early public consultation through the Offshore Project Proposal process. All activities, including those with lower risk of environmental impact will undergo an Environment Plan process. The activity-based distinction to determine whether an Offshore Project Proposal or Environment Plan is required provides clarity to industry while ensuring adequate environmental protections are in place.

Figure 5.1 The Offshore Project Proposal process

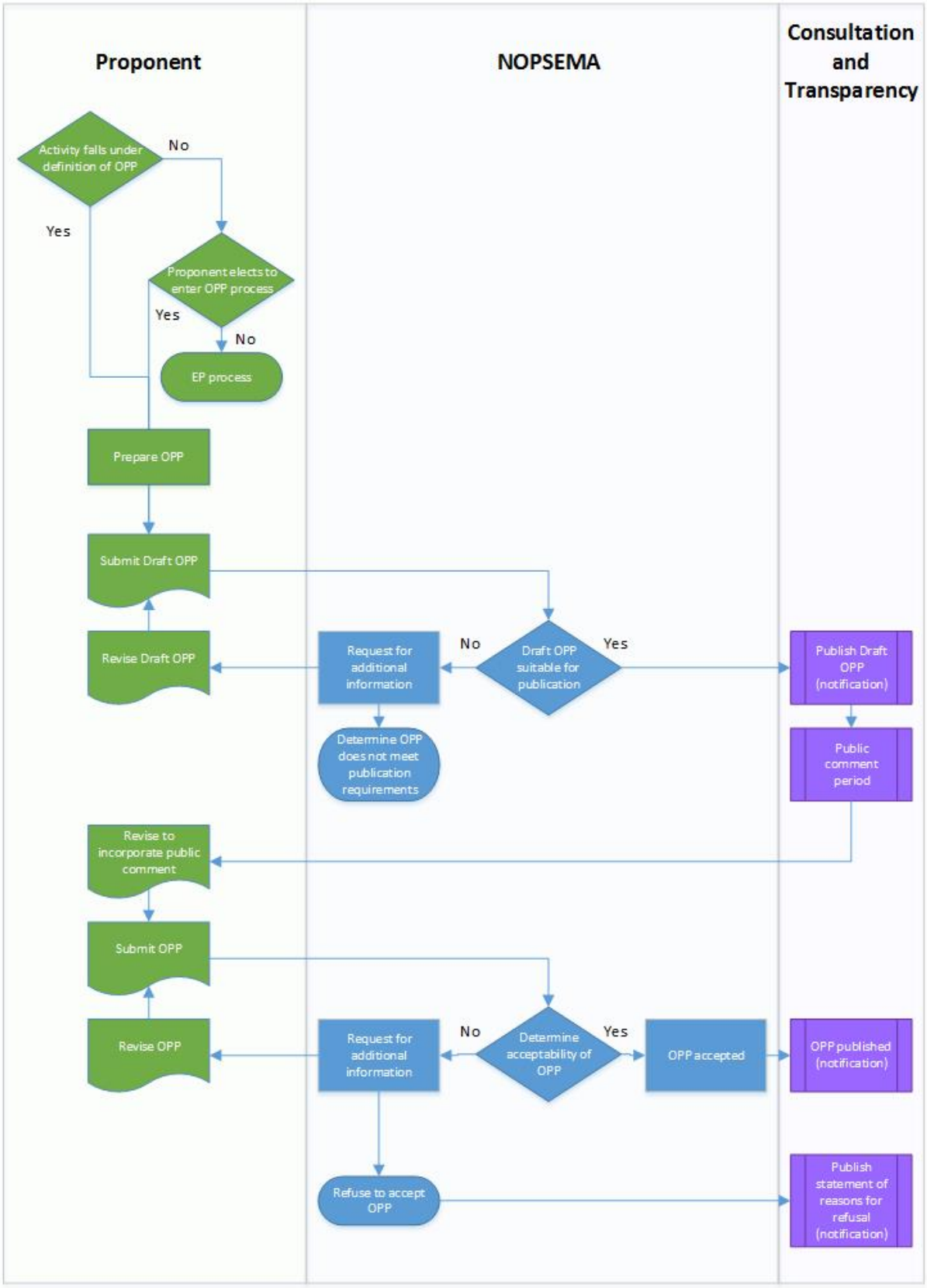
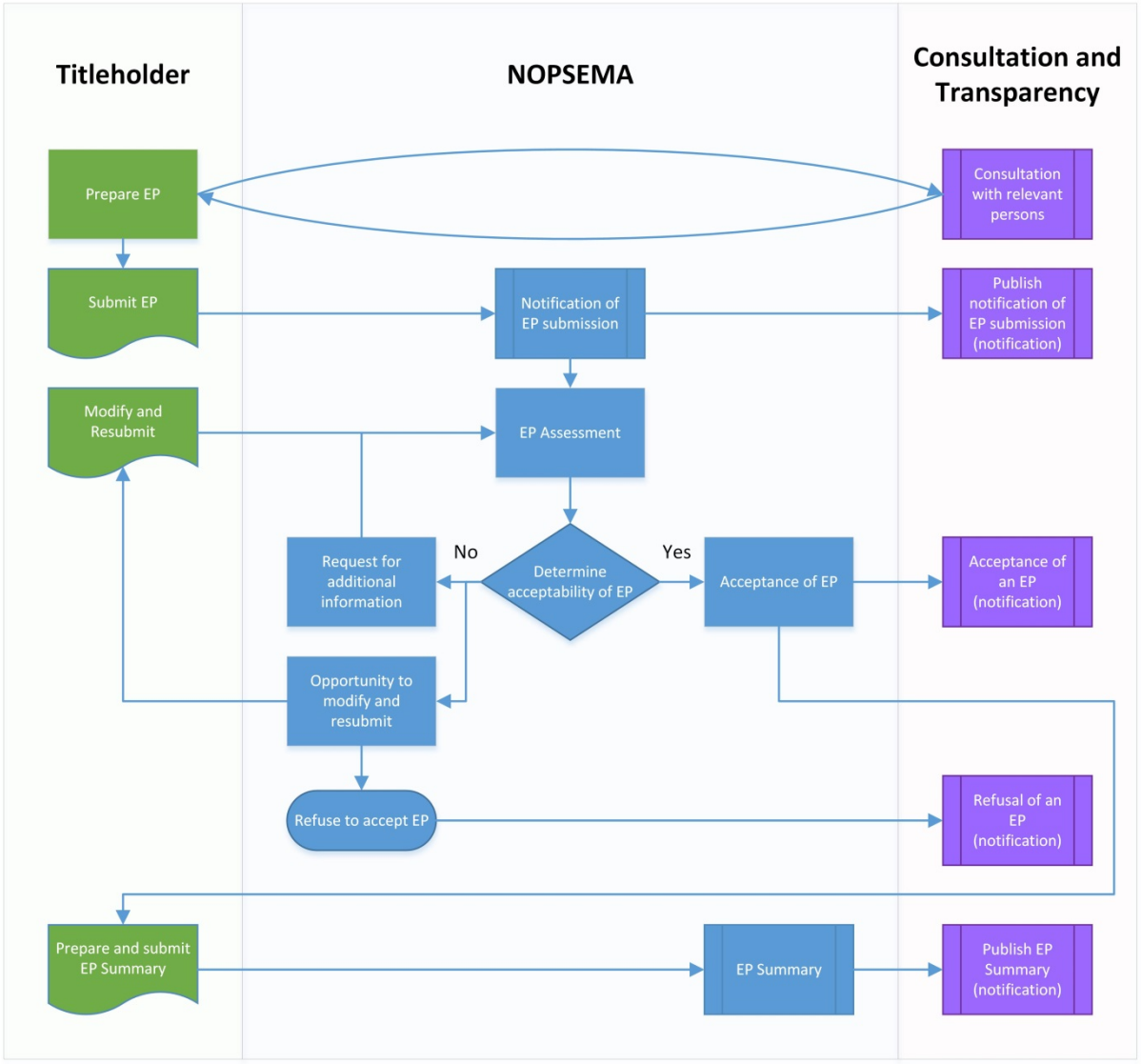


Figure 5.2 The Environment Plan process



Offshore Project Proposal process (Diagram at Figure 5.1)

Under the Program, an offshore petroleum or greenhouse gas project (offshore project), which must follow the Offshore Project Proposal assessment process, consists of one or more of the following:

- construction facilities or pipelines
- operation of facilities or pipelines
- recovery of petroleum other than on an appraisal basis
- injection of greenhouse gas
- permanent storage of greenhouse gas.

The OPGGS(E) Regulations identify the activities that require an Offshore Project Proposal. The OPGGS(E) Regulations will include greenhouse gas injection and permanent storage activities in this definition prior to any approval of that class of action (or those classes of actions) by the Minister for the Environment in accordance with the Program.

A proponent proposing to undertake an Offshore Project must prepare and submit an Offshore Project Proposal to NOPSEMA for public comment, assessment and acceptance. The Offshore Project Proposal requires the proponent to identify and assess all the potential impacts to matters protected under Part 3 EPBC Act and the broader environment in a systematic way that is consistent with environmental impact assessment processes. The Offshore Project Proposal must also describe the whole lifecycle of the proposed project.

The titleholder is required to submit an Offshore Project Proposal that:

- summarises the proposed project, including:
  - each of the activities that will be carried out for the project
  - the location or locations of the activities
  - the facilities that are proposed to be used to carry out the activities
  - proposed timetables for carrying out the activities
  - the actions proposed to be taken following completion of the project in relation to the facilities that are proposed to be used to carry out the activities.
- describes the existing environment that may be affected by the project
- details the particular relevant values and sensitivities (if any) of that environment, including matters protected under Part 3 of the EPBC Act
- identifies the environmental impacts and risks for the project, and evaluates the impacts and risks of the project
- sets out the environmental performance outcomes for the activities that will be carried out for the project
- addresses the legislative and other requirements that apply to the project and are relevant to the environmental management of the project
- to the extent reasonably practicable, describes any feasible alternatives to the project or activities that will be carried out for the project, including:
  - a comparative description of the impacts of each alternative on the environment and matters protected under Part 3 of the EPBC Act
  - sufficient detail to make clear why any alternative is preferred to another.

The provision requiring consideration of alternatives is a fundamental principle of environmental impacts assessment, and consistent with current EPBC assessment processes. The consideration of alternatives is possible because an Offshore Project Proposal is prepared at an early stage in the project's development.

Titleholders must release Offshore Project Proposals for public consultation on NOPSEMA's website. The offshore petroleum process therefore has two decision points.

- Prior to public consultation – to confirm the Offshore Project Proposal meets requirements and contains sufficient information to allow for the public to make meaningful comment.
- Following public consultation – to confirm the Offshore Project Proposal addresses comments from the public comment period and meets the acceptance criteria.

For the first decision point, the Program provides that NOPSEMA must not approve the Offshore Project Proposal for public consultation if it does not:

- appropriately identify and evaluate the environmental impacts and risks that may arise from the project and activities to be undertaken as a part of the project
- provide sufficient information to allow persons to make an informed assessment of the possible consequences of the project and activities to be undertaken as a part of the project on their functions, interests and activities
- contain environmental performance outcomes that:
  - relate to the environmental impacts and risks that may arise from the project or activities to be undertaken as a part of the project
  - are consistent with the principles of ecologically sustainable development.

NOPSEMA advice material will also outline that proponents, in accordance with good industry practice, should undertake early consultation with stakeholders in the lead up to the mandatory public comment period, to inform the preparation of the Offshore Project Proposal. This early consultation will inform the identification of environmental sensitivities, impacts and risks, and the development of environmental performance outcomes to demonstrate that impacts and risks will be managed to an acceptable level.

Following the mandatory public consultation period, proponents must include, in the final Offshore Project Proposal submitted to NOPSEMA, a summary of comments received, an assessment of the merits of those comments and a statement of the proponent's response or proposed response to any objection or claim, including a demonstration of changes (if any) made as a result. Proponents may also use the public consultation process to identify relevant persons or organisations to inform consultation requirements for subsequent Environment Plans.

Following consultation, the proponent must submit a revised Offshore Project Proposal to NOPSEMA for assessment. NOPSEMA assesses the Offshore Project Proposal document against the acceptance criteria under the Program, which will be in the OPGGS(E) Regulations. At this second decision point, NOPSEMA must not accept an Offshore Project Proposal unless it is reasonably satisfied that the proposal:

- is appropriate for the nature and scale of the project and activities to be undertaken as a part of the project
- appropriately identifies and evaluates the environmental impacts and risks that may arise from the project and activities to be undertaken as a part of the project.

Neither must NOPSEMA accept an Offshore Project Proposal unless it is reasonably satisfied that the proposal:

- sets appropriate environmental performance outcomes that:
  - ensure the project and activities to be undertaken as a part of the project will be carried out in a manner that is consistent with the principles of ecologically sustainable development
  - ensure that the impacts and risks arising from the project and activities to be undertaken as a part of the project will be managed to an acceptable level.

NOPSEMA may request further written information about any matters to be included in the Offshore Project Proposal. If, after the submission of further written information, the acceptance criteria are still not met, NOPSEMA must refuse to accept the Offshore Project Proposal. This means that

NOPSEMA will not accept an Offshore Project Proposal unless the potential impacts on a matter protected under Part 3 of the EPBC Act will be managed to an acceptable level.

If an Offshore Project Proposal is not accepted, the titleholder will not be able to submit an Environment Plan for an activity meeting the definition of an offshore project (i.e. a development activity), meaning the activity would not be able to proceed.

If an Offshore Project Proposal is accepted, however, it will then be published on the NOPSEMA website. Notwithstanding this acceptance, all activities also require an Environment Plan.

Offshore Project Proposal requirements for existing offshore projects

An Offshore Project Proposal will be required for all new development activities that do not have a prior EPBC Act decision under Parts 7 or 9. Additional or new stages of existing developments will not be subject to the mandatory Offshore Project Proposal provisions, but will require an accepted Environment Plan in place before any new stage of an activity can commence.

Revision of activities included in an Offshore Project Proposal

There is no provision to revise an accepted Offshore Project Proposal. In the event that an there is a difference between an initial Offshore Project Proposal and a proposed Environment Plan, the Environment Plan must explain these differences, demonstrate how performance outcomes are appropriate (with reference to modifications from the original Offshore Project Proposal if necessary), demonstrate that those outcomes will manage environmental impacts and risks to an acceptable level, and ensure those impacts and risks are reduced to as low as reasonably practicable.

An Offshore Project Proposal revision mechanism is therefore not proposed or required. Compliance with Offshore Project Proposals (and, in particular, environmental performance outcomes) is ensured through the Environment Plan assessment, acceptance, compliance monitoring and enforcement.

The Environment Plan process (Diagram at Figure 5.2)

The Environment Plan process applies to all petroleum and greenhouse gas activities as defined in the OPGGS(E) Regulations:

> Operations or works in an offshore area carried out for the purpose of exercising a right conferred on a titleholder under the OPGGS Act by a title or discharging an obligation imposed on a titleholder by the OPGGS Act or a legislative instrument under the Act.

This requirement applies regardless of whether that activity relates to an Offshore Project that requires an Offshore Project Proposal.

An Environment Plan must contain the following details:

- a description of the activity
- a description of the environment that may be affected by the activity. ‘Environment’ is defined very broadly and includes ecosystems, natural and physical resources, and heritage values of places

- an assessment of the environmental impacts and risks of the activity
- proposed environmental performance outcomes, environmental performance standards and measurement criteria
- an implementation strategy for ensuring the outcomes and standards are met
- an oil pollution emergency plan
- a statement of the titleholder's corporate environmental policy
- a report on consultation
- details of the reporting of all reportable incidents in relation to the proposed activity.

A key difference between the Offshore Project Proposal and Environment Plan processes is in the approach to consultation required. In preparing the Environment Plan, the titleholder must undertake consultation with persons whose interests, functions or activity may be affected by the proposed activity. This may include parties with an interest in matters protected under Part 3 of the EPBC Act. NOPSEMA guidance, published on its website, provides information to assist the interpretation of the requirements under the Program. This guidance is to be amended to indicate an inclusive approach for consultation, including early public notification and invitations for comment. Pursuant to this guidance and the Regulations, titleholders are expected to engage early and widely with the community to ensure that its consultation processes are robust and meet the requirements under the Program. The Environment Plan is required to document that consultation, including the full text of any comments, and to indicate how those comments have been responded to. It is also required to indicate how the proponent will provide for appropriate ongoing consultation.

When the Environment Plan is submitted for assessment, the Program provides that NOPSEMA must place a public notification of the submission on its website. The notification must include the location and type of the proposed activity, and the name of the titleholder. If an Environment Plan is not accepted this is indicated in the notification on NOPSEMA's website.

NOPSEMA assesses the Environment Plan against the acceptance criteria in the OPGGS(E) Regulations. NOPSEMA must not accept the Environment Plan if it does not:

- demonstrate it is appropriate for the nature and scale of the activity
- demonstrate that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable and will be of an acceptable level
- provide appropriate environmental performance outcomes, environmental performance standards and measurement criteria
- include an appropriate implementation strategy and monitoring, recording and reporting arrangements
- demonstrate that the operator has carried out the required consultations and that the measures to be undertaken, in line with the comments, are appropriate
- comply with the OPGGS Act and the OPGGS(E) Regulations.

This means that NOPSEMA will not accept an Environment Plan unless the potential impacts on a matter protected under Part 3 of the EPBC Act will be of an acceptable level. If an Environment Plan is submitted to NOPSEMA that does not meet the requirements of the OPGGS(E) Regulations, NOPSEMA must not accept the Environment Plan, and therefore the activity cannot proceed.

If an Environment Plan is accepted, the Program provides that a detailed summary of the Environment Plan is published on the NOPSEMA website. This summary is commonly 20–50 pages in length depending on the nature and scale of the activity and impacts, and includes the following information:

- location of the activity
- a description of the receiving environment
- a description of the activity
- details of major environmental hazards and controls
- a summary of the management approach
- details of consultation already undertaken, and plans for ongoing consultation
- contact details for the operator's nominated liaison personnel for the activity
- on-going monitoring of the titleholder's environmental performance
- oil pollution emergency response arrangements.

NOPSEMA undertakes routine inspections against all accepted Environment Plans and is adequately resourced to do so through compliance levies on the industry. Where non-compliance is detected, NOPSEMA may apply graduated enforcement mechanisms, the most severe of which is the withdrawal of acceptance of an Environment Plan. When this occurs, the activity can no longer proceed. It is an offence under the OPGGS(E) Regulations to carry out an activity if there is no Environment Plan in force for the activity, and a penalty applies to this offence.

The Program also provides that the titleholder must revise the Environment Plan at any time, if a significant new environmental impact or risk is identified, or for any significant increase in an existing environmental impact or risk arising from the activity. If the titleholder does not revise the Environment Plan in line with this requirement, NOPSEMA may request that the titleholder do so, and the titleholder must comply with this request.

Notification of reasons for decisions

In the event that an Offshore Project Proposal is refused acceptance, NOPSEMA will publish a notification and statement of reasons for the decision. If an Environment Plan is refused acceptance, NOPSEMA will publish a notification of the decision.

The Program does not provide for publication of a statement of reasons where an Offshore Project Proposal or Environment Plan is accepted. Under an objective-based regime, the acceptance criteria effectively provide 'statements of reasons' since the regulator makes its decision on the basis that all the criteria have been met by the submission. The reasons for an acceptance decision for an offshore proposal or environment plan is therefore listed in the OPGGS(E) Regulations as the acceptance criteria for those decisions. Notification of an acceptance decision is made on NOPSEMA's website under the Program. For an Offshore Project Proposal the entire document is then published in full, while for an Environment Plan a detailed summary is published.

NOPSEMA's assessment process (Diagram at Figure 5.3)

NOPSEMA has the capacity to ensure effective regulation of occupational health and safety, well integrity, and environmental management for offshore petroleum and greenhouse gas activities.

NOPSEMA's recruitment strategy seeks to ensure it has specialists with adequate competencies and capacities within assessment teams to evaluate submissions with reference to all relevant internal and external sources of information. These sources include applicable legislation, publicly available scientific reports, international standards, other relevant standards, government plans of management and guidelines.

Each Environment Plan submission is subject to an assessment approach comprising two components, a general assessment and a detailed topic assessment.

The general assessment is undertaken to determine that the Environment Plan is appropriate to the activity and its surrounding environment and complies with all items required by the OPGGS(E) Regulations for each stage of the activity to which the Environment Plan applies.

The detailed topic assessment is also conducted of one or more key topic areas of the Environment Plan. This is undertaken by considering the extent to which the Environment Plan adequately addresses the content and appropriateness requirements of an applicable selection of the Regulations with respect to the topic area. Topic areas will generally be focused on the components of the activity that pose the highest potential environmental risk. The scope of this part of the assessment is, where appropriate, informed by relevant external information, and prior assessments, inspections and investigations. In addition, consideration of factors such as (but not limited to) key sensitivities, levels of risk, uncertainty, use of innovative technology, and the timing and geographical location of particular activities inform the selection of the key topics to be examined in the assessment.

Through these processes under the Program, relevant information including standards, guidance and plans of management are considered and incorporated into assessment functions. NOPSEMA has regard to requirements, standards, policies and guidance under the EPBC Act in assessing Environment Plans.

Appendix A of the Program commits NOPSEMA to consideration of particular plans or advices, such as plans of management and recovery plans, which are a statutory requirement of the EPBC Act. The Department of the Environment will remain responsible for developing plans and guidance in accordance with its responsibilities under the EPBC Act and the Australian Government's international treaty obligations. Section 10.3.2 of the Program refers to EPBC Act plans, policies and guidance which are relevant to the offshore oil and gas industry. The Program states NOPSEMA will develop guidance material and undertake assessments with regard to these relevant policy documents.

NOPSEMA's processes also include compliance monitoring against accepted plans. Such monitoring includes thorough inspections and titleholder reporting requirements. Further information on compliance and enforcement is in the next chapter.

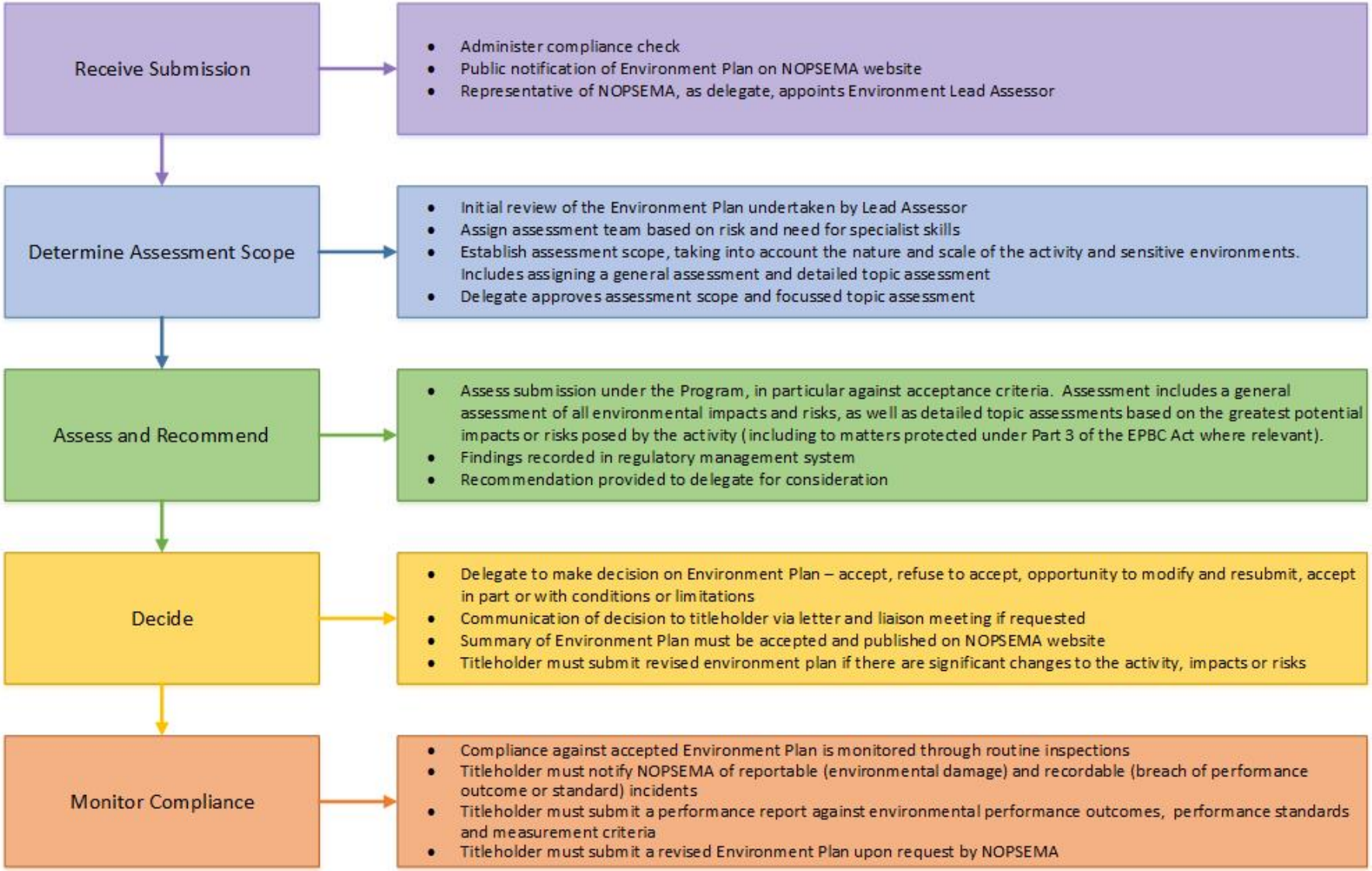
The assessment processes outlined in the Program draw on NOPSEMA's current assessment and decision making framework which is a merit based assessment system that challenges and analyses the titleholder's case presented in their Environment Plan. In making its decisions, NOPSEMA must, as a statutory authority established under legislation, abide by the decision-making (acceptance) criteria in the OPGGS(E) Regulations.

In undertaking its compliance monitoring functions, NOPSEMA is aware of a proponent's track record in achieving environmental objectives and their ongoing compliance, as it is the regulator dedicated specifically to the offshore oil and gas industry. As a result, NOPSEMA adapts compliance and enforcement activities based on risk and a range of other matters, including a proponent's environmental record. Information it this regard is available on NOPSEMA's website.

NOPSEMA will develop assessment processes in relation to Offshore Project Proposals prior to approval actions in accordance with the endorsed Program. These will reflect the current approach for Environment Plans to ensure titleholder compliance with the Regulations, and also to ensure that impacts and risks to matters protected under Part 3 of the EPBC Act and the broader environment are acceptable and further, reduced to as low as reasonably practicable.

NOPSEMA operates on a full cost recovery basis, which ensures NOPSEMA has the resources to maintain appropriate and specialist environmental expertise to undertake impact assessments. NOPSEMA's activities and functions are funded through levies on the petroleum industry and/or a fee-for-service arrangement. This ensures that NOPSEMA's resourcing is consistent with the level of regulatory activity required and provides the flexibility to manage the changing requirements presented by the implementation of the Program and its management. Appropriate resourcing means NOPSEMA has the ability to seek external expertise on a case-by-case basis where in-house expertise is not available.

Figure 5.3: NOPSEMA Assessment Process



5.3 Consultation under the Program

Under the EPBC Act, public comment is invited on initial referrals relating to proposed actions and draft environmental impact assessments. As described above, the Program requires consultation in developing both Offshore Project Proposals and Environment Plans.

Offshore Project Proposals

The specific consultation requirements for Offshore Project Proposals are outlined in the OPGGS(E) Regulations.

- A draft Offshore Project Proposal must be submitted to NOPSEMA for consultation approval.
- If the draft Offshore Project Proposal is deemed suitable for consultation, the Proposal will be placed on the NOPSEMA website:
  - NOPSEMA will invite public comment on the Offshore Project Proposal.
  - NOPSEMA will determine the length of the public comment period, which must be no less than four weeks.
  - The timeframe may be extended, in consultation with the titleholder, for larger, more complex proposals or proposals in sensitive receiving environments.
- Following the public comment period, the titleholder must modify and resubmit the Offshore Project Proposal to take account of comments, including:
  - a summary of all comments
  - an assessment of the merits of any objections or claims about potential impacts of the proposal
  - responses to objections or claims, including a demonstration of changes (where appropriate) that have been made to the proposal as a result.

NOPSEMA will be unable to accept the Offshore Project Proposal unless public consultation has occurred as per these requirements.

NOPSEMA guidance material will also outline that proponents, in accordance with good industry practice, should undertake early consultation with stakeholders in the lead up to the mandatory public comment period, to inform the preparation of the Offshore Project Proposal. This early consultation will inform the identification of environmental sensitivities, impacts, risks and the development of environmental performance outcomes to demonstrate that impacts and risks will be managed to an acceptable level.

The Program provides for a minimum public comment period of four weeks. There is no prescribed maximum public comment period, as the length of the public comment period should be commensurate to the nature and scale of the proposed offshore project, the potential risks of the project, and potential impacts of the project.

The length of the public comment period will be determined by NOPSEMA in discussion with the proponent prior to commencement of the public comment period. This ensures that consultation will be adequate for all proposed projects in the future, including those that propose the use of new or innovative technologies.

Once NOPSEMA has determined the length of the public comment period, it cannot require the proponent to extend this period. This provides clarity for the proponent at the beginning of the public comment period.

A proponent's demonstration of early consultation in accordance with NOPSEMA's guidance material would also inform that proponent's discussion with NOPSEMA on the proposed length of the ensuing mandatory public consultation, as illustrated in the examples below. NOPSEMA is developing specific guidance for Offshore Project Proposals, and will also update its existing consultation guidance, to clarify the process and factors that it will take into consideration when determining the length of a public comment period. These factors may include the level of community engagement and consultation already undertaken, the nature of the offshore project, the size (scale) of the proposed offshore project, and any particular values or sensitivities in the environment (including matters protected under Part 3 of the EPBC Act) that may be impacted by the proposed offshore project.

NOPSEMA will ensure, through these guidance documents and its communication strategy, that proponents have a clear indication of potential consultation timeframes that may be appropriate for Offshore Project Proposals in different circumstances to ensure appropriate opportunity for comment for all stakeholders.

Example 1:

A proponent is preparing a new Offshore Project Proposal. The proponent has several petroleum activities in the region and, in line with NOPSEMA guidance material, undertakes quarterly community engagement at a regional and state level to discuss all of its activities, including the activities it is proposing for its new project.

In preparing the Offshore Project Proposal the proponent can clearly demonstrate it has undertaken meaningful early consultation to help inform the identification of environmental sensitivities, impacts, risks and appropriate performance outcomes for the proposal.

The proponent submits the Offshore Project Proposal to NOPSEMA. In considering the duration of the public comment period, NOPSEMA and the proponent's discussions focus on the community engagement undertaken by the proponent in developing the proposal.

NOPSEMA accepts the Offshore Project Proposal for a public comment period of four weeks.

Hundreds of public comments are received. The proponent modifies and resubmits the Offshore Project Proposal to include a summary of all comments, an assessment of the comments, responses to the comments, and an indication of changes made as a result of the comments where appropriate. In particular, the revised Offshore Project Proposal highlights information provided from a conservation group regarding the status of a certain listed migratory species. This leads to modification of the proposed environmental outcomes for the offshore proposal.

If the proponent had not made changes in light of credible, relevant and pertinent information on potential impacts on a matter protected under Part 3 of the EPBC Act, NOPSEMA will not have accepted the Offshore Project Proposal as it would not have met the acceptance criteria.

Example 2:

A proponent has prepared an Offshore Project Proposal and submitted it to NOPSEMA for consideration for public release

Despite NOPSEMA guidance material indicating the value of early consultation in the development of Offshore Project Proposals, the proponent elected not to undertake any such consultation prior to submission of the proposal. In considering the duration of the public comment period, NOPSEMA and the proponent's discussions focus on the lack of community engagement undertaken by the proponent in developing the proposal.

NOPSEMA accepts the Offshore Project Proposal for a public comment period of twelve weeks. This process proceeds in accordance with the Program as already described.

Environment Plans

The consultation requirements for Environment Plans are outlined in OPGGS(E) Regulations.

- In the course of preparing an Environment Plan, or a revision of an Environment Plan, the titleholder of an activity must consult a relevant person from each of the following:
  - each department or agency of the Commonwealth to which the activities to be carried out under the Environment Plan, or the revision of the Environment Plan, may be relevant
  - each department or agency of a state or the Northern Territory to which the activities to be carried out under the Environment Plan, or the revision of the Environment Plan, may be relevant
  - the department of the responsible state minister, or the responsible Northern Territory minister
  - a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the Environment Plan, or the revision of the Environment Plan
  - any other person or organisation that the titleholder considers relevant.
- For the purpose of the consultation, the titleholder must give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person.
- The titleholder must allow a relevant person a reasonable period for the consultation.

Following this process, the titleholder must include the following evidence of consultation in the Environment Plan submitted to NOPSEMA:

- a report on all consultations between the titleholder and any relevant persons that contains:
  - a summary of each comment made
  - an assessment of the merits and any objection or claim about the adverse impacts of each activity to which the Environment Plan relates
  - a statement of the titleholder's response, or proposed response, if any, to each objection or claim

- a copy of the full text of any comments.

NOPSEMA is unable to accept an Environment Plan unless these requirements are met. This includes where public notification of the submission of an Environment Plan (see *Transparency* section) leads to information coming to light that a titleholder has not consulted in accordance with the Regulations. In this instance, NOPSEMA will provide a reasonable opportunity to the titleholder to modify and resubmit the Environment Plan, having undertaken consultation as required, or refuse the plan after a reasonable opportunity for modification.

Example:

A titleholder is preparing an Environment Plan for a seismic survey. In accordance with NOPSEMA guidance, the titleholder places advertisements in the print media six months before the planned date of submission of the Environment Plan. The advertisements notify the community of the planned activity and invite persons or organisations to register their interest in being consulted. The titleholder receives 60 responses registering interest.

The titleholder undertakes consultation in accordance with the Regulations, approaching over 100 persons and organisations, including conservation groups, fishing industry representatives, tourism operators, local community organisations, other petroleum titleholders, and all those people who had registered interest in response to the print media advertising.

The titleholder uses information from persons during this consultation period to inform the development of the Environment Plan. In particular, the titleholder learns that a big game fishing event is planned for a certain week. As a result, the titleholder decides to propose commencing the seismic survey a week later so as not to impact on the event.

The resulting Environment Plan includes full text of all correspondences from the consultation process, a summary of all comments, the proponent's assessment of the comments, and a statement of the titleholder's response to these (including the change in timeframe for the seismic survey to accommodate the fishing event).

The titleholder submits the Environment Plan, and NOPSEMA places a notification on its website that it has received the submission in accordance with the Regulations. The notification includes information on the titleholder, the location of the proposed activity and the proposed timing of the activity.

During the assessment phase, an ecotourism business with an ongoing conservation project in the area that could be impacted by the proposed activity contacts NOPSEMA and the titleholder. This group had not been identified as a relevant person, had not been consulted, and was not aware of the activity. Furthermore, the group has credible information in relation to the potential impacts on a listed threatened species. In light of this information, NOPSEMA cannot accept the Environment Plan, as is not reasonably satisfied that the titleholder has consulted with all relevant persons. In addition, NOPSEMA is not reasonably satisfied that all potential impacts and risks will be acceptable and reduced to as low as reasonably practicable.

NOPSEMA therefore does not accept the Environment Plan. Instead, it requests the titleholder to modify and resubmit the Environment Plan (a request the titleholder must comply with). NOPSEMA will not accept the Environment Plan unless is satisfied that the activity will not have an unacceptable impact on threatened species or any other matter protected under Part 3 of the EPBC Act.

5.4 Transparency in the assessment and decision-making processes under the Program

In addition to the transparency achieved through the consultation and notification requirements for Offshore Project Proposals and Environment Plans, the Program provides for transparency in the assessment and decision-making process for offshore petroleum and greenhouse gas activities. Transparency in these processes provides community and industry confidence in the quality, consistency, and procedural fairness of assessment and decision-making processes under the Program.

Transparency under the EPBC Act processes

Public comment is invited on both initial referrals as well as draft environmental impact assessments. In addition, proponents must publish their referrals and assessments, including their responses to public comments. Notices of decisions are posted on the Department of Environment's website. If the Minister for the Environment makes a decision not to approve an action or that it is clearly unacceptable, the Minister must provide the proponent with a statement of reasons for that decision. A standard condition of approvals granted under the EPBC Act is the publication of approved plans on the proponent's website.

Transparency under the Program

The Program provides for the maintenance of assessments and decision-making transparency arrangements commensurate with the EPBC Act processes to ensure the Program provides equivalent environmental protection outcomes to those achieved under the EPBC Act processes. The Program promotes transparency in these processes through notification requirements, clear acceptance criteria, and publication of information.

Notification requirements

> The Program's notification requirements mean that the progress of all petroleum and greenhouse gas activities through the steps of the decision and assessment processes are clearly visible. The OPGGS(E) Regulations provide for public notification on NOPSEMA's website that an Environment Plan has been submitted for assessment. The requirements for Offshore Project Proposals impose additional requirements whereby the titleholder must conduct full public consultation – a process that includes publication of an invitation for public comment on NOPSEMA's website – prior to submission of the proposal to NOPSEMA.

Acceptance criteria

> The Program clearly identifies acceptance criteria for Environment Plans and Offshore Project Proposals in the OPGGS(E) Regulations. NOPSEMA cannot accept an Environment Plan for an offshore petroleum project if it does not meet these criteria. This provides transparency, clarity and assurance to industry and the community that decision-making under the Program is on the basis of the environmental outcomes only. Decision-making under the Program is not subject to political pressure from industry or any other group; it is on the basis of acceptance criteria set out in law endorsed by the Parliament of Australia. Guidance about how NOPSEMA applies the acceptance criteria and how it approaches assessment and decision-making is also provided on NOPSEMA's website.

Publication of information – refusal outcome

If NOPSEMA refuses to accept an Environment Plan or an Offshore Project Proposal, this information is published on its website. In the case of an Environment Plan, the previous notification is amended to note that the plan has been refused, as it did not meet the acceptance criteria of the OPGGS(E) Regulations. More detailed feedback is provided directly to the titleholder. In the case of an offshore petroleum project, the Program requires that NOPSEMA publish a full statement of reasons on its website.

Publication of information – acceptance outcome

If NOPSEMA accepts an Environment Plan or an Offshore Project Proposal, this information is also published on its website. When NOPSEMA accepts an Environment Plan, the titleholder must then submit a summary plan for publication. The contents of this plan are prescribed in the OPGGS(E) Regulations and include:

- a description of the activity, its location and the titleholder
- a description of the environmental impacts and risks from the activity
- the environmental performance outcomes and information on the control measures to achieve the required environmental standards
- oil spill modelling, response, mitigation and remediation strategies
- details of current and proposed ongoing stakeholder consultations.

When NOPSEMA accepts an Offshore Project Proposal, the accepted proposal is published in full on NOPSEMA's website

5.5 Additional considerations: certainty of assessment timeframes and grounds for review

Certainty about assessment timeframes

The EPBC Act prescribes timeframes for decision-making. Under s156(3) of the EPBC Act, a failure to comply with a time limit is not a deemed acceptance/refusal of the matter and decisions made out of time are still valid. However, a failure to comply with time limits has two consequences:

(a) where the regulator fails to comply with prescribed time limits, it would be open to the titleholder to seek judicial review on the ground that the regulator has a duty to make the decision notwithstanding the expiration of that period; and [27]

(b) the Minister for the Environment must report annually to Parliament all failures to comply with a time limit during the previous financial year.[28]

Time for making a decision is suspended under the EPBC Act while certain information requests are outstanding,[29] and the time for deciding whether a proposed action needs approval[30] and the decision on assessment approach[31] may be suspended by agreement with the proponent.

[27] AD(JR) Act 1977, s7(2)
[28] EPBC Act, s 518(2)

Under the OPGGS(E) Regulations there is a statutory presumption that decisions be made within 30 days. However, where NOPSEMA is unable to make a decision within this 30 day period, NOPSEMA is able to set out a proposed timetable for consideration. There are no express restrictions on the duration of this timetable. NOPSEMA is also able to require titleholders to modify and resubmit a plan or proposal, in which case the decision-making period restarts. In practice, these provisions have a similar effect to the suspension of time for making a decision under the EPBC Act.

An 'unreasonable delay in making the decision' would constitute a ground for judicial review,[32] but what is unreasonable is a matter of degree. The OPGGS(E) Regulations do not require the decision maker to report to Parliament on failures to comply with decision-making time limits.

