

Submission Form for Comments and Feedback

Draft Guideline for Identification of significant effects on the environment

Submissions close: Monday 15 August 2016, 5pm

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| <p>Your comments will be publicly available.</p> <p>Mark the box here <input type="checkbox"/> if you do not want your comments to be made publicly available.</p> <p>Mark the box here <input type="checkbox"/> if you do not want your identity to be made publicly available.</p> | | | |

| Section | Comment |
|-------------------------|--|
| 2 – Objective and Scope | <p><i>I recommend that the objective and scope of the guidelines extend beyond merely providing stakeholders with guidance, as they are in furtherance of the objectives of the NT EPA. The objectives of the NT EPA are set out at s 7 of the Northern Territory Environmental Protection Authority Act. I've extracted s 7 below.</i></p> <p>7 Objectives <i>The objectives of the NT EPA are the following:</i></p> <ul style="list-style-type: none"> (a) <i>to promote ecologically sustainable development;</i> (b) <i>to protect the environment, having regard to the need to enable ecologically sustainable development;</i> (c) <i>to promote effective waste management and waste minimisation strategies;</i> (d) <i>to enhance community and business confidence in the environmental protection regime of the Territory.</i> |

Please complete the form and send it via one of the following by no later than Monday 15 August 5pm:

Email: NTEPA.Consult@nt.gov.au

Post: NT EPA, GPO Box 3675, Darwin NT, 0801

Privacy: Your personal information will be used for the purpose of collecting and collating comments received on the Issues Paper. The NT EPA is subject to the *Information Act* and its Regulations. Information will not be disclosed to a third party, unless required by law or otherwise stated.

| Section | Comment |
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| 3.2 – Relevant considerations about a potentially significant effect | <p>This section could be improved by addressing:</p> <ul style="list-style-type: none"> (a) the very discretionary and non-committal terms in which it is introduced; and (b) the content, by adding additional detail. <p>In relation to (a), this section is described as indicating only '<i>some of the matters to which the EPA may have regard</i>'. Lock the Gate agrees that the guidelines should not provide an <i>exhaustive</i> list of matters for consideration (i.e. it is important that the NT EPA is able to consider any additional matters that are relevant, if necessary). However we think that the terminology used in the draft will detract from the ability of the guidelines to achieve their objective, namely, to provide stakeholders with meaningful guidance on how the NT EPA will assess whether a proposed development is likely to have a significant impact on the environment and therefore require either a PER or an EIS.</p> <p>We think that the list should be a non-exhaustive list of those matters that the NT EPA <i>will</i> consider when assessing proposed developments.</p> <p>In relation to (b), we think that the list of matters would benefit from significant additional detail. As currently drafted, they provide little meaningful guidance on the matters that the NT EPA will consider when assessing a proposed development. The guidelines also lack any statement of the process that will be undertaken for the purpose of such assessment. This again undermines the ability of the guidelines to achieve the stated objectives.</p> <p>We attach a copy of the equivalent NSW document: <i>Is an EIS required? Best Practice Guidelines for Part 5 of the Environmental Planning and Assessment Act 1979 (NSW Guidelines)</i>. The NSW Guidelines provide much more detail on the range of matters that will be considered under the NSW <i>Environmental Planning and Assessment Act</i> for the purposes of determining under Part 5 of that Act whether an action is likely to significantly affect the environment. In addition to listing a range of specific matters for consideration, the NSW Guidelines also sets out an 'evaluation framework' with a number of specific steps that are to be followed, namely:</p> <ul style="list-style-type: none"> - identify the issues; - analyse the impacts; and - evaluate the likely environmental significance impacts. <p>Unlike the proposed NT Guidelines, the NSW Guidelines set out a '<i>structured and systematic process for determining the level of environmental significance of proposed activities</i>'. We think that the NT Guidelines would better achieve their objective if they did the same (i.e. set out more detail of the matters that will be considered, and the process that will be followed to ensure this happens systematically and reliably).</p> <p>I also note that these attached NSW Best Practice Guidelines also include 'water impacts', addressed at pp 19 & 32, in Table 2(a) (<i>Analysis of the extent of the potential impacts</i>) and Table 2(c) (<i>Analysis of the nature of the potential impacts</i>). Both of these tables indicate that there should be assessment of potential impacts resulting from changes in both surface and groundwater quantity, as</p> |

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

| Section | Comment |
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| | <p>well as impacts from changes in water quality (among other things).</p> <p>Noting that unconventional gas activities are of increasing relevance in the NT, the NT EPA may also find useful guidance in the Commonwealth <i>Significant impact guidelines 1.3: Coal seam gas and large coal mining developments—impacts on water resources</i>. Although we do not endorse all aspects of these guidelines and consider that they could be improved, we note that they also provide significantly more detail about the significance assessment than do the draft NT EPA guidelines.</p> <p>I have also attached a submission that was put together by the Australian EDO law firms in relation to the Significant Impact Guidelines for Coal Seam Gas, as it provides some useful thinking for the NTEPA on our significant impact laws and definitions also.</p> <p>I commend these documents to you</p> |
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| General comments |
|---|
| <p>In general, it is the opinion of the Lock the Gate Alliance that it is generally better to use a conservative approach in assessments, and that where this is doubt on the extend of the possible impact of a project, that the development is recommended for full EIS. This ensures the community is consulted early, that the assessment is transparent and the timelines are clear for a proponent. The more a community can be consulted initially and thoroughly, the less problematic long term engagement will be for the Government and for the developer.</p> <p>I am interested in being kept up to date through this community feedback and any further consultation in regards to the identification of significant impacts on the environment. I have a particular interest in the ways in which unconventional gas exploration and infrastructure triggers an EIS or otherwise, and look forward to future consultation on this matter.</p> |
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Australian Government

Department of the Environment

Matters of National Environmental Significance

Significant impact guidelines 1.1

Environment Protection and Biodiversity Conservation Act 1999



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Photo:

Front – Budgee Creek in the Barmah State Forest (John Baker)

Back – Carnaby's black cockatoo (Leonie McMahon)

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Introduction

The purpose of these guidelines is to assist any person who proposes to take an action to decide whether or not they should submit a referral to the Australian Government Department of the Environment (the Department) for a decision by the Australian Government Environment Minister (the minister) on whether assessment and approval is required under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)¹.

Under the EPBC Act an action will require approval from the minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

These guidelines outline a ‘self-assessment’ process, including detailed criteria, to assist persons in deciding whether or not referral may be required. Important terms and phrases are explained in the shaded boxes. The appendix to the guidelines provides further assistance for specific industry sectors.

These guidelines may also assist members of the public or interest groups who wish to comment on actions which have been referred under the EPBC Act.

¹ Note that an action does not require approval under the EPBC Act if it meets the criteria for the ‘prior authorisation’ or ‘continuing use’ exemptions. These criteria are explained in the Practice Guide entitled *Prior Authorisation and Continuing Use Exemptions – Sections 43A and 43B*, available on the Department’s web site at: www.environment.gov.au/epbc/publications/exemptions.html

Further exemptions include:

- certain activities allowed in the Great Barrier Reef Marine Park “as of right” (that is, without a permission) under a *Great Barrier Reef Marine Park Act 1975* (GBRMP Act) zoning plan (EPBC Act section 43)
- certain forestry operations in Regional Forestry Agreement Areas (EPBC Act section 42), and
- certain actions requiring separate authorisation by an Australian Government agency or employee and subject to an alternative assessment and advice process under section 160 of the EPBC Act

What is an action?