Judicial review and standing

As with decisions under the EPBC Act, a person who is aggrieved by a decision under the Program can seek judicial review of that decision under the *Administrative Decisions (Judicial Review) Act 1977* (AD(JR) Act). This is unchanged. Neither the Program nor EPBC Act has the facility for a 'merit' review of regulatory decisions

The EPBC Act also contains extended standing provisions. Normally a person must have a 'special interest' in the subject matter of an action to bring a case. The EPBC Act extends the standing (extended standing) of environmental organisations to bring judicial review proceedings. These give a person or organisation standing to being judicial review proceedings where the person or organisation has engaged in a series of activities (including research) for the protection or conservation of the environment. The extended standing provisions have largely eliminated disputes about standing in EPBC matters.[33]

The process under the Program for persons or organisations to establish an entitlement to bring such proceedings, that is, establish 'standing' is different. It is important to note, however, that persons and organisations will still be able to bring proceedings for judicial review where they can establish a number of matters, which are explained below.

Decisions under the approved Program will be made under the authority of the OPGGS Act and OPGGS(E) Regulations, under which organisations will need to establish a special interest under ordinary AD(JR) Act principles, without the benefit of the extended standing provisions.

To bring proceedings for judicial review under the AD(JR) Act, the person must be a person aggrieved by the decision, which requires the person to show a grievance that will be suffered as a result of the decision complained of beyond that which he or she has as an ordinary member of the public. The requirement to show some special interest in the result of the decision has, in the past, made it difficult for certain groups to establish standing to bring a claim for judicial review as the Courts have interpreted standing requirements narrowly, and found that the 'mere intellectual or

---

[29] EPBC Act, ss 88(4), 130(4A), 130(5)
[30] EPBC Act, s 75(7)
[31] EPBC Act, s 88(5)
[32] AD(JR) Act 1977, s7(1)
[33] A Edgar, "Extended Standing – Enhanced Accountability? Judicial Review of Commonwealth Environmental Decisions"

emotional concerns'[34] of certain groups do not give them standing to challenge decisions. Over time, however, Courts have taken a more liberal approach to standing and many groups, including environmental groups, can establish standing where they satisfy the court of particular matters, such as the organisation's eminence in the particular environmental field and the closeness of the connection between the issue in the dispute and the organisation's activities.[35] As a result, it is not considered necessary for the Program to provide for extended standing.

5.6 Other matters

The Terms of Reference also call for this Strategic Assessment Report to identify other relevant authorities (including state and territory authorities) responsible for the implementation of the Program, if any.

NOPSEMA is the sole regulator under the OPGGS Act and OPGGS(E) Regulations for environmental management of offshore petroleum and greenhouse gas activities. In this sense, there are no other relevant authorities responsible for the implementation of the Program. However, certain authorities have responsibilities that are coordinated with NOPSEMA's functions under the Program. These include:

- *Australian Maritime Safety Authority*
  The Australian Maritime Safety Authority (AMSA) is the Australian Government response agency for ship-sourced oil spills on water. AMSA also administers the National Plan for Maritime Emergencies. AMSA does not discharge any responsibilities under the Program, OPGGS Act or OPGGS(E) Regulations. However, all titleholders must have an oil pollution emergency plan in place for a petroleum activity, and this plan must be consistent with the National Plan administered by AMSA. The titleholder is responsible for responding in the unlikely event of a hydrocarbon release in Commonwealth waters. However, the Australian Government may request that AMSA respond on its behalf to mitigate the impacts of a hydrocarbon release on the community and environment if necessary.
- *State and territory regulators*
  State and territory authorities, such as the WA Department of Mines and Petroleum, have jurisdiction for environmental management of offshore petroleum and greenhouse gas activities over designated state or territory waters. These agencies are not responsible for the implementation of the Program. However, NOPSEMA works closely with all adjacent jurisdictions, particularly in the event that an activity is cross-jurisdictional in nature.

6 Compliance and enforcement under the Program

6.1 Compliance monitoring of activities

NOPSEMA maintains a strong compliance system, which will be used under the Program to ensure the protection of matters in Part 3 of the EBPC Act and the broader environment. In the past two

[34] see Australian Conservation Foundation v. The Commonwealth (1980) 146 CLR 493 at 530, per Gibbs J
[35] Re *Australian Conservation Foundation and Michael Stanley Harewood v Minister of Resources and Harris-Daishowa (Australia) Pty Limited* [1989] FCA 520 (20 December 1989)

years NOPSEMA has undertaken a range of compliance activities resulting in positive regulatory outcomes. NOPSEMA undertakes three types of compliance activities:

- monitoring of titleholder compliance with legislative and regulatory requirements set out under the Program
- investigations and appropriate action in relation to incidents that affect the environment
- planned compliance activities by NOPSEMA inspectors to ensure titleholders continually demonstrate that environmental impacts and risks are acceptable and reduced to as low as reasonably practicable, including through addressing emerging risks and threats to the environment.

Under the Program, NOPSEMA's compliance monitoring activities ensure titleholders are acting in accordance with all relevant legislation. This includes that all environmental risks and impacts of a petroleum or greenhouse gas activity are acceptable, and reduced to as low as reasonably practicable. Impacts and risks include those to the matters protected under the EPBC Act, thus ensuring adequate environmental protection of those matters. These compliance and monitoring activities ensure titleholders meet the Program's commitments to matters protected under Part 3 of the EPBC Act.

The Program requires the acceptance of a titleholder's implementation strategy which must include measures that provide for monitoring, audit and management of non-conformance. The implementation strategy provides a systematic approach to ensure the environmental performance outcomes and environmental performance standards of the plan are implemented, and monitored on an ongoing basis. The implementation strategy must describe the systems, practices and procedures that will be in place to ensure that impacts and risks to the environment will be continuously reduced to as low as reasonably practicable. The Program specifies that the Environment Plan must include arrangements for recording, monitoring and reporting information about the activity sufficiently to enable NOPSEMA to determine whether the environmental performance outcomes and standards are met.

The Program provides for inspections to be conducted to ensure compliance by titleholders with obligations under the Program. In addition to compliance monitoring, the Program includes a requirement that the proponent notify NOPSEMA of incidents that cause environmental damage or that do not meet the standards and controls committed to in the Environment Plan. NOPSEMA publishes quarterly operational reports on its website that detail environmental performance by the industry. These reports will include a section specifically on matters protected under the EPBC Act.

Monitoring and enforcement is an activity that NOPSEMA prioritises equally with assessment of Environment Plan submissions.

NOPSEMA applies the following principles to its inspection activities, which represent best practice regulation:

- Inspections focus on titleholder activities with the activity considered holistically such that all relevant structures, vessels, aircraft, building or places used in connection with an offshore petroleum activity are considered in the planning process.
- Inspections are independent of titleholder inspections, audits and other related activities.

- The scope of an inspection is planned in advance, with, where necessary, deviation from an inspection brief during an inspection as a result of observations during the inspection.
- Instances of non-compliance with environmental management law evidenced through the inspection process are documented and provided to the titleholder following the completion of the inspection.

NOPSEMA identifies and schedules inspections using a risk-based methodology that considers the following factors:

- environmental impacts and risks associated with offshore petroleum activities
- previous environmental performance of the activity and/or titleholder, informed by inspections, incident history and other environmental performance factors
- industry trends in environmental recordable/reportable incident notifications
- duration of the activity
- the nature and scale of the activity.

In addition, the Program sets out mandatory reporting requirements for the proponent, including that yearly reports, at a minimum, be provided to NOPSEMA and that testing of emergency response arrangements are undertaken each year.

If the Program is endorsed and approved by the Minister for the Environment, actions, or classes of actions not taken in accordance with the Program that significantly impact on matters protected under Part 3 of the EPBC Act, may be subject to compliance activities under the EPBC Act.

Under the Program NOPSEMA will share relevant information with the Department of the Environment to facilitate any compliance actions under either the OPGGS Act or the EPBC Act. Administrative arrangements will be established to ensure information is shared in the most effective and efficient way. Arrangements will be in place within six months of endorsement of the Program and approval of actions in accordance with the endorsed Program.

NOPSEMA will also report annually to the Minister for the Environment on compliance investigations under the Program that relate to the protection of matters protected under Part 3 of the EPBC Act. Incidents in relation to a petroleum or greenhouse gas activity that have resulted, or are likely to result, in serious or irreversible damage to matters protected under Part 3 of the EPBC Act will be reported to the Minister for Industry and the Minister for the Environment.

If the Program is endorsed and actions or classes of actions are approved to be undertaken in accordance with that program, penalties under the EPBC Act still apply for breaches of the endorsed Program where a proponent is found to have incurred a significant impact on a matter protected under Part 3 of the EPBC Act, and was not acting in accordance with the endorsed Program. The proponent may be subject to the relevant penalty provisions of Part 3 of the EPBC Act because they will be considered to have undertaken an action without the necessary EPBC Act approvals in place.

6.2 Enforcement functions

NOPSEMA has a legislative function to develop effective enforcement strategies to ensure compliance by offshore petroleum titleholders with their obligations under the OPGGS Act and OPGGS(E) Regulations.

In the event that NOPSEMA discovers non-compliance under the Program, it has a wide range of response options, which are graduated and are chosen to be proportionate to the risks presented by the non-compliance. These include, in order of severity:

- **Warning letter** – non-statutory enforcement tool that warns titleholders of the consequences of continuing non-compliance
- **Request to revise Environment Plan** – administrative compliance tool that requires the titleholder to prepare and submit a revised Environment Plan. The current Environment Plan remains in force, and the titleholder can continue to undertake the activity, during this process
- **Direction** – statutory enforcement tool under the OPGGS Act (s574) that requires the titleholder to take action (or not take action). Failure to comply with a direction is a strict liability offence with associated penalty provisions under the Act (s576). This tool would be most appropriate in situations where there is an immediate threat to the environment, or to prevent an incident, major environmental consequences or address an unacceptable emissions or discharge
- **Withdrawal of acceptance of Environment Plan** – administrative compliance tool that means the titleholder must cease conducting the activity. It is an offence under the OPGGS(E) Regulations (Regulation 6) to conduct an activity without an accepted Environment Plan in force for that activity. There are penalty provisions associated with this offence.

It is rare that compliance enforcement extends to withdrawal of acceptance of an Environment Plan. As this is a significant enforcement tool, the OPGGS(E) Regulations state (Regulation 24) that NOPSEMA must provide 30 days' notice that it intends to withdraw acceptance of an Environment Plan. NOPSEMA is able to provide a copy of that notice to any person. NOPSEMA must specify a date on which the titleholder (and other persons) may provide a submission in relation to the notice, and NOPSEMA must take such information provided into account before it withdraws acceptance of an Environment Plan. This provides for adequate transparency, natural justice and procedural fairness in the compliance enforcement activity in relation to meeting environmental objectives under the Program.

Example:

During a routine inspection of a floating production, storage and offloading unit (FPSO), NOPSEMA inspectors identify non-compliances of the commitments set out in the Environment Plan. In particular, the titleholder is unable to provide evidence of meeting the environmental performance outcomes and standards. NOPSEMA issues the titleholder with a 'take notice' letter.

A follow-up inquiry does not provide NOPSEMA with the evidence required to have reasonable grounds that the titleholder is meeting the environmental performance outcomes and standards. As a result, NOPSEMA issues an official letter of warning as the breaches of legislation or the Environment Plan are administrative in nature.

The titleholder still fails to take appropriate action. NOPSEMA requests a revision to the Environment Plan, but also decides that there is an imminent threat to the environment and directs the titleholder to cease the activity until the revised Environment Plan is accepted.

NOPSEMA assesses the revised Environment Plan, but it does not meet the acceptance criteria in the Regulations. NOPSEMA must provide the titleholder with a reasonable opportunity to modify and resubmit the

plan before refusing to accept the plan (Regulation 11). After this opportunity, NOPSEMA refuses to accept the plan and issues a notice to withdraw acceptance of the plan.

7 How the Program provides for protection of matters under Part 3 of the EPBC Act

7.1 Matters protected under Part 3 of the EPBC Act

Part 3 of the EPBC Act provides that a person must not take an action that has, will have, or is likely to have a significant impact on a matter protected under Part 3 of the EPBC Act without an approval under Part 9.

These matters include:

- The World Heritage values of declared World Heritage properties
- The National Heritage values of declared National Heritage places
- The ecological character of RAMSAR wetlands
- Listed threatened species and ecological communities
- Listed migratory species
- The marine environment
- The environment on Commonwealth land.

The Program will apply to petroleum and greenhouse gas activities regulated by NOPSEMA and their potential impacts on matters protected under Part 3 of the EPBC Act, including where activities that take place within the Commonwealth marine area may impact on matters protected under Part 3 of the EPBC Act outside that area (i.e. in state/territory jurisdiction). For example, an oil spill from an offshore petroleum activity in Commonwealth waters may impact on a listed Ramsar wetland or a coastal habitat for listed threatened and migratory species in State or Territory jurisdiction. An activity may have an impact on the values of World and National Heritage areas outside of Commonwealth waters. The Program applies in all these cases.

The objects of the Program are that all activities authorised under the Program must be carried out in a way that ensures the impacts and risks to matters protected under Part 3 of the EBPC Act, and the broader environment, are of an acceptable level, reduced to as low as reasonably practicable, and carried out in a manner that is consistent with the principles of ESD. If a proposed project or activity would have an unacceptable impact on a matter protected under Part 3 of the EPBC Act, NOPSEMA will not authorise the project or activity to proceed.

Under the Program, the titleholder must identify key values and sensitivities and ensure that they are the subject of a comprehensive and systematic management regime that will ensure environmental protection. All the matters protected under Part 3 of the EPBC Act identified in the Terms of Reference for this Strategic Assessment Report are accounted for under the Program in the development, assessment and implementation of Offshore Project Proposals and Environment Plans.

In accordance with the Program, NOPSEMA will not accept an Environment Plan for an activity that cannot demonstrate, with a high level of confidence, that the impacts and risks to the recognised values of the matters protected under Part 3 of the EPBC Act, will be within an acceptable level and that all other statutory and regulatory requirements have been met.

Under the Program, a titleholder would not be able to undertake an activity that would have an unacceptable impact or risk on any matter protected under Part 3 of the EPBC Act.

NOPSEMA will develop a suite of guidelines to assist industry to meet the requirements under the Program; to demonstrate that impacts and risks from a petroleum or greenhouse gas activity will not have an unacceptable impact on a matter protected under Part 3 of the EPBC Act.

The Program addresses and makes specific commitments to ensure protection of matters protected under Part 3 of the EPBC Act (refer to Sections 1.7 and 8, Part C and Appendix A in particular), including through reference to statutory documents such as plans of management and relevant international agreements. Additional information (description of matter, relevant impacts, assessment of activities under the Program, safeguards under the Program and case studies) is provided in this chapter, against each of the relevant matters protected under Part 3 of the EPBC Act, to further demonstrate how the Program ensures there are no unacceptable impacts on these matters.

Australia's relevant international treaties and obligations are primarily given effect through the EPBC Act (for example, Ramsar, World Heritage). The commitments and undertakings in the Program (refer to Sections 1.7 and 8, Part C and Appendix A) to matters protected under Part 3 of the EPBC Act have a direct line of sight with Australia's international obligations where relevant. The Program provides for NOPSEMA to supply the necessary information to facilitate Australia's reporting on these obligations to the Department of the Environment.

Future listings of matters protected under Part 3 of the EPBC Act will automatically be covered by the Program as it applies to all relevant values and sensitivities in the environmental and not just those identified at this point in time.

7.2 World Heritage properties

Description of World Heritage

The World Heritage Convention (the Convention for the Protection of the World Cultural and Natural Heritage) (the Convention) was adopted by the United Nations Education, Scientific and Cultural Organisation (UNESCO) in 1972. Australia became a signatory (State Party) to the Convention in 1974. The World Heritage List, established by the Convention, comprises those parts of the world's cultural and natural heritage which are so important, that they are considered to be of outstanding value to humanity as a whole. This level of importance is known as 'outstanding universal value'. State Parties to the Convention undertake to identify, protect, preserve and present this outstanding universal value. Australia has 19 properties on the Committee's World Heritage List and as at December 2013, the most recent inscription is the Ningaloo Coast, listed in 2011.

Places on the World Heritage List each have a Statement of Outstanding Universal Value, determined by the Committee in consultation with the relevant State Party. Properties on the

World Heritage List are protected under Part 3 of the EPBC Act as matters of National Environmental Significance and the matter protected is the property's world heritage value. For the purposes of the EPBC Act, a property's world heritage values are essentially the same as the Statement of Outstanding Universal Value.

For a full list of World Heritage properties subject to this Strategic Assessment and the Program, see Appendix 6. Further information on World Heritage properties can be found on the Department of Environment's website: http://www.environment.gov.au/topics/heritage/about-australias-heritage/world-heritage

Values

As noted above, world heritage values are the matter protected under the EPBC Act and a statement of outstanding universal value is essentially the list of a property's world heritage values. In terms of the EPBC Act, a declared world heritage property is an area that has either been included in the World Heritage List or declared as such by the Minister for the Environment to be a World Heritage property. The EPBC Act sets out that a property has world heritage values if it contains natural heritage or cultural heritage, as per the same meaning as in the World Heritage Convention – where that heritage has outstanding universal value. Natural heritage values can include features such as geology or geomorphological landscapes, biological and ecological values which have evolutionary significance, are rare or endangered or of endemic importance for example, and places which have exceptional natural beauty or aesthetic characteristics. Cultural heritage values include sites, groups of buildings, monuments and landscapes. Properties can include those listed Indigenous cultural expression, such as a number of Australia's listings.

Sensitivities

World Heritage properties on State land are managed day-to-day by State land management agencies and private landowners, where relevant. A range of management arrangements are in place or planned for each Australian property on the World Heritage List. The arrangements include Advisory Committees and plans of management.

Whether a petroleum or greenhouse gas activity would have an unacceptable impact is a function of the significance of its potential impacts. Under the EPBC Act Significant Impact Guidelines 1.1[36], an activity is likely to have a significant impact on the World Heritage values of a declared World Heritage property if there is a real chance or possibility that it will cause:

- one or more of the World Heritage values to be lost
- one or more of the World Heritage values to be degraded or damaged

[36] Commonwealth of Australia (2013). Matters of National Environmental Significance *Significant Impact Guidelines 1.1*. *Environment Protection and Biodiversity Conservation Act 1999.* http://www.environment.gov.au/resource/significant-impact-guidelines-11-matters-national-environmental-significance viewed 18 Nov 2013.

- one or more of the World Heritage values to be notably altered, modified, obscured or diminished.

The Program provides for an assessment of impacts and risks of an activity on World Heritage property values.

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the Program. Offshore petroleum and greenhouse gas activities have the potential to impact World Heritage values through a variety of sources depending on the location and nature of the action.

An activity taken outside the boundary of a World Heritage property can have the potential to impact the property's values. Activities must not take place inside the boundary of a World Heritage property.

The potential impacts on any World Heritage property are dependent on the World Heritage values of that place. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the Program

When assessing the impacts of an activity on a world heritage property, the Program requires a description any world heritage value that could be impacted by the proposed activity. The Program requires analysis of the potential risks and impacts to the values of the World Heritage property, and adequate opportunity for consultation. Relevant documents that should be considered when assessing the potential impacts and risks to a World Heritage property include:

- the property's statement of outstanding universal value
- plans of management (if relevant)

Statement of Outstanding Universal Value

The World Heritage Committee adopts a Statement of Outstanding Universal Value for each property on the World Heritage List. It is the key reference for the effective protection and management of the property.

To be considered of outstanding universal value, a property needs to:

- meet one or more of ten World Heritage assessment criteria
- meet the World Heritage conditions of integrity
- if a cultural property, meet the World Heritage conditions of authenticity, and
- have an adequate system of protection and management to safeguard its future

The Statement of Outstanding Universal Value comprises a summary of the Committee's determination that the property has outstanding universal value and identifies the criteria under which the property was inscribed, including the assessments of the conditions of integrity or authenticity and of the requirements for protection and management in force.

More details are in the World Heritage Committee's Operational Guidelines for the Implementation of the World Heritage Convention (http://whc.unesco.org/en/guidelines/).

Plans of management

Plans of management are used to formulate and implement planning so as to promote the wise use and conservation of World Heritage properties. Plans of management should be consistent with the World Heritage Convention, Schedule 5 of the EPBC Act Regulations 2000 (the Australian World Heritage Management Principles)

Section 316 of the EPBC Act states that the Commonwealth is required to make plans of management for World Heritage properties entirely within one or more Commonwealth areas, but not within a Commonwealth Reserve. For all other World Heritage properties best endeavours are being used to ensure that there is a management plan in place that is consistent with the Australian World Heritage Management Principles (Schedule 5 of the EPBC Regulations).

According to the Australian World Heritage Management Principles, the primary purpose of management of a World Heritage property is to identify, protect, conserve, present, transmit to future generations and, if appropriate, rehabilitate the World Heritage values of the property

Safeguards under the Program

Under the EPBC Act, an action or class of actions cannot be approved if the action/s is inconsistent with:

- Australia's obligations under the World Heritage Convention
- the Australian World Heritage management principles (Schedule 5 of the EPBC Regulations)
- a plan that has been prepared for the management of the declared World Heritage property under s316 or as described in s321 of the EPBC Act.

An action or class of actions also cannot be approved if the action/s would have a clearly unacceptable impact on a World Heritage property.

The Program is committed to the outstanding universal value of world heritage properties being identified, protected, conserved and transmitted to future generations.

The Program includes a clear prohibition in relation to petroleum and greenhouse gas activities within the boundaries of a World Heritage property, in recognition of the importance of protecting the values of World Heritage properties. Under the OPGGS(E) Regulations, NOPSEMA cannot accept an Offshore Project Proposal or an Environment Plan that involves an activity, or part of an activity, being undertaken in any part of a declared World Heritage property.

For avoidance of doubt, the OPGGS(E) Regulations clarify that arrangements for environmental monitoring and for responding to an emergency in relation to a petroleum or greenhouse gas activity are permitted in a declared World Heritage Property. This will ensure the protection of declared World Heritage Properties by encouraging proactive ongoing environmental (i.e. baseline)

monitoring, and by allowing emergency response and monitoring in the event of an emergency (such as an oil spill). The Explanatory Statement to the amendment regulations makes it clear that, with the insertion of this provision, it is not intended to suggest that monitoring or response arrangements are petroleum or greenhouse gas activities. Similarly, the Explanatory Statement makes it clear that it is not intended to suggest that a petroleum or greenhouse gas activity (for example, a seismic survey) could constitute monitoring or response arrangements.

The Program also ensures that petroleum and greenhouse gas activities that take place will not have unacceptable impacts on world heritage properties. NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate that any impacts on a World Heritage property will be of an acceptable level. Environment Plans must also demonstrate, where relevant, that the environmental impacts and risks to the World Heritage values are reduced to as low as reasonably practicable.

Therefore, under the Program:

- NOPSEMA cannot accept an Offshore Project Proposal that involves an activity or part of an activity being undertaken in any part of a declared World Heritage property.
- NOPSEMA cannot accept an Environment Plan that involves the activity or part of the activity, other than arrangements for environmental monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act.
- NOPSEMA will not accept an Environment Plan that proposes activities that will contravene a plan of management for a World Heritage property or proposes unacceptable impacts to the world heritage values of a World Heritage property.
- If there is no plan of management for a World Heritage property, then NOPSEMA will take all reasonable steps to ensure that any accepted Environment Plan that refers to the property is not inconsistent with the Australian World Heritage management principles.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
    - make reference to consideration of the protection of the values of World Heritage properties
    - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as Statements of Outstanding Universal Value, plans of management and EPBC Act guidance documents.

In undertaking assessments, NOPSEMA will have regard to relevant policy documents, guidelines, Statements of Outstanding Universal Value and plans of management on the DoE website.

The Program will ensure that there will be no unacceptable impacts to World Heritage properties resulting from offshore petroleum and greenhouse gas activities.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The Program will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in

the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate or avoid potential impacts World Heritage properties. It is important to note that the Program commits to no offshore petroleum and greenhouse gas activities occurring within the boundary of World Heritage properties.

Example – Offshore Project Proposal and Environment Plan for an activity with the potential for impacts on a World Heritage property

---

Scenario: A 3D seismic survey in close proximity to the boundary of the Ningaloo Coast World Heritage property during whale shark aggregation and mass coral spawning

Values of the World Heritage property potentially at risk (drawn from the Statement of Outstanding Universal Value):

- Criterion (vii) in relation to containing superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.
- Criterion (x) in relation to containing the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation including, but not limited to, the fringing reef system and whale shark aggregations.

Due to the close proximity of the proposed seismic to the Ningaloo Coast World Heritage property and the timing of the proposed survey, the titleholder elects to prepare an Offshore Project Proposal to determine whether the potential impacts on the World Heritage property will be acceptable. If accepted the titleholder will then have to submit an Environment Plan for the activity to demonstrate that all impacts and risks will be acceptable and reduced to as low as reasonably practicable.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the impacts on the World Heritage property will be of an acceptable level and further reduced to as low as reasonably practicable:

Table 7.1 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for World Heritage properties

Appropriate to nature and scale of the activity **(Regulation 11(1)(a) OPGGS(E) Regulations)**	• Descriptions must identify the Ningaloo Coast as a World Heritage property and as part of the environment that could be impacted by the proposed survey. • Descriptions must include all outstanding universal values of the World Heritage property potentially at risk i.e. a description of areas of exceptional natural beauty, aesthetic importance and the outstanding biodiversity values that may be affected by the seismic survey and any unplanned impacts such as oil spills, including the presence of populations of threatened species for which the Ningaloo Coast has been listed e.g. whale shark aggregations, marine turtle foraging and nesting including the associated seasonal timing. • Descriptions in the Offshore Project Proposal and the Environment Plan must describe Ningaloo Coast World Heritage property outstanding universal values in sufficient detail to inform the assessment of the impacts and risks on world heritage values including shark aggregations, coral reef assemblages and other

	features for which the property is listed. • The Offshore Project Proposal and the Environment Plan description must sufficiently describe all elements of the activity that are important for determining the nature and scale of the activity including the seasonal timing and the duration, seismic array arrangements, intensity and attenuation of acoustic emissions and any other operational details that are important for informing a risk assessment. **NOPSEMA would not accept an Offshore Project Proposal or an Environment Plan that did not adequately describe and evaluate the specific outstanding universal values of the World Heritage property potentially at risk in the activity in detail sufficient to inform an evaluation of all risks and impacts, definition of acceptability levels and to demonstrate that the proposed activity would not have an unacceptable impact.**
Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	• The low risk of unacceptable of impacts to the World Heritage property values must be clearly demonstrated, having consideration for its values and sensitivities. In particular the specific details of the activity relevant to the values need to be considered such as for example, the timing of the acoustic survey in relation to whale shark[37] aggregation and coral spawning. • Any other relevant requirements must be considered in determination of the acceptability of the activity. For example: any plans of management for the property, recovery plans, , any relevant policies such as EPBC Act Policy Statement 2.1[38] –Industry Guidelines for Interaction between offshore seismic exploration and whales, and any scientific information relating to sensitivity of whale-sharks to acoustic emissions. The precautionary principle from the ESD principles may also need to be considered. • Description and evaluation of the impacts and risks must demonstrate acceptability. **NOPSEMA would not accept an Offshore Project Proposal or the Environment Plan if it is not clearly demonstrated that the risks and impacts from activities on the values of a World Heritage property would be of an acceptable level.**
'as low as reasonably practicable' **(Regulation 11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criterion for an Offshore Project Proposal. • The Environment Plan would be required to demonstrate that all impacts will be acceptable, and that impacts have been reduced to as low as reasonably practicable. For example, if the titleholder refers to the application of EPBC Act Policy Statement 2.1[39] to demonstrate acceptable level of impacts on cetaceans in the Offshore Project Proposal and again in the Environment Plan, the Environment Plan would also need to demonstrate that there are no additional management options required that would further reduce the risks and impacts

[37] Whale sharks are large shark species (not cetaceans). Analysis of EPBC Act referral decisions demonstrates that management requirements stated in EPBC Act Policy Statement 2.1 for cetaceans (marine species observations, shut down, soft start and procedures to avoid entanglement) are often applied for the protection of non-cetacean species such as sharks, and other species (protected turtles).

[38] Department of Environment, Water, Heritage and the Arts (DEWHA)(2008), EPBC Act Policy Statement 2.1. *Industry Guidelines for Interaction between offshore seismic exploration and whales*.

[39] DEWHA (2008). ibid.

	to world heritage property values. **NOPSEMA would not accept an Environment Plan, even if the titleholder has demonstrated that impacts would be acceptable, unless the plan also clearly demonstrates that the impacts of a spill would be reduced to as low as reasonably practicable.**
Environmental performance outcomes, standards and measurement criteria **(Regulation 11(1)(d) OPGGS(E) Regulations)**	• Appropriate (and achievable) and measurable performance outcomes must be included in the Offshore Project Proposal and Environment Plan. Performance standards and measurement criteria must be suitable for demonstrating that the impacts and risks of the seismic survey on the values of the Ningaloo Coast World Heritage property will be of an acceptable level at all times during the implementation of the activity. • Adherence to any relevant plans or policies, and any controls for avoiding impacts must be reflected in the performance standards and outcomes. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate (and achievable) and measurable performance outcomes and will not accept an Environment Plan that does not contain standards for managing the risks and impacts on outstanding universal values of World Heritage properties.**
Appropriate implementation strategy **(Regulation 11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • In the environment, plan, this must demonstrate that the titleholder has the capability and capacity to achieve the acceptable levels of impact defined in the plan. This would include the capability, expertise, competencies and resources to achieve specific controls for managing the seismic survey. • An oil pollution emergency plan must be included, as part of processes for monitoring, recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. Specific attention will require monitoring the compliance with against a specified control or monitoring the receiving environment for unacceptable impacts. For example, the Environment Plan would need to demonstrate that the seismic survey is not having unacceptable impacts on world heritage values from acoustic emissions with clear requirements for reporting any detectable unacceptable impacts e.g. on whale shark aggregations by disturbing feeding behaviour and tourism interactions. **NOPSEMA would not accept an Environment Plan for an activity with the potential to impact on the outstanding universal values of the World Heritage property if it is not demonstrated that an there is a feasible implementation strategy which will ensure that impacts and risks will be of an acceptable level and reduced to as low as reasonably practicable.**
Appropriate consultation **(Regulation 11(1)(e) OPGGS(E)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further, targeted, consultation with relevant persons, including those who may be have an interest in the

Regulations)	World Heritage property. This would be expected to include the World Heritage Advisory Committee for the property, which includes scientists involved in the research of the property, community representatives and Indigenous people; and other people such as . Cape Conservation Group, local fishing groups, whale shark tour operators and the Department of Parks and Wildlife whom are responsible for the operational management of the area. **NOPSEMA would not accept an Offshore Project Proposal or an Environment Plan for an activity that may impact on a World Heritage property if the titleholder has not conducted public consultation according to the new regulations under the Program. NOPSEMA will not accept an Environment Plan if it has not been demonstrated that the titleholder has undertaken further targeted consultation with relevant persons (in addition to public consultation as part of an Offshore Project Proposal).**

7.3 National Heritage places

Description of National Heritage

The National Heritage List is a list of places of outstanding heritage significance to Australia. It comprises places with natural, historic and/or Indigenous values. Each place in the List has been assessed by an independent body, the Australian Heritage Council, to determine whether the place has national heritage values. The Environment Minister makes the final decision on whether a place is listed. Under the EPBC Act, a place is included on the National Heritage list if the Minster is satisfied that the place meets one or more of the National Heritage criteria prescribed in the EPBC Regulations. The listed values are then gazetted.

For a full list of National Heritage places subject to this Strategic Assessment and the Program, see Appendix 7. Further information on National Heritage places can be found on the Department of Environment's website: http://www.environment.gov.au/topics/heritage/about-australias-heritage/national-heritage

Values

The EPBC Act sets out that a place has National Heritage value if it meets any or all of the National Heritage criteria at a level of significance of outstanding heritage value to the nation. The national heritage criteria include, significance because the place is important in the course, or pattern of Australia's natural and cultural history, possess uncommon, rare or endangered aspects of Australia's natural or cultural history, exhibits particular aesthetic characteristics valued by a community or cultural group, or has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. A place included in the National Heritage List is a gazetted National Heritage place as long as the place is included in the List and for the period for which the gazettal notice is in force.

Sensitivities

A variety of management arrangements are in place or planned for each Australian Heritage place on the National Heritage List.

Whether the action/s would have an unacceptable impact is a function of the significance of its potential impacts. Under the EPBC Act Significant Impact Guidelines 1.1[40], an action is likely to have a significant impact on the National Heritage values of a gazetted National Heritage place if there is a real chance or possibility that it will cause:

- one or more of the National Heritage values to be lost
- one or more of the National Heritage values to be degraded or damaged
- one or more of the National Heritage values to be notably altered, modified, obscured or diminished.

The Program provides for an assessment of impacts and risks of an activity on National Heritage place values, in accordance with the National Heritage criteria

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the Program. Offshore petroleum and greenhouse gas activities have the potential to impact National Heritage values through variety of sources depending on the location and nature of the activity. An activity taken outside the boundary of a National Heritage place can potentially impact the place's listed values.

The potential impacts on any National Heritage site are dependent on the values of that place. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the Program

When assessing the impacts of an activity on a National Heritage places, the assessment process should look at the full range of gazetted values and identify those values likely to be affected by the activity. The proponent will then need to, examine how the national heritage value might be affected and determine how impacts can be addressed and substantially reduced. The proponent needs to also provide adequate opportunity for public consultation. Relevant documents will be considered when assessing whether a project is likely to have an impact on a National Heritage place, including plans of management for the place. Relevant documents that should be considered when assessing the potential impacts and risks to a National Heritage place include:

- Gazettal instruments
- plans of management (where available)

Gazettal instrument

Heritage values of a place include the place's natural and cultural environment, having aesthetic, historic, scientific or social significance, or other significance for current and future generations of Australians. To be listed as National Heritage values it must be able to be shown that they reach the level of significance of 'outstanding value to the nation' against listed criteria and that this must able

[40]Commonwealth of Australia (2013). Op. cit.

to be established through a comparative analysis. If a place is determined to be included in the National Heritage list then the Environment Minister must by instrument published in the Gazette:

- the assessed place or part of the assessed place; and
- the National Heritage values of the assessed place, or that part of the assessed place, that are specified in the instrument.

Plans of management

To ensure the on-going protection of a National Heritage place, a management plan should be prepared that sets out how the heritage values of the site will be protected or conserved. Plans need to be consistent with the National Heritage management principles which are in the EPBC Act Regulations. Plans are required to be reviewed every five years.

Where a National Heritage place is in a state or territory, the Australian Government must endeavour to ensure that a management plan is prepared and implemented in cooperation with the relevant state or territory government. The Minister for the Environment is responsible for preparing plans of management for National Heritage places in Commonwealth areas.

Safeguards under the Program

Under the EPBC Act an action or class of actions cannot be approved if the action/s is inconsistent with:

- National Heritage Management Principles (Schedule 5B of the EPBC Regulations)
- an agreement to which the Commonwealth is party in relation to the National Heritage place
- a plan that has been prepared for the management of the National Heritage place under s324S or as described in s324 of the EPBC Act. (EPBC Act, 146H)
-

An action or class of actions also cannot be approved if the action/s would have a clearly unacceptable impact on a National Heritage place.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the any impacts on a National Heritage place will be of an acceptable level. Environment Plans must also demonstrate, where relevant, that the environmental impacts and risks to the National Heritage places are reduced to as low as reasonably practicable. Under the Program:

- NOPSEMA will not accept an Environment Plan that proposes activities that will contravene a plan of management for a National Heritage place or proposes unacceptable impacts to the National heritage values of a National Heritage place.
- If there is no plan of management for a National Heritage property, then NOPSEMA will take all reasonable steps to ensure that any accepted Environment Plan that refers to the property is not inconsistent with the National Heritage management principles.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
  - make reference to consideration of the protection of the values of National Heritage places

- include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as gazettal instruments and EPBC Act guidance documents.

In undertaking assessments, NOPSEMA will have regard to relevant policy documents, guidelines, gazettal instruments and plans of management on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The Program will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate or avoid potential impacts. The Program will therefore ensure there will be no unacceptable impacts to National Heritage properties resulting from offshore petroleum and greenhouse gas activities.

Example – Offshore Project Proposal and Environment Plan for an activity with the potential for impacts on a Listed National Heritage Place

Scenario: A production drilling activity in a high risk crude oil reservoir in an area adjacent to the westward boundary of the West Kimberley National Heritage area.

The national heritage values of particular relevance to a spill event are considered to be those associated with, or located on, the Kimberley coast within the National Heritage List. The sea ward boundary of the listed place is aligned with the coastal waters boundary, i.e. the 3 nautical miles seaward limit.

Values of the West Kimberley National Heritage area which could potentially be affected by impacts and risks from an adjacent production drilling activity (note only those values relevant to potential impacts have been described below):

- Outstanding heritage value to the nation for its association with William Dampier and the place of his published observations. The environment observed by Dampier is substantially unmodified since his 1688 landing and can be seen today.
- The West Kimberley coast from Cape Londonderry to the Lacepede Islands has outstanding heritage value to the nation for its potential to yield information that will contribute to an understanding of Indonesian-Aboriginal interaction in Australia's cultural history.
- The West Kimberley coast from Helpman Islands in King Sound to the western shore of Cambridge Gulf, including islands, peninsulas, inlets and inundated features, has outstanding heritage value to the nation for demonstrating the principal characteristics of major coastal landform type, and an extensive region without significant modification by coastal infrastructure.
- The Australian community value the sandstone coast with rocky headlands, sandy beaches, offshore reefs and numerous islands in an extensive seascape supporting diverse marine life.
- The pearling coast within the West Kimberley place has a special association with the Australian community for evoking memories of pearling which are enlivened by the place's remoteness and beauty.

The area's complete list of values is in the place's gazettal notice at:
http://www.environment.gov.au/heritage/places/national/west-kimberley/index.html

A production drilling activity is part of a development project. As such, this activity would require acceptance of an Offshore Project Proposal for the broader development project to determine that the potential impacts

of the project on the National Heritable place will be acceptable. The drilling activity will then require acceptance of all component Environment Plans to demonstrate that all impacts and risks will be acceptable and reduced to as low as reasonably practicable.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the impacts on the national heritage place will be of an acceptable level and further reduced to as low as reasonably practicable.

Table 7.2 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for National Heritage places

Appropriate to nature and scale of the activity (Regulation 11(1)(a) OPGGS(E) Regulations)	• Descriptions must identify the west Kimberley coastal areas as part of the West Kimberley Coast National Heritage place as part of the environment that could be impacted by the proposed drilling activity. • Descriptions of the activity and receiving environment characteristics must be able to inform a risk assessment on the impacts and risks to the National Heritage place. This must also be sufficient for informing an evaluation and subsequently for establishing acceptable levels of impact. • The description must include all elements of the drilling activity that are essential for informing the nature and scale of the activity. This would include for example, information on duration and timing of the drilling program, the properties of the targeted reservoir, and any other information relevant to risks to the values of the National Heritage place. • The Environment Plan must include a sufficient description of the National Heritage values potentially at risk from the implementation of the activity. For example, any national heritage features, social, cultural or spiritual, for which the place has been listed, that are potentially at risk from a major hydrocarbon spill associated with the drilling activity such as pearling values, island values and biodiversity values associated with a largely undisturbed seascape. **NOPSEMA would not accept the Offshore Project Proposal or Environment Plan that did not adequately describe the specific National Heritage place values potential at risk in the activity in detail sufficient to inform an evaluation of all risks and impacts, definition of acceptability levels and to demonstrate that the proposed activity would not have an unacceptable impact.**
Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	• It must be demonstrated that the risk of oil spills impacting on the values of the West Kimberley National Heritage place will be of an acceptable level. • Acceptable levels must be defined based on robust scientific evaluation of the spill risk in the context of the National Heritage values, with specific demonstration that the likelihood of occurrence and there will not be unacceptable impacts. • Titleholders should have regard to any relevant guidance such as EPBC Act Significant Impact Guidelines 1.1[41] when determining acceptability as well as any statutory plans of management, information sources on the Department of the Environment website, and any advice acquired by relevant stakeholders during targeted consultation activities. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan if they did not clearly demonstrate that the spill risks from a drilling campaign on the values**

[41]Commonwealth of Australia (2013). Op.cit.

	of a National Heritage place would be of an acceptable level.
'as low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criterion of Offshore Project Proposals. • The Environment Plan must clearly demonstrate that all impacts on the values of the National Heritage place, which relate to both Aboriginal and European culture, the endemism and diversity of marine organisms and the coastal landforms and wilderness values, will be acceptable, and that impacts have been reduced to as low as reasonably practicable. • The Environment Plan must demonstrate that any oil spill risk and impact has been further reduced with feasible and reasonable oil spill prevention, preparedness and response controls. • The Environment Plan must demonstrate that National Heritage values have been prioritised for hydrocarbon spill impact minimisation, prevention and clean-up to demonstrate that impacts and risks of a spill would be reduced to as low as reasonably practicable. • The Environment Plan must demonstrate that the National Heritage values that have resulted in the Listing of the West Kimberley as a National Heritage will be managed to lower than acceptable levels where feasible. **NOPSEMA would not accept an Environment Plan, even if the titleholder has demonstrated that impacts would be acceptable, unless the plan also clearly demonstrates that the impacts of a spill on National Heritage values would be reduced to as low as reasonably practicable.**
Environmental performance outcomes, standards and measurement criteria **11(1)(d) OPGGS(E) Regulations)**	• Appropriate (and achievable) and measurable performance outcomes must be included in the Offshore Project Proposal and Environment Plan. Performance standards and measurement criteria must be suitable for demonstrating that the impacts and risks of an oil spill on the National Heritage values of the West Kimberley will be of an acceptable level at all times during the implementation of the activity. • Adherence to any relevant plans or policies, and any controls (e.g. relating to oil spill risk) for avoiding impacts must be reflected in the performance standards and outcomes. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate (and achievable) and measurable performance outcomes and will not accept an Environment Plan that does not contain standards for managing the risks and impacts on the outstanding heritage values of the National Heritage place.**
Appropriate implementation strategy **11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • An appropriate implementation strategy must be included in the Environment Plan that includes an oil pollution emergency plan and processes for monitoring recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. • The titleholder must demonstrate that there are appropriate arrangements in place for the prevention of oil spills, controlling the source of an oil spill in the remote offshore and for responding to an oil spill in the West Kimberley region such as the areas of King Sound to the western shore of Cambridge Gulf, including islands, peninsulas, inlets and inundated features. **NOPSEMA would not accept an Environment Plan with a spill risk on the West Kimberley National Heritage place if it is not demonstrated that an oil pollution**

	emergency plan is in place that ensures impacts and risks from an oil spill will be of an acceptable level and reduced to as low as reasonably practicable.
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further, targeted, consultation with relevant persons who may be impacted by the activity or have an interest in the area, particularly in relation to the values of the National Heritage place. This would be expected to include the local community e.g. Traditional Owners groups, local authorities, land and sea council, local pearling groups and conservation groups. The titleholder must demonstrate it has consulted with all relevant persons in developing an Environment Plan, must summarise, address and provide the full text of all correspondence. **NOPSEMA would not accept an Offshore Project Proposal for an activity that may impact on a National Heritage place if the titleholder has not conducted public consultation according to the new regulations under the Program. NOPSEMA will not accept an Environment Plan if it has not been demonstrated that the operator has undertaken further targeted consultation with relevant persons.**

7.4 Ramsar Wetlands

Description of Ramsar wetlands

Under the Ramsar Convention, a wide variety of natural and human-made habitat types ranging from rivers to coral reefs can be classified as wetlands. Wetlands include swamps, marshes, billabongs, lakes, salt marshes, mudflats, mangroves, coral reefs, fens, peat bogs, or bodies of water - whether natural or artificial, permanent or temporary. Water within these areas can be static or flowing; fresh, brackish or saline; and can include inland rivers and coastal or marine water to a depth of six meters at low tide. There are even underground wetlands (DoE website, 2013).

The Ramsar Convention encourages the designation of sites containing representative, rare or unique wetlands, or wetlands that are important for conserving biological diversity. Once designated, these sites are added to the Convention's List of Wetlands of International Importance and become known as Ramsar sites. In designating a wetland as a Ramsar site, countries agree to establish and oversee a management framework aimed at conserving the wetland and ensuring its wise use. Wise use under the Convention is broadly defined as maintaining the ecological character of a wetland. Wetlands can be included on the List of Wetlands of International Importance because of their ecological, botanical, zoological, limnological or hydrological importance (DoE website, 2013).

There are 65 Ramsar wetlands that cover more than 8.3 million hectares. Currently, offshore petroleum and greenhouse gas activities in Commonwealth waters have the potential to impact 41 Ramsar sites (6 sites within the strategic assessment area and 35 sites on coastal waters). Note that future Ramsar designations will also be considered by the program when assessing proposed activities.

For a list of Ramsar wetlands subject to this Strategic Assessment and the Program, see Appendix 8. Further information on Ramsar wetlands can be found on the Department of Environment's website: http://www.environment.gov.au/topics/water/water-our-environment/wetlands/ramsar-convention-wetlands

Values

A declared Ramsar wetland is a wetland, or part of a wetland, designated by the Commonwealth under the Ramsar Convention for inclusion in the List of Wetlands of International Importance (Article 2 of the Ramsar Convention). The Ramsar Convention sets out the criteria for identifying Wetlands of International Importance which are categorised in two groups, Group A sites containing representative, rare of unique wetland types and Group B sites of international importance for conserving biological diversity. Ramsar values include international significance in terms of biodiversity or uniqueness in their ecology, botany, zoology, limnology or hydrology and are likely to include habitats important to water birds at any season.

The Minister for the Environment may declare that a specified wetland be declared Ramsar wetland by notice in the Gazette if the Minister is satisfied that the wetland is of international significance, or is likely to be of international significance because of its ecology, botany, zoology, limnology or hydrology; and the ecological character of some or all of the wetland is under threat.

Australia's obligations under the Ramsar Convention which include, but are not limited to:

- designating suitable wetlands for inclusion on the List of Wetlands of International Importance
- formulating and implement planning to promote conservation of listed wetlands and as far as possible the wise use of all wetlands
- arranging to be informed at the earliest possible time if the ecological character of any listed wetland has changed, is changing or is likely to change as a result of technological developments, pollution or other human interference, and report any such changes to the Ramsar Convention
- promoting the conservation of wetlands and waterfowl by establishing nature reserves on wetlands
- encouraging research and exchange of data and publications
- promoting the training of personnel in the fields of wetland research and management.

Sensitivities

Under the Australian Ramsar Management Principles, one of the primary purposes of management of a Ramsar wetland is to maintain the ecological character of the wetland. Under the EPBC Act, any action that is likely to result in a significant impact on the ecological character of a Ramsar wetland requires approval (EPBC Act: Section 16 and 17B).

Ecological Character is defined by the Ramsar Convention Resolution IX.1 (Annex A) as the combination of the ecosystem components, processes, and benefits and services that characterise the wetland at a given point in time. The phrase 'at a given point in time' refers to the time of designation (Ramsar Convention Resolution VI.1, paragraph 2.1).

Whether the action/s would have an unacceptable impact is a function of the significance of its potential impacts. Under the EPBC Act Significant Impact Guidelines 1.1,[42] an action is likely to have a significant impact on the ecological character of the declared Ramsar wetland if there is a real chance or possibility that it will result in:

- areas of the wetland being destroyed or substantially modified
- a substantial and measurable change in the hydrological regime of the wetland, for example, substantial change to the volume, timing, duration, and frequency of ground and surface water flows to and within the wetland
- the habitat of lifecycle of native species, including invertebrate fauna and fish species, dependent upon the wetland being seriously affected
- a substantial and measurable change in the water quality of the wetland – for example a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health
- an invasive species that is harmful to the ecological character of the wetland being established (or an existing invasive species being spread) in the wetland.

It is possible for petroleum and greenhouse gas activities to result in impacts to environments that are a significant distance from the location of the activities. For example, dependent on ocean currents, weather conditions and amount and type of hydrocarbons in a particular reservoir, an oil spill that originates in Commonwealth waters could extend over hundreds of kilometres outside of that jurisdiction. Under the Program, the potential impacts to all Ramsar sites identified as being at risk from a proposed activity will be considered, including those that are a significant distance from the location of the activity, where appropriate.

Implementation of the Program will ensure that titleholders will undertake their activity in accordance with the Australian Ramsar management principles.

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the

[42] Commonwealth of Australia (2013). Op.cit.

Program. Offshore petroleum and greenhouse gas activities have the potential to impact Ramsar sites through variety of sources depending on the location and nature of the action.

The potential impacts on any Ramsar wetland are dependent on the supporting and critical components (for example flora or fauna present in the wetland), processes (for example breeding activities) and services (for example provision of a key habitat) that make up the ecological character of a wetland. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the Program

When assessing the impacts of an activity on a Ramsar wetland, the Program requires a description of the environment that should identify any part of the ecological character of the wetland that is likely to be affected by the proposed activity. The Program requires analysis of the potential risks and impacts to the ecological character of the wetland and adequate opportunity for consultation. Relevant documents that should be considered when assessing the potential impacts and risks to a Ramsar site include:

- Ramsar Information Sheets
- Ecological Character Descriptions
- Plans of management

Ramsar Information Sheets

Contracting Parties to the Ramsar Convention are required to provide a Ramsar Information Sheet for all sites designated as wetlands of international importance under the Ramsar Convention. Ramsar Information Sheets need to be provided to the Ramsar Secretariat at the time of nomination of a site to the List of Wetlands of International Importance. Furthermore, parties to the Ramsar Convention have a commitment to provide updated Ramsar Information Sheet information for all of their Ramsar sites at intervals of six years or when there are any significant changes in the sites' ecological character.

The Ramsar Information Sheet provides essential data on each designated Wetland of International Importance, in order to allow analysis of Ramsar-listed wetlands around the world, provide baseline data for measuring changes in the ecological character of wetlands listed under the Ramsar Convention, and provide material for publications which inform the public about Ramsar sites. Under the EPBC Act, the detailed written description of a designated wetland in the Ramsar Information Sheet legally defines the 'declared Ramsar wetland'.

Ecological Character Descriptions

Ecological Character Descriptions (ECDs) supplement the description of the ecological character contained in the Ramsar Information Sheet submitted under the Ramsar Convention for each listed wetland and, collectively, form an official record of the ecological character of the site.

ECDs describe the ecological character of a wetland at the time of its listing as a Wetland of International Importance. The description of ecological character is a requirement under the Ramsar Convention and the Australian Ramsar Management Principles. The information below is sourced from the *National Framework and Guidance for Describing the Ecological Character of Australia's Ramsar Wetlands* (Australian Government 2008).

The Ecological Character Description for a Ramsar wetland is also used to:

- Assist in implementing Australia's obligations under the Ramsar Convention, as stated in Schedule 6 (Managing wetlands of international importance) of the Environment Protection and Biodiversity Conservation Regulations 2000, including to describe and maintain the ecological character of declared Ramsar wetlands in Australia.
- Assist any person considering a proposed activity that may impact on a declared Ramsar wetland.

Plans of management

Plans of management are used to formulate and implement planning so as to promote the wise use and conservation of wetlands. Plans of management should be consistent with the Ramsar Convention, Schedule 6 of the EPBC Act Regulations 2000 (the Australian Ramsar Management Principles) and relevant *National Guidelines for Ramsar Wetlands – Implementing the Ramsar Convention in Australia*.

Section 328 of the EPBC Act states that the Commonwealth is required to make plans of management for Ramsar sites entirely on Commonwealth land but not within a Commonwealth Reserve. For all other Ramsar wetlands best endeavours are being used to ensure that there is a management plan in place that is consistent with the Australian Ramsar Management Principles (Schedule 6 of the EPBC Regulations).

According to the Australian Ramsar Management Principles, the primary purpose of management of a Ramsar wetland is to describe and maintain the ecological character of the wetland. Additionally, the regulations note that before an action is taken, the likely impact on the wetlands ecological character should be assessed.

Safeguards under the Program

Under the EPBC Act, an action should not be approved if it would be inconsistent with:

- maintaining the ecological character of the wetland; or
- providing for the conservation and sustainable use of the wetland.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the any impacts on a Ramsar wetland will be of an acceptable level. Environment Plans must also demonstrate, where relevant, that the environmental impacts and risks to the Ramsar wetland are reduced to as low as reasonably practicable.

- NOPSEMA will not accept an Environment Plan that proposes activities that will contravene a plan of management for a Ramsar wetland or proposes unacceptable impacts to the ecological character of a Ramsar wetland.
- If there is no plan of management for a Ramsar wetland, then NOPSEMA will take all reasonable steps to ensure that any accepted Environment Plan that refers to the wetland is not inconsistent with the Australian Ramsar management principles.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
  - make reference to consideration of the protection of the ecological character of the Ramsar wetland
  - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as Ramsar Information Sheets, Ecological Character Descriptions and EPBC Act guidance documents.

In undertaking assessments, NOPSEMA will have regard to relevant policy documents, guidelines, Ramsar Information Sheets, Ecological Character Descriptions and plans of management on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The Program will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate or avoid potential impacts to Ramsar sites. The Program will therefore ensure there will be no unacceptable impacts to Ramsar sites resulting from offshore petroleum and greenhouse gas activities.

Example – Offshore Project Proposal and Environment Plan for an activity with the potential for impacts on a Listed Ramsar wetland

Scenario: An exploration drilling activity adjacent to the Ashmore Reef National Commonwealth Marine Reserve Ramsar site.

About Ashmore Reef Commonwealth Marine Reserve

The Ashmore Reef Commonwealth Marine Reserve Ramsar site is listed for the following values that could potentially be affected by impacts and risks from an adjacent an exploration drilling activity in close proximity to the site:

- Ashmore Reef is the largest of the atolls in the Timor Province Bioregion and the islands within the site are the only vegetated islands in the bioregion. It is a true biodiversity hotspot with a high diversity of marine habitats including extensive seagrass meadows, algal beds and hard coral and soft coral communities.
- Ashmore Reef supports 64 internationally and nationally threatened species including 6 species of endangered and critically endangered reptiles (including sea turtles and seasnakes), dugong, 41 species of hard reef building coral, two soft corals, five sea cucumbers, two giant clams and eight fish. Ashmore Reef plays a primary role in the maintenance of biodiversity in reef systems in the region. The Reserve supports 275 species of reef building coral, 13 species of sea cucumbers, and high

numbers of mollusc species. There are over 760 fish species 13 species of sea snake and 99 species of decapods crustacean.

- The site supports 47 species of seabirds and shorebirds listed under international migratory bird agreements. It regularly supports more than 20 000 birds and has been known to support more than 65 000 birds. This includes more than one per cent of the total population of several species including the sooty tern, bar-tailed godwit, grey-tailed tattler, ruddy turnstone, sanderling and greater sand plover. Ashmore Reef supports breeding of 20 species of waterbird including the brown booby, lesser frigatebird, crested tern, bridled tern, sooty tern and common noddy. The Ramsar site is also important for feeding for Green Turtles, Hawksbill Turtle and Loggerhead Turtle as well as providing critical nesting and inter-nesting habitats for Green and Hawksbill turtles. The reserve is also important for sea cucumbers which are at risk of over-exploitation at other reefs in the region.
- The critical components, processes and services of the site include marine invertebrates, fish, seasnakes, turtles, seabirds and shorebirds, dugong, near natural wetland types, biodiversity and physical habitat.

The proposed exploration drilling activity

Due to the close proximity of the proposed exploration drilling to the Ashmore Reef Commonwealth Marine Reserve Ramsar site, and the high risk nature of the hydrocarbon properties of the target reservoir, the titleholder elects to prepare an Offshore Project Proposal to determine that the potential impacts on the values of the Ramsar wetland including will be acceptable, and then an Environment Plan to demonstrate that all impacts and risks will be acceptable and reduced to as low as reasonably practicable.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the impacts on the Ramsar wetland will be of an acceptable level. NOPSEMA's assessment process will require the Environment Plan to identify and demonstrate the impacts on the Ramsar wetland will be reduced to as low as reasonably practicable:

Table 7.3 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for a Ramsar wetland

Appropriate to nature and scale of the activity – Regulation 11(1)(a) OPGGS(E) Regulations	• The project proposal and plan will need to identify all Ramsar sites at risk from the potential impacts of an action, including those only at risk in a credible worst case scenario situation such as a major hydrocarbon spill. • In this instance Ashmore Reef Commonwealth Marine Reserve has been identified. Descriptions in the proposal and plan will therefore need to identify the Ramsar wetland as part of the environment and a value that could be impacted by the proposed survey. • The description of the activity and receiving environment characteristics must be sufficient to inform the risk assessment process and demonstrate that there will not be unacceptable impacts and risks on Ashmore Reef Commonwealth Marine Reserve Ramsar site. This description must also include a description of any other activities (proposed, approved or already undertaken) impacting on the environment, and the level of impact they will have on the environment, including consequential impacts. • Descriptions of the specific Ramsar listing values and critical components, processes and services that make up the ecological character of the wetland, including the significance of the areas for supporting water birds and habitats that support rare of threatened species, must also be sufficient to inform the

	assessment of risks and impacts from drilling fluids, drilling muds, acoustic emissions from drilling and hydrocarbon spill risk. • The description must include all elements of the activity that are essential for informing the nature and scale of the activity. In relation to potential for impacts on the recognised Ramsar values, this would include information on duration and timing of the drilling program, the properties of the targeted reservoir, and any other information relevant to understanding and evaluating the impacts and risks to the values of the Ramsar wetland. • For Offshore Project Proposals, NOPSEMA guidance will specify that the description of environment and the proposal should also discuss the cumulative impacts in the form of long term influences on the environment such as climate change (i.e. sea level rise) that may also impact on matters protected under Part 3 of the EPBC Act and the broader environment. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that did not adequately describe the specific the Ramsar wetland site values potentially at risk from the activity in detail sufficient to inform evaluation of all risks and impacts, including cumulative impacts for an Offshore Project Proposal, and demonstrate that the proposed activity would not have an unacceptable impact.**
Acceptable – **Regulation 11(1)(c) OPGGS(E) Regulations**	• It needs to be demonstrated that there will not be unacceptable impacts on the ecological character of the Ramsar wetland site and its associated values. Specifically , that the risk of routine discharges, accidental discharges, acoustic emissions, vessel activity and risk of oil spills potentially impacting on Ramsar wetland values will be of an acceptable level. • It needs to be demonstrated that there will not be unacceptable impacts on the ecological character of any other Ramsar wetlands within the region (for example, via oil spill modelling in the Environment Plan). • The Offshore Project Proposal and Environment Plan would need to include a clear demonstration that the likelihood of a spill occurring of a magnitude that could result in unacceptable or significant impacts would be extremely low. • The Offshore Project Proposal and Environment Plan would need to include a scientifically robust evaluation of the spill risk in the context of specific Ramsar wetland values, particularly wildlife oiling risks for species that utilise this wetland for critical life stages. • Proponent considerations in defining acceptable levels would include the EPBC Act Significant Impact Guidelines 1.1[43] for Ramsar wetlands; and the Ramsar Information Sheet and Ecological Character Description for the Ashmore Reef Commonwealth Marine Reserve. • For the Offshore Project Proposal, the titleholder would have to demonstrate that cumulative impacts were acceptable considering long term influences such as sea level rises impacting on the values of the Ramsar wetland such as impacts on critical nesting and inter-nesting habitats for Green turtles that are

[43]Commonwealth of Australia (2013). *Op.cit.*

	defined as part of the values of the Ramsar wetland. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan if it is not clearly demonstrated that the risks and impacts from activities on the values of a Ramsar wetland site would be of an acceptable level including cumulative impacts of Offshore Project Proposals.** **If the potential impacts of the exploration drilling activity are not acceptable, for instance where the achievable environmental performance outcome in relation to mitigation and response measures for a potential oil spill would cause significant damage to the Ramsar wetland, NOPSEMA would be unable to accept the Offshore Project Proposal.**
'As low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations**	• This is not an acceptance criteria for Offshore Project Proposal. • The Environment Plan would have to demonstrate that all impacts on the values of the Ashmore Reef Commonwealth Marine Reserve Ramsar wetland will not have an unacceptable impact on the ecological character of the wetland, and that impacts have been reduced to as low as reasonably practicable. • The Environment Plan must demonstrate that any oil spill risk and impact has been reduced with feasible and reasonable oil spill prevention, preparedness and response controls. • The Environment Plan must demonstrate that appropriate arrangements are in place and the titleholder has the capability for responding to an oil spill at the Ashmore Reef Commonwealth Marine Reserve Ramsar wetland to demonstrate that impacts and risks can be managed to be as low as reasonably practicable. **NOPSEMA would not accept an Environment Plan, even if the titleholder has demonstrated that impacts would be acceptable, unless the plan also clearly demonstrates that the impacts of the activity would be reduced to as low as reasonably practicable.** • **If the potential impacts and risks are acceptable, but are not reduced to as low as reasonably practicable, for instance where the chosen response measures in the event of an oil spill would not provide the best reasonable outcome for that spill scenario, NOPSEMA would be unable to accept the Environment Plan.**
Environmental performance outcomes, standards and measurement criteria **11(1)(d) OPGGS(E) Regulations)**	• Appropriate (and achievable) and measurable performance outcomes must be included in the Offshore Project Proposal and Environment Plan. Performance standards and measurement criteria must be suitable for demonstrating that the impacts and risks of an oil spill on the Ashmore Reef Commonwealth Marine Nature Ramsar wetland will be of an acceptable level, at all times during the implementation of the activity. • The Offshore Project Proposal and Environment Plan, would need to specifically contain performance outcomes and standards for spill prevention, spill preparedness and spill response such as operational monitoring, oiled wildlife response, shoreline deflection and protection and shoreline clean-up that would be appropriate to managing spill impacts.

	• Adherence to any relevant plans or policies, and any controls (e.g. relating to oil spill risk) for avoiding impacts must be reflected in the performance standards and outcomes. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate (and achievable) and measurable performance outcomes appropriate for managing the risks and impacts on the internationally important values of a Ramsar wetland.**
Appropriate implementation strategy **11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • An appropriate implementation strategy must be included which includes an oil pollution emergency plan and processes for monitoring recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. • The implementation strategy must specifically address the protection of Ramsar values such as monitoring and impact mitigation for migratory waders, regionally significant coral reef communities, threatened species and their habitats and the representative, rare and unique examples of a complex reef system. • The implementation strategy must demonstrate that the operator has the capability and capacity to meet the defined 'acceptable levels' of impact during implementation e.g. capability for oil spill prevention and response. • The implementation strategy must demonstrate that the titleholder has the capability and will measure performance to demonstrate that impacts and risks will be of an acceptable level. **NOPSEMA would not accept an Environment Plan for an activity with the potential to impact on the outstanding universal values of the Ramsar wetland values if it is not demonstrated that an there is an implementation strategy that will ensure that impacts and risks will be of an acceptable level and reduced to as low as reasonably practicable.**
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred and document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further targeted, consultation with relevant persons, including those who may be have an interest in the Ramsar wetland. This would be expected to include parties with an interest in the area such as research institutions, fishing groups and conservation bodies. The titleholder must demonstrate it has consulted with all relevant persons in developing an Environment Plan, must summarise, address and provide the full text of all correspondence. **NOPSEMA would not accept an Offshore Project Proposal for an activity that may impact on a Ramsar wetland if the titleholder has not conducted public consultation according to the new Regulations under the Program. NOPSEMA would not accept an Environment Plan if it has not been demonstrated that the operator has undertaken further targeted consultation with relevant persons.**

7.5 Listed Threatened Species

Listed Threatened Species

Description of Threatened Species

Protected listed threatened species are those species that are listed by the Minister for the Environment under the EPBC Act under the categories of 'extinct', 'extinct in the wild', 'critically endangered', 'endangered', and 'vulnerable'. The definitions of these relevant threatened categories are provided in section 179 of the EPBC Act as follows:

- **'Extinct in the Wild'** – a species that is not extinct but is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range, or it has not been recorded in its known and or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- **'Critically endangered'** – a species that is listed as critically endangered is a species that, at a particular time, is facing an extremely high risk of extinction in the wild in the immediate future as determined in accordance with the prescribed criteria in Division 7.1 of the EPBC Regulations.
- **'Endangered'** – a species that is not critically endangered and is facing a very high risk of extinction in the wild and the near future as determined in accordance with the prescribed criteria in Division 7.1 of the EPBC Regulations.
- **'Vulnerable'** – a species that is not critically endangered or vulnerable and is facing a high risk of extinction in the wild in the medium-term future, as determine in accordance with the prescribed criteria in the Division 7.1 EPBC Regulations.

Threatened species within the Commonwealth Marine Area

Australia is home to between 600,000 and 700,000 species, many of which are found nowhere else in the world. About 84 per cent of plants, 83 per cent of mammals, and 45 per cent of birds are only found in Australia.

For a list of Threatened Species subject to this Strategic Assessment and the Program, see Appendix 9. Further information on listed threatened species under the EPBC Act can be found on the Department of Environment's website: http://www.environment.gov.au/topics/threatened-species-ecological-communities

Values

'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)

- to maintain genetic diversity and long term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

A 'population of a species' is defined under the EPBC Act as an occurrence of the species in a particular area. In relation to critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population, or collection of local populations, that occurs within a particular bioregion.

Sensitivities

Whether the action/s would have an unacceptable impact is a function of the significance of its potential impacts. Under the EPBC Act Significant Impact Guidelines 1.1, an action is likely to have a significant impact on a threatened species based on its species listing category. Further information on the level of significant impact under each species listings category is outlined below:

Extinct in the wild species

An action is likely to have a significant impact on extinct in the wild species if there is a real chance or possibility that it will:

- adversely affect a captive or propagated population or one recently introduced/reintroduced to the wild, or
- interfere with the recovery of the species or its reintroduction into the wild.

Critically endangered or endangered species

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of a population
- reduce the area of occupancy of the species
- fragment an existing population into two or more populations
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of a population
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat
- introduce disease that may cause the species to decline, or
- interfere with the recovery of the species.

Vulnerable species

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of an important population of a species
- reduce the area of occupancy of an important population
- fragment an existing important population into two or more populations
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of an important population
- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat
- introduce disease that may cause the species to decline, or
- interfere substantially with the recovery of the species.

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the Program. Offshore petroleum and greenhouse gas activities have the potential to impact listed threatened species through variety of sources depending on the location and nature of the action.

Potential impacts on listed threatened species include direct or indirect impacts to those species, or impacts to species' habitat. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the program

When assessing the impacts of an activity on a listed threatened species, the Program requires a description of the environment that must identify any habitat for listed threatened species that is likely to be affected by the proposed activity and the use of the environment by listed threatened species.

The Program requires analysis of the potential impacts (direct and indirect) to listed threatened species or their habitat and adequate opportunity for consultation. Relevant documents that should be considered when assessing the potential impacts and risks to listed threatened species include:

- Recovery Plans
- Threat Abatement Plans
- Conservation Advice

Recovery Plans

The Minister for the Environment may make or adopt and implement recovery plans for threatened fauna, threatened flora (other than conservation dependent species) and threatened ecological communities listed under the EPBC Act. Recovery plans set out the research and management actions necessary to stop the decline of, and support the recovery of, listed threatened species or threatened ecological communities. The aim of a recovery plan is to maximise the long term survival in the wild of a threatened species or ecological community.

Recovery plans should state what must be done to protect and restore important populations of threatened species and habitat, as well as how to manage and reduce threatening processes. Recovery plans achieve this aim by providing a planned and logical framework for key interest groups and responsible government agencies to coordinate their work to improve the plight of threatened species and/or ecological communities.

Threat Abatement Plans

The EPBC Act provides for the identification and listing of key threatening processes. Key threatening processes threaten or may threaten the survival, abundance or evolutionary development of a native species or ecological community. For example, invasive species listed as key threatening processes are predation by the European red fox, feral rabbits or unmanaged goats.

The assessment of a threatening process as a key threatening process is the first step to addressing the impact of a particular threat under Commonwealth law. The Australian Government Minister for the Environment may decide whether to have a threat abatement plan for a threatening process in the list of key threatening processes established under the EPBC Act.

Threat abatement plans provide for the research, management, and any other actions necessary to reduce the impact of a listed key threatening process on native species and ecological communities. Implementing the plan should assist the long term survival in the wild of affected native species or ecological communities. Threat abatement plans contain objectives and actions which relate to mitigating or reversing the impacts of a key threatening process.

Conservation Advice

When a native species or ecological community is listed as threatened under the EPBC Act, conservation advice is developed to assist its recovery. Conservation advice provides guidance on immediate recovery and threat abatement activities that can be undertaken to ensure the conservation of a newly listed species or ecological community.

Conservation advice includes practical on-ground activities that can be implemented by local communities, natural resource management groups or interested individuals, such as landholders. Conservation advice may also include broader management actions which can be undertaken by organisations such as local councils, government agencies or non-government organisations, to protect the threatened species or ecological community on a regional level.

Safeguards under the Program

Under the EPBC Act, an action or class of actions should not be approved if it would be inconsistent with:

- Australia's obligations under the (i) Biodiversity Convention; (ii) the Apia Convention; (iii) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- a recovery plan for the species or a threat abatement plan.

Assessment of an action must also have regard to any approved conservation advice for the species or community.

The NOPSEMA program is committed to the survival and conservation status of listed threatened species being promoted and enhanced through the conservation of critical habitats and other relevant measures contained in relevant plans or advices. NOPSEMA requires Environment Plans prepared under the Program to be consistent with the Australia's obligations under the above mentioned conventions. Consideration of any recovery plan, threat abatement plan or conservation advice relevant to the management of risks and impacts of an activity is a requirement of Environment Plan preparation process, as the OPGGS(E) Regulations require titleholders to demonstrate compliance will all legislative controls, including those under the EPBC Act. Titleholders would also have regard to the significant impact criteria in EPBC Act Significant Impact Guidelines 1.1[44] for critically endangered, endangered and vulnerable species that may or are likely to be impacted by the activity in the context of demonstrating acceptable levels of impacts. Under the Program:

- NOPSEMA will not accept an Environment Plan that proposes activities that will result in unacceptable impacts to a listed threatened species or ecological community.
- NOPSEMA will not accept an Environment Plan that is inconsistent with a recovery plan or threat abatement plan for a listed threatened species or ecological community.

[44]Commonwealth of Australia (2013). *Op.cit.*

- NOPSEMA will have regard to any approved conservation advice in relation to a threatened species or ecological community before accepting an Environment Plan.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
  - make reference to consideration of the listing category and protection of the listed threatened species or ecological community
  - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as recovery plans, threat abatement plans, conservation advice and EPBC Act guidance documents.

In undertaking assessments, NOPSEMA will have regard to relevant policy documents, recovery plans, threat abatement plans, conservation advice and guidelines on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The NOPSEMA assessment process will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate or avoid potential impacts to threatened species. Under the Program there will be no unacceptable impacts resulting from offshore petroleum and greenhouse gas activities to listed threatened species.

Example - An activity that has potential for impacts on Listed threatened species.

Scenario: A long-term crude oil production facility located within and in close proximity to populations of short-nosed sea snake, loggerhead turtles and green turtles and associated coral reef foraging and sandy beach nesting habitats. Key elements of the activity include the discharge of produced formation water and ongoing hydrocarbon spill risks.

- The activity has the potential to have a significant impact on a listed threatened species
- The threatened species at risk have the following threatened status:
    - Short-nosed Seasnake (*Aipysurus apraefrontalis*) listed as critically endangered under the EPBC Act
    - Loggerhead Turtle (*Caretta caretta*) listed as endangered under the EPBC Act
    - Green Turtle (Chelonia mydas) listed as vulnerable under the EPBC Act.

Operation of a production facility is part of a development project. As such, this activity would require acceptance of an Offshore Project Proposal for the broader development project to determine whether the potential impacts of the project on threatened species will be acceptable. The activity will then require acceptance of an Environment Plan to demonstrate that all impacts and risks will be acceptable and reduced to as low as reasonably practicable.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the impacts on the listed threatened species will be of an acceptable level and further reduced to as low as reasonably practicable.

Table 7.4 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for threatened species.

Appropriate to nature and scale of the activity (Regulation 11(1)(a) OPGGS(E) Regulations)	• Descriptions must identify any threatened species and their habitats, including the significance of the area for each species potentially affected, and as part of the environment that could be impacted by the proposed survey. • Descriptions must include a sufficient description of the threatened species which may be at risk from the activity. For sea snakes and marine turtles this will include a description of the occurrence of these species within the project area and within any areas that may potentially be affected by unplanned events such as oil spills. Information should include habitat types, seasonality, and whether there are critical life stages such as feeding, recruitment, breeding or migration that are likely to be affected. • The description of the activity and receiving environment characteristics must be sufficient to inform consideration of the 'nature and scale' of the impacts and risks. In this case, any elements of an activity relevant to risks on marine turtle or sea snakes and coral reef foraging areas must be sufficiently described. • Descriptions must also identify any relevant information from recovery plans, conservation advices or threat abatement plans under the EPBC Act. Further, descriptions must include the status of each species that may be impacted, the principal threats and priorities actions as outlined in the relevant plans. • Description must include relevant operational details relevant to the listed

	threatened species i.e. sea snakes and turtles, e.g. timing and duration of the activity in relation to timing of the use of known habitat, including biologically important areas (for example the breeding or hatching period for sea turtles), any routine discharges or emissions that have the potential to adversely impact directly on individuals or their habitats such as the discharge of produced formation water and vessel traffic. Properties of the producing reservoir are also highly relevant in terms of informing hydrocarbon spill risk. **NOPSEMA would not accept an Offshore Project Proposal or an Environment Plan that did not adequately describe the specific threatened species populations and habitats potentially at risk from the activity in detail sufficient to evaluation of all risks and impacts, define acceptability levels and demonstrate that the proposed activity would not have an unacceptable impact.** **NOPSEMA will have regard to relevant policy documents, guidelines, plans of management and information sources on the Department of the Environment website. When assessing Offshore Project Proposals and Environment Plans.** **The legislative requirements of the Program and information published on the Department of the Environment website form a comprehensive suite to ensure that NOPSEMA will not accept an Environment Plan that will have an unacceptable impact on a listed threatened species.**
Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	• It must be clearly demonstrated that there will not be unacceptable impacts on the threatened species populations and their associated habitats including when measured against principal threats identified in any relevant recovery plans or conservation advices under the EPBC Act. • The Environment Plan must identify the specific impacts and risks of the activity on each threatened species, including in this case the long-nosed sea snake and marine turtle species. This will include an evaluation of impacts and risks to determine whether the activity will result in unacceptable impacts, for example, whether it will: - lead to a long-term decrease in the size of a population - reduce the area of occupancy for the species - fragment an existing population into two or more populations - adversely affect habitat critical to the survival of a species - disrupt the breeding cycle of a population - modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline - result in invasive species that are harmful to a critically endangered or endangered species becoming established in their habitats - introduce disease that may cause species to decline - interfere with the recovery of the species. • The Offshore Project Proposal and Environment Plan must clearly demonstrate that risks of routine discharges, accidental discharges, acoustic emissions, vessel activity and risk of oil spills potentially impacting directly on threatened species and / or their habitats would be of an acceptable level. This will require information on the extent of potential impacts on threatened sea-snake and turtle species, including any long-term local, population or regional impacts on these species. Artificial lighting and any potential impacts on turtle nesting and

	hatchling recruitment would also need to be considered. • The Offshore Project Proposal and Environment Plan would need to also specifically address the likelihood of occurrence of unplanned events and demonstrate that they would be extremely low risk. • 'Requirements' titleholder should have regard to in preparing the Offshore Project Proposal and Environment Plan include Recovery Plans for each species and water quality guidelines. Levels of 'acceptability' must also take into account the conservation status of the threatened species. For example, the acceptable level of impact on a habitat for a critically endangered species with limited range and no alternative habitats would differ from a species listed as vulnerable that may not be as susceptible to impacts from the activity at the specific location described in the Environment Plan. Titleholders should also have regard to relevant policies and guidelines such as the Significant Impact Guidelines 1.1[45], where appropriate. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan if it is not clearly demonstrated that the spill risks and impacts from routine activities on threatened species and their habitats will be of an acceptable level for the life of the activity.**
'as low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criteria for Offshore Project Proposals. • The Environment Plan must demonstrate that all impacts on threatened species and their habitats will be acceptable, and that impacts have been reduced to as low as reasonably practicable including when measured against principal threats identified in any relevant recovery plan or conservation advices. • Specifically it must be demonstrated that impacts and risks to the short-nosed sea snake, loggerhead and green turtles will be as low as reasonably practicable during the life of the activity including that there are no feasible alternative options. • The Environment Plan must demonstrate that the impacts and risks from routine activities such as the discharge of produced formation water, the use of artificial lighting and vessel movements resulting in collision risk will be as low as reasonably practicable at all times. • The Environment Plan must also demonstrate that any oil spill risk and impact, for example on sea snakes and turtles has been reduced to acceptable levels, to be as low as reasonably practicable and all reasonable and appropriate oil spill prevention, preparedness and response controls are in place. • The Environment Plan would need to further demonstrate that the titleholder would be able to effectively respond to an oil spill of the magnitude defined in the EP in order to ensure that impacts from an unplanned spill event on threatened species would be reduced to as low as reasonably practicable. **NOPSEMA would not accept an Environment Plan, even if the titleholder has demonstrated that impacts would be acceptable, unless the plan also demonstrated**

[45]Commonwealth of Australia (2013). Ibid.

	that the impacts of the activity would be reduced to as low as reasonably practicable. **NOPSEMA will have regard to relevant policy documents, guidelines, plans of management and information sources on the Department of the Environment website when assessing Offshore Project Proposals and Environment Plans.** **The legislative requirements of the Program and information published on the Department of the Environment website form a comprehensive suite to ensure that NOPSEMA will not accept an Environment Plan that will have an unacceptable impact on a listed threatened species.**
Environmental performance outcomes, standards and measurement criteria **11(1)(d) OPGGS(E) Regulations)**	• Appropriate (and achievable) and measurable performance outcomes must be included in the Offshore Project Proposal and Environment Plan. Performance standards and measurement criteria must be suitable for demonstrating that the impacts and risks of the exploration drilling activity on threatened species and their habitats will be of an acceptable level at all times during the implementation of the activity. • The Offshore Project Proposal and Environment Plan must include performance outcomes and standards that contain any relevant legislative or other controls that are necessary for managing the impacts to the threatened species and their associated habitats. In establishing performance outcomes and standards the Offshore Project Proposal and Environment Plan must consider any outcomes, and targets and performance criteria in relevant statutory recovery plans for the short-nosed sea snake and marine turtles. • Specifically, the Offshore Project Proposal and Environment Plan must include appropriate performance outcomes and standards specific to short-nosed sea snake, green turtle and loggerhead turtle. This is likely to include, for example, controls for avoiding formation water impacts on threatened species habitats, controls for ensuring that vessel transit areas avoid known aggregations of threatened species and controls for ensuring that artificial light impacts do not extend to nesting beaches for marine turtles. • The Offshore Project Proposal and Environment Plan must also include appropriate and measurable performance outcomes, performance standards and measurement criteria suitable for demonstrating that risks and impacts of an oil spill on the short-nosed sea snake, green turtles and loggerhead turtles will be acceptable, including against any priority recovery actions identified in relevant recovery plans or controlled actions. • The Offshore Project Proposal and Environment Plan must contain performance outcomes and standards for spill prevention, spill preparedness and spill response such as operational monitoring, oiled wildlife response, shoreline deflection and protection and shoreline clean-up that would be appropriate to managing spill impacts. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate (and achievable) and measurable performance outcomes and would not accept an Environment Plan that does not contain standards for managing the risks and impacts on listed threatened species and their habitats.**
Appropriate implementation	• An implementation strategy is not a content requirement of an Offshore Project Proposal.

strategy **11(1)(e) OPGGS(E) Regulations)**	• The Environment Plan must include an appropriate implementation strategy that includes an oil pollution emergency plan and processes for monitoring recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. • The implementation strategy must specifically address the protection of the short-nosed sea snake, loggerhead turtle and green turtle throughout the life of the activity. This will require conformance monitoring to demonstrate that acceptable levels are being met. Monitoring may be species based or control based. For example the titleholder may commit to monitoring a turtle nesting beach to monitor the impact of artificial light from the production activity, or monitor hatchling dispersal behaviour, to ensure that impact is of an acceptable level. • The oil pollution emergency plan must specifically describe how threatened species and their habitats will be defined, prioritised and managed in the event of an oil spill to demonstrate that they are given an appropriate priority ranking for response resources. This is particularly important for critical habitats and aggregation areas containing the critically endangered short-nosed sea snake. • The implementation strategy must demonstrate that the titleholder has the capability and capacity to meet the defined 'acceptable levels' of impact during implementation e.g. capability for oil spill prevention and response, capability for ensuring the impacts of discharged produced formation water do not exceed acceptable levels. • The implementation strategy must demonstrate that the titleholder has the capability to measure conformance with environmental performance outcomes and standards relating to threatened species. This includes appropriate competencies, training and awareness of roles and responsibilities. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan for a long term operating facility within or within close proximity to Listed threatened species populations or habitats if it is not demonstrated that there is an implementation strategy in place that will ensure that routine and non-routine impacts will remain within acceptable levels for the life of the activity.**
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, and document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further, targeted, consultation with relevant persons who may be impacted by the activity or have an interest in the threatened species at risk. The titleholder must demonstrate it has consulted with all relevant persons in developing an Environment Plan, must summarise, address and provide the full text of all correspondence. **NOPSEMA would not accept an Offshore Project Proposal for an activity that may impact on a threatened species or associated habitats if the titleholder has not conducted public consultation according to the new regulations under the Program. NOPSEMA will not accept an Environment Plan if it has not been demonstrated that the titleholder has undertaken further targeted consultation with relevant persons.**

7.6 Listed Ecological Communities

Description of Ecological Communities

Listed ecological communities are those ecological communities that are listed by the Minister for the Environment under the EPBC Act by instrument of Government Gazette under one of the following categories: critically endangered, endangered and vulnerable. Ecological communities that are considered matters protected under Part 3 of the EPBC Act (under section 18 and 18A) are those that are listed as 'critically endangered', or 'endangered'. The definitions of these threatened ecological communities categories are provided in s182 of the EPBC Act as follows:

- **'Critically endangered' –** An ecological community that is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria in Division 7.1 of the EPBC Regulations.
- **'Endangered' –** an ecological community that is not critically endangered and is facing a very high risk of extinction in the wild in the near future as determined in accordance with the prescribed criteria in Division 7.1 of the EPBC Regulations.