'Action' is defined broadly in the EPBC Act and includes: a project, a development, an undertaking, an activity or a series of activities, or an alteration of any of these things.

Actions include, but are not limited to: construction, expansion, alteration or demolition of buildings, structures, infrastructure or facilities; industrial processes; mineral and petroleum resource exploration and extraction; storage or transport of hazardous materials; waste disposal; earthworks; impoundment, extraction and diversion of water; agricultural activities; aquaculture; research activities; vegetation clearance; culling of animals; and dealings with land.

Actions encompass site preparation and construction, operation and maintenance, and closure and completion stages of a project, as well as alterations or modifications to existing infrastructure.

An action may have both beneficial and adverse impacts on the environment, however only adverse impacts on matters of national environmental significance are relevant when determining whether approval is required under the EPBC Act.

What are matters of national environmental significance?

The matters of national environmental significance are:

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

A person who proposes to take an action that will have, or is likely to have, a significant impact on a matter of national environmental significance must refer that action to the minister for a decision on whether assessment and approval is required under the EPBC Act. Substantial penalties apply for taking such an action without approval (civil penalties up to \$5.5 million or criminal penalties up to seven years imprisonment).

What is a significant impact?

A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its 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. You should consider all of these factors when determining whether an action is likely to have a significant impact on matters of national environmental significance.

When is a significant impact likely?

To be 'likely', it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility.

If there is scientific uncertainty about the impacts of your action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment.

What is a referral?

'Referral' of an action involves filling out a referral form and sending it to the Department of the Environment. A referral identifies the person proposing to take the action and includes a brief description of the proposal, the project location, the nature and extent of any potential impacts, and any proposed mitigation measures. The EPBC Act referral process is outlined in more detail at the end of these guidelines.

If you represent a Commonwealth agency or you propose to take an action which is either situated on Commonwealth land or which may impact upon Commonwealth land, you should also refer to the *Significant impact guidelines 1.2: Actions on, or impacting upon, Commonwealth land and actions by Commonwealth agencies*. However, if referral is necessary, you need only submit one referral that includes all relevant matters.

Determining whether an action is likely to have a significant impact on a matter of national environmental significance

These guidelines are intended to assist you in undertaking a 'self-assessment' to decide whether or not your action is likely to have a significant impact on any matters of national environmental significance. Your self-assessment should be as objective as possible and based on sufficient information to make an informed judgement. If you complete a self-assessment and you are still unsure whether the action you propose to take is likely to have a significant impact on a matter of national environmental significance then you should refer the action to the Department of the Environment. In considering taking this step, you may like to discuss the matter with the Department's referral business entry point. The referral business entry point can be contacted through the Department's community information unit on **1800 803 772** or by emailing **epbc.referrals@environment.gov.au**

To make a decision as to whether or not to refer an action to the Minister, you should consider the following:

1. Are there any matters of national environmental significance located in the area of the proposed action (noting that 'the area of the proposed action' is broader than the immediate location where the action is undertaken; consider also whether there are any matters of national environmental significance adjacent to or downstream from the immediate location that may potentially be impacted)?
2. Considering the proposed action at its broadest scope (that is, considering all stages and components of the action, and all related activities and infrastructure), is there potential for impacts, including indirect impacts, on matters of national environmental significance?
3. Are there any proposed measures to avoid or reduce impacts on matters of national environmental significance (and if so, is the effectiveness of these measures certain enough to reduce the level of impact below the 'significant impact' threshold)?
4. Are any impacts of the proposed action on matters of national environmental significance likely to be significant impacts (important, notable, or of consequence, having regard to their context or intensity)?

1. Are there any matters of national environmental significance located in the area of the proposed action?

The EPBC Act protected matters search tool allows you to search for matters of national environmental significance in an area where you propose to take an action². The search tool is located on the Department's web site: www.environment.gov.au/erin/ert/epbc/index.html

Lists of threatened species and ecological communities can be accessed from the following web page: www.environment.gov.au/epbc/protect/species-communities.html

A list of migratory species can be accessed from the following web page: www.environment.gov.au/epbc/protect/migratory.html

A list of Australia's Ramsar Wetlands and a map showing their location can be accessed from the following web page: www.environment.gov.au/epbc/protect/wetlands.html

Information about the Commonwealth marine environment can be found at: www.environment.gov.au/epbc/protect/marine.html

A list of Australia's World Heritage properties and a map showing their general location can be found at: www.environment.gov.au/epbc/protect/heritage.html

A list of National Heritage places and a map showing their general location can be found at: www.environment.gov.au/epbc/protect/heritage.html

Information about the Great Barrier Reef Marine Park can be found at www.gbrmpa.gov.au

Information about a water resource, in relation to coal seam gas development and large coal mining development can be found at www.environment.gov.au/epbc/about/water-trigger.html.

² In relation to listed threatened species and ecological communities and listed migratory species, the EPBC Act protected matters search tool is intended to be of guidance only and should not be regarded as definitive. Surveys in the area where you propose to take an action can assist in verifying the results of the EPBC Act protected matters search tool. It is also important to note that some species may be detectable at certain times of the year only. Surveys should be timed appropriately, and undertaken for a suitable period by a qualified person.

2. Considering the proposed action at its broadest scope, is there potential for impacts on matters of national environmental significance?

If there are matters of national environmental significance in the vicinity of your proposed action, you need to consider whether there is potential for your proposed action to impact upon those matters.

The proposed action should be considered at its broadest possible scope. This includes all stages and components of the action, all related activities, and all related infrastructure such as roads and powerlines, if applicable.

If the action consists of a series of activities or a number of related activities, you should consider the impacts of each activity, and then consider the combined impacts of those activities.

It is also necessary and important to consider off-site and indirect impacts of your proposed action on matters of national environmental significance (refer to shaded box on page 6).

3. Are there any proposed measures to avoid or reduce impacts on matters of national environmental significance?

It is important to consider the environmental impacts of the proposed action early in the planning of the proposal. Careful planning of the action can avoid, or reduce, the likelihood of a significant impact on matters of national environmental significance. Where possible and practicable it is best to avoid impacts. If impacts cannot be avoided then they should be minimised or mitigated as much as possible.

You should consider impacts on matters of national environmental significance in relation to the following:

- site selection and the location of buildings or activities on the selected site
- the timing of the action or its component activities, and
- the design of any buildings, or other structures or infrastructure.

However you should not conclude that a significant impact is not likely to occur because of management or mitigation measures unless the effectiveness of those measures is well-established (for example through demonstrated application, studies or surveys) and there is a high degree of certainty about the avoidance of impacts or the extent to which impacts will be reduced.

4. Are any impacts of the proposed action on matters of national environmental significance likely to be significant impacts?

In order to decide whether an action is likely to have a significant impact, it is necessary to take into account the nature and magnitude of potential impacts. In determining the nature and magnitude of an action's impacts, it is important to consider matters such as:

- the sensitivity of the environment which will be impacted
- the timing, duration and frequency of the action and its impacts
- all on-site and off-site impacts
- all direct and indirect impacts
- the total impact which can be attributed to the action over the entire geographic area affected, and over time
- existing levels of impact from other sources, and
- the degree of confidence with which the impacts of the action are known and understood.