There is currently only one listed 'endangered' ecological community that occurs in the marine environment: Giant Kelp Marine Forests of South East Australia, which occurs in waters off Tasmania, Victoria and South Australia. Activities that may have terrestrial impacts (for example in the case of a severe oil spill) may need to consider listed threatened ecological communities that occur in terrestrial or freshwater environments.

In the case of the NOPSEMA strategic assessment, the EPBC listed critically endangered ecological community of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (ecological community) has been identified as occurring on Commonwealth land within the NOPSEMA strategic assessment area. The impacts to this community would be considered under the Program. Further information on listed threatened ecological communities under the EPBC Act can be found on the Department of Environment's website: http://www.environment.gov.au/topics/threatened-species-ecological-communities

Values

Ecological communities are unique and naturally occurring groups of plants and animals. Their presence can be determined by factors such as soil type, position in the landscape, climate and water availability.

Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:

• for activities such as foraging, breeding, roosting, or dispersal

• for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)

- to maintain genetic diversity and long term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Sensitivities

Whether the action/s would have an unacceptable impact is a function of the significance of its potential impacts. Under the EPBC Act Significant Impact Guidelines 1.1, an action is likely to have a significant impact on a critically endangered or endangered ecological community if there is a real chance or possibility that it will:

- reduce the extent of an ecological community
- fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines
- adversely affect habitat critical to the survival of an ecological community
- modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns
- cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting
- cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:
    - -- assisting invasive species, that are harmful to the listed ecological community, to become established, or
    - -- causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or
- interfere with the recovery of an ecological community.

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the Program. Offshore petroleum and greenhouse gas activities have the potential to impact listed ecological communities through variety of sources depending on the location and nature of the action.

Potential impacts on listed ecological communities include direct or indirect impacts to those elements that make up the ecological community or habitat for the ecological community. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the program

When assessing the impacts of an activity on a listed threatened ecological community, the Program requires a description of the environment that may identify any element of a listed ecological community that is likely to be affected by the proposed activity. Listing advice, conservation advice, recovery plans or EPBC Act guidance statements provide advice on determining whether a threatened ecological community is present.

The Program requires analysis of the potential impacts (direct and indirect) to listed threatened ecological communities and adequate opportunity for consultation. Relevant documents that should be considered when assessing the potential impacts and risks to listed threatened ecological communities are the same as those listed in the section above on listed threatened species (Section 7.5).

Safeguards under the Program

Under the EPBC Act, an action or class of actions should not be approved if it would be inconsistent with:

- Australia's obligations under the (i) Biodiversity Convention; (ii) the Apia Convention; (iii) Convention on International Trade in Endangered Species of Wild Fauna and Flora
- a recovery plan for the community or a threat abatement plan.

Assessment of an action must also have regard to any approved conservation advice for the community.

The Program is committed to the survival and conservation status of listed threatened species being promoted and enhanced through the conservation of critical habitats and other relevant measures contained in relevant plans or advices. NOPSEMA requires Environment Plans prepared under the Program to be consistent with the Australia's obligations under the above mentioned conventions and any recovery plan or threat abatement plan relevant to the management of risks and impacts associated with the activity. Consideration of any recovery plan, threat abatement plan or conservation advice relevant to the management of risks and impacts of an activity is a requirement of Environment Plan preparation process, as the OPGGS(E) Regulations require titleholders to demonstrate compliance will all legislative controls, including those under the EPBC Act. Titleholders should also have regard to the significant impact criteria in EPBC Act Significant Impact Guidelines 1.1[46] for listed ecological communities that may or are likely to be impacted by the activity in the context of demonstrating acceptable levels of impacts. Under the Program:

- NOPSEMA will not accept an Environment Plan that proposes activities that will result in unacceptable impacts to a listed threatened species or ecological community.

[46]Commonwealth of Australia (2013). ibid.

- NOPSEMA will not accept an Environment Plan that is inconsistent with a recovery plan or threat abatement plan for a listed threatened species or ecological community.
- NOPSEMA will have regard to any approved conservation advice in relation to a threatened species or ecological community before accepting an Environment Plan.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
    - make reference to consideration of the listing category and protection of the listed threatened species or ecological community
    - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as recovery plans, threat abatement plans, conservation advice and EPBC Act guidance documents.

In undertaking assessments, NOPSEMA will have regard to relevant policy documents, recovery plans, threat abatement plans, conservation advice and guidelines on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The NOPSEMA assessment process will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate or avoid potential impacts to ecological communities. Under the Program there will be no unacceptable impacts resulting from offshore petroleum and greenhouse gas activities to protected ecological communities.

Example - A drilling activity with the potential for a hydrocarbon spill to impact on a Listed threatened ecological community.

Scenario: An example relevant to the Program is a petroleum production drilling activity in a high risk crude reservoir with the potential for spill risk and subsequent impacts on the Giant Kelp Marine Forests of South East Australia Ecological Community. This ecological community is listed as endangered and has been Listed due to the progressive loss of the ecological community and threatening processes associated with climate change. The activity has the potential to result in a hydrocarbon spill that can alter water quality, smother kept forests in the first 10m of water and leading to the potential for both acute and chronic impacts.

- The activity has the potential to have a significant impact on the protected matter – Listed ecological community (endangered).

A petroleum production drilling activity is part of a development project. As such, this activity would require acceptance of an Offshore Project Proposal for the broader development project to determine that the potential impacts of the project on a threatened ecological community will be acceptable. If the Offshore Project Proposal is accepted, the activity will then require acceptance of an Environment Plan to demonstrate that all impacts and risks will be further reduced to as low as reasonably practicable. In this example the Offshore Project Proposal is not accepted and therefore a subsequent Environment Plan cannot be prepared.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to

identify and demonstrate the impacts on the listed ecological community will be of an acceptable level and further reduced to as low as reasonably practicable:

Table 7.5 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan found that impacts to listed ecological communities would be unacceptable.

Appropriate to nature and scale of the activity (Regulation 11(1)(a) OPGGS(E) Regulations)	• The description in the Offshore Project Proposal will need to identify the Giant Kelp Marine Forest of South East Australia as part of the environment that could be impacted by the proposed activity (i.e. the spill risk). • The description must include sufficient information about the activity and receiving environment characteristics, to inform consideration of the 'nature and scale' of the impacts and risks and demonstrate that there will not be unacceptable impacts and risks on the listed ecological community. The description must specifically include sufficient information about the threatened ecological community relevant for informing spill risk assessment, in particular, the known and potential extent, life stages (e.g. recruitment) and associated susceptibility to oil spills and the depth at which the ecological community occurs. The description should also include the value of the ecological community as fauna habitat and for primary productivity. • Descriptions must also identify any relevant information from recovery plans, conservation advices or threat abatement plans under the EPBC Act. Further, descriptions must include the principal threats and priorities actions as outlined in the relevant plans. • The description must also include specific relevant operational details relevant to the listed ecological community such as the timing and season of the drilling program, and target hydrocarbon characteristics relevant to informing hydrocarbon spill risk. • The description must include the significance and context of the particular occurrence of the ecological community potentially at risk. For example, relevant context includes the size of the range of the community and the extent and condition of the community remaining. This information is relevant for spill impact evaluation and response planning. **NOPSEMA would not accept an Offshore Project Proposal Environment Plan that did not adequately describe the specific listed ecological community values potentially at risk from the activity in detail sufficient to inform an evaluation of all risks and impacts, definition of levels of acceptability and demonstrate that the proposed activity would not have an unacceptable impact.** **NOPSEMA will have regard to relevant policy documents, guidelines, plans of management and information sources on the Department of the Environment website when assessing Offshore Project Proposals and Environment Plans.** **The legislative requirements of the Program and information published on the Department of the Environment website form a comprehensive suite to ensure that NOPSEMA will not accept an Environment Plan that will have an unacceptable impact on a listed ecological community.**

Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	• The proposal and plan must clearly demonstrate that there will not be unacceptable impacts to the listed ecological community and its associated values. • The Offshore Project Proposal must identify the impacts and risks of hydrocarbon spill on the listed ecological community. This must include an evaluation of impacts and risks to determine whether the activity will result in unacceptable impacts. Where appropriate, this should take into account the following considerations in the EPBC Act Significant Impact Guidelines 1.1[47]: - fragment or increase fragmentation of the ecological community - adversely affect habitat criteria to the survival of the ecological community - modify or destroy abiotic factors necessary for the ecological community's survival, - cause substantial change in the species composition of an occurrence of an ecological community including causing a decline or loss of the functionally important species i.e. the Giant kelp - cause substantial reduction in the quality or integrity of an ecological community - interfered with the recovery of an ecological community. • The Offshore Project Proposal must clearly demonstrate that the risk of a crude hydrocarbon spill would be of an acceptable level i.e. that the risk has an extremely low likelihood of occurrence. • The Offshore Project Proposal must demonstrate that any planned discharges would be managed to avoid unacceptable water quality impacts on the listed ecological community. • The Offshore Project Proposal must include a clear demonstration that routine discharges will be of an acceptable level by describing the extent and magnitude of hydrocarbon spill impacts in the listed ecological community occurrences. Given the endangered status of the listed ecological community the Offshore Project Proposal would need to define acceptable levels in terms of both short-term and long-term chronic impacts to enable a sufficient demonstration that the risk of a spill and subsequent impacts will be of an acceptable level. • The Offshore Project Proposal must include a scientifically robust evaluation of the key risks i.e. crude spill risks to demonstrate that a spill event would not result in further unacceptable decline. • The Environment Plan must specifically demonstrate that likelihood of occurrence of unplanned events would be extremely low and thus acceptable. • 'Requirements' the titleholder should have regard to in preparing the Offshore Project Proposal include any relevant statutory recovery plans or threat abatement plans. The conservation status of the threatened

[47] Commonwealth of Australia (2013). *ibid.*

	ecological community given its listing as "endangered" must also be considered. The Environment Plan must demonstrate that the activity would not be likely to result in the listed ecological community being listed as "critically endangered". Titleholders should also consult the EPBC Significant Impact Guidelines 1.1[48] for the Giant Kelp listed ecological community in demonstrating that impacts will be of an acceptable level. **NOPSEMA must not accept the Offshore Project Proposal if the titleholder was not able to demonstrate that the habitat criteria of the Giant Kelp Marine Forests of South East Australia would not be adversely affected by the activity.** **In this circumstance, NOPSEMA must not accept the offshore proposal project, even if other acceptance criteria are met in the Offshore Project Proposal. This means that the titleholder may not proceed with the activity and NOPSEMA may not consider a proposed Environment Plan for that activity.** **The course for the titleholder is to review the Offshore Project Proposal and determine what modifications are necessary to ensure the impacts are acceptable. If there are no modifications that would ensure impacts on the matter protected under Part 3 of the EPBC Act are acceptable, NOPSEMA will never accept an Offshore Project Proposal for this project.**
'as low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criteria for Offshore Project Proposals. • The environment plan must demonstrate that all impacts on the ecological community will be acceptable, and that impacts have been reduced to as low as reasonably practicable including when measured against principal threats identified in any relevant recovery plan or conservation advice. • The low risk of unacceptable of impacts to the threatened ecological community must be clearly demonstrated, having consideration for its values and sensitivities. In particular the specific details of the activity relevant to the ecological community need to be considered e.g. the sensitivity of the community to oil spill impacts. • NOPSEMA would not accept an Environment Plan, even if the titleholder has demonstrated that impacts would be acceptable, unless the plan also clearly demonstrates that the impacts of a spill would be reduced to as low as reasonably practicable for the life of the activity. • The Environment Plan must demonstrate that any oil spill risk and impact has been further reduced beyond acceptable levels and all reasonable and appropriate oil spill prevention, preparedness and response controls are in place. • The Environment Plan must also demonstrate that the titleholder would be able to effectively respond to an oil spill of the magnitude defined in the Environment Plan in order to ensure that impacts from an unplanned spill event on the ecological community would be reduced to as low as reasonably practicable. **NOPSEMA would not accept an Environment Plan, even if the titleholder has**

[48] Commonwealth of Australia (2013).ibid.

	demonstrated that impacts would be as low as reasonably practicable, unless the plan also demonstrated that the impacts of the activity would be reduced to as acceptable. **NOPSEMA will have regard to relevant policy documents, guidelines, plans of management and information sources on the Department of the Environment website when assessing this Environment Plan.** **The legislative requirements of the Program and information published on the Department of the Environment website form a comprehensive suite to ensure that NOPSEMA will not accept an Environment Plan that will have an unacceptable impact on a listed ecological community.**
Environmental performance outcomes, standards and measurement criteria **11(1)(d) OPGGS(E) Regulations)**	• The Offshore Project Proposal must include appropriate (and achievable) and measurable performance outcomes, and the Offshore Project Proposal would need to determine performance standards and measurement criteria suitable for demonstrating that the impacts and risks of the activity on a listed ecological community will be of an acceptable level at all times during the implementation of the activity, including against any priority recovery actions identified in relevant recovery plans or controlled actions.. • The Environment Plan must include performance outcomes and standards that contain any relevant legislative or other controls that are necessary for managing the impacts to the listed ecological communities and the faunal and vegetation assemblages that occur within them. In establishing performance outcomes and standards the Environment Plan must consider any objectives, and targets and performance criteria in relevant statutory recovery plans, threat abatement plans or any other relevant plans. • The Offshore Project Proposal would need to include appropriate performance outcomes and standards specific to managing the risks and impacts from hydrocarbon spills, including specific controls for spill prevention and spill response to prevent the entrainment of oil in the areas that contain ecological community occurrences. • The Offshore Project Proposal would need to include appropriate and measurable performance outcomes, performance standards and measurement criteria suitable for demonstrating that risks of an oil spill on the ecological community will be acceptable. This will mean that any key controls for preventing major oil spill will need to be included as a performance outcome or standard and include relevant and appropriate measurement criteria. • The Offshore Project Proposal would need to contain performance outcomes and standards for spill prevention, spill preparedness and spill response such as operational monitoring, oiled wildlife response, protection and deflection of surface oil away from near surface ecological community occurrences and containment and recovery strategies are appropriate for managing spill impacts on the ecological community. • The Offshore Project Proposal would need to include appropriate measurement criteria for measuring conformance with the performance outcomes and standards that relate to the achievement of “acceptable level”

	of impact on the listed ecological community. **NOPSEMA would not accept an Offshore Project Proposal that does not contain appropriate and measurable performance outcomes and standards for managing hydrocarbon spill risks and impacts on a listed ecological community to acceptable levels and as low as reasonably practicable.**
Appropriate implementation strategy **11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • Not applicable for an Environment Plan as in this example, an Environment Plan cannot be prepared for the production drilling because the Offshore Project Proposal is found to have an unacceptable impact on the habitat criteria of the listed ecological community; an implementation strategy is not a content requirement of the Offshore Project Proposal. The titleholder would have to consider changes to activity and resubmit a new Offshore Project Proposal if still wanting to proceed.
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, document and address comments received during this period in the document submitted to NOPSEMA. **NOPSEMA would not accept an Offshore Project Proposal for an activity that may impact on the values of a threatened ecological community if the titleholder has not conducted public consultation according to the new regulations under the Program.**

7.7 Listed Migratory Species

Description of Migratory Species

Listed migratory species protected under the EPBC Act pass through or over Australian waters during their annual migrations. Examples of migratory species are shorebirds (many of which breed in the Northern hemisphere), sea birds (for example Albatrosses and Petrels) mammals (e.g. whales) and reptiles (e.g. sea turtles).

The list of migratory species established under section 209 of the EPBC Act comprises:

- migratory species which are native to Australia and are included in the appendices to the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals Appendices I and II);
- migratory species included in annexes established under the Japan-Australia Migratory Bird Agreement (JAMBA) and the China-Australia Migratory Bird Agreement (CAMBA); and
- native, migratory species identified in a list established under, or an instrument made under, an international agreement approved by the Environment Minister, such as the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

For a list of migratory species subject to this Strategic Assessment and the Program, see Appendix 10. Further information on migratory species protected under the EPBC Act can be found

on the Department of Environment's website:
http://www.environment.gov.au/topics/biodiversity/migratory-species

Values

An area of 'important habitat' for a migratory species is:

a) habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species
b) habitat that is of critical importance to the species at particular life-cycle stages
c) habitat utilised by a migratory species which is at the limit of the species range
d) habitat within an area where the species is declining.

Sensitivities

Whether a petroleum or greenhouse activity would have an unacceptable impact is a function of the significance of its potential impacts. Under the EPBC Act Significant Impact Guidelines 1.1[49], an action is likely to have a significant impact on migratory species if there is a real chance or possibility that it will result in:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the Program. Offshore petroleum and greenhouse gas activities have the potential to impact migratory species through variety of sources depending on the location and nature of the action.

Potential impacts on listed migratory species include direct or indirect impacts to those species, or impacts to species' habitat. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the Program

When assessing the impacts of an activity on a listed migratory species, the Program requires a description of the environment that must identify any habitat for listed migratory species that is likely to be affected by the proposed activity and the use of the environment by listed migratory species (for example including information such as Biological Important Areas identified in the National Conservation Values Atlas).

[49] Commonwealth of Australia (2013). Op.cit.

The Program requires analysis of the potential impacts (direct and indirect) to listed migratory species or their habitat and adequate opportunity for consultation. Relevant documents that should be considered when assessing the potential impacts are:

- As outlined in section 7.5 of this report where migratory species are also threatened species.
- Wildlife conservation plans

Wildlife conservation plans

The Minister for the Environment may make a wildlife conservation plan for the purposes of the protection, conservation and management of the following:

(a) a listed migratory species that occurs in Australia or an external Territory;
(b) a listed marine species that occurs in Australia or an external Territory;
(c) a species of cetacean that occurs in the Australian Whale Sanctuary;
(d) a conservation dependent species.

A wildlife conservation plan must provide for the research and management actions necessary to support survival of the migratory species, marine species, species of cetacean or conservation dependent species concerned. Plans may cover one or more species.

Safeguards under the Program

Under the EPBC Act, an action or class of actions should not be approved if it would be inconsistent with:

- the Bonn Convention
- CAMBA
- JAMBA
- an international agreement approved under ss209(4) of the EPBC Act.

The Program will endeavour to ensure that the survival and conservation status of listed migratory species will be promoted and enhanced. NOPSEMA requires Environment Plans prepared under the Program to be consistent with the above mentioned agreements and any relevant Recovery Plans, Conservation Advices or other EPBC Act requirements. It is a requirement under the OPGGS(E) Regulations that Environment Plans meet all legislative requirements. Titleholders should also have regard to the following significant impact criteria for listed migratory species in the EPBC Act Significant Impact Guidelines 1.1[50] in determining acceptable levels. Under the Program:

NOPSEMA will not accept an Environment Plan that proposes activities that will result in unacceptable impacts to a migratory species or an area of important habitat for a migratory species.

- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
  - make reference to consideration of the protection of an area of important habitat for the listed migratory species

[50] Commonwealth of Australia (2013), ibid.

  - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as EPBC Act guidance documents.
- In undertaking assessments, NOPSEMA will have regard to relevant policy documents, and guidelines on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The Program will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate, and avoid potential impacts to migratory species. The Program will therefore ensure there will be no unacceptable impacts to migratory resulting from offshore petroleum and greenhouse gas activities.

Example - An activity that has potential for significant impacts on a Listed migratory species.

Scenario: A 3D seismic in close proximity to the 'Bonney coast upwelling' on the Victorian Coast between January and February. Blue Whales (*Balaenoptera musculus*) are a listed migratory species and are regularly present in large numbers in this area between December and April/May. Their presence has been linked to surface swarms of coastal krill (*Nyctiphanes australis*) that form in response to the upwelling of nutrient rich, cool water. Because of the surface-swarming behaviour of the krill, blue whale feeding tends to occur at or near the water surface and the Bonney upwelling has been recognised as important feeding habitat for blue whales. Significant hydrocarbon reserves known to be present in the area. Most of the Otway Basin, which coincides with the Bonney coast, is under acreage release and seismic surveys have been carried out over large portions of the upwelling area. The Blue whale is listed as a migratory species in Appendix 1 of the Bonn Convention. This means that the blue whale has been categorized as being in danger of extinction throughout all or a significant proportion of their range globally.

- The activity has the potential to have a significant impact on the protected matter – Listed Migratory Species.
- The Program will provide for an assessment of impacts and risks of the seismic activity on blue whales in the Bonney upwelling with specific reference to any legislative controls such as the Blue, Fin and Sei Whale Recovery Plan. The OPGGS(E) Regulations require Environment Plans to meet all legislative controls, such as those under the EPBC Act. Titleholder should also have regard to the significant impact criteria in EPBC Act Significant Impact Guidelines 1.1[51] in demonstrating acceptable levels.

Due to the activity occurring within an area known to support important feeding habitats for migratory blue whales, the titleholder elects to prepare an Offshore Project Proposal to determine whether the potential impacts on the migratory species and their habitats will be acceptable, and then an Environment Plan to assess whether all impacts and risks will be acceptable and reduced to as low as reasonably practicable.

[51] Commonwealth of Australia (2013). ibid.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the impacts on the listed migratory species will be of an acceptable level and further reduced to as low as reasonably practicable:

Table 7.6 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for migratory species.

Appropriate to nature and scale of the activity (Regulation 11(1)(a) OPGGS(E) Regulations)	• Descriptions must identify the blue whale populations as a value protected under the EPBC Act which is part of the environment and which could be impacted by the proposed survey. • Specifically descriptions of the blue whale and the Bonney upwelling must include their regional significance and be sufficient to inform consideration of the nature and scale of the proposal or plan. This would need to include the abundance and distribution of blue whales during the proposed seismic survey, the importance of the life stage potentially impacted by the seismic survey i.e. feeding, migration and feeding windows, the importance / regional significance of the Bonney upwelling feeding area for blue whale populations and the seasonal windows for blue whale occurrence in the area. • The descriptions of the activity and receiving environment characteristics must be sufficient to inform the assessment of impacts and risks on the blue whales and demonstrate that there will not be unacceptable impacts and risks on blue whales and their habitats. • The description must include specific operational details relevant to the blue whales. This would include a description of the timing of the activity, the intensity, duration, frequency and spatial extent of acoustic emissions, vessel activity and associated transit routes, and any planned or unplanned discharges associated with the activity. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that did not adequately describe the specific value of the blue whale population and associated habitats in detail sufficient to evaluate all risks and impacts, define levels of acceptability and demonstrate that the proposed activity would not have an unacceptable impact.**
Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	• It must be demonstrated that there is a low risk of unacceptable impacts on blue whales and their habitat, having consideration for the values and sensitivities of blue whales. • Specifically the impacts and risks of the activity on the blue whale population(s) and the upwelling must be identified and evaluated and demonstrate acceptability, with a high level of scientific rigour. • Considerations in determining levels of 'acceptability' would include the extent, magnitude, frequency and intensity of acoustic emissions in the context of blue whale physical and behavioural disturbance thresholds. This evaluation would specifically need to relate to impacts on blue whales, including at the population level, during feeding behaviour given the timing and location of the activity. • The Environment Plan must demonstrate that likelihood of occurrence of unplanned events such as a vessel collision resulting in hydrocarbon spill would be extremely low and thus acceptable. • Requirements which should be considered in determining the acceptability of the activity would include for example, statutory recovery plans, and any

	other relevant plans of management or information sources on the Department of the Environment website. Titleholders should also consider the EPBC Act Significant Impact Guidelines 1.1[52], EPBC Act Policy Statement 2.1[53] - Interaction between offshore seismic exploration and whales. • The Environment Plans must take into account the threatened status of the blue whale when providing a demonstration that impacts will not exceed acceptable levels. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan if it is not clearly demonstrated that the risks and impacts of the activity on blue whale populations and their habitats would be of an acceptable level.**
'as low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criteria for Offshore Project Proposals. • It must be demonstrated that all impacts on blue whales will be acceptable, that there are no additional management options that would further reduce the risks and impacts on blue whale populations and their habitats and that impacts have been reduced to as low as reasonably practicable. • It must be demonstrated that impacts and risks to blue whale populations will be as low as reasonably practicable during the life of the activity including a clear demonstration of why it is not feasible to undertake the activity outside of peak feeding season. • It must be demonstrated that titleholder would be able to effectively respond to an oil spill of the magnitude defined in the Environment Plan in order to ensure that impacts from an unplanned spill event on blue whales during feeding would be reduced to as low as reasonably practicable. • The Environment Plan would need to include specific oil spill response measures and acoustic impact mitigation measures to demonstrate that impacts will be reduced to as low as reasonably practicable at all times during the seismic survey. **NOPSEMA would not accept an Environment Plan, even if the titleholder has demonstrated that impacts would be acceptable, unless the plan also clearly demonstrates that the impacts of the activity on blue whales and their habitats would be as low as reasonably practicable.**
Environmental performance outcomes, standards and measurement criteria **11(1)(d) OPGGS(E) Regulations)**	• Appropriate (and achievable) and measurable performance outcomes must be included in the Offshore Project Proposal and Environment Plan. Performance standards and measurement criteria must be suitable for demonstrating that the impacts and risks of the seismic survey on blue whales and their habitats in the Bonney upwelling will be of an acceptable level at all times during the implementation of the activity. This includes impacts and risks to the food source of blue whales (the krill). • Adherence to any relevant statutory plans or other controls or policies used by the titleholder to demonstrate that impacts will be acceptable, such as the EPBC Act Policy Statement 2.1[54], must be reflected in performance standards and outcomes. • Likely measures include avoiding peak feeding period, avoiding undertaking the survey in known aggregation areas, measures for avoiding vessel collision and disturbance to feeding patterns and all measures practicably possible to

[52] Commonwealth of Australia (2013). Ibid.
[53] DEWHA (2008) op.cit.
[54] DEWHA (2008) ibid.

	avoid physical impacts and behavioural disturbance. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate (and achievable) and measurable performance outcomes and will not accept an Environment Plan that does not contain standards for managing the risks and impacts on migratory species and their habitats.**
Appropriate implementation strategy **11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • The implementation strategy for the Environment Plan must include an oil pollution emergency plan and processes for monitoring recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. • The oil pollution emergency plan within the Environment Plan must specifically describe how blue whale populations and their habitats will be defined, prioritised and managed in the event of an oil spill to demonstrate that they are given an appropriate priority ranking for response resources. • The implementation strategy must demonstrate that the titleholder has the capability and capacity to meet the defined "acceptable levels" of impact during implementation e.g. capability (e.g. expertise, resources and personnel) for the implementation of appropriate controls (such as those identified in EPBC Policy Statement 2.1[55]) to ensure that acceptable levels of impact on blue whales are maintained at all times. • The Environment Plan must include appropriate implementation requirements specific to the protection of blue whales. This will require conformance monitoring to demonstrate that 'acceptable' levels are being met. This monitoring may relate to a control (such as EPBC Policy Statement 2.1[56] (DEWHA 2008)) or to the condition of blue whales e.g. no change in feeding behaviour from baseline data, or a combination of both. • The Environment Plan must demonstrate that the titleholder has the capability to measure conformance with environmental performance outcomes and standards relating to threatened species, such as blue whales. This includes appropriate competencies, training and awareness of roles and responsibilities. • The Environment Plan must also ensure that arrangements are appropriate for reporting any incidents relevant to migratory species and their habitats. **NOPSEMA would not accept an Environment Plan for a seismic survey in the Bonney upwelling area during blue whale feeding season if it is not demonstrated that the Environment Plan can be effectively implemented to ensure that acceptable levels of impact will be achieved for the life of the activity.**
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further, targeted, consultation with relevant persons who may be impacted by the activity or have an interest in the blue whale population at risk and associated habitats.

[55] DEWHA (2008) ibid.
[56] DEWHA (2008) ibid.

	This would be expected to include conservation groups, research groups and relevant wildlife management agencies. The titleholder must demonstrate it has consulted with all relevant persons in developing an Environment Plan and must summarise, address and provide the full text of all correspondence. **NOPSEMA would not accept an Offshore Project Proposal for an activity that may impact on a migratory species populations or habitats if the titleholder has not conducted public consultation according to the new regulations under the Program. NOPSEMA will not accept an Environment Plan if it has not been demonstrated that the operator has undertaken further targeted consultation with relevant persons.** **NOPSEMA will have regard to relevant policy documents, guidelines, plans of management and information sources on the Department of the Environment website when assessing Offshore Project Proposals and Environment Plans.** **The legislative requirements of the Program and information published on the Department of the Environment website form a comprehensive suite to ensure that NOPSEMA will not accept an Environment Plan that will have an unacceptable impact on a migratory species.**

7.8 The Marine Environment

Description of Commonwealth marine environment

The marine environment is a matter of national environmental significance protected under Part 3 of the EPBC Act from any activities undertaken in a Commonwealth marine area; and any activities taken outside a Commonwealth marine area which is likely to have a significant impact on the environment in a Commonwealth marine area.

The marine environment includes marine waters, airspace above those waters, seabed features, and all marine biota within those areas. The marine environment also includes social and cultural values, including recreational opportunities, amenity, cultural heritage, conservation and scientific significance.

Under the EPBC Act and the Program the environment is defined as:

(a) ecosystems and their constituent parts, including people and communities; and
(b) natural and physical resources; and
(c) the qualities and characteristics of locations, places and areas; and
(d) heritage values of places; and
(e) the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b), (c) or (d).

The Commonwealth marine area covers an area of approximately 14.7 million square kilometres. Its biodiversity has been recognised as globally significant, providing home to a diverse array of marine species, including listed threatened and migratory marine mammals and reptiles, more than 4000 species of fish and tens of thousands of species of invertebrates, plants and micro-organisms.

The Commonwealth marine area extends beyond the outer edge of state/territory waters, generally some 3 nautical miles (or 5.5 km) from the coast, to the boundary of the Australia's exclusive economic zone, generally around 200 nautical miles from shore.

The Commonwealth marine area is identified under the EPPC Act as:

a) any waters of the sea inside the seaward boundary of the exclusive economic zone, except:
    i. waters, rights in respect of which have been vested in a State by section 4 of the *Coastal Waters (State Title) Act 1980* or in the Northern Territory by section 4 of the *Coastal Waters (Northern Territory Title) Act 1980*; and
    ii. Waters within the limits of a State or the Northern Territory;
b) the seabed under waters covered by paragraph (a);
c) airspace over waters
    i. waters, rights in respect of which have been vested in a State by section 4 of the *Coastal Waters (State Title) Act 1980* or in the Northern Territory by section 4 of the *Coastal Waters (State Title) Act 1980*
    ii. waters within the limits of a State or the Northern Territory; and
    iii. waters covered by paragraph (a);
d) any seabed under waters covered by paragraph (d);
e) any airspace over waters covered by paragraph (d);
f) any other areas of sea or seabed that is included in a Commonwealth reserve.

Further information on the Commonwealth marine area can be found on the Department of the Environment's website: http://www.environment.gov.au/legislation/environment-protection-and-biodiversity-conservation-act/what-protected/commonwealth.

Values

Under the EPBC Act when assessing impacts to a Commonwealth marine area all elements of the 'environment' must be considered to the extent that they apply. It is important to note that the definition of the 'environment' in section 528 of the EPBC Act is not narrow and is not limited to elements of the natural environment. Also the role and interests of indigenous peoples in promoting the conservation and ecologically sustainable use of natural resources and promoting the co-operative use of indigenous peoples' knowledge of biodiversity and indigenous heritage are recognised in the assessment of the environment.

There are tools available to assist in identifying the values or sensitivities in a Commonwealth marine area. For example, the Department of Environment maintains a suite of interactive tools as part of the Conservation Values Atlas that allow users to search, find and generate reports on information and data. The Conservation Values Atlas is designed to provide a visual representation of the conservation values in each marine region, including location and spatial extent where sufficient information exists. More information is available at *www.environment.gov.au/cva*.

The marine environment can be examined using the definition in the EPBC Act as follows:

(a) 'Ecosystems and their constituent parts, including people and communities'

Ecosystem is defined separately in section 528 of the EPBC Act as being a 'dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.'

The definition of 'environment' encompasses both ecosystems as a whole and parts of an ecosystem. Those parts of an ecosystem can include people and communities. As such, the relationship between organisms and their environment may also fit into the definition of environment. Factors such as dependence, interdependence or a symbiotic relationship can point to an ecosystem, which would be included under this part of the definition of 'environment'.

In the case of the NOPSEMA strategic assessment the EPBC Act listed endangered ecological community of Giant Kelp Marine Forests of South East Australia has been identified as occurring in a Commonwealth marine area within the NOPSEMA strategic assessment area. The impacts to this community would be considered under the Program.

Species form an important part of the Commonwealth marine environment. Section 250 of the EPBC Act relates to protection of certain marine species that occur naturally in a Commonwealth marine area. This protection is in addition to, and separate from the protection of listed threatened and migratory species under the EPBC Act. In many circumstances, species will be listed as a marine species as well as a migratory and/or threatened species.

Cetaceans are protected in the Commonwealth marine area under Part 13 of the EPBC Act ('Cetacean' is the scientific name which refers to whales, dolphins and porpoises). Australian waters are home to a large number of unique and magnificent marine mammals, including 45 species of whales, dolphins and porpoises. Some of these species are permanent residents in Australian waters, whilst others are occasional visitors, migrating from their summer feeding grounds in the Antarctic to the warmer waters of the Australian coast during the winter.

For a list of marine species and cetaceans subject to this Strategic Assessment and the Program, see Appendix 11.

(b) 'Natural and physical resources'

The impacts on naturally occurring and physical resources need to be considered. These include impacts such as:

- Reduced biological diversity or change species composition on reefs, seamounts or in other sensitive marine environments.
- Altered water circulation patterns by modification of existing landforms or the addition of artificial reefs or other large structures.
- Substantially damaging or modify large areas of the seafloor or ocean habitat, such as sea grass.
- Releasing oil, fuel or other toxic substances into the marine environment in sufficient quantity to kill larger marine animals or alter ecosystem processes.

Under the Program, impacts to on natural and physical resources from potential risks such as oil spills will be considered.

(c) 'Qualities and characteristics of locations, places and areas'

Section 528 defines 'place' to include:

(a) a location, area or region or a number of locations, areas or regions; and

(b) a building or other structure, or group of buildings or other structures (which may include equipment, furniture, fittings and articles associated or connected with the building or structure, or a group of buildings or structures); and

(c) in relation to the protection, maintenance, preservation or improvement of a place – the immediate surroundings of a thing in paragraph (a) or (b).

For example within the NOPSEMA strategic assessment area there are many Commonwealth marine reserves and, where relevant, impacts to Commonwealth reserves would be considered under the Program.

Commonwealth marine reserves, proclaimed under the EPBC Act, are managed primarily for biodiversity conservation. Activities in or near Commonwealth marine reserves, have a greater likelihood of significant impacts on the Commonwealth marine environment. Commonwealth marine reserves include, in whole or in part, conservation values identified in the corresponding Marine Bioregional Plan(s), excepting the South East and Coral Sea Bioregions, for which plans have not been prepared. The plans of management of the respective Commonwealth Marine Reserve may identify additional values that may be important to the character or function of the biodiversity represented within it.

Generally, plans of management allow mining operations to be carried on in appropriate reserve zones (IUCN VI multiple use zones) under a permit issued by the Director under Part 17 of the EPBC Regulations. Before issuing a permit the Director must be satisfied the proposed operation is not likely to have an unacceptable impact on the area and its values. Further information on Commonwealth Marine Reserves can be found on the Department of Environment's website: http://www.environment.gov.au/topics/marine/marine-reserves/overview

(d) 'Heritage values of places'

Heritage values include any element of a place's natural and cultural environment that has aesthetic, historic, scientific, social or other significance, for current and future generations.

Elements to consider include significant buildings and structures, landscapes, sites, routes, aesthetic qualities, surface and sub-surface archaeology, sacred sites, traditions, significant plants, animals, ecological communities and geological formations. Consider their potential significance to Indigenous and non-Indigenous people. The sensitivity of heritage values will vary widely.

Indigenous heritage value is that which is of significance to Indigenous persons in accordance with their practices, observances, customs, traditions, beliefs or history. In relation to Heritage, Indigenous peoples are recognised as the primary source of information on the value of their heritage. The sensitivity and value of Indigenous heritage are identified through consultation with the Indigenous people that are potentially affected. Impacts on particular species of plants or animals or on elements of the landscape may have a significant impact on Indigenous cultural

heritage. Impacts on Indigenous cultural heritage can also occur without physical disturbance to a site.

The heritage values of a place are different to listed values for a World Heritage property and/or a National Heritage property. Heritage values do not have to be listed to be considered as part of the 'environment', but listed values may be. Heritage values of a place are concerned with the surrounding natural and cultural environment of a particular (non-listed) place. Heritage values may include intangible qualities such as wilderness values, visual values and cultural values. The heritage values of a place are matters of fact to be determined from the circumstances of the matter at hand.

For the marine environment it is necessary to consider the places identified on the Commonwealth Heritage List, established under the EPBC Act. The Commonwealth, comprises natural, Indigenous and historic heritage places which are either entirely within a Commonwealth area, or outside the Australian jurisdiction and owned or leased by the Commonwealth or a Commonwealth Authority; and which the Commonwealth Environment Minister is satisfied have one or more Commonwealth Heritage values. For a full list of Commonwealth Heritage places in the marine area subject to this Strategic Assessment and Program, see Appendix 12. Further information on Commonwealth Heritage can be found on the Department of Environment's website: http://www.environment.gov.au/topics/heritage/about-australias-heritage/commonwealth-heritage

Another important heritage feature of the Commonwealth marine area is underwater cultural values. Shipwrecks and associated relics are protected under the *Historic Shipwrecks Act 1976 (*the Shipwreck Act*).*There are more than 7500 historic shipwrecks that surround Australia's coastline. The Shipwrecks Act protects all shipwrecks and associated relics that are 75 years or older, regardless of whether their physical location is known. Shipwrecks younger than 75 years old can be individually declared protected. More information about shipwrecks, including the location of known protected sites, can be found at: www.environment.gov.au/aggregation/historic-shipwrecks.

(e) 'Social economic and cultural' aspects of a thing mentioned in paragraphs (a), (b), (c) or (d)

The social, economic and cultural aspects of the things set out in paragraphs (a) to (d) are factored into when considering impacts to the environment. This includes impacts to local people and communities from any activity. For example Impacts to human uses, such as recreational and tourism values would also be consider under the NOPSEMA program where relevant.

Sensitivities

Under the EPBC Act, a person must not take an action in a Commonwealth marine area or outside a Commonwealth marine area that has, will have or is likely to have a significant impact on the environment without an approval.

Marine bioregional plans have been prepared under s176 of the EPBC Act for four marine regions of the Commonwealth marine environment, (North, North-west, South-west and Temperate East). The marine bioregional plans identify the values of the Commonwealth marine environment, assess the pressures operating on these values and identify conservation priorities for each of the regions. High

level advice is also provided on the relative risk of significant impact for many of the conservation values. Under s176(5) of the EPBC Act, the Minister for the Environment must have regard to a bioregional plan in making any decision under the EPBC Act to which the plan is relevant.