Indirect and offsite impacts

When considering whether or not an action is likely to have a significant impact on a matter of national environmental significance it is relevant to consider all adverse impacts which result from the action, including indirect and offsite impacts.

Indirect and offsite impacts include:

- a. 'downstream' or 'downwind' impacts, such as impacts on wetlands or ocean reefs from sediment, fertilisers or chemicals which are washed or discharged into river systems;
- b. 'upstream impacts' such as impacts associated with the extraction of raw materials and other inputs which are used to undertake the action; and
- c. 'facilitated impacts' which result from further actions (including actions by third parties) which are made possible or facilitated by the action. For example, the construction of a dam for irrigation water facilitates the use of that water by irrigators with associated impacts. Likewise, the construction of basic infrastructure in a previously undeveloped area may, in certain circumstances, facilitate the urban or commercial development of that area³.

Consideration should be given to all adverse impacts that could reasonably be predicted to follow from the action, whether these impacts are within the control of the person proposing to take the action or not. Indirect impacts will be relevant where they are sufficiently close to the proposed action to be said to be a consequence of the action, and they can reasonably be imputed to be within the contemplation of the person proposing to take the action.

It may be helpful to consider the following:

- 'But for' the proposed action would the indirect impacts occur?
- Is the proposed action a 'material and substantial' cause of the indirect impacts?
- Are the potential impacts of any subsequent or third party actions known, or would they be expected to be known, by the person proposing to take the action (particularly where the subsequent or third party actions are an intended outcome of the proposed action)?

If the answer to these questions is 'yes', then it is necessary to consider whether these impacts are likely to occur, and whether they are likely to have a significant impact on a matter of national environmental significance. If so, as much information as possible should be provided to assist the minister in determining whether the impacts are relevant, and whether approval under the EPBC Act is required.

Notes:

- When deciding whether or not a proposed action is likely to have a significant impact on a matter of national environmental significance, the precautionary principle is relevant. Accordingly, where there is a risk of **serious** or **irreversible** damage, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on a matter of national environmental significance.
- When deciding whether or not a proposed action is likely to have a significant impact on a matter of national environmental significance, you should consider only the adverse impacts that the action is likely to have. Beneficial impacts cannot be offset against adverse impacts. For example, a hydro-electricity scheme may have both beneficial and adverse impacts on the environment, however, only the adverse impacts are relevant when determining whether approval is required under the EPBC Act. If a project does require approval, beneficial impacts are considered during the assessment and approvals stages of the process.

3 Note that consideration of the impacts of 'facilitated actions' during the assessment and approval of the original action has no effect on the requirement of the proponent of the facilitated action to make a referral when that action eventuates, if that action will have, or is likely to have, a significant impact on a matter of national environmental significance.

Significant impact criteria

The ‘significant impact criteria’, set out on the following pages, for each matter of national environmental significance, are intended to assist you in determining whether the impacts of your proposed action on any matter of national environmental significance are likely to be significant impacts.

The criteria are intended to provide general guidance on the types of actions that will require approval and the types of actions that will not require approval. They are not intended to be exhaustive or definitive. If you are still unsure whether the action you propose to take is likely to have a significant impact on a matter of national environmental significance you should refer the action to the Department of the Environment for a binding decision on whether approval is required.

The particular facts and circumstances of a proposed action will need to be taken into account in determining whether that action is likely to have a significant impact on a matter of national environmental significance. Remember that the general test for significance is whether an impact is ‘important, notable or of consequence, having regard to its context or intensity’.

Listed threatened species and ecological communities

An action will require approval if the action has, will have, or is likely to have a significant impact on a species listed in any of the following categories:

- extinct in the wild
- critically endangered
- endangered, or
- vulnerable.

An action will also require approval if the action has, will have, or is likely to have a significant impact on an ecological community listed in any of the following categories:

- critically endangered, or
- endangered.

Notes:

- Species in the extinct and conservation dependant categories of species listed under the EPBC Act, and listed ecological communities in the vulnerable category of ecological communities listed under the EPBC Act, are not matters of national environmental significance for the purposes of Part 3 of the EPBC Act (requirements for environmental approvals).
- Species and ecological communities listed under the EPBC Act may differ from those listed under State and Territory legislation. This is due to the different status of some species and ecological communities in the different States and Territories, and nationally.

Extinct in the wild species

Significant impact criteria

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 and endangered species

Significant impact criteria

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.

What is a population of a species?

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.

What is an invasive species?

An 'invasive species' is an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or ecological communities by direct competition, modification of habitat or predation.

What is habitat critical to the survival of a species or ecological community?

‘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.

Vulnerable species

Significant impact criteria

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.

What is an important population of a species?

An ‘important population’ is a population that is necessary for a species’ long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.

Critically endangered and endangered ecological communities

Significant impact criteria

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.

Further information on listed threatened species and ecological communities

The following information on listed threatened species and ecological communities is available on the Department's web site:

- General information: www.environment.gov.au/biodiversity/threatened/index.html
- Copies of recovery plans and threat abatement plans:
www.environment.gov.au/biodiversity/threatened/recovery.html
www.environment.gov.au/biodiversity/threatened/tap/index.html
- Species profile and threats database (information about individual listed threatened species and ecological communities): www.environment.gov.au/sprat

Listed migratory species

An action will require approval if the action has, will have, or is likely to have a significant impact on a listed migratory species. Note that some migratory species are also listed as threatened species. The criteria below are relevant to migratory species that are not threatened.

Significant impact criteria

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

- 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, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

What is important habitat for a migratory species?

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, and/or
- b. habitat that is of critical importance to the species at particular life-cycle stages, and/or
- c. habitat utilised by a migratory species which is at the limit of the species range, and/or
- d. habitat within an area where the species is declining.

What is an ecologically significant proportion?

Listed migratory species cover a broad range of species with different life cycles and population sizes. Therefore, what is an 'ecologically significant proportion' of the population varies with the species (each circumstance will need to be evaluated). Some factors that should be considered include the species' population status, genetic distinctiveness and species specific behavioural patterns (for example, site fidelity and dispersal rates).

What is the population of a migratory species?

'Population', in relation to migratory species, means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries including Australia.

Further information on Listed Migratory Species

- General information on listed migratory species is available on the Department's website: www.environment.gov.au/epbc/protect/migratory.html

Wetlands of international Importance

Approval is required for an action occurring within or outside a declared Ramsar wetland if the action has, will have, or is likely to have a significant impact on the ecological character of the Ramsar wetland.

A 'declared Ramsar wetland' is an area that has been designated under Article 2 of the Ramsar Convention or declared by the minister to be a declared Ramsar wetland under section 16 of the EPBC Act.

The 'ecological character' is the combination of the ecosystem components, processes and benefits/ 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 for the Ramsar List.

Descriptions of the ecological character of listed Ramsar wetlands can be obtained from the Australian wetlands database at: www.environment.gov.au/water/wetlands/database/index.html

Significant impact criteria

An action is likely to have a significant impact on the ecological character of a 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, a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland
- the habitat or lifecycle of native species, including invertebrate fauna and fish species, dependant 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, or
- 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.

Further information on Ramsar wetlands

The following information on Ramsar wetlands is available on the Department's web site:

- General information: www.environment.gov.au/epbc/protect/wetlands.html
- Ramsar wetlands fact sheet (including list and general location map):
www.environment.gov.au/water/publications/environmental/wetlands/ramsar.html
- Australian wetlands database (including location maps and information for individual wetlands):
www.environment.gov.au/water/wetlands/database/index.html

The Commonwealth marine environment

An action will require approval if:

- the action is taken in a Commonwealth marine area and the action has, will have, or is likely to have a significant impact on the environment, or
- the action is taken outside a Commonwealth marine area and the action has, will have, or is likely to have a significant impact on the environment in a Commonwealth marine area.

A 'Commonwealth marine area' is defined in section 24 of the EPBC Act. Maps showing Commonwealth marine areas are available through the Department's website at www.environment.gov.au/epbc/protect/marine.html or by contacting the Department's community information unit on 1800 803 772.

Marine protected areas are marine areas which are recognised to have high conservation value. Actions in or near marine protected areas, or other areas with high conservation value, have a greater likelihood of significant impacts on the Commonwealth marine environment. A map of marine protected areas is available on the Department's web site:

www.environment.gov.au/coasts/mpa/index.html

Significant impact criteria

An action is likely to have a significant impact on the environment in a Commonwealth marine area if there is a real chance or possibility that the action will:

- 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 results
- 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 quality⁴ 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, or
- have a substantial adverse impact on heritage values of the Commonwealth marine area, including damage or destruction of an historic shipwreck.

Further information on Commonwealth marine areas

The following information relevant to Commonwealth marine areas is available on the Department's web site:

- General information: www.environment.gov.au/epbc/protect/marine.html

World Heritage properties

Approval under the EPBC Act is required for any action occurring within or outside a declared World Heritage property that has, will have, or is likely to have a significant impact on the World Heritage values of the World Heritage property.

A 'declared World Heritage property' is an area that has been included in the World Heritage list or declared by the minister to be a World Heritage property. World Heritage properties are places with natural or cultural heritage values which are recognised to have outstanding universal value.

Example of World Heritage values – Kakadu National Park World Heritage property

The Kakadu National Park World Heritage property, located in the far north of Australia's Northern Territory, has both natural and cultural World Heritage values. These values include:

- diverse, expansive and relatively undisturbed natural landscapes, including coastal areas, river systems and floodplains, lowlands, wetlands, plateau complexes, escarpments and outliers
- diverse and relatively unmodified vegetation types, including open mangrove swamps, forest and woodlands, lowland and sandstone rainforests, shrubland and heath, wetland, riverine, floodplain and coastal vegetation
- diverse, endemic, relict and abundant plant and animal species
- extensive and diverse habitats, including open forest and woodlands, monsoon rainforest areas, heaths and shrublands, freshwater wetlands, mangrove and estuarine areas, foreshore and beach areas
- significant plant associations and plants with conservation significance
- animals with conservation significance, including mammals, reptiles, birds, invertebrates and fish
- exceptional natural beauty
- outstanding, diverse, unique and ancient Indigenous archaeological remains and rock art recording a continuous cultural development and environmental change, and
- a rich collection of Indigenous cultural sites with strong spiritual associations and connections to continuing practice of traditional beliefs.

A more comprehensive description of the World Heritage values of Kakadu National Park World Heritage Area can be found at: www.environment.gov.au/heritage/places/world/kakadu/values.html

4 The Commonwealth marine area includes any airspace over Commonwealth waters.

Significant impact criteria

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

Examples

The following examples provide an indication of levels of impact on World Heritage values that are likely to be significant. They are not intended to be exhaustive.

World Heritage properties with natural heritage values

An action is likely to have a significant impact on natural heritage values of a World Heritage property if there is a real chance or possibility that the action will:

| | |
|---|---|
| Values associated with geology or landscape | <ul style="list-style-type: none">• damage, modify, alter or obscure important geological formations in a World Heritage property• damage, modify, alter or obscure landforms or landscape features, for example, by excavation or infilling of the land surface in a World Heritage property• modify, alter or inhibit landscape processes, for example, by accelerating or increasing susceptibility to erosion, or stabilising mobile landforms, such as sand dunes, in a World Heritage property• divert, impound or channelise a river, wetland or other water body in a World Heritage property, and• substantially increase concentrations of suspended sediment, nutrients, heavy metals, hydrocarbons, or other pollutants or substances in a river, wetland or water body in a World Heritage property. |
| Biological and ecological values | <ul style="list-style-type: none">• reduce the diversity or modify the composition of plant and animal species in all or part of a World Heritage property• fragment, isolate or substantially damage habitat important for the conservation of biological diversity in a World Heritage property• cause a long-term reduction in rare, endemic or unique plant or animal populations or species in a World Heritage property, and• fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in a World Heritage property. |

Wilderness, natural beauty or rare
or unique environment values

- involve construction of buildings, roads, or other structures, vegetation clearance, or other actions with substantial, long-term or permanent impacts on relevant values, and
- introduce noise, odours, pollutants or other intrusive elements with substantial, long-term or permanent impacts on relevant values.

World Heritage properties with cultural heritage values

An action is likely to have a significant impact on cultural heritage values of a World Heritage property if there is a real chance or possibility that the action will:

Historic heritage values

- permanently remove, destroy, damage or substantially alter the fabric⁵ of a World Heritage property
- extend, renovate, refurbish or substantially alter a World Heritage property in a manner which is inconsistent with relevant values
- permanently remove, destroy, damage or substantially disturb archaeological deposits or artefacts in a World Heritage property
- involve activities in a World Heritage property with substantial and/or long-term impacts on its values
- involve construction of buildings or other structures within, adjacent to, or within important sight lines of, a World Heritage property which are inconsistent with relevant values, and
- make notable changes to the layout, spaces, form or species composition in a garden, landscape or setting of a World Heritage property which are inconsistent with relevant values.

⁵ 'Fabric' means physical material including structural elements and other components, fixtures, fittings, contents and items with historic value

Other cultural heritage values
including Indigenous heritage values

- restrict or inhibit the existing use of a World Heritage property as a cultural or ceremonial site causing its values to notably diminish over time;
- permanently diminish the cultural value of a World Heritage property for a community or group to which its values relate
- alter the setting of a World Heritage property in a manner which is inconsistent with relevant values
- remove, damage, or substantially disturb cultural artefacts, or ceremonial objects, in a World Heritage property, and
- permanently damage or obscure rock art or other cultural or ceremonial features with World Heritage values.

Notes:

- The above examples are general examples and their application will depend on the individual values of each World Heritage property. Alteration or disturbance which is small in scale may have a significant impact if a feature or component of a World Heritage property embodies values that are particularly sensitive or important.
- To have a significant impact on World Heritage values, it is not necessary for an action to impact upon the whole of a World Heritage property, all of the values of a World Heritage property, or a whole value of a World Heritage property. It is sufficient if an action is likely to have a significant impact on a part, element, or feature of a World Heritage property, which embodies, manifests, shows, or contributes to the values of that property.

Further Information on World Heritage properties

The following information on World Heritage properties is available on the Department's web site:

- General information: www.environment.gov.au/heritage/about/world/index.html

National Heritage places

Approval under the EPBC Act is required for any action occurring within, or outside, a National Heritage place that has, will have, or is likely to have a significant impact on the National Heritage values of the National Heritage place.