Relevant Impacts

Impacts on the marine environment from all petroleum and greenhouse gas activities regulated in accordance with the OPGGS Act will be addressed by the Program. Offshore petroleum and greenhouse gas activities may have the potential to impact the marine environment through a variety of sources depending on the location and nature of the action. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of actions under the Program

When assessing the impacts of an activity in the marine environment, the assessment process should identify any part of the environment that is likely to be affected by the action, examine how the environment might be affected and provide adequate opportunity for public consultation. Relevant documents will be considered when assessing whether a project is likely to have an impact on the marine environment, included but are not limited to:

- Gazettal instruments
- Plans of management (Commonwealth Heritage, Commonwealth Reserves)
- Bioregional plans
- Recovery plans[57]
- Threat abatement plans[58]
- Conservation advices[59]
- wildlife conservation plans[60]

Gazettal instrument

The Commonwealth Heritage List is a list of the natural, cultural and historic heritage places on Commonwealth land or in Commonwealth waters, or owned or managed by the Commonwealth Government. The Commonwealth Heritage values of a Commonwealth Heritage place are the Commonwealth Heritage values of the place included in the Commonwealth Heritage List for the place.

If a place is determined to be included in the Commonwealth Heritage list then the Environment Minister must by instrument published in the Gazette:

- the assessed place or part of the assessed place; and
- the Commonwealth Heritage values of the assessed place, or that part of the assessed place, that are specified in the instrument.

[57] Refer to sections 7.5 and 7.6 for further background
[58] Refer to sections 7.5 and 7.6 for further background
[59] Refer to sections 7.5 and 7.6 for further background
[60] Refer to section 7.7 for further background

Plans of management

Commonwealth Heritage places

To protect the heritage values of Commonwealth Heritage Places they own or lease, Australian Government agencies are required to develop heritage strategies, a heritage register, and plans of management for places on the Commonwealth Heritage List in accordance with the Commonwealth Heritage management principles.

Commonwealth reserves

Management plans provide for the protection and conservation of Commonwealth reserves. Management plans have a maximum life of 10 years and must set out how the reserves are to be managed. The plans provide certainty about the activities that will be allowed in the reserves and must be consistent with the relevant Australian IUCN Reserve Management Principles which define how the reserves should be managed.

Bioregional plans

Marine bioregional plans describe the marine environment and conservation values of the various regions, identifies and characterises the pressures affecting these conservation values, identifies regional priorities and outlines strategies to address them, and provides advice to decision-makers and people planning to undertake activities in the various regions in relation to their conservation values.

Currently available scientific and other information were used to describe the bio-physical environment and socio-economic characteristics of the marine region and its conservation values, including key ecological features, protected places and species and species groups protected by the EPBC Act.

Bioregional plans are an important document for individuals and organisations with an interest in the region and the way national environmental law is administered within Commonwealth waters. The plan provides information that enables people to better understand the Australian Government's marine environment protection and biodiversity conservation responsibilities, objectives and priorities in each region.

Further information on Marine Bioregional Plans can be found on the Department of Environment's website: http://www.environment.gov.au/topics/marine/marine-bioregional-plans

Safeguards under the Program

Under the EPBC Act, an action should not be approved if it would result in unacceptable impacts to the environment in a Commonwealth marine area.

- NOPSEMA will not accept an Environment Plan that proposes activities that will result in unacceptable impacts to the environment of a Commonwealth marine area.

- NOPSEMA will have regard to any relevant bioregional plan and not act inconsistently with a plan of management for a Commonwealth reserve or a Commonwealth Heritage place in deciding whether or not to accept an Environment Plan.
- If there is no plan of management for a Commonwealth reserve, then NOPSEMA will ensure that acceptance of an Environment Plan is not inconsistent with the IUCN reserve management principles.
- If there is no plan of management for a Commonwealth Heritage place, then NOPSEMA will take all reasonable steps to ensure that any accepted Environment Plan that refers to the place is not inconsistent with the Commonwealth Heritage management principles.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
  - make reference to consideration of the environment of the Commonwealth marine area
  - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as gazettal instruments, bioregional plans, plans of management and EPBC Act guidance documents.
- In undertaking assessments, NOPSEMA will have regard to relevant policy documents, gazettal instruments, bioregional plans, plans of management and EPBC Act guidance documents on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal and Environment Plan, including the appropriateness and acceptability of identified environmental performance outcomes (commitments). The Program will also ensure an assessment of the proponent's capability to meet the performance standards and implement the controls outlined in the Environment Plan to reduce the environmental impacts and risks to as low as reasonably practicable to manage, mitigate or avoid potential impacts. The Program will therefore ensure there will be no unacceptable impacts to the environment in a Commonwealth marine area resulting from offshore petroleum and greenhouse gas activities.

Scenario: A production well drilling campaign is proposed west of the Kangaroo Island, in the South-west Marine Region of the Commonwealth Marine Area. The South – west Marine Bioregional Plan identifies a number of conservation values relevant to the proposed drilling campaign, including two key ecological features and important foraging and calving areas for a number of listed threaded and migratory species. The proposed campaign is also in close proximity to the Western Kangaroo Island Commonwealth Marine Reserve zoned as a Marine National Park Zone (IUCN Category II – National Park Category i.e. the area should be managed and protected to conserve its natural condition) and special purposes zone (IUCN Category VI – IUCN Managed Resource Protected Area – area managed primarily for biodiversity conservation while allowing ecological sustainable development of natural resources).

The Program will provide for an assessment of impacts and risks on values and priories identified in the South-west marine Bioregional Plan and on the values protected within the western Kangaroo

Island Commonwealth Marine Reserve[61]. The Program requires the Offshore Project Proposal and Environmental Plan to identify and demonstrate the impacts on the Commonwealth Marine Area will be of an acceptable level and reduced to low as reasonably practicable, having regard to both the South-west Marine Bioregional Plan and the management plan for the Western Kangaroo Island Commonwealth Marine Reserve.

Table 7.7 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for areas of the Commonwealth Marine Area with high conservation values.

Appropriate to nature and scale of the activity (Regulation 11(1)(a) OPGGS(E) Regulations)	• The description will need to identify conservation values of the South-west Marine Region, as identified by the South-west Marine Bioregional Plan, relevant to the proposed drilling campaign, area, and the conservation values of the Western Kangaroo Island Commonwealth Marine Reserve as part of the environment that could be impacted by the proposed activity. • The description must include the conservation values potentially at risk from the implementation of the activity. In this case, the Offshore Project Proposal and Environment Plan would need to describe important foraging areas for the threatened Australian sea lion, threatened white shark, threatened blue whale, migratory sperm whale and migratory short-tailed shearwater and Caspian tern and important seasonal calving habitat for the threatened southern right whale that may be affected by the drilling activity. This will need to include relevant seasonal timing and critical biological windows that would be necessary for defining acceptable levels of impact. • The description of the activity and receiving environment characteristics must be sufficient to inform assessment of risk to and impacts on the marine conservation values of the South – west Marine Region (which includes the blue whale, the southern right whale, the Australian sea lion, the short tailed shearwater and the key ecological feature, the Kangaroo Island Pool, canyons and adjacent shelf break and the Eye Peninsula upwellings. • The description must include all elements of the drilling activity that are essential for informing the nature and scale of the activity. In this case this would include information on the duration and timing of the drilling program, the properties of the targeted reservoir, and any other information relevant to understanding and evaluating the impacts and risks to the conservation values of the adjacent Commonwealth Marine Area in the South-west Marine Bioregion, including the Reserves. . **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that did not adequately describe the specific conservation values of the Commonwealth Marine Area potentially at risk from the activity in detail sufficient to inform an evaluation of all risks and impacts, define levels of acceptability and demonstrate that the proposed activity would not have an unacceptable impact.**

[61] Activities may be outside these areas but have the potential to impact on them (for example, oil spill or well blowout). Consideration will need to be given to, for example, oil spill modelling.

Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	• It must be demonstrated that there will not be unacceptable impacts to the conservation values of Commonwealth Marine Area, having consideration of the values identified in the South –west Marine Bioregional Plan and the priories identified in this Plan, including priority pressures. • It must be demonstrated that all elements of the activity will not result in unacceptable impacts on the values identified in the South –west Marine Bioregional Plan and relevant reserve plans of management. Specifically, the Offshore Project Proposal and Environment Plan will need to demonstrate that the objectives of the Commonwealth Marine Reserve will continue to be achieved in conjunction with the implementation of the activity. • The Offshore Project Proposal and Environment Plan must be consistent with the management objectives of the Marine Reserve Management Plan in demonstrating that impacts will be of an acceptable level. • It must be demonstrated that the activity will provide for ecologically sustainable use of the natural resources within the South-west Marine Reserves Network where this is consistent with protection and conservation of biodiversity and other natural and cultural values of the South-west Marine Reserves Network. • Evaluation of impacts and risks on the Commonwealth Marine reserve and on conservation values in the South-west Marine Region will determine levels of acceptability. This is likely to require an examination of how drilling by-products such as drill cuttings and fluids, and any unplanned hydrocarbon or discharges might affect the foraging habitat for threatened and migratory species and key ecological features identified in the South=west marine bioregional Plan as well as any other values identified in the Western Kangaroo Island Commonwealth Marine Reserve management plan. • 'Acceptability' must also be based on a clear demonstration that the likelihood of a spill occurring of a magnitude that could result in unacceptable impacts on the ecological functioning and integrity of the South-west Marine Region or on the biodiversity values of the Commonwealth Marine Reserve, would be extremely low. This is particularly important given that under the South-west Marine Bioregional Plan, the risk of oil spill is a pressure of potential concern for the listed threatened and migratory species and the Kangaroo Island Pool, canyons and adjacent shelf breaks and Eyre Peninsula upwelling key ecological feathers. The proximity of the drilling activity to areas zoned primarily for biodiversity conservation purposes in the Kangaroo Island CMR also highlights the importance of demonstration of extremely low likelihood of spill. . • Proponents' considerations in defining levels of 'acceptability' would include relevant guidelines such as the EPBC Act Significant Impact Guidelines 1.1[62], the South-west Marine Bioregional Plans well as the Western Kangaroo Island Commonwealth Marine Reserve Management Plan, and any other relevant documents such as recovery plans. The Offshore Project Proposal and Environment Plan would not be able to demonstrate that impacts would

[62] Commonwealth of Australia (2013).op. cit..

	be acceptable if that activity is likely to: - result in a known or potential pest species becoming established in the Commonwealth marine area - modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area, particularly in areas zoned IUCN Category I or II or in key ecological features. - have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (for example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution - result in a substantial change in air quality or water quality (including temperature) which may adversely impact on biodiversity, ecological integrity; social amenity or human health. - result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected - have a substantial adverse impact on heritage values of the Commonwealth marine area, including damage or destruction of an historic shipwreck. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan if it is not clearly demonstrated that the risks and impacts from activities on the conservation values of the Commonwealth Marine Area were acceptable.**
'as low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criteria for Offshore Project Proposals. • The Environment Plan must demonstrate that impacts on the values of the South-west Marine Region and the Western Kangaroo Island Commonwealth Marine Reserve or any other Commonwealth Marine Area will be as low as reasonably practicable in addition to demonstrating that impacts will be of an acceptable level. • The Environment Plan must demonstrate that any oil spill risk and impact has been further reduced with feasible and reasonable oil spill prevention, preparedness and response controls. • The Environment Plan must demonstrate that the priority conservation values identified in the South-west Marine Bioregional Plan and the Commonwealth Marine Reserve values have been prioritised for hydrocarbon spill impact minimisation, prevention and clean-up to demonstrate that impacts and risks of a spill would be reduced to as low as reasonably practicable. **NOPSEMA would not accept an Environment Plan for an activity that could potentially result in planned or unplanned emissions and discharges that would not be of an acceptable level and reduced to as low as reasonably practicable.**
Environmental performance outcomes, standards and	• Appropriate, achievable and measurable performance outcomes must be included in the proposal and Environment Plan. Performance standards and measurement criteria must be suitable for demonstrating that the impacts and risks of production drilling on the conservation values of the South-west

measurement criteria **11(1)(d) OPGGS(E) Regulations)**	Marine Region and the values of the Western Kangaroo Island Commonwealth Marine Reserve will be of an acceptable level at all times during the implementation of the activity. • The Offshore Project Proposal and Environment Plan must include key controls for assuring that oil spill risks, chemical spill risks and heavy metal discharges to the marine environment would be included as performance outcomes and standards against which the titleholder's performance in managing the environment can be measured. • Adherence to any relevant statutory plans or other controls or policies such as the requirements of specific zoning regimes of the Marine Reserve and the management plan that has been prepared for the South-west Marine Reserves Network must be reflected in performance standards and outcomes. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate and measurable performance outcomes and standards for managing the risk of an oil spill in a Commonwealth Marine Reserve.**
Appropriate implementation strategy **11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • The implementation strategy for the Environment Plan must include an oil pollution emergency plan and processes for monitoring recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. • The oil pollution emergency plan must demonstrate that the titleholder has appropriate arrangements in place for the prevention of oil spills, appropriate arrangements for controlling the source of an oil spill on the south coast and responding to an oil spill in the Western Kangaroo Island Commonwealth Marine Reserve, including response times, personnel and processes for prioritising response strategies and resources. Performance outcomes and standards must contain any relevant legislative or other controls that are necessary for managing the impacts to the values of the Commonwealth Marine Reserve to ensure acceptable levels of impact are not exceeded. **NOPSEMA would not accept an Environment Plan for a drilling activity in close proximity to a Commonwealth Marine Reserve, a key ecological feature, a biologically important area or a listed critical habitat area if it cannot be demonstrated that there is an appropriate implementation strategy that provides assurance that impacts will be of an acceptable level during implementation and as low as reasonably practicable.**
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further, targeted, consultation with relevant persons who may be impacted by the activity or

	have an interest or direct values associated with the south-west Marine Region and the Western Kangaroo Island Commonwealth Marine areas potentially affected by the drilling activity. • The Environment Plan for a drilling activity with potential for impacts on the conservation values of the South-west Marine Region and the values of the Western Kangaroo Island Commonwealth Marine Area would need to demonstrate that appropriate consultation has been undertaken with relevant persons, including fishing industry groups, other marine park user groups and any relevant interested parties such as conservation groups and scientific researchers. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that has potential impacts on Commonwealth Marine Areas if it has not been demonstrated that the titleholder has undertaken appropriate consultation with relevant persons.**

7.9 Commonwealth land

Description of Commonwealth land

Commonwealth land is defined under the EPBC Act as so much of a Commonwealth area as is not a Commonwealth marine area. Commonwealth area includes land owned or held under lease by the Commonwealth or a Commonwealth agency and airspace over the land, or any other area of land that is included in a Commonwealth reserve. Commonwealth land may have a range of additional values such as threatened species, ecological communities, migratory birds, Commonwealth Heritage places etc., which will need to be specifically considered.

The EPBC Act protects the 'environment' on Commonwealth land. This protection applies to actions on Commonwealth land, and activities outside Commonwealth land affecting that land. Under the EPBC Act the environment is defined as:

(a) ecosystems and their constituent parts, including people and communities; and
(b) natural and physical resources; and
(c) the qualities and characteristics of locations, places and areas; and
(d) heritage values of places; and
(e) the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b), (c) or (d).

There are over 100 parcels defined as Commonwealth land within the area examined through the strategic assessment. These places range from small islands in the Coral Sea to external Australian territories such as Christmas Island and Norfolk Island. For a list of the largest Commonwealth land sites subject to this Strategic Assessment and the Program, see Appendix 12.

Values

Under the EPBC Act when assessing impacts on Commonwealth land all elements of the 'environment' must be considered to the extent that they apply. It is important to note that the definition of the 'environment' in section 528 of the EPBC Act is not narrow and is not limited to

elements of the natural environment. In particular, by virtue of paragraphs (c) and (d) of the definition, the term 'environment' includes the qualities and characteristics of locations, places and areas, and the heritage values of places.

The role and interests of indigenous peoples in promoting the conservation and ecologically sustainable use of natural resources and promoting the co-operative use of indigenous peoples' knowledge of biodiversity and indigenous heritage are recognised in the assessment of the environment. Further explanation of the considerations for the environment on Commonwealth land is outlined below.

(a) 'Ecosystems and their constituent parts, including people and communities'

Ecosystem is defined separately in section 528 of the EPBC Act as being a 'dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit'.

The definition of 'environment' encompasses both ecosystems as a whole and parts of an ecosystem. Those parts of an ecosystem can include people and communities. As such, the relationship between organisms and their environment may also fit into the definition of environment. Factors such as dependence, interdependence or a symbiotic relationship can point to an ecosystem, which would be included under this part of the definition of 'environment'.

In the case of Strategic Assessment the EPBC listed critically endangered ecological community of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (ecological community) has been identified as occurring on Commonwealth land within the Strategic Assessment area. The impacts to this community would be considered under the Program.

(b) 'Natural and physical resources'

The impacts on naturally occurring and physical resources need to be considered. These include impacts such as:

- Alteration of coastal processes, including wave action, sediment movement or accretion, or water circulation patterns;
- Alteration of water circulation patterns by modification of existing landforms or the addition of artificial reefs or other large structures; and
- landscape subsidence, instability or substantial erosion.

For example under the Program impacts on natural and physical resources from potential risks such as oil spills will be considered.

(c) 'Qualities and characteristics of locations, places and areas'

Section 528 defines 'place' to include:

(d) a location, area or region or a number of locations, areas or regions; and

(e) a building or other structure, or group of buildings or other structures (which may include equipment, furniture, fittings and articles associated or connected with the building or structure, or a group of buildings or structures); and

(f) in relation to the protection, maintenance, preservation or improvement of a place – the immediate surroundings of a thing in paragraph (a) or (b).

For example within the Strategic Assessment area on Commonwealth land there are three terrestrial Commonwealth reserves:

- Pulu Keeling National Park
- Christmas Island National Park
- Norfolk Island National Park

Where relevant, impacts to Commonwealth reserves would be considered under the Program.

(d) 'Heritage values of places'

Heritage values include any element of a place's natural and cultural environment that has aesthetic, historic, scientific, social or other significance, for current and future generations.

Elements to consider include significant buildings and structures, landscapes, sites, routes, aesthetic qualities, surface and sub-surface archaeology, sacred sites, traditions, significant plants, animals, ecological communities and geological formations. Consider their potential significance to Indigenous and non-Indigenous people. The sensitivity of heritage values will vary widely.

Indigenous heritage value is that which is of significance to Indigenous persons in accordance with their practices, observances, customs, traditions, beliefs or history. In relation to heritage, Indigenous peoples are recognised as the primary source of information on the value of their heritage. The sensitivity and value of Indigenous heritage are identified through consultation with the Indigenous people that are potentially affected. Impacts on particular species of plants or animals or on elements of the landscape may have a significant impact on Indigenous cultural heritage. Impacts on Indigenous cultural heritage can also occur without physical disturbance to a site.

The heritage values of a place are different to listed values for a World Heritage property and/or a National Heritage place. Heritage values do not have to be listed to be considered as part of the 'environment', but listed values may be. Heritage values of a place are concerned with the surrounding natural and cultural environment of a particular (non-listed) place. Heritage values may include intangible qualities such as wilderness values, visual values and cultural values. The heritage values of a place are matters of fact to be determined from the circumstances of the matter at hand.

For Commonwealth land it is necessary to consider the places identified on the Commonwealth Heritage List, established under the EPBC Act. The Commonwealth Heritage List comprises natural, Indigenous and historic heritage places which are either entirely within a Commonwealth area, or outside the Australian jurisdiction and owned or leased by the Commonwealth or a Commonwealth Authority; and which the Commonwealth Environment Minister is satisfied have one or more Commonwealth Heritage values. For a list of relevant Commonwealth Heritage places on Commonwealth land, see Appendix 12. Further information on Commonwealth Heritage can be found on the Department of Environment's website: http://www.environment.gov.au/topics/heritage/about-australias-heritage/commonwealth-heritage

'Social economic and cultural' aspects of a thing mentioned in paragraphs (a), (b), (c) or (d)

The social, economic and cultural aspects of the things set out in paragraphs (a) to (d) are factored into when considering impacts to the environment. This includes impacts to local people and communities from any activity. For example, impacts to human uses, such as recreational and tourism values would also be considered under the Program, where relevant.

Sensitivities

Under the EPBC Act, a person must not take an action on Commonwealth land or outside Commonwealth land that has, will have or is likely to have a significant impact on the environment of the Commonwealth land without an approval.

It is possible for petroleum and greenhouse gas activities to result in impacts to Commonwealth land even when conducted significant distance from the land. For example, dependent on ocean currents, weather conditions and amount and type of hydrocarbons in a particular reservoir, an oil spill that originates in Commonwealth waters could extend over hundreds of kilometres outside of that jurisdiction. Under the Program, the potential impacts to all Commonwealth land sites identified as being at risk from a proposed activity will be considered, including those that are a significant distance from the location of the activity, where appropriate.

Relevant Impacts

Impacts from all petroleum and greenhouse gas activities, including those in relation to the construction, operation and (if relevant) decommissioning of a project, will be addressed by the Program. Offshore petroleum and greenhouse gas activities may have the potential to impact Commonwealth land through a variety of sources depending on the location and nature of the action. The potential impacts on Commonwealth land will be dependent on the nature of the activity and the environment on Commonwealth land. The summary of all the sources risks and impacts is outlined in Figure 3.2 and Appendix 3.

Assessment of activities under the Program

When assessing the impacts of an activity on Commonwealth land, the Program requires a description of the environment that must identify any part of the environment on Commonwealth land that is likely to be affected by the proposed activity. The Program requires analysis of the potential risks and impacts to the environment and provides adequate opportunity for consultation. Relevant documents that should be considered when assessing the potential impacts and risk on Commonwealth land have been described in relation to other relevant matters protected under Part 3 of the EPBC Act. They include, but are not limited to:

- Gazettal instruments[63]
- Plans of management (Commonwealth Heritage, Commonwealth Reserves)[64]
- Bioregional Plans[65]

[63] Refer to section 7.8 for further background
[64] Refer to section 7.8 for further background
[65] Refer to section 7.8 for further background

- Other relevant plans - Recovery Plans, Threat Abatement Plans, Conservation Advice[66]
- Wildlife conservation plans[67]

Safeguards under the Program

Under the EPBC Act, an action should not be approved if it would result in unacceptable impacts to the environment on Commonwealth land.

NOPSEMA will not accept an Environment Plan that proposes activities that will result in unacceptable impacts to the environment on Commonwealth land.

- NOPSEMA will have regard to any bioregional plan and not act inconsistently with a plan of management for a Commonwealth reserve or a Commonwealth Heritage place in deciding whether or not to accept an Environment Plan.
- If there is no plan of management for a Commonwealth Heritage place, then NOPSEMA will take all reasonable steps to ensure that any accepted Environment Plan is not inconsistent with the Commonwealth Heritage management principles.
- If there is no plan of management for a Commonwealth reserve, then NOPSEMA will ensure that acceptance of an Environment Plan is not inconsistent with the IUCN reserve management principles.
- NOPSEMA will develop guidance (that will be updated from time to time) that titleholders should have regard to in the preparation of their Environment Plans. The guidance will:
  - make reference to consideration of the environment of the Commonwealth land
  - include references to relevant guidance documents to be considered by titleholders in preparing Environment Plans such as gazettal instruments, bioregional plans, plans of management and EPBC Act guidance documents.

In undertaking assessments, NOPSEMA will have regard to relevant policy documents, gazettal instruments, bioregional plans, plans of management and guidance documents on the DoE website.

The Program will ensure an assessment of the proponent's Offshore Project Proposal or Environment Plan ensuring that unacceptable impacts to Commonwealth land do not occur. The case study below demonstrates how the NOPSEMA Program would adequately assess and protect Commonwealth land sites from offshore petroleum and greenhouse gas activities.

Example - The installation of a production pipeline in close proximity to Commonwealth land containing values of conservation significance.

Scenario: A titleholder is proposing the construction of a production pipeline within 10km of Commonwealth land within Ashmore Reef. The pipeline activity will include vessel movements, pipeline laying and armouring activities and potential oil spill risks from vessel collision or stranding on shallow reefs. These islands are Commonwealth land that form part of the Ashmore Reef Commonwealth Marine Reserve. The terrestrial habitats of these Commonwealth lands consist of

[66] Refer to sections 7.5 and 7.6 for further background
[67] Refer to section 7.7 for further background

vegetated islands and un-vegetated sand cays and these islands provide for critical nesting habitat for many species including marine turtles and a number of sea and migratory birds including some of the most important colonies and staging areas for species listed under JAMBA and CAMBA. The Ashmore Reef National Nature Reserve is also a listed place on the Commonwealth Heritage List.

Installation of a production pipeline is part of a development project. As such, this activity would require acceptance of an Offshore Project Proposal for the broader development project to determine that the potential impacts of the project on Commonwealth Land will be acceptable. The activity will then require acceptance of an Environment Plan to demonstrate that all impacts and risks will be acceptable and reduced to as low as reasonably practicable.

- The activity has the potential to have an impact on the protected matter 'Commonwealth land' being the Ashmore Islands and associated high conservation values. The activity also has the potential to impact the values of the Commonwealth Heritage place.
- Mining operations are prohibited on the majority of Ashmore Reef Commonwealth Marine Reserve.
- The objectives for Ashmore Reef Commonwealth Marine Reserve, including the Commonwealth land components that are relevant to activities authorised under the Program are to:
    - protect the high conservation values in the marine and terrestrial environments of Ashmore Reef Commonwealth Marine Reserve
    - manage the Reserves as part of the National Representative System of Marine Protected Areas
    - contribute to the protection of the overall conservation values in the Oceanic Shoals Bioregion
      provide biological refuges that will contribute to an integrated management framework for the sustainable use and long term protection of marine resources under the 1974 memorandum of understanding between Australia and Indonesia which allows Indonesian fishermen to fish in Australian waters using traditional boats and methods.

- The Program will provide for an assessment of impacts and risks of a pipeline installation activity on Ashmore Island values protected within the Ashmore Reef Commonwealth Marine Reserve. NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan meets relevant plans of management such as the Ashmore Reef Commonwealth Marine Reserve. In demonstrating that impacts and risks will be of an acceptable level, titleholders would have regard to relevant policies, guidelines, and information sources on the Department of the Environment website such as the EPBC Act Significant Impact Guidelines 1.1[68] and 1.2.

NOPSEMA's assessment process will require the Offshore Project Proposal and Environment Plan to identify and demonstrate the impacts on the Commonwealth Land will be of an acceptable level and reduced to as low as reasonably practicable:

[68] Commonwealth of Australia (2013). Op. cit.

Note: This section is only considering the Commonwealth land as the protected matter; however the assessment of the Environment Plan would also consider impacts to the environment and the requirements for protection of islands as part of a listed Ramsar wetland, migratory species, threatened species and a Commonwealth Marine Area. How the Program provides for these protected matters are discussed in the specific sections on those protected matters.

Table 7.8 Example of how acceptance criteria for an Offshore Project Proposal and Environment Plan would meet EPBC Act requirements for areas of Commonwealth land with high conservation values.

Appropriate to nature and scale of the activity (Regulation 11(1)(a) OPGGS(E) Regulations)	• The description must identify the values of the Ashmore Islands Commonwealth reserves as part of the environment which may be impacted by the activity. Specifically, the Offshore Project Proposal and Environment Plan would need to describe important staging, roosting and foraging areas for migratory seabirds, marine turtle nesting areas, and any other relevant value that may be affected by planned or unplanned activities associated with pipeline installation that is necessary for impact evaluation and defining acceptable levels of impact. • The description must include the activity and receiving environment characteristics in sufficient detail to inform a risk assessment on the impacts and risks to the values of the Ashmore Islands and to establish acceptable levels of impact. • The Offshore Project Proposal and Environment Plan must specifically describe all elements of the pipeline installation activity that are essential for informing the nature and scale of the activity. In relation to potential for impacts on the high conservation values of Ashmore Islands, this would include information on the duration and timing (including whether activities are planned in non-daylight hours) of pipeline installation activity, vessel activity including vessel movements, speeds and numbers, any planned emissions (e.g. artificial light) or discharges associated with the activity, any physical impacts associated with seabed disturbance and any other elements of the activity relevant to informing the risk and impact identification process. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that did not describe the conservation values of environment of Ashmore Islands (Commonwealth lands) that could potentially be impacted by the activity.**
Acceptable **(Regulation 11(1)(c) OPGGS(E) Regulations)**	It must be demonstrated that all elements of the activity will not result in unacceptable impacts on the island Reserve's and heritage values. Specifically, the Offshore Project Proposal and Environment Plan will need to demonstrate that the objectives and management arrangements in the Reserve management plan will not be contravened and continue to be achieved should the activity proceed. • The Offshore Project Proposal and Environment Plan would need to identify and evaluate impacts and risks in order to demonstrate that impacts and risks will be of an acceptable level. This is likely to require an examination of how pipeline installation activities, including any changes to water quality, background noise levels and background light levels would impact on the

	values of the Reserve, such as seabird roosting, staging and foraging and marine turtle nesting and hatchling dispersal. • Proponents' considerations in defining levels of 'acceptability' would include the EPBC Act Significant Impact Guidelines 1.1[69] and 1.2, as well as any statutory plans such as for the Ashmore Reef Commonwealth Marine Reserve and any relevant recovery plans. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan if it is not clearly demonstrated that the risks and impacts from a pipeline installation activity in close proximity to Ashmore Islands (Commonwealth lands) will be of an acceptable level.** **NOPSEMA will have regard to relevant policy documents, guidelines, plans of management and information sources on the Department of the Environment website when assessing Offshore Project Proposals and Environment Plans.** **The legislative requirements of the Program and information published on the Department of the Environment website form a comprehensive suite to ensure that NOPSEMA will not accept an Offshore Project Proposal or Environment Plan that will have an unacceptable impact on the environment of the Commonwealth land.**
'as low as reasonably practicable' **11(1)(b) OPGGS(E) Regulations)**	• This is not an acceptance criteria for Offshore Project Proposals. • It must be demonstrated that impacts on the conservation values of the Ashmore islands are as low as reasonably practicable as well as of an acceptable level. • It must be demonstrated that any planned emission and discharge and oil spill risks and impacts have been reduced to as low as reasonably practicable. • The Environment Plan must demonstrate that the high conservation values of the environment of Ashmore Islands and oil pollution emergency planning, particularly in relation to hydrocarbon spill impact minimisation, prevention and clean-up to demonstrate that impacts and risks of a spill would be reduced to as low as reasonably practicable. **NOPSEMA would not accept an Environment Plan for a pipeline installation activity if it could not be demonstrated that impacts of planned or unplanned emissions and discharges on conservation values of the environment on Commonwealth land that would be of an acceptable level as low as reasonably practicable.**
Environmental performance outcomes, standards and measurement criteria **11(1)(d) OPGGS(E)**	• Appropriate and measurable performance outcomes, performance standards and measurement criteria must be included in the Offshore Project Proposal and Environment Plan suitable for demonstrating that the impacts and risks of all components of the activity, including oil spills, on Ashmore Islands would be of an acceptable level, during the implementation of the activity. • The Offshore Project Proposal and Environment Plan would need to include performance outcomes and standards relating to legislative or other controls such as the requirements relating to the statutory management plan for the

[69] Commonwealth of Australia (2013). Op. cit.

Regulations)	island reserves and any relevant recovery or threat abatement plan for the migratory or threatened species with habitats within the reserves. • The Offshore Project Proposal and Environment Plan would need to include specific relevant and measurable measurement criteria to assure NOPSEMA that the performance outcomes and standards will be monitored and met, particularly those relevant to the Ashmore Islands. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that does not contain appropriate and measurable performance outcomes and standards for managing the risks and impacts of a pipeline installation activity close proximity to Ashmore Islands (Commonwealth land).**
Appropriate implementation strategy **11(1)(e) OPGGS(E) Regulations)**	• An implementation strategy is not a content requirement of an Offshore Project Proposal. • The implementation strategy for the Environment Plan must include an oil pollution emergency plan and processes for monitoring recording and reporting on the compliance of the activity against the Environment Plan throughout the life of the activity. • The oil pollution emergency plan must demonstrate that the titleholder has appropriate arrangements in place for the prevention of oil spills, for controlling the source of an oil spill on the high conservation values of Ashmore Islands (e.g. migratory bird roosting, foraging and breeding areas, and marine turtle nesting beaches), and including response times, personnel and processes for prioritising response strategies and resources. • Performance outcomes and standards must contain any relevant legislative or other controls that are necessary for managing the impacts to the values of the environment of Ashmore Islands reserves to ensure acceptable levels of impact are not exceeded. **NOPSEMA would not accept an Environment Plan for a pipeline installation activity in close proximity to Commonwealth land if it cannot be demonstrated that there is an appropriate implementation strategy that provides assurance that impacts will be of an acceptable level.**
Appropriate consultation **11(1)(e) OPGGS(E) Regulations)**	• The Offshore Project Proposal must be published with an invitation for public comment prior to submission to NOPSEMA for assessment. The titleholder must demonstrate that this has occurred, document and address comments received during this period in the document submitted to NOPSEMA. • The Environment Plan will need to demonstrate further, targeted, consultation with relevant persons who may be impacted by the activity or have an interest in Ashmore Islands and their values. This would be expected to include researchers, land managers and local communities. **NOPSEMA would not accept an Offshore Project Proposal or Environment Plan that has potential impacts on the environment on Commonwealth land if it has not been demonstrated that the titleholder has undertaken appropriate consultation with relevant persons.**

8 Adaptive management: addressing uncertainty and managing risk

Adaptive management (or 'learning by doing') is a widely supported approach to ecosystem management in environments characterised by a high level of ecological uncertainty and significant knowledge gaps.[70] It provides a systematic approach to improving the management process and accommodating change by learning from outcomes.

The Program requires proponents to adopt adaptive management strategies to ensure environmental impacts and risks are acceptable, continuously monitored and continuously reduced to as low as reasonably practicable. It also addresses community expectations that environmental management will foster best practice approaches and continuous improvement for the life of the activity or development, and achieve effective and high quality environmental management outcomes.

8.1 Adaptive management strategies to address uncertainties, inherent risks and information

The Program provides that adaptive management strategies be adopted for offshore petroleum and greenhouse gas activities, and that uncertainties are addressed in the implementation strategy for an Environment Plan.

Specifically, the Program requires that:

- an Environment Plan must specify environmental performance outcomes and standards, and must include measurement criteria that the titleholder will use to determine whether each environmental performance outcome and environmental performance standard is being met for the duration of the activity.
- an Environment Plan must include an appropriate implementation strategy that provides a systematic approach to ensure the environmental performance outcomes and standards are achieved, and monitored on an ongoing basis.
- the implementation strategy must describe the systems, practices and procedures that will be in place to ensure that impacts and risks will be continually reduced to as low as reasonably practicable.
- NOPSEMA must not accept an Environment Plan if these requirements are not met, in which case the activity cannot proceed.

Under the Program, industry must continually demonstrate that impacts and risks are reduced to as low as reasonably practicable. This means that industry must continually adapt environmental management approaches to new information, changes in technology, innovations, improved environmental management practices and industry standards.

[70] Keith, David A., Martin, Tara G., McDonald-Madden, Eve, and Walters, Carl (2011). Uncertainty and adaptive management for biodiversity conservation. *Biological Conservation* 144: 1175–1178.

The Program provides that the titleholder must regularly report against the environmental performance outcomes and performance standards. NOPSEMA can request further information if not satisfied with the information provided, and has the discretion to withdraw acceptance of the Environment Plan if not satisfied. This mechanism allows NOPSEMA to monitor performance including adaptive management practices.

The titleholder must also revise any Environment Plan still extant at five years, at that time and every five years thereafter, and submit the revised Environment Plan to NOPSEMA for acceptance.

Example:

If a proponent has an accepted Environment Plan in force that describes the environmental impacts and risks for a listed 'vulnerable' species, the Environment Plan will also determine environmental outcomes and performance standards and controls in relation to that species, as well as measurement criteria for those outcomes and standards. The implementation strategy for the Environment Plan will then provide for ongoing monitoring and reporting against the outcomes and standards.

If the category of that listed species is changed from 'vulnerable' to 'endangered', the titleholder must ensure the Environment Plan continues to demonstrate that the impacts and risks are acceptable and reduced to as low as reasonably practicable.

If new scientific research comes to light in relation to the protection of a listed endangered species, the titleholder must ensure that its implementation strategy continues to ensure that impacts and risks are acceptable and reduced to as low as reasonably practicable.

If the titleholder fails to revise an Environment Plan in light of new information, NOPSEMA may request that the titleholder submit a revised Environment Plan. The titleholder must comply with this request, and the revised Environment Plan must demonstrate that risks and potential impacts to the listed species will be of an acceptable level and reduced to as low as reasonably practicable. NOPSEMA cannot accept the revised Environment Plan unless it is reasonably satisfied that it meets the acceptance criteria under the OPGGS(E) Regulations.

This focus on continuous adaptation is a particular strength of the Program's objective-based approach to regulation. It encourages the adoption of solutions that are fit for purpose to achieve best practice environmental management systems and continuous improvement in all aspects of a titleholder's environmental performance. In particular, companies can employ the latest and most cost-effective management or technological solution available, and are encouraged to innovate rather than use standard approaches that could unintentionally reflect a lowest common denominator. As a result, continual adaptation ensures the Program addresses uncertainties, including knowledge gaps in scientific understanding or new information (i.e. new listings), to matters protected under Part 3 of the EPBC Act.

This focus also encourages the collection and use of environmental data to better understand the environment. The Program requires appropriate monitoring during the operation of petroleum activities as well as monitoring in the event of an incident such as a hydrocarbon release. In order to meet these requirements, titleholders collect environmental data, or turn to environmental data

collected by scientific and other research bodies, to establish a baseline for the environment where the activity is to take place, or that the activity could have impact upon. Improved collection and access to environmental data from a variety of sources in the future will further improve the adaptive capacity of the industry to ensure impacts and risks on matters protected under Part 3 of the EPBC Act are acceptable and reduced to as low as reasonably practicable.

8.2 Monitoring through implementation strategies

Monitoring requirements under the Program provide that monitoring of matters protected under Part 3 of the EPBC Act will be addressed through approved implementation strategies to achieve the desired conservation outcomes; that any environmental impacts or risks are of an acceptable level, and that all environmental impacts and risks are reduced to as low as reasonably practicable.

NOPSEMA ensures and monitors compliance with these and other requirements under the Program, and takes enforcement actions where required. This process is described in Chapter 6.

In relation to a titleholder's monitoring arrangements in its implementation strategy, the Program requires that:

- monitoring arrangements must be sufficient to enable the titleholder and NOPSEMA to determine that the titleholder's environmental performance is consistent with the outcomes detailed in the Environment Plan, and that standards for control measures will be met.
- the implementation strategy must provide for the maintenance of a quantitative record of emissions and discharges to the air, marine, seabed and sub-seabed environment that is accurate and can be monitored and audited against the environmental performance standards and measurement criteria.
- the titleholder must report information to NOPSEMA, no less than annually, about its environmental performance in sufficient detail to enable NOPSEMA to determine that the environmental performance outcomes and standards set out in the Environment Plan are being met.
- the titleholder must notify NOPSEMA within two hours of any incident relating to an activity that has caused, or has the potential to cause, moderate to significant environmental damage, and provide a written report to NOPSEMA within three days. NOPSEMA guidance material provides advice regarding the measure of 'moderate to significant' environmental damage. The written report must include details of:
  - the corrective action that has been taken, or is proposed to be taken, to stop, control and mitigate the reportable incident
  - the preventive actions that have been taken, or are proposed to be taken, to minimise the risk of a similar incident occurring in the future.
- the Program provides that NOPSEMA can request further or ongoing written reports stipulating the nature of information and timing for reporting. This helps to ensure the corrective action is implemented and environmental impacts and risks are acceptable and reduced to as low as reasonably practicable.
- the titleholder must submit written reports of any breach of an environmental performance outcome or environmental performance standard in the Environment Plan that applies to the activity during a calendar month, within 15 days of the end of that month.

There are three key streams of monitoring and reporting under the Program which help to ensure the protection of matters in Part 3 of the EPBC Act, and mitigation of any incidents.