The National Heritage List contains places or groups of places with outstanding heritage value to Australia – whether natural, Indigenous or historic⁶ or a combination of these.

Example of National Heritage values—Brewarrina Aboriginal fish traps (Baiaames Ngunnhu)

The Brewarrina Aboriginal fish traps on the Barwon River in New South Wales, have indigenous National Heritage values. These values include:

- providing an example of a dry-stone fish trap of rare size, design and complexity
- demonstrating an unusual and innovative development in pre-European Aboriginal technology, which exhibits a thorough understanding of dry stone wall construction techniques, river hydrology and fish ecology
- providing a strong social, cultural and spiritual association with Aboriginal people
- demonstrating a delineation of responsibility for use and maintenance of particular traps between different aboriginal groups under Aboriginal law in accordance with the wishes of the ancestral creation being, Baiaame
- historical and current use as a significant meeting place for Aboriginal people with connections to the area, and
- demonstrating an unusual aspect of Indigenous tradition, arising from the association between an ancestral being and the creation of the built structures of the fish traps.

A more comprehensive description of the National Heritage values of the Brewarrina Aboriginal Fish Traps can be found at: www.environment.gov.au/heritage/places/national/brewarrina/index.html

Significant impact criteria

An action is likely to have a significant impact on the National Heritage values of a 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, or
- one or more of the National Heritage values to be notably altered, modified, obscured or diminished.

⁶ For historic built heritage places in the National Heritage List that are within the Australian jurisdiction, approval will be required where an action that has, will have or is likely to have a significant impact on the National Heritage values of the place will be taken by: a constitutional corporation; the Commonwealth or a Commonwealth agency; or a person for the purposes of trade or commerce between Australia and another country, between States, between Territories, or between a State and a Territory. There are no restrictions on the application of the EPBC Act in relation to natural or Indigenous heritage places in the National Heritage List, or places in a Commonwealth area or Territory, or outside the Australian jurisdiction.

Examples

The following examples provide an indication of levels of impact on National Heritage values that are likely to be significant. They are not intended to be exhaustive.

National Heritage places with natural heritage values

An action is likely to have a significant impact on natural heritage values of a National Heritage place if there is a real chance or possibility that the action will:

Values associated with geology or landscapes

- damage, modify, alter or obscure important geological formations in a National Heritage place
- damage, modify, alter or obscure landforms or landscape features, for example, by clearing, excavating or infilling the land surface in a National Heritage place
- modify, alter or inhibit landscape processes, for example, by accelerating or increasing susceptibility to erosion, or stabilising mobile landforms, such as sand dunes in a National Heritage place
- divert, impound or channelise a river, wetland or other water body in a National Heritage place, and
- substantially increase concentrations of suspended sediment, nutrients, heavy metals, hydrocarbons, or other pollutants or substances in a river, wetland or water body in a National Heritage place; permanently damage or obscure rock art or other cultural or ceremonial features with World Heritage values.

Biological and ecological values

- modify or inhibit ecological processes in a National Heritage place
- reduce the diversity or modify the composition of plant and animal species in a National Heritage place
- fragment or damage habitat important for the conservation of biological diversity in a National Heritage place
- cause a long-term reduction in rare, endemic or unique plant or animal populations or species in a National Heritage place, and
- fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in a National Heritage place.

Wilderness, aesthetic, or other rare or unique environment values

- involve construction of buildings, roads or other structures, vegetation clearance, or other actions with substantial and/or long-term impacts on relevant values, and
- introduce noise, odours, pollutants or other intrusive elements with substantial and/or long-term impacts on relevant values.

National Heritage places with cultural heritage values

An action is likely to have a significant impact on historic heritage values of a National Heritage place if there is a real chance or possibility that the action will:

Historic heritage values

- permanently remove, destroy, damage or substantially alter the fabric⁷ of a National Heritage place in a manner which is inconsistent with relevant values
- extend, renovate, refurbish or substantially alter a National Heritage place in a manner which is inconsistent with relevant values
- permanently remove, destroy, damage or substantially disturb archaeological deposits or artefacts in a National Heritage place
- involve activities in a National Heritage place with substantial and/or long-term impacts on its values
- involve the construction of buildings or other structures within, adjacent to, or within important sight lines of, a National Heritage place which are inconsistent with relevant values, and
- make notable changes to the layout, spaces, form or species composition of a garden, landscape or setting of a National Heritage place in a manner which is inconsistent with relevant values.

Other cultural heritage values

- restrict or inhibit the continuing use of a National Heritage place as a cultural or ceremonial site causing its values to notably diminish over time
- permanently diminish the cultural value of a National Heritage place for a community or group to which its National Heritage values relate
- destroy or damage cultural or ceremonial, artefacts, features, or objects in a National Heritage place, and
- notably diminish the value of a National Heritage place in demonstrating creative or technical achievement.

⁷ 'Fabric' means physical material including structural elements and other components, fixtures, fittings, contents and items with historic value

National Heritage places with Indigenous heritage values

An action is likely to have a significant impact on Indigenous heritage values of a National Heritage place if there is a real chance or possibility that the action will:

Indigenous heritage values

- restrict or inhibit the continuing use of a National Heritage place as a cultural or ceremonial site causing its values to notably diminish over time
- permanently diminish the cultural value of a National Heritage place for an Indigenous group to which its National Heritage values relate
- alter the setting of a National Heritage place in a manner which is inconsistent with relevant values
- remove, destroy, damage or substantially disturb archeological deposits or cultural artefacts in a National Heritage place
- destroy, damage or permanently obscure rock art or other cultural or ceremonial, artefacts, features, or objects in a National Heritage place
- notably diminish the value of a National Heritage place in demonstrating creative or technical achievement
- permanently remove, destroy, damage or substantially alter Indigenous built structures in a National Heritage place, and
- involve activities in a National Heritage place with substantial and/or long-term impacts on the values of the place.

Notes:

- The above examples are general examples and their application will depend on the individual values of each National Heritage place. Alteration or disturbance which is small in scale may have a significant impact if a feature or component of a National Heritage place embodies values that are particularly sensitive or important.
- To have a significant impact on National Heritage values, it is not necessary for an action to impact upon the whole of a National Heritage place, all of the values of a National Heritage place, or a whole value of a National Heritage place. It is sufficient if an action is likely to have a significant impact on a part, element, or feature of a National Heritage place which embodies, manifests, shows, or contributes to the values of that place.

Further information on National Heritage places

The following information relevant to National Heritage places is available on the Department's web site:

- General information: www.environment.gov.au/epbc/protect/heritage.html
- Australian heritage places inventory: www.heritage.gov.au/ahpi

Nuclear actions

A nuclear action will require approval if it has, will have, or is likely to have a significant impact on the environment.

Significant impact criteria

All nuclear actions, as detailed in section 22 of the Act, should be referred to the Department of the Environment for a decision on whether approval is required.

These actions are:

- establishing or significantly modifying a nuclear installation or a facility for storing spent nuclear fuel
- transporting spent nuclear fuel or radioactive waste products arising from reprocessing;
- establishing or significantly modifying a facility for storing radioactive waste products arising from reprocessing
- mining or milling uranium ore
- establishing or significantly modifying a large-scale disposal facility for radioactive waste
- de-commissioning or rehabilitating any facility or area in which an activity described above has been undertaken, or
- establishing, significantly modifying, decommissioning or rehabilitating a facility where radioactive materials at or above the activity level specified in regulation 2.02 of the Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) are, were, or are proposed to be stored.