In relation to oil pollution specifically, the Program provides that:

- the titleholder must prepare an oil pollution emergency plan to contain adequate arrangements for responding to and carrying out monitoring of oil pollution. The plan must describe:
  - the oil pollution mitigation controls necessary for timely response to an emergency to ensure environmental performance outcomes and standards in the Environment Plan will be met
  - the arrangements for monitoring to inform response and remediation activities
  - the arrangements for monitoring to be undertaken to inform an assessment of the extent, severity and duration of impacts to the environment from the pollution and response and remediation activities, including activities to acquire environmental baseline data where required.
- in the event of an oil spill resulting from a petroleum activity, the titleholder must stop, control, and clean-up the escape of petroleum, remediate damage to the environment and monitor the effect of the escape of petroleum on the environment. The titleholder is also liable to pay the costs of meeting this requirement, including costs incurred by third parties, and where oil may have reached state waters, state or Commonwealth lands.

Example:

If a performance outcome in an Environment Plan is that no fuel oil is spilled per annum as a result of a petroleum activity, the titleholder must maintain a quantitative record of fuel oil emissions (which should be zero) and report to NOPSEMA, no less than annually, that it is meeting the performance outcome and that impacts and risks continue to be acceptable and reduced to as low as reasonably practicable.

If fuel oil is spilled, this is a breach of the performance outcome and the titleholder must submit a written report of the breach no less than 15 days after the end of the calendar month in which the breach occurred. This requirement applies whether the spill has an impact on a matter protected under Part 3 of the EPBC Act or not.

The titleholder must also stop, control, and clean-up the oil, remediate any damage to the environment and monitor the effect of the escape of petroleum on the environment (and pay the costs of doing so). This requirement applies whether the spill has an impact on a matter protected under Part 3 of the EPBC Act or not.

If there is a spillage of fuel oil that has caused, or has the potential to cause, moderate to significant environmental damage (described in NOPSEMA guidance material), the titleholder must notify NOPSEMA of the incident within two hours, and must provide a written report within three days which identifies:

- the corrective action to be undertaken to stop, control and mitigate the spillage
- the preventive actions that have been or will be taken to minimise the risk of a similar incident occurring in the future.

This requirement applies whether the spill has an impact on a matter protected under Part 3 of the EPBC Act

or not, and NOPSEMA can seek further information relating to any such report.

8.3 Analysis and use of monitoring

The purpose of monitoring and reporting arrangements under the Program is to ensure that the titleholder continues to meet the environmental performance outcomes and standards outlined in the plan. Monitoring is therefore analysed by the titleholder, and reported to NOPSEMA, so that both can be certain that the environmental impacts and risks of the activity are of an acceptable level, and reduced to as low as reasonably practicable.

This monitoring, analysis and reporting activity may provide information to the titleholder and regulator that require the titleholder to adapt its implementation strategy or revise the Environment Plan to ensure these environmental impacts and risks continue to be acceptable.

Reporting to NOPSEMA also informs reporting and information sharing in relation to the industry's performance as a whole. This type of reporting will be discussed further in Chapter 9.

9 Auditing and Reporting

9.1 NOPSEMA reporting against its regulatory functions

NOPSEMA will report on its activities, regulatory responsibilities and performance through the following:

- **A public Annual Report.** This will highlight the outcomes achieved the previous year set against the regulatory functions of NOPSEMA. Under the Program, this annual report will include a section on titleholders' performance against the commitments to ensure protection of matters protected under the EPBC Act, including information necessary to allow the Commonwealth to meet its annual reporting obligations under the EPBC Act. The Annual Report will also include performance, management and accountability, and other mandatory information including a report against Part 21 of the EPBC Act on ESD and environmental performance. This annual reporting will enable the parties to understand the condition of the environment, particularly the conservation status of matters protected under Part 3 of the EPBC Act and how that condition is changing in light of both approved actions and natural events.
- **Quarterly reports to the Minister for Industry.** Under the Program, these reports will include information to ensure the Australian Government meets its international reporting obligations in relation to matters protected under Part 3 of the EPBC Act.
- **An annual plan.** This is made publicly available on NOPSEMAs website to ensure transparency in its functions and commitments. Under the Program, this will include information in relation to matters protected under the EPBC Act.
- **Formal reporting requirements.** NOPSEMA will respond to these requirements under s516 of the EPBC Act on environmental performance of the Program.
- **Information sharing with the Department of the Environment.** Under the Program NOPSEMA will share relevant information with the Department of the Environment to facilitate any compliance actions under either the OPGGS Act or the EPBC Act. Administrative arrangements will be established to ensure information is shared in the most effective and efficient way.

Arrangements will be in place within 6 months of endorsement of the Program and approval of actions in accordance with the endorsed Program.

- **Annual reporting on compliance investigations.** NOPSEMA will also report annually to the Minister for the Environment on compliance investigations under the Program that relate to the protection of matters protected under Part 3 of the EPBC Act.

NOPSEMA publishes information in accordance with the Information Publication Scheme which was established by Part 2 of the FOI Act. NOPSEMA responds to freedom of information requests made under s15 of the Freedom of *Information Act 1982* (FOI Act) according to that legislation. NOPSEMA will also report annually to the Commonwealth state and Territory Standing Committee for Resources and Energy on operational matters.

NOPSEMA also publishes annual industry performance reports and quarterly key performance indicator update reports on its website. These reports outline key matters in relation to industry's performance against regulatory requirements.

9.2 Audit of NOPSEMA regulatory functions

NOPSEMA conducts internal quality assurance audits and efficiency reviews in order to ensure that its quality management system meets the ISO standard and that it achieves effective administration of regulatory functions.

Upon request, NOPSEMA participates in any external audits against its regulatory functions. In 2013, the Australian National Audit Office commenced an audit of NOPSEMA to assess its establishment and the effectiveness of its regulatory function. This audit is ongoing.

9.3 Administrative arrangements

Under the Program, NOPSEMA will also establish administrative arrangements with the Department of the Environment to report annually to the Minister for the Environment on how the Program has met the objects of the EPBC Act with reference to matters protected under Part 3. These arrangements will ensure the Minister for the Environment is able to meet international reporting commitments. In addition, the arrangements will provide a mechanism for continuous improvement through learning from the outcomes of assessment decisions, any relevant reviews, updates to relevant policies, guidelines, recovery plans and any other relevant new information that relates to the protection of matters protected under Part 3 of the EPBC Act.

To ensure all elements of a multi-jurisdictional project's impacts on Part 3 EPBC Act matters are considered and that consistent and compatible decision outcomes by regulators are made, NOPSEMA will work with relevant agencies responsible for environmental assessments. NOPSEMA will establish administrative arrangements with each jurisdiction, including through MoUs where appropriate, to ensure consistent regulation of activities that may impact on matters protected under Part 3 of the EPBC Act. The relevant agencies may be state or territory agencies (where an approval bilateral is in place), with the Department of the Environment (where no bilateral is in place).

NOPSEMA will also develop administrative arrangements with the Department of the Environment to ensure appropriate implementation of its commitments in the Program (refer to Appendix A of

the Program), including consideration of particular plans or advices, such as plans of management and recovery plans, which are a statutory requirement of the EPBC Act. The Department of the Environment will remain responsible for developing plans and guidance in accordance with its responsibilities under the EPBC Act and the Australian Government's international treaty obligations.

The Program also states that NOPSEMA will develop guidance material and undertake assessments with regard to these relevant policy documents. NOPSEMA's existing guidance notes will be updated by the time of approval. Interim new guidance material (for instance, in relation to the Offshore Project Proposal) will also be in place by the time of approval, with such guidance to be finalised within six months of approval.

10 Review or modification

10.1 NOPSEMA operational reviews

Under the OPGGS Act, NOPSEMA is subject to an operational review every five years. The first review will relate to the 3 year period of operation beginning 1 January 2012 and is due to start in January 2015. The review is to be completed within 6 months after the end of the 3 year period i.e. 1 June 2015. The terms for the review are outlined in the OPGGS Act and include the 'effectiveness of NOPSEMA in bringing about improvements in offshore petroleum and greenhouse gas environmental management'.

10.2 Program reviews

Under the Program, the Department of Industry and NOPSEMA has committed to conduct reviews relating to NOPSEMA's endorsement of the Program under the EPBC Act. The purpose of the Program review is to consider the effectiveness of implementation and performance against the Program. The Program review shall be incorporated into the 5 yearly operational review cycle. This will ensure efficiency in governance with a report being submitted to the Minister for the Environment and Minister for Industry.

The purpose of the review will be to assess the effectiveness of the Program in achieving both the objectives of the Program and the EPBC Act. The review will enable the Minister for the Environment to ensure high environmental standards are being maintained, and enable NOPSEMA to refine management arrangements and standards to ensure the Program's commitments and objectives to matters protected under Part 3 of the EPBC Act are delivered for the remaining life of the Program. Terms of Reference for the Program review will be developed in consultation with the Department of the Environment to guide the scope of the review. Part D (Section 11) of the Program states the scope of the review of the Program will include:

- A review of the Program after 12 months operation, submitted within 18 months of endorsement. The findings of this review will be provided to the Minister for industry and the Minister for the Environment. The aim will be to refine management arrangements and standards and ensure the Program's commitment matters protected under Part 3 of the EPBC Act are being delivered.
- A review of the program every five years to assess progress in achieving objectives, and

- An annual report detailing all relevant decisions made under the Program.

The outcomes of the review will be made public.

10.3 Program modifications

If a Program review finds commitments under the Program or the environmental outcomes on matters protected under Part 3 of the EPBC Act are not being met, NOPSEMA will consult with the Minister for the Environment about remedies.

References

Australian Petroleum Production and Exploration Associated Ltd (APPEA) (2013), Cutting Green Take – Streamlining Major Oil and Gas Project Environmental Approvals Processes in Australia. Canberra.

Council of Australian Government (1992), National Strategy for Ecologically Sustainable Development. http://www.environment.gov.au/resource/national-strategy-ecologically-sustainable-development. viewed 19 Nov 2013.

Commonwealth of Australia (2013), Matters of National Environmental Significance. *Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*. http://www.environment.gov.au/resource/significant-impact-guidelines-11-matters-national-environmental-significance viewed 18 Nov 2013.

Department of Environment, Water, Heritage and the Arts (DEWHA)(2008), EPBC Act Policy statement 2.1. *Industry Guidelines for Interaction between offshore seismic exploration and whales*. http://www.environment.gov.au/system/files/resources/8d928995-0694-414e-a082-0ea1fff62fc8/files/seismic-whales.pdf. Viewed 19 Nov 2013.

Commonwealth of Australia (2013*), Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies significant impact guidelines 1.2 Environment Protection and Biodiversity Conservation Act 1999* http://www.environment.gov.au/resource/significant-impact-guidelines-12-actions-or-impacting-upon-commonwealth-land-and-actions. Viewed on 19 Nov 2013

Department of Resources Energy and Tourism (RET)(2010), Report of the Montara Commission of Inquiry.

Department of Resources, Energy and Tourism (2012), *Environment Regulations Review Issues Paper.* www.ret.gov.au/environmentRegulationsreview

Department of Sustainability, Environment, Populations and Communities (SEWPaC) (2011), Australian Government Response to the Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*. Canberra.

Government of Canada 2012 (last modified 22 May 2012). Operational Policy Statement: *Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act 2012*. Accessed 4 November 2013. http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=1DA9E048-1

Gunn, J and Noble, B. 2012. *Critical Review of the cumulative effects assessment undertaken by Manitoba Hydro for the Bipole III Project*. Prepared for the Public Interest Law Centre, Winnipeg, Manitoba.

Hawke, Allan (2009), Report of the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Environment, Water, Heritage and the Arts (DEWHA) Canberra.

Keith, David A., Martin, Tara G., McDonald-Madden, Eve, and Walters, Carl (2011), Uncertainty and adaptive management for biodiversity conservation. *Biological Conservation* 144: 1175- 1178.

Legislation cited:

- Environment Protection and Biodiversity Conservation Act 1999
- Environment Protection and Biodiversity Conservation Regulations 2000
- Offshore Petroleum and Greenhouse Gas Storage Act 2006
- Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009
- Administrative Decisions (Judicial Review) Act 1977

Productivity Commission (2009), Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector, Research Report, Melbourne

Productivity Commission (2013), Mineral and Energy Resource Exploration, Draft Inquiry Report, Canberra.

Productivity Commission (2013), Major Project Development Assessment, Draft Research Report, Canberra.

List of Figures

List of Tables

Abbreviations

AD(JR) Act	*Administrative Decisions (Judicial Review) Act 1977*
ALARP	As low as reasonably practicable
AMSA	Australian Maritime Safety Authority
EMS	Environmental management system
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPBC Regulations	*Environment Protection and biodiversity Conservation Regulations 2000*
ESD	Ecologically sustainable development
FPSO	Floating production storage and offloading unit

GDP	Gross domestic project
MODU	Mobile offshore drilling unit
MNES	Matters of national environmental significance
MoU	Memorandum of Understanding
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
ISO	International Organisation for Standardisation
OHS	Occupational health and safety
OPGGS Act	*Offshore Petroleum and Greenhouse Gas Storage Act 2006*
OPGGS(E) Regulations	*Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009*
PC	Productivity Commission
SEWPaC	former Department of Sustainability, Environment, Water, Population and Communities
TOR	Terms of Reference for this Strategic Assessment

Appendices

Appendix 1	Final Terms of Reference
Appendix 2	Concordance table against the final Terms of Reference
Appendix 3	Potential impacts of activities under the Program
Appendix 4	Cumulative Impacts
Appendix 5	How the Program identifies and assesses potential impacts on protected matters
Appendix 6	World Heritage Properties that could be impacted by activities under the Program
Appendix 7	National Heritage places that could be impacted by activities under the Program
Appendix 8	Ramsar Wetlands that could be impacted by activities under the Program
Appendix 9	Listed threatened species that could be impacted by activities under the Program
Appendix 10	Listed migratory species that could be impacted by activities under the Program
Appendix 11	Commonwealth Heritage Places, listed marine species and cetaceans that could be impacted by activities under the Program
Appendix 12	Commonwealth Heritage and Commonwealth land sites that could be impacted by activities under the Program
Appendix 13	Glossary of petroleum industry terms

Appendix 1 – Final Terms of Reference

Strategic Assessment of the Environmental Management Authorisation Process for Petroleum and Greenhouse Gas Storage Activities Administered by the National Offshore Petroleum Safety and Environmental Management Authority under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*

Final Terms of Reference

These terms of reference set out the proposed structure of the Strategic Assessment Report to ensure the requirements for a Strategic Assessment under Part 10 of the EPBC Act are met.

1 EXECUTIVE SUMMARY

The Strategic Assessment Report will include an executive summary to outline the key issues in the report.

2 PURPOSE AND DESCRIPTION

The purpose of this Strategic Assessment is to assess the effectiveness of the offshore petroleum and greenhouse gas storage (OPGGS) environmental management authorisation process for the protection of matters protected under Part 3 of the EPBC Act (protected matters) to streamline environmental approvals without reducing the environmental outcome.

The OPGGS environmental management authorisation process includes the *Offshore Petroleum and Greenhouse Gas Storage Act 2006 (*OPGGS Act) and associated Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations) for the assessment of petroleum activities and greenhouse gas storage activities (as defined in the Environment Regulations). This authorisation process will be described in a document to be referred to as the Program. The Strategic Assessment will also consider any changes or enhancements to the OPGGS environmental management authorisation process to ensure protected matters are adequately protected.

The Strategic Assessment Report must include an overview of the Program and the Strategic Assessment process, including:

a) the purpose of the Program and the Strategic Assessment.

b) a description of the range of activities captured under the OPGGS environmental management authorisation process (the Strategic Assessment scope).

c) an overview of the objectives of the EPBC Act and the OPGGS environmental management authorisation process, including a description of the triggers for environmental assessment, obligations under the EPBC Act, opportunities for public involvement, and transparency.

d) an overview of the OPGGS environmental management authorisation process, including how it considers protected matters.

e) any other relevant government or industry planning or management frameworks that are relevant to the OPGGS environmental management authorisation process and provide for the protection of protected matters.

f) An overview of how the Strategic Assessment will maximise regulatory efficiency, while retaining strong environmental safeguards.

3 MATTERS PROTECTED UNDER PART 3 OF THE EPBC ACT

3.1 Identification of Protected Matters

The Strategic Assessment Report must address how the OPGGS environmental management authorisation process meets the objects of the EPBC Act and protects the following protected matters:

- World Heritage properties(sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Ramsar wetlands (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Commonwealth marine areas (sections 23 and 24A)
- The environment on Commonwealth land (sections 26 and 27A).

3.2 Identification and analysis of the OPGGS environment management authorisation process

The Strategic Assessment Report must include:

a) comparison of the OPGGS environmental management authorisation process and regulatory requirements of the EPBC Act for protection of protected matters, including the referral, assessment and approvals regime under Chapter 4, and compliance and regulatory regimes. This includes showing, for example through process mapping:

    - how the OPGGS environmental management authorisation process identifies and assesses potential impacts on protected matters, including how the OPGGS environmental management authorisation process requires proponents to:

i. describe the nature of proposed petroleum and greenhouse gas activities and the baseline environment.

ii. provide a description of type and likelihood of risks considered and conduct a risk assessment to evaluate the potential risks and prepare appropriate response strategies that adequately address protected matters.

iii. implement an approach that firstly seeks to avoid impacts on protected matters, and then seeks to mitigate residual impacts.

iv. apply relevant policies, industry practices and administrative guidelines for the protection of protected matters, including existing policy statements, Recovery Plans, Conservation Advices, Threat Abatement Plans, Marine Bioregional Plans, Commonwealth Marine Reserve Management Plans, and other relevant Australian Government Documents.

v. undertake appropriate and timely public consultation commensurate to the activity.

vi. address direct and indirect impacts of activities under NOPSEMA's jurisdiction.

vii. describe the baseline environment, and consider the other long term influences, including the potential impacts of climate change, that may also impact on protected matters in the receiving environment (for example, including information available from the public domain).

- how the impact assessment process under the EPBC Act, including relevant policies and guidelines, identifies and assesses potential impacts on protected matters.
- how the OPGGS environmental management authorisation process and the EPBC Act process incorporate transparency and public consultation processes during the assessment process and decision making.

b) consideration of the OPGGS environmental management authorisation process against formal accreditation standards may be developed by the Department of the Environment, if appropriate.

c) any specific changes or amendments to be made to regulations or regulatory policies to meet the requirements of the EPBC Act and ensure adequate protection of protected matters, and an assessment of the likely effectiveness and outcomes of these changes. The Strategic Assessment Report must include an analysis of the effectiveness of the OPGGS environmental

management authorisation process in protecting protected matters and achieving good conservation outcomes.

d) identification of other relevant authorities (including state and territory authorities) responsible for the implementation of key recommendations, if any.

4 PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The Strategic Assessment Report must identify how the principles of ecologically sustainable development (section 3A of the EPBC Act) are applied in the OPGGS environmental management authorisation process and how the process will ensure proponents will continue to implement/improve these principles.

5 ADAPTIVE MANAGEMENT: ADDRESSING UNCERTAINTY AND MANAGING RISK

The Strategic Assessment Report must identify how the OPGGS environmental management authorisation process requires proponents to demonstrate:

a) the degree to which adaptive management strategies would be implemented for activities permissioned under the OPGGS environmental management authorisation process to ensure protected matters are effectively protected to address uncertainties and inherent risks where they arise in proposed petroleum activities and greenhouse gas storage activities. Uncertainties could, for example, include knowledge gaps in scientific understanding and changing thresholds of acceptability for noise and other impacts.

b) how monitoring of protected matters will be addressed through approved implementation strategies to achieve the desired conservation outcomes.

c) how the monitoring will be analysed throughout the life of the OPGGS environmental management authorisation process and how the results of the monitoring will inform adaptive management in the OPGGS environmental management authorisation process.

d) how new information relating to protected matters, including new listings under the EPBC Act, will be addressed through the OPGGS environmental management authorisation process.

The Strategic Assessment Report must also detail NOPSEMA’s compliance monitoring processes for these outcomes.

6 AUDITING AND REPORTING

The Strategic Assessment Report must set out how:

a) the OPGGS environmental management authorisation process requires NOPSEMA to undertake monitoring and auditing, including any third party auditing of proponents, and public reporting of results.

b) NOPSEMA uses monitoring and auditing results to ensure ongoing improvement within the OPGGS environmental management authorisation process.

c) NOPSEMA reports on its regulatory responsibilities and demonstrates accountability.

7 REVIEW OR MODIFICATION OF PROGRAM

The Strategic Assessment Report must identify and analyse the likely circumstances and procedures that may result in the review or modification of the Program if it is endorsed, and how endorsement would be maintained.

8 REFERENCES AND INFORMATION SOURCES

The Strategic Assessment Report will include a list of references.

For information and data used in the assessment, the Strategic Assessment Report must state:

a) the source and currency (date) of the information

b) the reliability and limitations of the information.

Appendix 2 – Concordance Table against the Final Terms of Reference

TERMS OF REFERENCE ITEM	SECTION OF SAR WHERE ADDRESSED
1 EXECUTIVE SUMMARY	1.0
2 PURPOSE AND DESCRIPTION	2.0, 3.0
g) the purpose of the Program and the Strategic Assessment.	3.1
h) a description of the range of activities captured under the OPGGS environmental management authorisation process (the Strategic Assessment scope).	3.3 Appendix 3
i) an overview of the objectives of the EPBC Act and the OPGGS environmental management authorisation process, including a description of the triggers for environmental assessment, obligations under the EPBC Act, opportunities for public involvement, and transparency.	3.1, 3.2, 4.1, 4.3, 5.1, 5.2, 5.3, 5.4 Appendix 5
j) an overview of the OPGGS environmental management authorisation process, including how it considers protected matters.	3.4, 5.1, 5.2, 5.3, 5.4
k) any other relevant government or industry planning or management frameworks that are relevant to the OPGGS environmental management authorisation process and provide for the protection of protected matters.	4.3, 5.6
l) An overview of how the Strategic Assessment will maximise regulatory efficiency, while retaining strong environmental safeguards.	3.4, 3.5, 4.0
3 MATTERS PROTECTED UNDER PART 3 OF THE EPBC ACT	4.0, 5.0, 7.0
3.1 Identification of Protected Matters	7.0
3.2 Identification and analysis of the OPGGS environment management authorisation process	5.0, 7.0 Appendix 3,5
e) comparison of the OPGGS environmental management authorisation process and regulatory requirements of the EPBC Act for protection of protected matters, including the referral, assessment and approvals regime under Chapter 4, and compliance and regulatory regimes. This includes showing, for example through process mapping:	5.1, 5.2, 6.1, 6.2
• how the OPGGS environmental management authorisation process identifies and assesses potential impacts on protected matters, including how the OPGGS environmental management authorisation process requires proponents to:	3.4, 5.1, 5.2, 7.0
i. describe the nature of proposed petroleum and greenhouse gas activities and the baseline environment.	3.3, 5.1, 5.2, 7.0

TERMS OF REFERENCE ITEM	SECTION OF SAR WHERE ADDRESSED
ii. provide a description of type and likelihood of risks considered and conduct a risk assessment to evaluate the potential risks and prepare appropriate response strategies that adequately address protected matters.	3.3, 5.1, 5.2, 7.0
iii. implement an approach that firstly seeks to avoid impacts on protected matters, and then seeks to mitigate residual impacts.	5.1, 5.2, 7.0
iv. apply relevant policies, industry practices and administrative guidelines for the protection of protected matters, including existing policy statements, Recovery Plans, Conservation Advices, Threat Abatement Plans, Marine Bioregional Plans, Commonwealth Marine Reserve plans of management, and other relevant Australian Government Documents.	3.5, 5.1, 5.2, 7.0
v. undertake appropriate and timely public consultation commensurate to the activity.	5.1, 5.2, 5.3
vi. address direct and indirect impacts of activities under NOPSEMA's jurisdiction.	5.1, 5.2, 7.0
vii. describe the baseline environment, and consider the other long term influences, including the potential impacts of climate change, that may also impact on protected matters in the receiving environment (for example, including information available from the public domain).	4.3, 4.4, 5.1, 5.2, 7.0
• how the impact assessment process under the EPBC Act, including relevant policies and guidelines, identifies and assesses potential impacts on protected matters.	1.2, 5.1, 7.0
• how the OPGGS environmental management authorisation process and the EPBC Act process incorporate transparency and public consultation processes during the assessment process and decision making.	5.1, 5.2, 5.3, 5.4
f) consideration of the OPGGS environmental management authorisation process against formal accreditation standards may be developed by the Department of the Environment, if appropriate.	5.1
g) any specific changes or amendments to be made to Regulations or regulatory policies to meet the requirements of the EPBC Act and ensure adequate protection of protected matters, and an assessment of the likely effectiveness and outcomes of these changes. The Strategic Assessment Report must include an analysis of the effectiveness of the OPGGS environmental management authorisation process in protecting protected matters and achieving good conservation outcomes.	5.0, 7.0
h) identification of other relevant authorities (including state and territory authorities) responsible for the implementation of key	4.3, 5.6

TERMS OF REFERENCE ITEM	SECTION OF SAR WHERE ADDRESSED
recommendations, if any.	
4 PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT	4.0, 4.2
5 ADAPTIVE MANAGEMENT: ADDRESSING UNCERTAINTY AND MANAGING RISK	8.0
e) the degree to which adaptive management strategies would be implemented for activities permissioned under the OPGGS environmental management authorisation process to ensure protected matters are effectively protected to address uncertainties and inherent risks where they arise in proposed petroleum activities and greenhouse gas storage activities. Uncertainties could, for example, include knowledge gaps in scientific understanding and changing thresholds of acceptability for noise and other impacts.	8.0
f) how monitoring of protected matters will be addressed through approved implementation strategies to achieve the desired conservation outcomes.	8.2
g) how the monitoring will be analysed throughout the life of the OPGGS environmental management authorisation process and how the results of the monitoring will inform adaptive management in the OPGGS environmental management authorisation process.	8.3
h) how new information relating to protected matters, including new listings under the EPBC Act, will be addressed through the OPGGS environmental management authorisation process.	8.0
6 AUDITING AND REPORTING	9.0
d) the OPGGS environmental management authorisation process requires NOPSEMA to undertake monitoring and auditing, including any third party auditing of proponents, and public reporting of results.	9.1, 9.2
e) NOPSEMA uses monitoring and auditing results to ensure ongoing improvement within the OPGGS environmental management authorisation process.	8.0, 9.0
f) NOPSEMA reports on its regulatory responsibilities and demonstrates accountability.	9.0
7 REVIEW OR MODIFICATION OF PROGRAM	10.0
8 REFERENCES AND INFORMATION SOURCES	Footnotes, References

Appendix 3 – Potential impacts of activities under the Program

Seismic Activities

Hazard	Description and potential impact
Physical Presence (seismic and support vessels)	• *Vessel movements and noise emissions* resulting in disturbance to marine fauna during important life stages, with potential for injury and mortality • *Vessel anchoring* with the potential to cause localised benthic habitat loss and loss of marine flora, coral assemblages at particular risk in the offshore marine environment; seagrasses at risk of in the event of an oil spill. • *Vessel movements* with the potential to result in marine fauna disturbance, mortality or result in vessel grounding and subsequent hydrocarbon spills and non-indigenous marine pest incursion • *Vessel light* with potential to cause disturbance to light sensitive marine fauna
Seismic equipment and emissions	• *Discharge of acoustic emissions* potentially resulting in temporary or permanent physical impacts, behavioural changes and potential mortality for marine fauna • *Use of streamers and seismic arrays* with potential for streamer loss and subsequent habitats impacts and potential toxic effects on marine fauna and flora from streamer fluid release • *Seismic shots, streamer and vessel presence* have potential to impact on other users of the area and the aesthetic, intrinsic or heritage values of a place.
Routine discharges (other than acoustic)	• *Atmospheric emissions* from vessel machinery contributing to greenhouse gas emissions and local decline in air quality • *Sewage, greywater and putrescible discharge* resulting in decline in water quality (increased nutrients) with the potential of reduced extent or loss of coral communities or marine flora • *Discharge of bilge* water resulting in local decline in water quality and incursion by invasive species.
Unplanned discharges	• *Refuelling spills* for activities that include refuelling at sea resulting in the release of diesel fuel to the marine environment and resulting in acute toxic effects and decline in water quality • *Vessel collision or grounding* resulting in the discharge of potentially large volumes of marine diesel oil resulting in decline in water quality, acute toxic effect, oiling of marine fauna and flora and potential decline in habitat value • *Incident chemical spills* from decks resulting in local acute toxic effects on marine organisms, oiling of marine fauna, decline in water quality.

Drilling activities

Hazard	Description and potential impact
Physical presence	• *Seabed disturbance* resulting in loss of habitat • *Underwater noise* resulting in acoustic impacts on marine fauna • *Artificial lighting* resulting in disturbance or altered behaviours of light sensitive fauna

	such as marine birds and marine turtles • *Vessel movements* resulting in collision with and / or disturbance of marine fauna resulting in injury or death. • *Use of vessels and equipment* resulting in the incursion of invasive marine species • *Changes to the visual amenity* resulting in the aesthetic and visual amenity of an area / seascape. • *Movement and transfer of objects* onto or off the drilling unit resulting in dropped objects and potential impacts on marine fauna or habitats.
Routine discharges	• *Atmospheric emissions* resulting in a localised decrease in air quality due to diesel fuel combustion and contribution to greenhouse gas emissions. • Drilling cuttings and fluids and additives potentially resulting in the smothering of marine flora and marine fauna, decreased water quality, potential toxic impacts on organisms. • *Cement fr*om the flushing of lines and equipment or the disposal of excess cement potentially resulting in local reduction in water quality and localised smothering of benthic habitats. • *Cooling and desalination / brine water* – discharge of water used for cooling machinery engines and discharge of desalination brine used for producing potable water for the drilling unit potentially resulting in changes to water temperature and alternations to seawater salinity with potential to impact on marine pelagic fauna. • *Sewage, greywater, putrescible waste* resulting in localised increase in nutrient and pathogens and changes to feeding behaviour for scavenger marine fauna and avifauna. • *Deck drainage waste water* from the wash down of deck spills resulting in changes to water quality and potential acute toxic impact on marine fauna in the receiving environment.
Unplanned discharges	• *Well blow out* resulting in the dispersal of large crude oil, condensate or gas spills to the marine and atmospheric environment potentially causing changes to water quality, air quality, loss of habitat, loss of ecological function, decline in species populations, impacts on visual amenity, impacts in social, economic, cultural and heritage values of an area. • *Refuelling spills* during fuel transfer between drilling unit and support vessels – resulting in potential localised changes to water quality, acute impacts on marine fauna and flora, acute impacts on benthic habitats in shallow environments. • *Vessel collision or grounding* resulting in diesel spills from support vessel of drilling unit – potentially resulting toxic impacts to pelagic and benthic habitats, impacts on populations of marine fauna and their habitats and marine flora extent.

Construction (including modification and decommissioning) activities

Hazard	Description and potential impact
Physical presence	• *Vessel movements* from pipeline installation, trenching, umbilical, heavy lift tie-in, rock installation and other support vessels activities. Vessel movements have the potential to result in fauna interactions including behavioural disturbance or collision causing injury or death. • *Seawater intake* for the purposes of producing potable water for flooding pipelines with the potential to cause marine fauna entrainment or changes to marine fauna behaviour. • *Use of vessels, rocks used for armouring and equipment* resulting in the incursion of

Hazard	Description and potential impact
	non-indigenous marine species • *Interaction with fishing operators*, particularly with regard to a 500m exclusion zone around abandoned well heads.
Seabed disturbance	• *Vessel movements* from pipeline installation, trenching, umbilical, heavy lift tie-in, rock installation and other support vessels activities. Vessel movements have the potential to result in fauna interactions including behavioural disturbance or collision causing injury or death. • *Seawater intake* for the purposes of producing potable water for flooding pipelines with the potential to cause marine fauna entrainment or changes to marine fauna behaviour. • *Use of vessels, rocks used for armouring and equipment* resulting in the incursion of nonindigenous marine species • *Interaction with fishing operators*, particularly with regard to a 500m exclusion zone around abandoned well heads.
Routine emissions and discharges	• *Atmospheric emissions* – generation of exhaust gases into the atmosphere from the use of vessels and ancillary equipment associated with construction activities • *Light emissions* - associated with artificial light to be used for the safe illumination of vessels during the construction activities. This has the potential to alter foraging and breeding activities for some marine fauna including seabirds and sea turtles.. • *Acoustic emissions* generated from pipeline installation, umbilical installation, other subsea infrastructure installation, armouring activities and installation and support vessels. This has the potential to impact on sensitive marine fauna, including marine mammals and sea turtles, particularly at important life stages such as breeding, calving or feeding. • S*ewage, greywater, putrescible waste* resulting in localised increase in nutrient and pathogens, changes to marine flora extent and changes to feeding behaviour for scavenger marine fauna and avifauna. • *Deck drainage* from the wash down of deck spills resulting in changes to water quality and potential acute toxic impact on marine flora fauna in the receiving environment. • *Cooling and desalination / brine water* – discharge of water used for cooling machinery engines and discharge of desalination brine used for producing potable water for the drilling unit potentially resulting in changes to water temperature and alternations to seawater salinity with potential to impact on marine pelagic fauna. • *Dewatering discharges* (discharge of hydrotest water containing biocides) resulting in decline water quality and potential toxicity impacts on marine fauna • *Discharge of effluent* containing hydrate preventatives during spool connections during umbilicals and other structure installation resulting in potential decline in water and sediment quality, loss of marine flora and toxic impacts on marine fauna. • *Release of hydraulic fluids and scale inhibitors* during disconnection of umbilicals resulting in potential decline in water quality and acute toxic impacts on marine organisms. • *Release of inhibitors and residual hydrocarbons* during the disconnection of risers and flow lines potentially leading to decline in water quality and acute toxic effects on marine organisms • *Release of naturally occurring radioactive material* from disconnected production flowlines during decommissioning – potential contamination of sediment, water column and toxic impacts on marine organisms

Hazard	Description and potential impact
Non-routine discharges	• *Chemical spills* from incidental spills of chemicals stored on board vessels e.g. biocides would potentially have toxic impacts on marine fauna • *Hydrocarbon spills* from vessel collision or grounding, refuelling and damage of subsea infrastructure having potential for significant impacts on sensitive environments, protected matters, water quality, and sediment quality. • *Dropped objects* on subsea infrastructure during decommissioning resulting in the release of well fluids with potential for impacts on water quality and marine fauna and flora.

Operational activities

Hazard	Description and potential impact
Physical presence	• *Vessel movements* including tanker movements for FPSOs with the potential to result in fauna interactions including behavioural disturbance or collision • *Seawater intake* for the purposes of producing potable water or for injection activities with potential to entrain marine fauna. • *Use of vessels and exchange of ballast water* potentially resulting in the incursion of non-indigenous marine species
Seabed disturbance	• *Physical presence of structures* including platforms, pipelines, umbilicals, manifolds and associated habitat loss or disturbance for the life of the project and potential interference with other users such as commercial fishers
Routine discharges and emissions	• *Discharge of commissioning fluids* containing hydrocarbons and chemicals potentially resulting in changes to water quality and toxic effects on marine organisms • *Particles of light generated from platforms*, FPSOs and support vessels with potential to impact on marine fauna behaviours, particularly seabirds and turtle nesting and hatchling dispersal. • *Flaring releasing gaseous emissions* to atmosphere causing localised impacts in air quality and contributing to global greenhouse gas emissions and changing background light levels at night potentially affecting marine fauna behaviour. • *Discharge of produced formation water* to the marine environment containing residual oil and chemicals resulting in changes to water quality, sediment quality, toxic effects on marine organisms, loss of benthic habitat, and contamination of habitats. • *Routine discharge of liquid wastes* from platforms / FPSOs and support vessel potentially containing hydrocarbons, oil, dispersants, detergents, solvents, particles and other chemicals rusting in changes to water quality, potential changes to sediment quality and degradation of habitats including loss of marine flora. • *Discharge of boiler water* used for heating processes and containing chemicals at temperatures in excess of 100 degrees. Potential impacts include elevated seawater temperatures causing alterations of physiological processes leading to loss of habitat, disturbance to marine fauna and potential mortality from prolonged exposures. • *Underwater noise* generated from FPSO, tankers, and support vessels with potential to disturb marine fauna • *Intervention systems* resulting in release of hydrocarbons, hydraulic fluid and chemicals during change outs of spools, flowlines, risers and hydraulic fluids during change out of subsea systems potentially causing causes to water quality and sediment quality with potential for localised impact on benthic habitats and toxic

Hazard	Description and potential impact
	effects. • *Brine water discharge* from reverse osmosis process resulting in the release of hypersaline water containing treatment chemicals with the potential to result in toxic impacts on marine organisms, decline in water quality and localised benthic habitat loss.
Non-routine discharges	• *Hydrocarbon spill from a blowout event* – potentially resulting in significant impacts on marine fauna and flora, benthic habitats, water quality, sediment quality and areas of heritage, conservation or world heritage significance • *Loss of hydrocarbons from pipeline breach or leaks* potentially resulting in significant impacts on marine fauna, marine flora, benthic habitats, water quality, sediment quality and areas of heritage, conservation or world heritage significance • *Chemical spills* resulting from incidental spills of chemicals stored on board vessels e.g. biocides would potentially have toxic impacts on marine fauna • *Hydrocarbon spills from vessel collision* or grounding, refuelling and damage of subsea infrastructure – potential for significant impacts on sensitive environments, protected matters, water quality, and sediment quality. • *Hydrocarbon spills during bunkering* or offtake on FPSOs potentially resulting in changes to water quality, acute toxic impacts on marine organisms and localised impacts on benthic habitats.
Injection of carbon dioxide into the seabed	• *Leaking of carbon dioxide from injected reservoirs* has the potential to acidify and de-oxygenate water in the vicinity of the leak. A large and sudden leak would also result in a physical perturbation that may impact on marine flora and fauna. In general, slow leaks may result in long term, chronic localized impacts, whereas sudden large leaks may have the potential for impacts to occur on a larger scale with more acute impacts on marine fauna and fauna.

Appendix 4 – Cumulative Impacts

General considerations for cumulative impact assessment

When developing an understanding of cumulative impacts of an activity on the environment, the following general considerations should be taken into account:

- Initial scoping for cumulative effects. This includes the identification of valued components for which residual environmental effects are predicted, determining the spatial and temporal boundaries to capture potential cumulative effects on these valued components and examining the relationships of the residual impacts (Government of Canada, 2012).

- Definition of an appropriate assessment area in which to consider cumulative impacts. This is likely to be defined by the extent of potential impacts in conjunction with ecological, social, cultural considerations and the extent of user group values that may be affected by the activity.

- The baseline condition of cumulative assessment area prior to human-induced impacts, followed by an understanding of the existing environment at the time of the proposal. This assists in determining changes to the existing natural environment from pre-human disturbance and thus will assist in understanding the combination of historic and existing human induced impacts.

- The condition of the environment that is likely to result from the implementation of the activity. This should be undertaken once historical and existing impacts have been defined and calculated to enable a comparison between pre-human impacts and post activity proposal impacts.

- Cumulative impacts discussed in the context of 'acceptable levels' or 'significance' with a clear justification for why impacts on the natural environment and / or relevant user groups are acceptable taking into account known levels of acceptable impact, relevant policies and guidance, published literature and any available cumulative impact assessment and management frameworks.

- Mitigation controls discussed in the context of assuring that acceptable levels will be met and unacceptable cumulative impacts will be avoided using ongoing monitoring and an adaptive management approach.

Cumulative impact assessment under the EPBC Act

1. Strategic Assessments

Cumulative impacts are relevant and often addressed in the strategic assessment of a policy, plan or program under Part 10 of the EPBC Act. Strategic assessments offer the opportunity for the Minister for the Environment to consider, and potentially approve, a series of new proposals or developments (actions) at a much larger scale and over a much longer time-frame than is possible within project by project assessments. A strategic assessment has the potential to deal with cumulative impacts on matters protected under Part 3 of the EPBC Act, and to secure conservation and planning outcomes at significantly larger scale than can be achieved through project by project assessments.

2. Project by project assessments

Cumulative impacts can be taken into account at the referral stage to determine whether the proposed action will or is likely to have a significant impact on matters protected under Part 3 of the EPBC Act, and if so, by what level of assessment the proposed action should be assessed.

The general information requirements for referral stage assessments are outlined below (a cumulative assessment considers) and can be provided by either: the proponent in referral documentation, sourced during the Department of the Environment's referral assessment, or through public comments. Relevant information may include the context in which a particular proposal is being assessed, previous developments, approved proposals and proposals under consideration or subject to other discussion. It may also be appropriate to consider emerging development expectations – i.e. development not yet referred but likely in the future.

In developing guidelines for assessment of a controlled action by a Public Environment Report or Environmental Impact Statement, the Minister for the Environment may request a proponent to provide information in the Report or Statement about the cumulative impacts relevant to assessing the significance of the impacts of the action.

When deciding what conditions (if any) to impose on an action, the Minister for the Environment can impose conditions that are necessary or convenient for: protecting, or repairing, or mitigating damage to, the relevant protected matter from cumulative impacts. Conditions can also impose mitigation measures to assess cumulative impacts via monitoring programs.

Cumulative impact assessment under the Program

Table A4.1 Summary of how NOPSEMA requires operators to undertake cumulative impact assessment in EPs and OPPs

	How cumulative impacts are addressed
Description of activity	An Environment Plan and Offshore Project Proposal must include a description of all aspects of the proposed activity, including any characteristics of the activity with the potential to contribute to cumulative impacts. For instance the nature of any emissions and discharges, the timing of the activity, and the duration of the activity are all factors that are likely to be relevant when considering cumulative impacts. The Offshore Project Proposal is required to describe activities for the life of the project. For example, if a production facility is proposed, the Offshore Project Proposal for the activity must include a detailed description of all characteristics in a manner that would be sufficient for informing key considerations for a cumulative impact identification and evaluation. Appropriate to the nature and scale of the activity, this description must also include a description of any other activities the operator identifies (proposed, approved or already undertaken) impacting on the environment in a manner that would enable an evaluation of cumulative historical, existing and potential impacts from the proposed activity and other proposed activities in the locality or region. Any relevant information about the activity that would be necessary for assessing cumulative impacts such as those arising from pre-construction works, installation, commissioning, operations and decommissioning should be included in the Offshore Project Proposal and Environment Plan. In particular, the timing, duration, and nature of any emissions and discharges that will be relevant for assessing cumulative impacts on ecological (including those matters protected under Part 3 of the EPBC Act), social, economic and cultural values, should be sufficiently described e.g. the duration and volume of PFW discharge, duration of installation activities, timing and location of vessel activity, timing, duration, intensity and location of noise generating activities, location and installation timing of pipeline installation activities etc.
Description of environment	The Environment Plan and Offshore Project Proposal will require a description of the existing environment that may be affected by the activity including any matters protected under Part 3 of the EPBC Act, and relevant cultural, social and economic aspects of the environment that may be affected. The description of the environment must be sufficient to encompass all environmental aspects that may potentially be subject to cumulative impacts over time. For example, for an activity that includes the production and processing of hydrocarbons offshore, the description of the environment would need to include any ecological, social, cultural and economic values that exist within the environment potentially affected by production drilling, facility and pipeline installation and operations of those facilities. This will

	How cumulative impacts are addressed
	include a description of any protected matters under Part 3 of the EPBC Act, existing uses such as commercial fishing and tourism and other petroleum exploration or production activities potentially affected by all stages in the petroleum production life cycle. The Program requires that the Offshore Project Proposal detail all relevant values and sensitivities of the environment, specifically considering protected matters.
Description of environmental impacts and risks	An Environment Plan and Offshore Project Proposal must include details of environmental impacts and risks that are relevant to demonstrating that impacts and risks will be of an acceptable level. This will include details of particular impacts and risks relevant to an evaluation of cumulative impacts of the proposed activity. In the Offshore Project Proposal, appropriate to the nature and scale of the activity, potential cumulative impacts must take into account historical, existing and future potential impacts on the existing environment described, including those matters protected under Part 3 of the EPBC Act. For example, if an activity has the potential to impact on a threatened species protected under the EPBC Act, the Offshore Project Proposal must detail the potential impacts from the proposed activities and any other historical, existing and proposed known and potential impacts on that population. For instance, if an operational activity had the potential to impact on a genetically distinct population of green turtle, the Offshore Project Proposal would be required to describe other potential impacts on that population such as loss of habitat and by-catch from fishing pressure, entanglement in marine debris, unsustainable harvest, vessel interaction and other petroleum and non-petroleum developments. The Offshore Project Proposal would then need to describe the additive impact of the proposed petroleum activity on that green turtle population. This is likely to require an analysis of whether the combination of past, present and future impacts has the potential to affect population viability and status.
Evaluation of impacts and risks	The Environment Plan and Offshore Project Proposal must include details of the environmental impacts and risks for the activity and an evaluation of all the impacts and risks, including cumulative impacts appropriate to the nature and scale of the activity. This must include an evaluation of all the impacts and risks arising directly or indirectly from all operations of the activity and potential emergency conditions, including, but not limited to impacts on matters protected under Part 3 of the EPBC Act. The purpose of the evaluation is to examine the extent and magnitude of ecological, social, cultural and economic impacts of the proposed activity on the natural environment and user groups. This will require an analysis of factors that might be affected by the activity, an evaluation of the proposed,

	How cumulative impacts are addressed
	existing and historical impacts on that environmental factor and an analysis of whether the cumulative or additive impacts of the proposed activity with existing and historical impacts will be of an acceptable level. Using the example of potential impacts on a genetically distinct green turtle population, the Offshore Project Proposal must evaluate whether the additive effect of all construction, operational and decommissioning components of the activity, in addition to existing and historical pressures on that population will result in unacceptable impacts such as decline in population numbers, interference with reproductive output or impact on the viability and condition of that population over the life of the project. This would include an evaluation of impacts from hydrocarbon spills and other incidental events that may occur during emergency conditions.
Requirements	An Environment Plan or Offshore Project Proposal must describe all requirements that apply and are relevant to environmental management. This includes any legislation, plans and policies or other documents that may be relevant for examining and considering cumulative impacts and defining the acceptable level of cumulative impact. This will include any legislative or other requirements relevant to establishing acceptable levels of cumulative impact on matters protected under Part 3 of the EPBC Act e.g. Management Plans, Recovery Plans, Conservation Advices and Threat Abatement Plans under the EPBC Act where relevant. E.g. A seismic survey in a sensitive area for the blue whale must document that the species Recovery Plan has been considered and that the cumulative impacts of the proposal, in combination with existing and approved actions in that area, have been taken into account. An evaluation of the sum of these impacts, against the blue whale recovery objectives in the Recovery Plan, must demonstrably be assessed and documented.
Environmental performance outcomes and standards	An Environment Plan or Offshore Project Proposal developed under the Program must include environmental performance outcomes, and an Environment Plan must include environmental performance standards and measurement criteria against which those outcomes that address legislative and other controls will be measured. This means that any defined acceptable levels of cumulative impact must be included as an environmental outcome to be achieved for the life of the project. The environmental outcome must be supported by environmental performance standards that ensure that the outcome can be successfully achieved whilst measurement criteria are defined to ensure that the titleholder's performance in achieving the environmental outcome is measured and reported. Using the example of a petroleum production facility with potential to impact on a genetically distinct green turtle population, the Environment Plan would need to include the acceptable level of impact on the green turtle population as an environmental outcome (*e.g. no change in population numbers attributed to the activity*), identify the environmental performance standards

	How cumulative impacts are addressed
	that will be implemented to ensure that the outcome will be achieved (*e.g. controls for preventing impacts on marine turtles such as those relating to vessel traffic management, light minimisation, avoidance of habitat loss and minimisation of underwater noise and wastewater discharge*), and describe the measurement criteria to be used to determine whether population numbers have been affected by the activity (*e.g. results of population monitoring and / or control effectiveness monitoring*).
Implementation strategy	The OPGGS(E) Regulations require titleholders to prepare an implementation strategy for the Environment Plan which includes a description of the environmental management system (EMS) for the activity to be used to ensure that cumulative and indirect impacts are continuously identified. In relation to cumulative impact management, the EMS must demonstrate that there are processes in place to ensure: • Environmental impacts and risks of the activity, including cumulative impacts, are continuously identified and reduced to ALARP. • There are specific control measures in the environment plan for detecting cumulative impacts of the activity on the natural environment, cultural and social values and user groups of the environment. • The environmental performance outcomes are being met, including those relevant to matters protected under Part 3 of the EPBC Act. • That there are clear requirements for monitoring environmental performance including monitoring, detecting and mitigating indirect and consequential environmental impacts. • That there are contingency measures in place to ensure that any unacceptable impact detected including any indirect consequential ecological, social, cultural and economic impacts are managed using an adaptive and continuous improvement approach. This may require modification to controls, removal or reduction of activity stressors or a combination of both to ensure that acceptable levels can be maintained for the life of the project.
Oil Pollution Emergency Plans	The Program requires the titleholder to provide an oil pollution emergency plan as part of the implementation strategy for an Environment Plan and must provide for the maintenance of the plan. The Environment Plan must evaluate the risk of a hydrocarbon spill and the potential impacts of a hydrocarbon spill including any cumulative and indirect consequential impacts that may arise from a hydrocarbon spill. The oil pollution emergency plan must be commensurate with, and appropriate for, minimising the cumulative impacts of a hydrocarbon spill and must ensure that any cumulative impacts from spill response activities e.g. dispersant application, will be of an acceptable level including those cumulative hydrocarbon response impacts relevant to matters protected under Part 3 of the EPBC Act (*e.g. clean-up activities on turtle nesting*

	How cumulative impacts are addressed
	beaches, dispersant application in close proximity to a world heritage property etc.). Furthermore, post spill monitoring arrangements will be required as a component of the implementation strategy in an Environment Plan. These arrangements will ensure that cumulative impacts from an incidental hydrocarbon spill will be monitored, measured and reported on, thereby providing for the characterisation and consequence analysis of incidental cumulative impacts in the event of a spill.
Consultation	Proponents must conduct public consultation on Offshore Project Proposals for a minimum of four weeks for Offshore Project Proposals. Proponents must ensure that the Offshore Project Proposal released for public comment has included sufficient information on the potential cumulative impacts of the proposed petroleum activity to enable interested parties and stakeholders to make an informed assessment and provided appropriate advice with regard to cumulative impacts. In the course of preparing the Environment Plan, or a revision of an Environment Plan, the titleholder for an activity must consult with relevant persons who may be affected by the activities to be carried out or any other person or organisation that the titleholder considers relevant. This may include parties with an interest in matters protected under Part 3 of the EPBC Act. This process is one mechanism to ensure that any cumulative and indirect consequential impacts on users of the environment e.g. other petroleum explorers / operators, tourism operators, commercial and recreational fishers, traditional owners and researchers, will be identified and therefore must be considered in the Environment Plan. The titleholder must demonstrate that the Environment Plan has adopted any appropriate management measures resulting from the consultation and has provided for appropriate ongoing consultation, that are necessary for ensuring that cumulative impacts from the activity on other users will be of an acceptable level for the life of the project.
Feasible alternatives	Proponents must consider and address feasible alternatives in the Offshore Project Proposal submitted to NOPSEMA for acceptance. This process is one mechanism to ensure that any cumulative and indirect consequential impacts are considered when assessing feasible alternatives against the proposed proposal.

Table A4.2 How NOPSEMA considers cumulative impact assessment

Program Requirements	How cumulative impact assessment is addressed
Appropriate to nature and scale of the activity	Under the Program, NOPSEMA assesses whether the titleholder has satisfactorily undertaken an assessment of cumulative impacts and has defined acceptable levels of cumulative impact that are appropriate for the 'nature and scale' of the activity. This means that NOPSEMA specifically considers whether the assessment of cumulative impacts is relevant to the key risks and impact on the ecological, social, economic and cultural environmental attributes. For example, if the activity consists of a producing and processing operating facility whereby the discharge of waste water is proposed, NOPSEMA will consider whether an appropriate evaluation of cumulative impacts relevant to waste water stressors and receptors has been undertaken, including impacts specific to those matters protected under Part 3 of the EPBC Act. In addition, under the Program, NOPSEMA considers whether cumulative impacts have been considered in the Offshore Project Proposal for all stages of the project ranging from pre-commissioning activities through to decommissioning activities. Further, management controls for assuring that cumulative impacts will continue to be within defined acceptable levels, must be appropriate and relevant to detecting and managing cumulative impacts and therefore appropriate to the 'nature and scale' of the activity. **NOPSEMA will not accept an Offshore Project Proposal for an activity that has not sufficiently and appropriately considered and evaluated all impacts including cumulative impacts in a manner that is commensurate to the 'nature and scale' of the activity.** **NOPSEMA provides guidance for proponents around identifying environmental impacts including cumulative impact to ensure the detail is appropriate to the 'nature and scale' of the activity.**
Acceptable	Under the Program, NOPSEMA assesses whether the titleholder has satisfactorily demonstrated that cumulative impacts will be of an acceptable level on all ecological, social, economic and cultural aspects of the environment, including those matters protected under Part 3 of the EPBC Act, in a manner that is appropriate to the nature and scale of the activity. In determining and justifying acceptable levels of impact, the Environment Plan and Offshore Project Proposal should make reference to relevant management plans, threat abatement plans, recovery plans, conservation advice and any data that is available on the current state of the environment, particularly when examining cumulative impacts on protected matters. The Offshore Project Proposal must detail all the relevant values and sensitivities of the environment specifically considering protected matters and evaluate the impacts on those sensitivities including cumulative impacts suitable to the nature and scale of the activity. The spatial boundary for a cumulative impact assessment should be defined and justified in order to demonstrate that cumulative impacts have been considered

Program Requirements	How cumulative impact assessment is addressed
	appropriate to the nature and scale of the activity. The Environment Plan and Offshore Project Proposal must also demonstrate that all activities and stressors that may interact with the environment and other users of the environment have been considered. The acquisition of historical and baseline information will be essential to enable an understanding of historical impacts, the condition of the existing environment and current use values and enable the projection of the cumulative environmental impact of existing and future uses combined with the proposed petroleum activity. For matters protected under Part 3 of the EPBC Act at risk from the implementation of an activity, NOPSEMA considers whether the acceptability of cumulative impacts is measured against a suitable reference condition, taking into account pre-human impact condition where appropriate. If the Offshore Project Proposal and Environment Plan are able to demonstrate that cumulative impacts will be of an acceptable level, NOPSEMA will examine whether the proposed controls that will be used to help minimise cumulative impacts and reduce cumulative impacts are reasonably satisfactory. **NOPSEMA will not accept an Offshore Project Proposal for an activity that has not evaluated all the impacts and risks including whether cumulative impacts of the proposal have been assessed appropriate to the nature and scale of the activity. This includes taking into account past, existing and future impacts on relevant ecological (including those matters protected under Part 3 of the EPBC Act), social, cultural and economic values in demonstrating that impacts will be acceptable for the life of the project.**
Performance outcomes, standards and measurement criteria	Under the Program, NOPSEMA assesses whether the titleholder has satisfactorily demonstrated the Environment Plan and Offshore Project Proposal define the environmental performance outcomes and set the environmental performance standards against which the environmental performance of the titleholder can be measured during all stages of the activity. Based on the nature and scale of the activity, NOPSEMA assesses whether the defined acceptable levels of cumulative impact have been systemically considered in defining the environmental performance outcomes for cumulative impacts that have been identified and evaluated. This includes considering appropriate environmental performance outcomes relevant to matters protected under Part 3 of the EPBC Act. The Environment Plan must also provide for appropriate measurement criteria that will allow the titleholder and Regulator to determine if the performance outcomes and performance standards have been met, particularly with respect to matters protected under Part 3 of the EPBC Act. In relation to cumulative impacts, NOPSEMA assesses whether there are sufficient and appropriate measurement criteria in place to measure the titleholder's performance in maintaining cumulative impacts within acceptable levels. **NOPSEMA will not accept an Environment Plan or Offshore Project Proposal that does not include appropriate environmental performance outcomes that**

Program Requirements	How cumulative impact assessment is addressed
	take into account acceptable levels of cumulative impact on those matters protected under Part 3 of the EPBC Act defined during the impact evaluation requirements of the Environment Plan and Offshore Project Proposal process.
Implementation strategy	Under the Program, NOPSEMA assesses whether the titleholder has satisfactorily demonstrated the Environment Plan contains an implementation strategy which provides for monitoring, recording and reporting, including impacts and risks to matters protected under Part 3 of the EPBC Act. This implementation strategy must be appropriate to the 'nature and scale' of the activity and include an environmental management system (EMS) that ensures that any cumulative impacts described in the Environment Plan will be monitored to demonstrate that acceptable levels will not be exceeded and that environmental performance outcomes will be continually met. **NOPSEMA will not accept an Environment Plan that does not assess cumulative impacts, define acceptable levels for cumulative impact and include an implementation strategy that consists of monitoring, recording and reporting arrangements to ensure that acceptable levels on those matters protected under Part 3 of the EPBC Act are achieved for the life of the project.**
Consultation	Under the Program, NOPSEMA assesses whether the titleholder has satisfactorily demonstrated stakeholder comments are taken into consideration following the mandatory public comment period including any comments relating to cumulative impacts and / or the assessment if cumulative impacts. Following the mandatory public consultation period, proponents must include, in the final Offshore Project Proposal submitted to NOPSEMA, a summary of comments received, an assessment of the merits of those comments and a statement of the titleholder's response or proposed response to any objection or claim, including a demonstration of changes (if any) made as a result. Social, economic and cultural considerations may include impacts on other users, such as researchers, fishers, local community, commercial tour operators and recreational users of the area potentially affected by all stages of the project life cycle. **NOPSEMA will not accept an Environment Plan that does not address the merit and claims of stakeholders, including those that relate to the potential cumulative impact of the activity on user values identified through** Offshore Project Proposal **public consultation and / or EP relevant persons consultation requirements.**

Appendix 5 – How the Program identifies and assesses potential impacts on protected matters

Process under the EPBC Act

There are two key stages in the environment assessment process required by the EPBC Act:

- *Referral:*

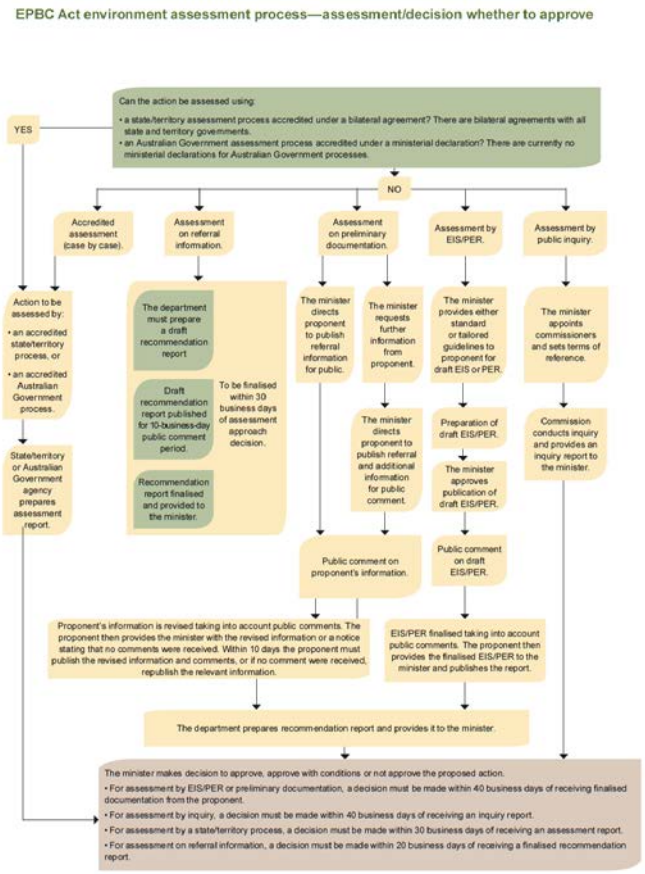
  Does the proposed action require approval under the EPBC Act?

- *Assessment/decision whether to approve:*

  The Minister for the Environment assesses the impacts of the action and makes a decision about the acceptability of those impacts.

The process and timing requirements for each type of assessment is summarised in the *EPBC Act Environment Assessment Process* flowchart here.

Figure: EPBC Act Environment Assessment Process



Referral:

The purpose of the referral stage is to determine whether or not a proposed action requires approval under the EPBC Act.

- Step 1: Deciding whether to submit a referral (with reference to the EPBC Act Significance Guidelines 1.1)
- Step 2: Submitting a referral to the Minister for the Environment via the Department of the Environment for consideration.
- Step 3: The Minister for the Environment decides within 20 business days whether the proposed action will require assessment and approval under the EPBC Act.
- Step 4: There is a 10 business day public comment period on the proposed action.
- Step 5: If a significant impact is likely the action will need to be assessed and approved under the EPBC Act before it can proceed. This is called a 'controlled action'.
- Step 6: Proposed actions can be assessed using different methods depending on a range of considerations, including the significance of the likely impacts, the complexity of the proposed action, and nature and extent of impacts on the protected matter.

A range of EPBC Act policy statements are used to assist proponents and decision makers in determining whether an action is likely to have a significant impact on a matter of national environmental significance at: www.environment.gov.au/epbc/publications/guidelines.html

Assessment/decision whether to approve:

For activities deemed to be controlled actions, the proposals can be assessed using one of the following assessment methods:

- accredited assessment (including under a bilateral agreement)
- assessment on referral information (assessment done solely on the information provided in the referral form)
- assessment on preliminary documentation (referral form and any other relevant material identified by the Minister for the Environment as being necessary to adequately assess a proposed action)
- assessment by environmental impact statement (EIS) or public environment report (PER), and
- assessment by public inquiry.

The general assessment/decision process is described in the following table:

EPBC assessment/decision process features	**Description**
Decisions the Minister for the Environment can make	Following the assessment of the proposed action, the Minister for the Environment will decide whether to: • approve the action • approve the action subject to constraints (that is, place conditions on the action), or • not approve the action.

EPBC assessment/decision process features	Description
What are the considerations when deciding if a controlled action (that is, an action that will have a significant impact on a protected matter) should be approved?	When deciding if a proposed action should be approved, and what conditions to impose, the Minister for the Environment will consider the impacts of the proposed action on matters protected by the EPBC Act and other economic and social matters. The Minister for the Environment must take into account: • The principles of ecologically sustainable development. • The results of the assessment of the impacts of the proposed action, including the relevant report from the secretary of the Commonwealth environment department or relevant state agency (under an accredited assessment). • Referral documentation. • Community and stakeholder comments. • Any other relevant information available on the impacts of the proposed action (this can include positive impacts). • Relevant comments from other Commonwealth Government and state and territory government ministers (such as information on social and economic factors). The Minister for the Environment may also take into account the environmental history of the individual or company proposing to take the action, including the environmental history of the executive officers of companies, and parent companies and their executive officers.
Conditions	The Minister for the Environment may attach conditions to an approval to protect, repair or mitigate damage to a matter protected by the EPBC Act. Conditions can include compliance with EPBC policy statements (such as *EPBC Act Policy statement 2.1 – Interaction between offshore seismic exploration and whales*, September 2008), implementation of avoidance or mitigation measures, independent environmental auditing and compliance monitoring. The Minister for the Environment provides proponents with a copy of the proposed decision on whether or not to approve an action, and the proposed conditions (if any) attached to the approval, for comment before making a final decision.
EPBC Act Permits	If a proposed action is to take place on Commonwealth land or in the Commonwealth marine area, there may be cases where, the action may require a permit under a different section of the EPBC Act. Separate permits may be required for any actions affecting an individual member of a threatened, marine or migratory species, or a whale or dolphin. How the Program provides for the requirements of the EPBC Act including EPBC Act permits is discussed in Chapter 5.
Consultation and transparency	Public comment is invited on initial referrals relating to proposed actions and draft environmental impact assessments. Proponents must publish referrals, draft environmental assessments, and final assessments

EPBC assessment/decision process features	Description
	(including response to public comments). In making decisions, the Minister for the Environment consults with the proponent and relevant portfolio Ministers on the proposed decision, and then publishes the final approval notice.
Compliance	Compliance with the EPBC Act is approached in a collaborative manner, in partnership with other agencies such as the Australian Customs Service. It involves proactive education programs and engagement with stakeholders, administrative measures such as revoking of permits and issuing of infringement notices, as well as the use of civil and criminal penalties. Priorities for compliance and enforcement activities are risk-based, considering the level of potential damage, penalties and level of knowledge.

Processes under the Program

The following table describes the processes of the program against the Terms of Reference – 3.2 – for this Strategic Assessment.

ToR Section 3.2	Reference to Program	Comments
i. Describe the nature of proposed petroleum or greenhouse gas activity and the baseline environment.	Definition of Activity Environment Plan Content - Description of Activity Offshore Project Proposal Content – Description of Activity	The description of the activity within both the Offshore Project Proposal and Environment Plan must include all aspects of the activity, including activities related to potential emergency conditions and emergency response arrangements, and provide enough detail to allow for potential impacts and risks to be identified. The level of detail within an Environment Plan will reflect that an activity is at an operation stage whereas an Offshore Project Proposal is submitted at a development phase. The description of the activity will be commensurate to the design phase of the development and activities.
	Definition of Environment Environment Plan Content - Description of Environment Offshore Project Proposal Content – Description of Environment	The definition of environment is consistent in both the EPBC Act and the OPGGS(E) Regulations. The Program requires that the proponent or titleholder describe the existing (baseline) environment that may be affected by the activity, including any relevant cultural, social and economic aspects of the environment that may be affected. This description must include details of the particular relevant values and sensitivities, including matters protected under Part 3 of the EPBC Act, and the description must be relevant to the nature and scale of the activity.

ToR Section 3.2	Reference to Program	Comments
ii. Provide a description of type and likelihood of risks considered and conduct a risk assessment to evaluate the potential risks and prepare appropriate response strategies that adequately address protected matters.	Environment Plan description of environmental impacts and risks Offshore Project Proposal description of environmental impacts and risks	The program provides that the titleholder must detail and evaluate the potential environmental risks and impacts for the project and/or activities to be undertaken. The evaluation is required to specify appropriate response strategies (prevention and mitigation controls) that will be implemented to ensure that impacts and risk can be managed to an acceptable level. This assessment must include consideration for matters protected under Part 3 of the EPBC Act. Though the level of detail will differ between the Offshore Project Proposal and the Environment Plan, as they are submitted at different phases within the project or activity development, sufficient detail must be provided to allow NOPSEMA to determine if the level of impact and risk of the project and/or activities including the response strategies is of an acceptable level and are as low as reasonably practicable.

ToR Section 3.2	Reference to Program	Comments
iii. Implement an approach that firstly seeks to avoid impacts on protected matters, and then seeks to mitigate residual impacts.	Impacts and risks of the project or activity will be as low as reasonably practicable and reduced to acceptable levels	The Program provides that the proponent or titleholder must demonstrate that the environmental impacts and risks from a project or activity will be of an acceptable level and reduced to as low as reasonably practicable. For a risk to be considered as low as reasonably practicable, it must demonstrated that the cost involved in reducing the risk further would be grossly disproportionate to the environmental benefit gained. When determining if the impacts or risks from a project or activity are as low as reasonably practicable, a hierarchy of control is routinely applied with the aim to avoid potential impact. If avoidance is not possible, then additional controls to reduce the potential impact and residual risk to an acceptable level are applied. If an activity could have an impact on a matter protected under Part 3 of the EPBC Act, the titleholder would have to demonstrate that if they could not avoid the impact, suitable mitigations (controls) can be put in place so that residual impacts are as low as reasonably practicable and reduced to an acceptable level. In setting acceptable levels, the proponent is required to take into consideration: • Principles of ecological sustainable development • Other requirements such as relevant laws, policies and standards • Operator values, policies and objectives • Biological, socio-economic and cultural environment including values and sensitivities • Stakeholders • Demonstration of as low as reasonably practicable

ToR Section 3.2	Reference to Program	Comments
iv. Apply relevant policies, industry practices and administrative guidelines for the protection of protected matters, including existing policy statement, Recovery Plans, Conservation Advices, Threat Abatement Plans, Marine Bioregional Plans and other relevant Australia Government Documents.	Offshore Project Proposal and Environment Plan requirements	The Program requires that the proponent or titleholder identify the requirements that apply to a project or activity and are relevant to the activity's environmental management and detail how they apply. These 'requirements' include relevant legislation, other approvals and conditions that apply to the activity, industry standards, government policy documents, administrative guidelines, and the titleholders own internal environmental management policies and standards. Information sources that inform the demonstration of meeting this requirement include documents such as plans of management, threatened species recovery plans, threat abatement plans and information sources provided on the Department of the Environment's website.

ToR Section 3.2	Reference to Program	Comments
v. Undertake appropriate and timely public consultation commensurate to the activity.	Offshore Project Proposal – Publication and consultation requirements Environment Plan – Consultation requirements	The Program provides for appropriate and timely public consultation via a number of avenues. For projects and associated activities, the Offshore Project Proposal must be published for a minimum public comment period of four weeks. The length of the specific timeframe is determined in consultation with the titleholder. NOPSEMA advice material will also outline that proponents, in accordance with good industry practice, should undertake early consultation with stakeholders in the lead up to the mandatory public comment period, to inform the preparation of the Offshore Project Proposal. This early consultation will inform the identification of environmental sensitivities, impacts, risks and the development of environmental performance outcomes to demonstrate that impacts and risks will be managed to an acceptable level. A proponent's demonstration of early consultation in accordance with NOPSEMA's advice material would also inform that proponent's discussion with NOPSEMA on the proposed length of the ensuing mandatory public consultation, as illustrated in the examples below. The aim of the public comment period is to provide the public an opportunity to review and provide input during the development of environmental management strategies for offshore projects. The Program details that the Offshore Project Proposal content must contain sufficient information to allow persons to make an informed assessment of the possible consequences of the project and activities to be undertaken as a part of the project on their functions, interests and activities. The Program details that subsequent to the public comment period, the proponent is required to modify and resubmit the Offshore Project Proposal. The updated Offshore Project Proposal must contain: • A summary of all comments received. • An assessment of the merits of any objections or claims in regards to adverse impact of the project and activities to which the Offshore Project Proposal relates. • A statement of the titleholder's response or proposed response to any objection or claim. • Provision for appropriate consultation with relevant persons or organisations. If the updated Offshore Project Proposal submitted to NOPSEMA does not provide this information, or does not demonstrate that adequate consultation has been undertaken, NOPSEMA must not and cannot accept the Offshore Project Proposal. Further, the Program requires, as part of developing the activity specific Environment Plan, that the titleholder provide reasonable consultation opportunity to persons or organisations whose functions, interests or activities (relevant persons) may be affected by the activity detailed in the Environment Plan.

ToR Section 3.2	Reference to Program	Comments
		The Environment Plan must detail these consultations, including provision of a summary and the full text of all consultations in line with this requirement, an assessment of the merits of any objection or claim about the potential adverse impact of each activity to which the Environment Plan relates, and a statement of the titleholder's response (or proposed response), if any, to each objection or claim. Regulator guidance on consultation emphasises to titleholders the importance of adequate public awareness of the activity as part of meeting this Environment Plan requirement. The implementation strategy of the Environment Plan also requires the titleholder to provide for appropriate ongoing consultation with relevant persons. If the Environment Plan submitted to NOPSEMA does not provide this information, or does not demonstrate that adequate consultation has occurred in relation to the activity described in the plan, NOPSEMA must not and cannot accept the Environment Plan.
vi. Address direct and indirect impacts of activities under NOPSEMA's jurisdictions	Offshore Project Proposal – Description of environmental impacts and risks Environment Plan - Description of environmental impacts and risks	The Program requires the proponent or titleholder to include details of, and evaluate all impacts risks and potential impacts for the project or activity including impacts and risks arising directly or indirectly from all operations of an activity and potential emergency conditions. This includes planned future activities and activities undertaken by other parties. For Offshore Project Proposals, this description must include consideration of short and longer-term changes on the environment.

ToR Section 3.2	Reference to Program	Comments
vii. Describe the baseline environment and consider the other long-term influences, including potential impacts of climate change, that may also impact on protected matters in the receiving environment (for example, including information available from the public domain	Definition of Environment Offshore Project Proposal Content – Description of Environment Environment Plan Content - Description of Environment	The Program requires that the proponent or titleholder describe the existing (baseline) environment that may be affected by the activity, including any relevant cultural, social and economic aspects of the environment that may be affected. The description must include all other known activities or facilities in the receiving environment – for instance a nearby seismic survey or operating production facility – and consider the cumulative impact of the proposed activity alongside the existing impacts of those other activities or facilities. NOPSEMA guidance details that the description of the environment is to be appropriate to the nature and scale of the activity and should take into account size, type, timing, duration, complexity and intensity of the activity. For long term activities, such as a full-field development which may have a duration of 30+ years, consideration would be given to any changes to the environment that may arise across the full duration of the activity. The existing environment would also provide reference to and discussion of other activities, whose area of potential impact overlap or coincide with the proposed activity's area, to inform requirements to consider the cumulative impacts of these other activities and the proposed activity may have on the relevant values and sensitivities of the environment.

Appendix 6 – World Heritage Properties that could be impacted by activities under the Program

The following World Heritage properties are located within the Strategic Assessment area:

- Australian Convict Sites
    - Kingston and Arthurs Vale Historic Area
- Lord Howe Island Group
- Macquarie Island
- Heard and McDonald Islands
- The Ningaloo Coast

Note: The Great Barrier Reef Marine Park, and Great Barrier Reef world heritage area is not within the scope of the Strategic Assessment or Program. A separate strategic assessment on the Great Barrier Reef is being undertaken. Further information can be found on the Department of Environment's website.

Coastal World Heritage Properties

Coastal World Heritage properties (not located within the Strategic Assessment area) that could be impacted by offshore petroleum and greenhouse gas activities include:

- Australian Convict Sites
    - Coal Mines Historic Site
    - Darlington Probation Station
    - Port Arthur Historic Site
- Fraser Island
- Kakadu National Park
- Shark Bay, Western Australia
- Sydney Opera House
- Tasmanian Wilderness
- Wet Tropics of Queensland

Appendix 7 – National Heritage places that could be impacted by activities under the Program

The following National Heritage places are located within the strategic assessment area:

- Heard and McDonald Islands
- HMAS Sydney II and HSK Kormoran Shipwreck Sites
- HMS Sirius Shipwreck
- Kingston and Arthurs Vale Historic Area
- Lord Howe Island Group
- Macquarie Island
- The Ningaloo Coast
- The West Kimberley

Coastal National Heritage places

National Heritage places (not located within the Strategic Assessment area) whose values could be impacted by offshore petroleum and greenhouse gas activities included:

- Batavia Shipwreck Site and Survivor Camps Area 1629 - Houtman Abrolhos
- Bondi Beach
- Cheetup Rock Shelter
- Coal Mines Historic Site
- Dampier Archipelago (including Burrup Peninsula)
- Darlington Probation Station
- Dirk Hartog Landing Site 1616 - Cape Inscription Area
- Fraser Island
- Great Ocean Road and Scenic Environs
- HMVS Cerberus
- Kakadu National Park
- Ku-ring-gai Chase National Park, Lion, Long and Spectacle Island Nature Reserves
- Kurnell Peninsula Headland
- North Head - Sydney
- Point Cook Air Base
- Point Nepean Defence Sites and Quarantine Station Area
- Port Arthur Historic Site
- Recherche Bay (North East Peninsula) Area
- Royal National Park and Garawarra State Conservation Area
- Shark Bay, Western Australia
- Sydney Harbour Bridge
- Sydney Opera House
- Tasmanian Wilderness
- Western Tasmania Aboriginal Cultural Landscape

Appendix 8 – Ramsar Wetlands that could be impacted by activities under the Program

The following Ramsar wetlands are located within the strategic assessment area:

- Hosnies Spring
- The Dales
- Elizabeth and Middleton Reefs Marine National Nature Reserve
- Ashmore Reef National Nature Reserve
- Pulu Keeling National Park
- Coral Sea Reserves (Coringa-Herald and Lihou Reefs and Cays)

Coastal Ramsar Wetlands

Coastal Ramsar wetlands (not located within the Strategic Assessment area) that may be impacted by offshore petroleum and greenhouse gas activities:

- Cobourg Peninsula, NT
- Kakadu National Park, NT
- Ord River Floodplain, WA
- Roebuck Bay, WA
- Eighty-mile Beach,WA
- Forrestdale and Thomsons Lake, WA
- Becher Point Wetlands, WA
- Peel-Yalgorup System, WA
- Vasse-Wonnerup System, WA
- Lake Gore, WA
- Lake Warden System, WA
- Forrestdale and Thomsons Lake, WA
- Becher Point Wetlands, WA
- Peel-Yalgorup System, WA
- The Coorong and Lakes Alexandrina and Albert Wetland, SA
- Piccaninnie Ponds Karst Wetlands, SA
- Port Phillip Bay (Western Shoreline) and Bellarine Peninsula, Vic
- Western Port, Vic
- Edithvale-Seaford Wetlands, Vic
- Corner Inlet, Vic
- Gippsland Lakes, Vic
- Lavinia, Tas
- Logan Lagoon, Tas
- East Coast Cape Barren Islands Lagoons, Tas
- Little Waterhouse Lake, Tas
- Floodplain Lower Ringarooma River, Tas
- Jocks Lagoon, Tas
- Pitt Water-Orielton Lagoon, Tas
- Aspley Marshes, Tas

- Moulting Lagoon, Tas
- Towra Point Nature Reserve, NSW
- Hunter Estuary Wetlands, NSW
- Myall Lakes, NSW
- Morton Bay, Qld
- Great Sandy Strait, Qld

Appendix 9 – Listed threatened species that could be impacted by activities under the Program

The listed threatened species that could be impacted by activities under the Program include:

- Turtles
    - Leatherback turtle (*Dermochelys coriacea*) (E)
    - Loggerhead turtle (*Caretta caretta*) (E)
    - Olive Ridley turtle (*Lepidochelys olivacea*) (E)
    - Green turtle (*Chelonia mydas)*
    - Hawksbill turtle (*Eretmochelys imbricate)*
    - Flatback turtle (*Natator depressus)*
- Shorebirds
    - Australian Painted Snipe (*Rostratula australis*) (E)
    - Antarctic Tern (New Zealand) (*Sterna vitatta bethunei)* (E)
- Seabirds
    - Round Island / Trinidade petrel (*Pterodroma arminjoniana s. str.*) (CE)
    - Herald petrel (*Pterodroma heraldica*) (CE)
    - Amsterdam Albatross (*Diomedea amsterdamensis*) (E)
    - Tristan Albatross (*Diomedea dabbenena*) (E)
    - Northern Royal Albatross (*Diomedea epomophora sanfordi*) (E)
    - Amsterdam Albatross (*Diomedea exulans amsterdamensis*) (E)
    - Tristan Albatross (*Diomedea exulans exulans*) (E)
    - Northern Royal Albatross (*Diomedea sanfordi*) (E)
    - Southern Giant-Petrel (*Macronectes giganteus*) (E)
    - Abbott's Booby (*Papasula abbotti*) (E)
    - Gould's Petrel (*Pterodroma leucoptera leucoptera*) (E)
    - Abbott's Booby (*Sula abbotti*) (E)
    - Grey-headed Albatross (*Thalassarche chrysostoma*) (E)
    - Chatham Albatross (*Thalassarche eremita*) (E)
    - Antipodean albatross (*Diomedea antipodensis)*
    - Southern royal albatross (*Diomedea epomophora (sensu stricto))*
    - Wandering albatross (*Diomedea exulans (sensu lato))*
    - Gibson's albatross (*Diomedea gibsoni)*
    - Christmas Island / Andrew's frigatebird (*Fregata andrewsi)*
    - Northern giant-petrel (*Macronectes halli)*
    - Sooty albatross (*Phoebetria fusca)*
    - Buller's albatross *Thalassarche bulleri)*
    - Indian yellow-nosed albatross (*Thalassarche carteri)*
    - Shy albatross / tasmanian shy albatross (*Thalassarche cauta (sensu stricto))*
    - Campbell albatross (*Thalassarche impavida)*
    - Black-browed albatross (*Thalassarche melanophris)*
    - Salvin's albatross (*Thalassarche salvini)*
    - Pacific albatross (*Thalassarche sp. nov.)*
    - White-capped albatross *(Thalassarche steadi)*

- Australian lesser noddy (*Anous tenuirostris melanops)*
- Imperial (Heard Island) / heard Shag (*Phalacrocorax nivalis)*
- Macquarie shag (*Phalacrocorax purpurascens)*
- Blue petrel (*Halobaena caerulea)*
- Soft-plumaged petrel (*Pterodroma mollis)*
- Southern royal albatross (*Diomedea epomophora epomophora)*
- Antipodean albatross (*Diomedea exulans antipodensis)*
- Gibson's albatross (*Diomedea exulans gibsoni)*
- Pacific albatross (*Thalassarche bulleri nov.)*
- Shy albatross / tasmanian shy albatross (*Thalassarche cauta cauta)*
- Salvin's albatross (*Thalassarche cauta salvini)*
- White-capped albatross (*Thalassarche cauta steadi)*
- Campbell albatross (*Thalassarche melanophris impavida)*
- Imperial shag (Heard Island) / heard shag (*Leucocarbo atriceps nivalis)*
- Imperial shag (Macquarie Island) (*Leucocarbo atriceps purpurascens)*
- Antarctic tern (Indian Ocean) (*Sterna vittata vittata)*
- Australian fairy tern (*Sternula nereis nereis)*
- White-bellied storm-petrel (Tasman Sea) / (Australasian) (*Fregetta grallaria grallaria)*
- Fairy Prion (southern) (*Pachyptila turtur subantarctica)*
- Kermadec petrel (western) (*Pterodroma neglecta neglecta)*

- Baleen Whales
  - Blue whale (*Balaenoptera musculus*) (E)
  - Southern right whale (*Eubalaena australis*) (E)
  - Sei whale (*Balaenoptera borealis*)
  - Fin whale (Balaenoptera physalus)
  - Humpback whale (Megaptera novaeangliae)
- Pinnipeds
  - Sub-antarctic fur-seal (*Arctocephalus tropicalis)*
  - Southern elephant seal (*Mirounga leonine)*
  - Australian sea-lion (*Neophoca cinerea)*
- Benthic Sharks
  - Dwarf / queensland sawfish (*Pristis clavata)*
  - Green / narrowsnout sawfish / dindagubba (*Pristis zijsron)*
- Sharks
  - Grey nurse shark (east coast population) (*Carcharias taurus (east coast population)*) (CE)
  - Speartooth shark (*Glyphis glyphis*) (CE)
  - Northern / New Guinea river shark (*Glyphis garricki*) (E)
  - Maugean / port davey skate (*Zearaja maugeana*) (E)
  - Great white shark (*Carcharodon carcharias)*
- Seasnakes
  - Short-nosed seasnake (*Aipysurus apraefrontalis)* (CE)
  - Leaf-scaled seasnake (*Aipysurus foliosquama)* (CE)
- Fish

    - Spotted handfish (*Brachionichthys hirsutus*) (CE)
    - Red handfish (*Thymichthys politus*) (CE)
    - Ziebell's / waterfall bay handfish (*Brachiopsilus ziebelli*)
    - Black rockcod / black cod / saddled rockcod (*Epinephelus daemelii)*
    - Australian grayling (*Prototroctes maraena)*
    - Honey blue-eye (*Pseudomugil mellis)*
- Dwarf sperm whale (*Kogia simus*)
- Whale shark (*Rhincodon typus)*

NOTE: CE = Critically Endangered; E = Endangered; all other species are listed as vulnerable.