Electronic copies of the EPBC Act and EPBC Regulations can be accessed from the Department's web site at:
www.environment.gov.au/epbc/about/index.html

Great Barrier Reef Marine Park

An action will require approval if:

- the action is taken in the Great Barrier Reef Marine Park and the action has, will have, or is likely to have a significant impact on the environment, or
- the action is taken outside the Great Barrier Reef Marine Park and the action has, will have, or is likely to have a significant impact on the environment in the Great Barrier Reef Marine Park.

The Great Barrier Reef Marine Park is established under the *Great Barrier Reef Marine Park Act 1975*. Maps showing the Great Barrier Reef Marine Park are available from www.gbrmpa.gov.au.

The Great Barrier Reef Marine Park is an area recognised to have high conservation value.

What is the Environment?

‘Environment’ is defined in the EPBC Act as:

- a. ecosystems and their constituent parts including people and communities (‘ecosystem’ is defined in the EPBC Act as ‘a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functioning unit’)
- b. natural and physical resources
- c. qualities and characteristics of locations, place and areas
- d. heritage values of places (‘heritage value’ is defined in the EPBC Act as including ‘the place’s natural and cultural environment having aesthetic, historic, scientific or social significance, or other significance, for current and future generations of Australians.’ ‘Indigenous heritage value’ is defined as meaning ‘a heritage value of the place that is of significance to Indigenous persons in accordance with their practices, observances, customs, traditions, beliefs or history’), and
- e. the social, economic and cultural aspects of a thing mentioned in paragraphs (a), (b) or (c).

Significant impact criteria

An action is likely to have a significant impact on the environment of the Great Barrier Reef Marine Park if there is a real chance or possibility that the action will:

- modify, destroy, fragment, isolate or disturb an important, substantial, sensitive or vulnerable area of habitat or ecosystem component such that an adverse impact on marine ecosystem health, functioning or integrity in the Great Barrier Reef Marine Park results
- have a substantial adverse effect on a population of a 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 health or integrity or social amenity or human health
- result in a known or potential pest species being introduced or becoming established in the Great Barrier Reef Marine Park
- result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, or social amenity or human health may be adversely affected, or
- have a substantial adverse impact on heritage values of the Great Barrier Reef Marine Park, including damage or destruction of an historic shipwreck.

Other protected matters potentially relevant to the Great Barrier Reef

- **The values of World Heritage properties** – The Great Barrier Reef is a World Heritage property
- **The values of National Heritage places** – The Great Barrier Reef is a National Heritage place
- **The ecological character of a Ramsar wetland** – a number of Ramsar wetlands are located adjacent to the Marine Park, including Shoalwater and Corio Bays and Bowling Green Bay
- **Listed threatened species and ecological communities** – a number of listed threatened species are located in the Marine Park
- **Listed migratory species** – a range of listed migratory species are found in the Marine Park
- **Commonwealth land** – a number of islands within the Marine Park are Commonwealth land
- **The environment of a Commonwealth marine area** – The majority of the Marine Park is within the Commonwealth marine area, and
- **Nuclear actions.**

Further information on the Great Barrier Reef Marine Park

- Further information on the Great Barrier Reef Marine Park is available on the Great Barrier Reef Marine Park Authority (GBRMPA) website: www.gbrmpa.gov.au
- General information: www.gbrmpa.gov.au

Note:

For actions/activities taken within the Great Barrier Reef Marine Park a permission may be required under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). A permission under the GBRMP Act may be required even if significant impact on the environment of the Great Barrier Reef is not likely. Further information is provided on the Great Barrier Reef Marine Park web site at www.gbrmpa.gov.au

Protection of water resources from coal seam gas development and large coal mining development

Information on the protection of water resources from coal seam gas development and large coal mining development

The draft *Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources* provides further details on the protection of water resources from coal seam gas and large coal mining developments website: www.environment.gov.au/epbc/about/water-trigger.html.

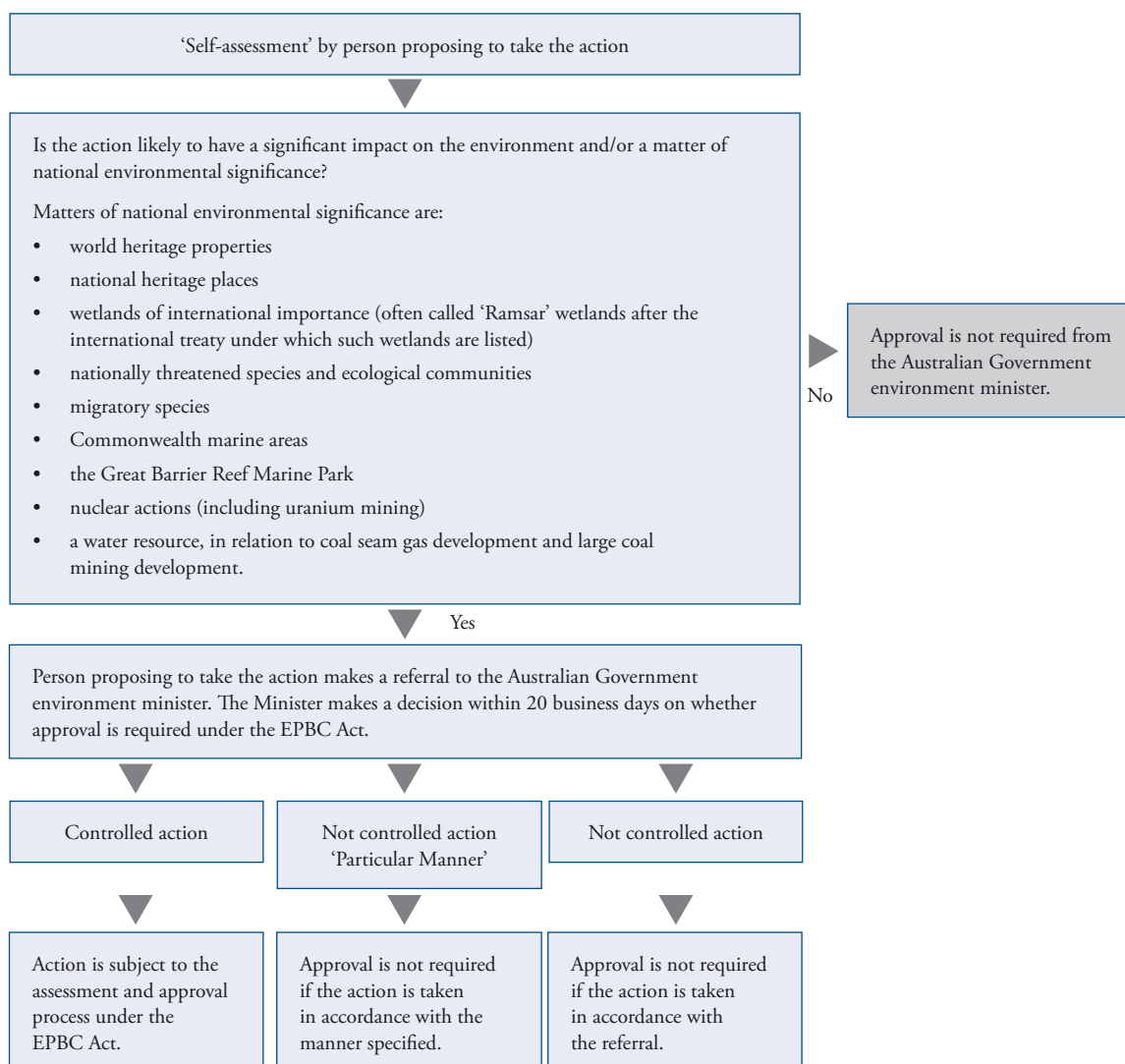
The referral, assessment and approval process

Referral process

If after undertaking a self-assessment you conclude that your action is likely to have a significant impact on a matter of national environmental significance, or if you are unsure, you should refer the action to the Australian Government environment minister. Substantial penalties apply for taking an action that has, will have or is likely to have a significant impact on a matter of national environmental significance without approval.