Appendix 10 – Listed migratory species that could be impacted by activities under the Program

The listed migratory species that could be impacted by activities under the Program include:
**Note: ***Denotes that species is also a listed threatened species

- Shorebirds
    - Australian Painted Snipe (*Rostratula australis*)*
    - Common sandpiper (*Actitis hypoleucos)*
    - Ruddy turnstone (*Arenaria interpres)*
    - Sharp-tailed sandpiper (*Calidris acuminate)*
    - Sanderling (*Calidris alba)*
    - Dunlin (*Calidris alpine)*
    - Baird's sandpiper (*Calidris bairdii)*
    - Red knot / knot (*Calidris canutus)*
    - Curlew sandpiper (*Calidris ferruginea)*
    - Western sandpiper (*Calidris mauri)*
    - Pectoral sandpiper (*Calidris melanotos)*
    - Little stint (*Calidris minuta)*
    - Red-necked stint (*Calidris ruficollis)*
    - Long-toed stint (*Calidris subminuta)*
    - Great knot (*Calidris tenuirostris)*
    - Caspian plover (*Charadrius asiaticus)*
    - Double-banded plover (*Charadrius bicinctus)*
    - Little ringed plover (*Charadrius dubius)*
    - Ringed plover (*Charadrius hiaticula)*
    - Greater / large sand plover (*Charadrius leschenaultia)*
    - Lesser sand / mongolian plover (*Charadrius mongolus)*
    - Oriental plover / oriental dotterel (*Charadrius veredus)*
    - Sanderling (*Crocethia alba)*
    - Latham's / Japanese snipe (*Gallinago hardwickii)*
    - Swinhoe's snipe (*Gallinago megala)*
    - Pin-tailed snipe (*Gallinago stenura)*
    - Oriental pratincole (*Glareola maldivarum)*
    - Grey-tailed tattler (*Heteroscelus brevipes)*
    - Wandering tattler (*Heteroscelus incanus)*
    - Pheasant-tailed jacana (*Hydrophasianus chirurgus)*
    - Caspian tern (*Hydroprogne caspia)*
    - Broad-billed sandpiper (*Limicola falcinellus)*
    - Asian dowitcher (*Limnodromus semipalmatus)*
    - Bar-tailed godwit (*Limosa lapponica)*
    - Black-tailed godwit (*Limosa limosa)*
    - Eurasian curlew (*Numenius arquata)*
    - Eastern curlew (*Numenius madagascariensis)*
    - Little curlew / little whimbrel (*Numenius minutus)*
    - Whimbrel (*Numenius phaeopus)*
    - Grey phalarope (*Phalaropus fulicaria)*

- Grey phalarope (*Phalaropus fulicarius)*
- Red-necked phalarope (*Phalaropus lobatus)*
- Ruff (Reeve) (*Philomachus pugnax)*
- American golden plover (*Pluvialis dominica)*
- Pacific golden plover (*Pluvialis fulva)*
- Grey plover (*Pluvialis squatarola)*
- Grey-tailed tattler (*Tringa brevipes)*
- Wood sandpiper (*Tringa glareola)*
- Nordmann's greenshank (*Tringa guttifer)*
- Common sandpiper (*Tringa hypoleucos)*
- Wandering tattler (*Tringa incana)*
- Common greenshank / greenshank (*Tringa nebularia)*
- Marsh sandpiper / little greenshank (*Tringa stagnatilis)*
- Common redshank / redshank (*Tringa tetanus)*
- Buff-breasted sandpiper (*Tryngites subruficollis)*

- Seabirds
  - Amsterdam Albatross (*Diomedea amsterdamensis*) *
  - Tristan Albatross (*Diomedea dabbenena*) *
  - Northern Royal Albatross (*Diomedea epomophora sanfordi*) *
  - Amsterdam Albatross (*Diomedea exulans amsterdamensis*) *
  - Tristan Albatross (*Diomedea exulans exulans*) *
  - Northern Royal Albatross (*Diomedea sanfordi*) *
  - Southern Giant-Petrel (*Macronectes giganteus*) *
  - Grey-headed Albatross (*Thalassarche chrysostoma*) *
  - Chatham Albatross (*Thalassarche eremita*) *
  - Abbott's Booby (*Papasula abbotti*) *
  - Gould's Petrel (*Pterodroma leucoptera leucoptera*) *
  - Abbott's Booby (*Sula abbotti*) *
  - Common noddy (*Anous stolidus)*
  - Streaked shearwater (*Calonectris leucomelas)*
  - White-winged black / white-winged tern (*Chlidonias leucoptera)*
  - White-winged / white-winged black tern (*Chlidonias leucopterus)*
  - Black tern (*Chlidonias niger)*
  - White-bellied sea-eagle (*Haliaeetus leucogaster)*
  - Little tern (*Sterna albifrons)*
  - Bridled tern (*Sterna anaethetus)*
  - Lesser crested tern (*Sterna bengalensis)*
  - Caspian tern (*Sterna caspia)*
  - Roseate tern (*Sterna dougallii)*
  - Common tern (*Sterna hirundo)*
  - Black-naped tern (*Sterna sumatrana)*
  - Osprey (*Pandion haliaetus)*
  - South polar skua (*Catharacta maccormicki)*
  - Lesser / least frigatebird (*Fregata ariel)*
  - Great / greater frigatebird (*Fregata minor)*

- Wilson's storm-petrel (*Oceanites oceanicus)*
- Leach's storm-petrel (*Oceanodroma leucorhoa)*
- White-tailed tropicbird (*Phaethon lepturus)*
- Light-mantled sooty albatross (*Phoebetria palpebrata)*
- White-chinned petrel (*Procellaria aequinoctialis aequinoctialis)*
- White-chinned petrel (*Procellaria aequinoctialis)*
- Grey petrel (*Procellaria cinerea)*
- Black petrel (*Procellaria parkinsoni)*
- Westland petrel (*Procellaria westlandica)*
- Providence petrel (*Pterodroma solandri)*
- Flesh-footed / fleshy-footed shearwater (*Puffinus carneipes)*
- Sooty shearwater (*Puffinus griseus)*
- Streaked shearwater (*Puffinus leucomelas)*
- Wedge-tailed shearwater (*Puffinus pacificus)*
- Short-tailed shearwater (*Puffinus tenuirostris)*
- Long-tailed jaeger / long-tailed skua (*Stercorarius longicaudus)*
- Arctic jaeger / arctic skua (*Stercorarius parasiticus)*
- Pomarine jaeger / pomarine skua (*Stercorarius pomarinus)*
- Masked booby (*Sula dactylatra)*
- Brown booby (*Sula leucogaster)*
- Red-footed booby (*Sula sula)*
- Yellow-nosed / atlantic yellow-nosed / indian yellow-nosed albatross (*Thalassarche chlororhynchos)*
- Antipodean albatross (*Diomedea antipodensis)*
- Southern royal albatross (*Diomedea epomophora (sensu stricto))*
- Wandering albatross (*Diomedea exulans (sensu lato))*
- Gibson's albatross (*Diomedea gibsoni)*
- Christmas Island / Andrew's frigatebird (*Fregata andrewsi)*
- Northern giant-petrel (*Macronectes halli)*
- Sooty albatross (*Phoebetria fusca)*
- Buller's albatross *Thalassarche bulleri)*
- Indian yellow-nosed albatross (*Thalassarche carteri)*
- Shy albatross / tasmanian shy albatross (*Thalassarche cauta (sensu stricto))*
- Campbell albatross (*Thalassarche impavida)*
- Black-browed albatross (*Thalassarche melanophris)*
- Salvin's albatross (*Thalassarche salvini)*
- Pacific albatross (*Thalassarche sp. nov.)*
- White-capped albatross *(Thalassarche steadi)*
- Red-faced cormorant (*Phalacrocorax urile)*
- Short-tailed albatross (*Diomedea albatrus)*
- South polar skua (*Stercorarius maccormicki)*
- Southern royal albatross (*Diomedea epomophora epomophora)*
- Antipodean albatross (*Diomedea exulans antipodensis)*
- Gibson's albatross (*Diomedea exulans gibsoni)*
- Pacific albatross (*Thalassarche bulleri nov.)*

    - Shy albatross / tasmanian shy albatross (*Thalassarche cauta cauta)*
    - Salvin's albatross (*Thalassarche cauta salvini)*
    - White-capped albatross (*Thalassarche cauta steadi)*
    - Campbell albatross (*Thalassarche melanophris impavida)*
- Dolphins
    - Spectacled porpoise / spectacled dolphin (*Australophocoena dioptrica)*
    - Fraser's / sarawak dolphin (*Lagenodelphis hosei SE Asian population)*
    - Dusky dolphin (*Lagenorhynchus obscures)*
    - Irrawaddy dolphin (*Orcaella brevirostris)*
    - Spectacled porpoise *(Phocoena dioptrica)*
    - Indo-pacific humpback dolphin (*Sousa chinensis)*
    - Spotted / pantropical spotted dolphin (*Stenella attenuata E Tropical Pacific, SE Asian populations)*
    - Long-snouted spinner dolphin (*Stenella longirostris E Tropical Pacific, SE Asian populations)*
    - Spotted bottlenose dolphin (Arafura/Timor Sea populations) (*Tursiops aduncus (Arafura/Timor Sea populations))*
    - Killer whale/orca (*Orcinus orca*)
- Baleen Whales
    - Blue whale (*Balaenoptera musculus*) *
    - Southern right whale (*Eubalaena australis*) *
    - Antarctic / dark-shoulder minke whale (*Balaenoptera bonaerensis*)
    - Sei whale (*Balaenoptera borealis*)
    - Bryde's whale (*Balaenoptera edeni*)
    - Fin whale (*Balaenoptera physalus*)
    - Pygmy right whale (*Caperea marginata*)
    - Humpback whale (*Megaptera novaeangliae)*
- Sperm Whale (*Physeter macrocephalus)*
- Filter Feeder Sharks
    - Basking shark (*Cetorhinus maximus)*
    - Whale shark (*Rhincodon typus)*
    - Giant/Chevron/Pacific/Pelagic/Oceanic Manta Ray (*Manta birostris)*
- Pelagic Sharks
    - Great white shark (*Carcharodon carcharias)*
    - Shortfin mako (*Isurus oxyrinchus)*
    - Longfin mako (*Isurus paucus)*
    - Porbeagle/Mackerel shark (*Lamna nasus)*
- Turtles
    - Leatherback turtle (*Dermochelys coriacea*) *
    - Loggerhead turtle (*Caretta caretta*) *
    - Olive Ridley turtle (*Lepidochelys olivacea*) *
    - Green turtle (*Chelonia mydas)*
    - Hawksbill turtle (*Eretmochelys imbricate)*
    - Flatback turtle (*Natator depressus)*
- Dugong (*Dugong* dugong)

Appendix 11 – Commonwealth Heritage Places, listed marine species and cetaceans that could be impacted by activities under the Program

The Commonwealth Heritage places in a Commonwealth marine area within the Strategic Assessment area are:

- Ashmore Reef National Nature Reserve
- HMAS Sydney II and HSK Kormoran Shipwreck sites
- HMS Sirius Shipwreck
- Mermaid Reef – Rowley Shoals
- Ningaloo Marine Area – Commonwealth Waters
- Scott Reef and Surrounds – Commonwealth Area
- Seringapatam Reef and Surrounds
- Tasmanian Seamounts Area

Listed marine species that may be impacted by activities under the Program include:

- Syngnathids
    - Helen's pygmy pipehorse (*Acentronura larsonae*)
    - Corrugated / barbed pipefish (*Bhanotia fasciolata*)
    - Braun's pughead / pug-headed pipefish (*Bulbonaricus brauni*)
    - Gale's pipefish (*Campichthys galei*)
    - Three-keel pipefish (*Campichthys tricarinatus*)
    - Pacific Short-bodied / short-bodied pipefish (*Choeroichthys brachysoma*)
    - Barred short-bodied / girdled pipefish (*Choeroichthys cinctus*)
    - Muiron Island pipefish (*Choeroichthys latispinosus*)
    - Sculptured pipefish (*Choeroichthys sculptus*)
    - Pig-snouted pipefish (*Choeroichthys suillus*)
    - Fijian banded / brown-banded pipefish (*Corythoichthys amplexus*)
    - Reticulate / yellow-banded / network pipefish (*Corythoichthys flavofasciatus*)
    - Reef-top pipefish (*Corythoichthys haematopterus*)
    - Australian messmate / banded pipefish (*Corythoichthys intestinalis*)
    - Schultz's pipefish (*Corythoichthys schultzi*)
    - Roughridge pipefish (*Cosmocampus banneri*)
    - Banded / ringed pipefish (*Doryrhamphus dactyliophorus*)
    - Bluestripe / Indian blue-stripe / Pacific blue-stripe pipefish (*Doryrhamphus excisus*)
    - Cleaner / Janss' pipefish (*Doryrhamphus janssi*)
    - Many-banded pipefish (*Doryrhamphus multiannulatus*)
    - Flagtail / Masthead Island pipefish (*Doryrhamphus negrosensis*)
    - Ladder pipefish (*Festucalex scalaris*)
    - Tiger pipefish (*Filicampus tigris*)
    - Brock's pipefish (*Halicampus brocki*)
    - Red-hair / Duncker's pipefish (*Halicampus dunckeri*)
    - Mud / Gray's pipefish (*Halicampus grayi*)
    - Glittering pipefish (*Halicampus nitidus*)
    - Spiny-snout pipefish (*Halicampus spinirostris*)

- Ribboned pipehorse / ribboned seadragon (*Haliichthys taeniophorus*)
- Beady / steep-nosed pipefish (*Hippichthys penicillus*)
- Winged seahorse (*Hippocampus alatus*)
- Western spiny / narrow-bellied seahorse (*Hippocampus angustus*)
- Short-head / short-snouted seahorse (*Hippocampus breviceps*)
- Kellogg's / great seahorse (*Hippocampus kelloggi*)
- Spotted / yellow seahorse (*Hippocampus kuda*)
- Flat-face seahorse (*Hippocampus planifrons*)
- Hedgehog seahorse (*Hippocampus spinosissimus*)
- Prophet's pipefish (*Lissocampus fatiloquus*)
- Sawtooth pipefish (*Maroubra perserrata*)
- Tidepool pipefish (*Micrognathus micronotopterus*)
- Tucker's pipefish (*Mitotichthys tuckeri*)
- Bonyhead / bony-headed pipefish (*Nannocampus subosseus*)
- Leafy seadragon (*Phycodurus eques*)
- Common / weedy seadragon (*Phyllopteryx taeniolatus*)
- Duncker's pipehorse (*Solegnathus dunckeri*)
- Pallid / Hardwick's pipehorse (*Solegnathus hardwickii*)
- Gunther's / indonesian pipefish (*Solegnathus lettiensis*)
- Robust / robust spiny pipehorse (*Solegnathus robustus*)
- Spiny / australian spiny pipehorse (*Solegnathus spinosissimus*)
- Longtail ghostpipefish / long-tail ghost pipefish (*Solenostomus armatus*)
- Robust ghostpipefish / blue-finned ghost pipefish (*Solenostomus cyanopterus*)
- Harlequin ghost / ornate ghost pipefish (*Solenostomus paradoxus*)
- Double-end pipehorse / alligator pipefish (*Syngnathoides biaculeatus*)
- Bend stick / short-tailed pipefish (*Trachyrhamphus bicoarctatus*)
- Straightstick / long-nosed / straight stick pipefish (*Trachyrhamphus longirostris*)

- Seasnakes
  - Spine-tailed seasnake (*Aipysurus eydouxii)*
  - Olive seasnake (*Aipysurus laevis)*
  - Stokes' seasnake (*Astrotia stokesii)*
  - Spectacled seasnake (*Disteira kingie)*
  - Olive-headed seasnake (*Disteira major)*
  - Beaked seasnake (*Enhydrina schistose)*
  - Black-headed seasnake (*Hydrophis atriceps)*
  - Dwarf seasnake (*Hydrophis caerulescens)*
  - Fine-spined seasnake (*Hydrophis czeblukovi)*
  - Elegant seasnake (*Hydrophis elegans)*
  - Plain seasnake (*Hydrophis inornatus)*
  - Small-headed seasnake (*Hydrophis mcdowelli)*
  - Ornate reef sea snake (*Hydrophis ornatus)*
  - Large-headed seasnake (*Hydrophis pacificus)*
  - Plain-banded sea snake (*Hydrophis vorisi)*
  - Spine-bellied seasnake (*Lapemis hardwickii)*
  - Short-nosed seasnake (*Aipysurus apraefrontalis)*

    - Leaf-scaled seasnake (*Aipysurus foliosquama)*
- Turtles
    - Leatherback turtle (*Dermochelys coriacea*)
    - Loggerhead turtle (*Caretta caretta*)
    - Olive Ridley turtle (*Lepidochelys olivacea*)
    - Green turtle (*Chelonia mydas)*
    - Hawksbill turtle (*Eretmochelys imbricate)*
    - Flatback turtle (*Natator depressus)*
- Shorebirds
    - Australian Painted Snipe (*Rostratula australis*)
    - Antarctic Tern (New Zealand) (*Sterna vitatta bethunei)*
    - Common sandpiper (*Actitis hypoleucos)*
    - Ruddy turnstone (*Arenaria interpres)*
    - Sharp-tailed sandpiper (*Calidris acuminate)*
    - Sanderling (*Calidris alba)*
    - Dunlin (*Calidris alpine)*
    - Baird's sandpiper (*Calidris bairdii)*
    - Red knot / knot (*Calidris canutus)*
    - Curlew sandpiper (*Calidris ferruginea)*
    - Western sandpiper (*Calidris mauri)*
    - Pectoral sandpiper (*Calidris melanotos)*
    - Little stint (*Calidris minuta)*
    - Red-necked stint (*Calidris ruficollis)*
    - Long-toed stint (*Calidris subminuta)*
    - Great knot (*Calidris tenuirostris)*
    - Caspian plover (*Charadrius asiaticus)*
    - Double-banded plover (*Charadrius bicinctus)*
    - Little ringed plover (*Charadrius dubius)*
    - Ringed plover (*Charadrius hiaticula)*
    - Greater / large sand plover (*Charadrius leschenaultia)*
    - Lesser sand / mongolian plover (*Charadrius mongolus)*
    - Oriental plover / oriental dotterel (*Charadrius veredus)*
    - Sanderling (*Crocethia alba)*
    - Latham's / Japanese snipe (*Gallinago hardwickii)*
    - Swinhoe's snipe (*Gallinago megala)*
    - Pin-tailed snipe (*Gallinago stenura)*
    - Oriental pratincole (*Glareola maldivarum)*
    - Grey-tailed tattler (*Heteroscelus brevipes)*
    - Wandering tattler (*Heteroscelus incanus)*
    - Pheasant-tailed jacana (*Hydrophasianus chirurgus)*
    - Caspian tern (*Hydroprogne caspia)*
    - Broad-billed sandpiper (*Limicola falcinellus)*
    - Asian dowitcher (*Limnodromus semipalmatus)*
    - Bar-tailed godwit (*Limosa lapponica)*
    - Black-tailed godwit (*Limosa limosa)*

- Eurasian curlew (*Numenius arquata)*
- Eastern curlew (*Numenius madagascariensis)*
- Little curlew / little whimbrel (*Numenius minutus)*
- Whimbrel (*Numenius phaeopus)*
- Grey phalarope (*Phalaropus fulicaria)*
- Grey phalarope (*Phalaropus fulicarius)*
- Red-necked phalarope (*Phalaropus lobatus)*
- Ruff (Reeve) (*Philomachus pugnax)*
- American golden plover (*Pluvialis dominica)*
- Pacific golden plover (*Pluvialis fulva)*
- Grey plover (*Pluvialis squatarola)*
- Grey-tailed tattler (*Tringa brevipes)*
- Wood sandpiper (*Tringa glareola)*
- Nordmann's greenshank (*Tringa guttifer)*
- Common sandpiper (*Tringa hypoleucos)*
- Wandering tattler (*Tringa incana)*
- Common greenshank / greenshank (*Tringa nebularia)*
- Marsh sandpiper / little greenshank (*Tringa stagnatilis)*
- Common redshank / redshank (*Tringa tetanus)*
- Buff-breasted sandpiper (*Tryngites subruficollis)*

- Seabirds
  - Black noddy (*Anous minutes)*
  - White tern (*Gygis alba)*
  - Pacific gull (*Larus pacificus)*
  - Black-faced cormorant (*Phalacrocorax fuscescens)*
  - Grey ternlet (*Procelsterna cerulean)*
  - Crested tern (*Sterna bergii)*
  - Sooty tern (*Sterna fuscata)*
  - Fairy tern (*Sterna nereis)*
  - White-faced storm-petrel (*Pelagodroma marina)*
  - South Georgian diving-petrel (*Pelecanoides georgicus)*
  - Red-tailed tropicbird (*Phaethon rubricauda)*
  - White-necked petrel (*Pterodroma cervicalis)*
  - Great-winged petrel (*Pterodroma macroptera)*
  - Kermadec petrel (*Pterodroma neglecta)*
  - Black-winged petrel (*Pterodroma nigripennis)*
  - Little shearwater (*Puffinus assimilis)*
  - Common noddy (*Anous stolidus)*
  - Streaked shearwater (*Calonectris leucomelas)*
  - White-winged black / white-winged tern (*Chlidonias leucoptera)*
  - White-winged / white-winged black tern (*Chlidonias leucopterus)*
  - Black tern (*Chlidonias niger)*
  - White-bellied sea-eagle (*Haliaeetus leucogaster)*
  - Little tern (*Sterna albifrons)*
  - Bridled tern (*Sterna anaethetus)*

- Lesser crested tern (*Sterna bengalensis)*
- Caspian tern (*Sterna caspia)*
- Roseate tern (*Sterna dougallii)*
- Common tern (*Sterna hirundo)*
- Black-naped tern (*Sterna sumatrana)*
- Osprey (*Pandion haliaetus)*
- South polar skua (*Catharacta maccormicki)*
- Lesser / least frigatebird (*Fregata ariel)*
- Great / greater frigatebird (*Fregata minor)*
- Wilson's storm-petrel (*Oceanites oceanicus)*
- Leach's storm-petrel (*Oceanodroma leucorhoa)*
- White-tailed tropicbird (*Phaethon lepturus)*
- Light-mantled sooty albatross (*Phoebetria palpebrata)*
- White-chinned petrel (*Procellaria aequinoctialis aequinoctialis)*
- White-chinned petrel (*Procellaria aequinoctialis)*
- Grey petrel (*Procellaria cinerea)*
- Black petrel (*Procellaria parkinsoni)*
- Westland petrel (*Procellaria westlandica)*
- Providence petrel (*Pterodroma solandri)*
- Flesh-footed / fleshy-footed shearwater (*Puffinus carneipes)*
- Sooty shearwater (*Puffinus griseus)*
- Streaked shearwater (*Puffinus leucomelas)*
- Wedge-tailed shearwater (*Puffinus pacificus)*
- Short-tailed shearwater (*Puffinus tenuirostris)*
- Long-tailed jaeger / long-tailed skua (*Stercorarius longicaudus)*
- Arctic jaeger / arctic skua (*Stercorarius parasiticus)*
- Pomarine jaeger / pomarine skua (*Stercorarius pomarinus)*
- Masked booby (*Sula dactylatra)*
- Brown booby (*Sula leucogaster)*
- Red-footed booby (*Sula sula)*
- Yellow-nosed / atlantic yellow-nosed / indian yellow-nosed albatross (*Thalassarche chlororhynchos)*
- Antipodean albatross (*Diomedea antipodensis)*
- Southern royal albatross (*Diomedea epomophora (sensu stricto))*
- Wandering albatross (*Diomedea exulans (sensu lato))*
- Gibson's albatross (*Diomedea gibsoni)*
- Christmas Island / Andrew's frigatebird (*Fregata andrewsi)*
- Northern giant-petrel (*Macronectes halli)*
- Sooty albatross (*Phoebetria fusca)*
- Buller's albatross *Thalassarche bulleri)*
- Indian yellow-nosed albatross (*Thalassarche carteri)*
- Shy albatross / tasmanian shy albatross (*Thalassarche cauta (sensu stricto))*
- Campbell albatross (*Thalassarche impavida)*
- Black-browed albatross (*Thalassarche melanophris)*
- Salvin's albatross (*Thalassarche salvini)*

- Pacific albatross (*Thalassarche sp. nov.)*
- White-capped albatross *(Thalassarche steadi)*
- Australian lesser noddy (*Anous tenuirostris melanops)*
- Imperial (Heard Island) / heard Shag (*Phalacrocorax nivalis)*
- Macquarie shag (*Phalacrocorax purpurascens)*
- Blue petrel (*Halobaena caerulea)*
- Soft-plumaged petrel (*Pterodroma mollis)*
- Red-faced cormorant (*Phalacrocorax urile)*
- Short-tailed albatross (*Diomedea albatrus)*
- South polar skua (*Stercorarius maccormicki)*
- Southern royal albatross (*Diomedea epomophora epomophora)*
- Antipodean albatross (*Diomedea exulans antipodensis)*
- Gibson's albatross (*Diomedea exulans gibsoni)*
- Pacific albatross (*Thalassarche bulleri nov.)*
- Shy albatross / tasmanian shy albatross (*Thalassarche cauta cauta)*
- Salvin's albatross (*Thalassarche cauta salvini)*
- White-capped albatross (*Thalassarche cauta steadi)*
- Campbell albatross (*Thalassarche melanophris impavida)*
- Imperial shag (Heard Island) / heard shag (*Leucocarbo atriceps nivalis)*
- Imperial shag (Macquarie Island) (*Leucocarbo atriceps purpurascens)*
- Antarctic tern (Indian Ocean) (*Sterna vittata vittata)*
- Australian fairy tern (*Sternula nereis nereis)*
- White-bellied storm-petrel (Tasman Sea) / (Australasian) (*Fregetta grallaria grallaria)*
- Fairy Prion (southern) (*Pachyptila turtur subantarctica)*
- Kermadec petrel (western) (*Pterodroma neglecta neglecta)*
- Amsterdam Albatross (*Diomedea amsterdamensis*)
- Tristan Albatross (*Diomedea dabbenena*)
- Northern Royal Albatross (*Diomedea epomophora sanfordi*)
- Amsterdam Albatross (*Diomedea exulans amsterdamensis*)
- Tristan Albatross (*Diomedea exulans exulans*)
- Northern Royal Albatross (*Diomedea sanfordi*)
- Southern Giant-Petrel (*Macronectes giganteus*)
- Grey-headed Albatross (*Thalassarche chrysostoma*)
- Chatham Albatross (*Thalassarche eremita*)
- Abbott's Booby (*Papasula abbotti*)
- Gould's Petrel (*Pterodroma leucoptera leucoptera*)
- Abbott's Booby (*Sula abbotti*)

- Pinnipeds
  - New Zealand fur-seal (*Arctocephalus forsteri)*
  - Antarctic fur-seal (*Arctocephalus gazelle)*
  - Australian / australo-african fur-seal (*Arctocephalus pusillus)*
  - Sub-antarctic fur-seal (*Arctocephalus tropicalis)*
  - Leopard seal (*Hydrurga leptonyx)*
  - Weddell seal (*Leptonychotes weddelli)*

    - Crab-eater seal (*Lobodon carcinophagus)*
    - Southern elephant seal (*Mirounga leonine)*
    - Australian sea-lion (*Neophoca cinerea)*
    - Ross seal (*Ommatophoca rossi)*
    - Hooker's sea-lion (NZ sea lion) (*Phocarctos hookeri)*
- Dugong (*Dugon dugon*)

Listed cetaceans (protected by Division 3, Part 13 of the EPBC Act) that may be impacted by activities under the Program include:

- Dolphin
    - Common dophin / short-beaked common dolphin (*Delphinus delphis*)
    - Risso's dolphin / grampus (*Grampus griseus*)
    - Fraser's / sarawak dolphin (*Lagenodelphis hosei*)
    - Hourglass dolphin (*Lagenorhynchus cruciger*)
    - Southern right whale dolphin (*Lissodelphis peronii*)
    - Spotted / pantropical spotted dolphin (*Stenella attenuate*)
    - Striped / euphrosyne dolphin (*Stenella coeruleoalba*)
    - Long-snouted spinner dolphin (*Stenella longirostris*)
    - Rough-toothed dolphin (*Steno bredanensis*)
    - Indian ocean / spotted bottlenose dolphin (*Tursiops aduncus*)
    - Bottlenose dolphin (*Tursiops truncatus s. str*.)
- Minke whale (*Balaenoptera acutorostrata*)
- Beaked Whale
    - Arnoux's beaked whale (*Berardius arnuxii*)
    - Longman's beaked whale (*Indopacetus pacificus*)
    - Andrew's beaked whale (*Mesoplodon bowdoini*)
    - Blainville's beaked whale / dense-beaked whale (*Mesoplodon densirostris*)
    - Gingko-toothed beaked / gingko-toothed / gingko beaked whale (*Mesoplodon ginkgodens*)
    - Gray's beaked / scamperdown whale (*Mesoplodon grayi*)
    - Hector's beaked whale (*Mesoplodon hectori*)
    - Strap-toothed beaked / strap-toothed / Layard's beaked whale (*Mesoplodon layardii*)
    - True's beaked whale (*Mesoplodon mirus*)
    - Shepherd's / tasman beaked Whale (*Tasmacetus shepherdi*)
    - Cuvier's / goose beaked Whale (*Ziphius cavirostris*)
- Toothed Whale
    - Pygmy killer whale (*Feresa attenuate*)
    - Short-finned pilot whale (*Globicephala macrorhynchus*)
    - Long-finned pilot whale (*Globicephala melas*)
    - Southern bottlenose whale (*Hyperoodon planifrons*)
    - Pygmy sperm whale (*Kogia breviceps*)
    - Melon-headed whale (*Peponocephala electra*)
    - False killer whale (*Pseudorca crassidens*)

Appendix 12 – Commonwealth Heritage and Commonwealth land sites that could be impacted by activities under the Program

The largest Commonwealth land sites within the Strategic Assessment area are:

- Christmas Island
- Cocos Keeling Islands
- McDonald Island
- Heard Island
- Ashmore Reef –Middle Island, East and West Island
- Coral Sea Islands
- Norfolk Island
- Phillip Island

The Commonwealth Heritage places on Commonwealth land within the Strategic Assessment area are:

- Home Island Cemetery
- Home Island Foreshore
- Home Island Industrial Precinct
- North Keeling Island
- Oceania House and Surrounds
- West Island Housing Precinct
- Christmas Island Natural Areas
- Industrial and Administrative Group
- Settlement Christmas Island
- Anson Bay Reserve (2003 boundary)
- Hundred Acres Reserve
- Kingston and Arthurs Vale Commonwealth Tenure Area
- Nepean Island Reserve
- Phillip Island
- Selwyn Reserve (2003 boundary)
- Point Ross Reserve
- Two Chimneys Reserve & Escarpment
- Mount Pitt Reserve Conservation Area

Appendix 13 – Glossary of petroleum industry terms

Term	Meaning
Appraisal drilling	See drilling.
Blowout	Loss of well control, an uncontrolled release of down hole fluids upward through the wellbore, casing or annulus. It may result in a flow of reservoir fluids into the wellbore or to the surface. May consist of formation water, oil, gas or a mixture. Can occur in exploration or production operations
Brine water discharge	Brine water in the context of oil and gas activities refers to the waste water produced from the reservoir.
Bund failure	The failure of retaining areas / walls designed to prevent chemical or oil spill from oil and gas facilities from draining into the environment.
Bunkering stations	Station to re-fuel support vessels and aircraft.
Chemical injection and storage	Special chemicals are injected into the production stream or formation to improve oil recovery, remove formation damage, clean blocked perforations or formation layers, reduce corrosion, upgrade crude oil, or address petroleum flow issues. Can occur through injection wells or production wells. These chemicals are transferred from an offshore vessel and stowed on an offshore facility.
Commissioning	First introduction of hydrocarbon into a plant and verification that plant controls are effective.
Commissioning discharge or well-completion fluids	Discharges (including chemical and / or hydrocarbon discharges) associated with the commissioning and well completion phases of an activity.
Cuttings separation	Separation of the rock pieces dislodged by drilling from fluids.
Decommissioning	Activities associated with cessation of production. Includes removal of infrastructure, tying off and abandonment of wells.
Drill cuttings	Small pieces of rock retrieved from a well by circulation of the drilling mud.
Drilling	The act of boring a hole through the seabed to target formations to determine whether hydrocarbons are present, (exploration drilling), evaluate the commercial potential (appraisal drilling) or to accomplish production of hydrocarbons (production drilling).

Term	Meaning
Drilling fluids	Fluids designed to assist drilling, minimise formation damage, carry cuttings to the surface and weighted to balance reservoir pressure.
Exploration drilling	See drilling
Flare towers	A combustion device and tower used for burning off flammable gas and liquids safely.
Flaring	Burning of unused gas and liquids as a safety measure, when there is no way to transport the hydrocarbons and there is no other use for it. Continued flaring is generally not allowed. Undertaken during a test of an exploration well and rarely associated with production.
Floating Production, Storage and Offloading Unit (FPSO)	A floating mobile platform for recovery, processing and storage of hydrocarbons.
Flowline	1. Pipeline carrying oil, gas or water which connects the wellhead to a manifold or to production facilities 2.Pipe, gravity fed conduit to direct mud coming out of the top of the well bore to the mud surface treating equipment.
Formation	Basic rock stratigraphic unit.
Formation leakage	Hydrocarbon leakage from a permeable a formation.
Gas compressors	Mechanical device that increases the pressure of gas by reducing its volume.
Gas vents	Vents for discharge of gases into the atmosphere without combustion.
Hydraulic controls	Controls that use liquid fluid power. Umbilicals are a means of supplying hydraulic controls to subsea infrastructure (see subsea umbilicals).
Hydrophone arrays	Detect seismic energy in the form of pressure changes under water during seismic surveys. Often combined to form 'streamers' which are towed behind a seismic vessel.
Laydown crane	Crane used to move drill pipe or tubing from the rig floor and place it in a horizontal position.
Low pressure steamer boilers	Pressurised closed chambers / vessels used for heating fluids or water.
Manifolds	An arrangement of piping or valves designed to control, distribute and monitor fluid flow. Often configured for specific flow patterns.

Term	Meaning
Mud	Drilling mud is a suspension of heavy minerals and chemicals in oil or water (drilling fluid) which forms the well circulatory system. Includes all types of water base, oil base, and synthetic base drilling fluids.
Pigging	The act of forcing a device known as a 'pig' through a pipeline for the purposes of cleaning, displacing fluids or inspection.
Pipeline	Tube or system of tubes used for transporting hydrocarbons from the field or gathering system to the production facility.
Produced formation water	The water that is produced as a byproduct when extracting oil and gas. It may include water from the reservoir, water that has been injected into the formation and any chemicals added during the production / treatment process.
Production	That phase of the industry which deals with bringing the formation fluids to the surface and preparing the product for pipeline or other transportation.
Production drilling	See drilling
Reservoir	A formation or subsurface body of rock having sufficient porosity and permeability to store and transmit fluids and having a seal forming a trap.
Rig	Machine used to drill a wellbore.
Rigging lofts	The area of the facility dedicated to the "rigging up" or activities associated with rig assembly and drilling commencement.
Risers	A conduit to transfer materials from the seafloor to drilling and production facilities at the water's surface as well as from the facility to the seafloor..
Rock armouring	The activity associated with using rocks to stabilise and protect pipelines that occur in high energy areas, usually relatively shallow waters.
Sand recovery	Many wells produce sand that may accumulate and restrict production if not removed from the wellbore by production fluid.
Seismic arrays/streamers	See hydrophone arrays.

Term	Meaning
Seismic pulses	Seismic pulses are the series of identical distinct periodic short-duration sound energy released during seismic surveys for the purposes of petroleum exploration. They can also be referred to as seismic shots.
Seismic surveys	A method of determining the subsurface features by transmitting sound waves in to the various buried rock layers in the earth and measuring the time they take to return to the surface. The results used to interpret the composition, fluid content, extent and geometry of rocks in the subsurface. A 2D survey provides a cross section of the subsurface, a 3D survey gives a 3D image of the subsurface. Surveys are repeated over time in a 4D survey to track fluid movement in the reservoir.
Separation	The process of separating liquid and gas hydrocarbons and water and sand.
Support vessels	Any barge, boat or ship that assists the petroleum activity or brings materials and personnel.
Gas lift manifold	Manifold used to supply gas to well for gas lifting of produced fluid.
Test manifold	Manifold used to divert petroleum to test separator for flow measurement.
Treatment	To remove contamination, to stabilise and improve quality of a substance.
Trenching	The process of burying pipelines and associated infrastructure to stabilise and protect from damage from environmental conditions.
Turret infrastructure	Monitoring systems to stabilise FPSO and adopt the direction of least resistance against waves, wind and currents. Infrastructure consists of anchor lines to keep the vessel in place, a turret column to connect anchor lines to the vessel, a bearing arrangement to allow the vessel to weather vane, a vessel structure to support bearing arrangements and a fluid transfer system, manifold and piping arrangements.
Umbilicals	Control cables deployed on seabed to supply the necessary control, energy (electric or hydraulic) and chemicals to subsea oil and gas wells, subsea manifolds and any other subsea system requiring remote control.
Venting	Releasing gas into the air at a production site or processing plant.
Well completion	Activities and methods necessary to prepare a well for the production of oil and gas.
Well plug	To seal a well or part of a well with cement to prevent the escape of high pressure materials including fluids.
Wellbore	Also called 'borehole' .The hole drilled for a well. Borehole may refer to the inside diameter of the wellbore wall.

Term	Meaning
Wellhead	Surface termination of a wellbore, that provides the structural and pressure containing interface for the drilling and production equipment.
Turret infrastructure	Floating column moored by cable-deployed anchors or attached to sea bed around which an FPSO can weather-vane in a fixed position. The connection between the FPSO and column contains a series of stacked bearing surface and seals that provide hydraulic (and possibly electrical) connections for flow of produced, injected and control fluids. The connection may be fixed or releasable.
Umbilicals	Control cables and tube bundles deployed on seabed to supply the necessary control, energy (electric or hydraulic) and chemicals to subsea oil and gas wells, subsea manifolds and any other subsea system requiring remote control and chemical supply.
Venting	Releasing gas into the air without combustion at a production site or processing plant.