Referral forms and a guide to assist in filling out the referral form can be obtained from the Department's community information unit on 1800 803 772, or from the Department's website at: www.environment.gov.au/epbc/assessments/referral-form.html. The EPBC Act referral process is summarised in Figure 1 below.

Figure 1: EPBC Act referral process



After receiving a referral, the minister will decide whether the action is likely to have a significant impact on a matter of national environmental significance:

- if the minister decides that the action is likely to have a significant impact on a matter of national environmental significance, then the action requires approval under the EPBC Act (it is a controlled action), and
- if the minister decides that the action is not likely to have a significant impact on a matter of national environmental significance, then the action does not require approval under the EPBC Act (it is a not controlled action).⁸

The minister may also decide that an action is not likely to have a significant impact on a matter of national environmental significance, and does not require approval under the EPBC Act, because it will be taken in a 'particular manner'. However, the action must be undertaken in a way that is consistent with the manner specified in this decision, or penalties apply.⁹

The minister is generally required to make a binding decision on whether an action requires approval within 20 business days of receiving a referral. If the minister's decision is that an action does not require approval, a person will not contravene the Act if the action is taken in accordance with that decision.

Assessment and approval process

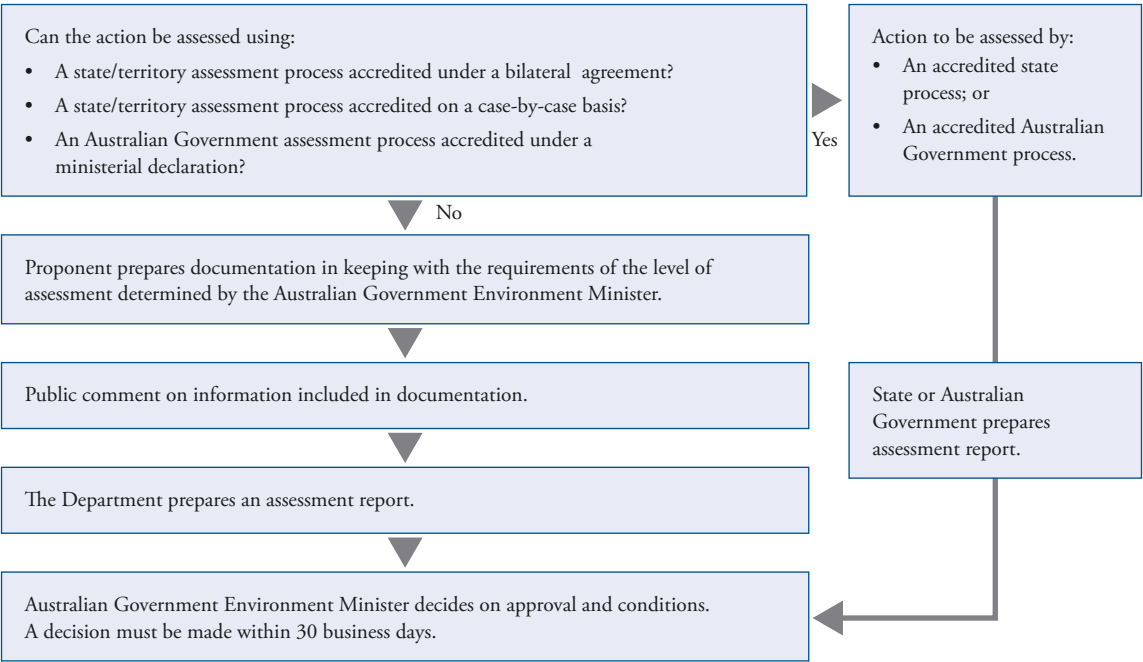
If the minister decides that an action requires approval, then an environmental assessment of the action must be carried out. If a bilateral agreement is in place the action may be assessed by the state or territory in which the action is to be undertaken, using the processes accredited under the bilateral agreement. If a ministerial declaration is in place accrediting another Australian Government assessment process, the action may be assessed by the process accredited under that declaration. Otherwise, the assessment will be undertaken by one of a range of assessment approaches outlined under the EPBC Act. An assessment report will then be prepared.

After considering the environmental assessment report, the Australian Government Environment minister decides whether to approve the action, and what conditions (if any) to impose. The EPBC Act assessment and approval process is summarised in Figure 2.

⁸ Please note that, regardless of whether approval is required under the EPBC Act, separate environmental assessment and approval may be required under state/territory and/or local government legislation.

⁹ More information about particular manner decisions can be found in the Practice Guide entitled *Application of 'Particular Manner' decision making under the EPBC Act*, available on the Department's web site at: www.environment.gov.au/epbc/publications/manner.html

Figure 2: EPBC Act assessment and approval process



General information

A range of other EPBC Act policy statements are available to assist you in determining whether you are likely to have a significant impact on a matter of national environmental significance.

EPBC Act Policy Statements can be obtained from the Department's community information unit on 1800 803 772 or can be downloaded from the Department's web site at: **www.environment.gov.au/epbc/publications/guidelines.html**

The Australian Natural Resources Atlas provides national, state and regional information about a range of environmental and land-use attributes: **www.anra.gov.au/**

Please note that the Department does not hold all of the information that may be required to assess the impacts of your action. state and territory government agencies also have a range of information that may be useful, including geographic information.

The sectoral information contained in the Appendix to these guidelines is intended to illustrate the application of the criteria for matters of national environmental significance in relation to specific industry sectors, and should be read in the context of, and in conjunction with, the significant impact criteria in these guidelines.

Appendix – Information for industry sectors

The purpose of this Appendix is to provide more detailed assistance in relation to whether, and in what circumstances, some selected sectoral activity is likely to have a significant impact on a matter of national environmental significance.

The examples in this appendix should be read in conjunction with the significant impact criteria in the guidelines and should not be taken to be conclusive.

This guidance relates to the following sectoral activities:

- mineral exploration
- urban development
- local government, and
- marine activities.

EPBC Act policy statements which provide further guidance in relation to specific industry sectors¹⁰ are available from the Department's community information unit or the Department's web site:

www.environment.gov.au/epbc/publications/guidelines.html

Mineral exploration activity

Terrestrial exploration

Surface geological mapping examining rock outcrops and exposures, which may involve the taking of small samples, would not normally be expected to have a significant impact on a matter of national environmental significance.

Surface geochemical sampling, using both regular grid pattern and irregular pattern methods to collect small samples, would not normally be expected to have a significant impact on a matter of national environmental significance.

Surface geophysical surveys including airborne surveys, gravity, magnetic and electromagnetic surveys, would not normally be expected to have a significant impact on a matter of national environmental significance.

Other geophysical surveys that include seismic surveys would not normally be expected to have a significant impact on matters of national environmental significance. However, an action involving seismic surveys (shot hole method or vibroseis) may have a significant impact on an endangered or critically endangered species if, for example, it is likely to damage habitat critical to the survival of the species or disrupt the breeding cycle of a population of the species. Such an action may also have a significant impact on listed threatened ecological communities where, for example, it adversely impacts on habitat. (See the criteria relating to endangered and critically endangered species and ecological communities.)

¹⁰ Industry-specific guidelines that have been, or are being, developed include guidelines for offshore seismic operations, offshore aquaculture, wind farms, agricultural land clearance, urban development, and actions undertaken by local government.

All exploratory drilling (including new field, wildcat, and appraisal drilling, auger, rotary air blast (RAB), open hole percussion, reverse circulation (RC), diamond drilling and wide diameter drilling), including the construction of drill pads, would not be expected to have a significant impact on a matter of national environmental significance where the discharges, emissions and waste from the drilling are contained and managed in an environmentally sensitive manner. However, an action involving exploratory drilling may have a significant impact on an endangered or critically endangered species if, for example, it is likely to damage habitat critical to the survival of the species or disrupt the breeding cycle of a population of the species. Such an action may also have a significant impact on listed threatened ecological communities where, for example, it adversely impacts on habitat. (See the criteria relating to endangered and critically endangered species and ecological communities.) Such an action may also have a significant impact if it occurs within a National Heritage place, for example, if it disturbs Indigenous burial grounds or artefacts with National Heritage values. It will also be necessary to consider the Ramsar criteria if the exploratory drilling is to occur in or immediately adjacent to a Ramsar wetland.

Costeaning and trenching (small scale) would not be expected to have a significant impact on a matter of national environmental significance where small trenches are excavated using hand tools. However, an action involving costeaning and trenching (small scale) may have a significant impact on an endangered or critically endangered species if, for example, it is likely to damage critical habitat for the species or disrupt the breeding cycle of a population of the species. Such an action may also have a significant impact on listed threatened ecological communities where, for example, it adversely impacts on habitat. (See the criteria relating to endangered and critically endangered species and ecological communities.) It will also be necessary to consider the National Heritage criteria and the Ramsar criteria if the costeaning or trenching is to occur in or immediately adjacent to a National Heritage place or a Ramsar wetland.

Costeaning and trenching (large scale), surface bulk sampling (such as establishing a trial pit, sinking shafts or driving decline tunnels deep into the target) and underground exploration and development (such as underground sampling, drilling and mine construction): whether or not these exploration activities are likely to have a significant impact on a matter of national environmental significance will depend upon the particular facts and circumstances of the proposed activity. It is necessary to apply the criteria in the guidelines to assist in determining when an action is likely to have a significant impact on a matter of national environmental significance. For example, if surface bulk sampling occurs in an area that is not in or near a Ramsar wetland, and if it is not damaging the habitat of a threatened species or important habitat for a migratory species, then the proposed exploration activity is not likely to have a significant impact on a matter of national environmental significance. However, if the proposed activity will result in the pollution of a Ramsar wetland then it is likely to have a significant impact on the ecological character of the Ramsar wetland.

Offshore exploration

Aerial surveys and diving for samples would not normally be expected to have a significant impact on a matter of national environmental significance.

Offshore exploratory drilling would be expected to have a significant impact if it is undertaken in an area that contains habitat for threatened or migratory species and the seismic activity is likely to interfere with breeding, feeding or migration, or if habitat critical to the survival of the species (or important habitat for a migratory species) is damaged by the drilling. Offshore exploratory drilling would also be expected to have a significant impact on a Ramsar wetland or the Commonwealth marine environment if drilling occurs in a sensitive area (for example, sea mounts and other areas with high biodiversity value or which contain important habitat). Offshore exploratory drilling may also potentially have a significant impact on historic shipwrecks in the Commonwealth marine area.

Other issues

The above discussion does not address issues associated with mineral exploration activity in a World Heritage property or National Heritage place. In addition, it does not take into account any impacts associated with gaining access to the exploration site, especially where heavy machinery is used.

Urban development

Repairing, maintaining, or making alterations to **commercial and domestic buildings and properties** would not be expected to have a significant impact on a matter of national environmental significance, unless the repairs, maintenance or alterations are being made to a World Heritage property or a National Heritage place and are inconsistent with the values of the property or place.

Repairing and maintaining existing distribution infrastructure for **utilities for power, water and sewage** would not normally be expected to have a significant impact on a matter of national environmental significance, unless there is a substantial expansion or modification of these utilities.

Establishing a **new subdivision** in an existing suburb, with established infrastructure designed to manage environmental impacts, upstream of a large Ramsar wetland (such as the Moreton Bay Ramsar wetland) would not be expected to have a significant impact on the wetland.

By contrast, establishing a **new subdivision** in the vicinity of a smaller Ramsar wetland is likely to have a significant impact on the wetland if it involves extensive vegetation clearing, clearing riparian vegetation, modifying the flow of water to or within the wetland, or if it will result in significant discharges of pollutants into the wetland.

Establishing a **new subdivision** within or adjacent to the Great Barrier Reef Marine Park, a World Heritage property or a National Heritage place is likely to have a significant impact on the World or National heritage values of that property or place.

Building a house on land in an existing subdivision in the vicinity of a Ramsar wetland or a World Heritage property would not normally be expected to have a significant impact on these matters of national environmental significance.

However, **building a house** in close proximity to a National Heritage place may have a significant impact on the values of the place, in particular where the place is located in a non-urban environment or where the proposed development would obstruct or detract from the viewing axes of the heritage place, where applicable.

Proposed urban development for a **housing subdivision or an industrial estate** on an area which contains nationally listed threatened species or ecological communities, or immediately adjacent to the Great Barrier Reef Marine Park, is likely to be significant under the EPBC Act and should be referred to the minister.

Local government

Maintaining existing facilities such as visitor centres and roadside facilities would not be expected to have a significant impact on a matter of national environmental significance.

Routine vegetation management to maintain existing roads in or adjacent to a World Heritage property, a National Heritage place, a Ramsar wetland or a listed threatened species or ecological community would not normally be expected to have a significant impact on a matter of national environmental significance.

A proposed **new road** through a World Heritage property, a National Heritage place, or a Ramsar wetland or a road that would require clearing of native vegetation that contains nationally listed threatened species or ecological communities is likely to be significant under the EPBC Act and should be referred to the minister. It will also be necessary to consider the environment of the Great Barrier Reef Marine Park if the proposed new road occurs immediately adjacent to the Great Barrier Reef Marine Park.

Where **road verge maintenance** is carried out regularly (for example, every one or two years) it would not be expected to have a significant impact on a critically endangered or endangered plant species.

On the other hand, if a population of a **critically endangered or endangered plant species** becomes established on a road verge (because the verge has not been graded or weeded for a number of years), then clearing that road verge is likely to have a significant impact on a matter of national environmental significance.

Widening an existing road would not normally be expected to be significant under the EPBC Act where the road verge has previously been cleared or the vegetation beside the road has been heavily modified. However, if road widening would require removal of native vegetation that contains critically endangered or endangered plant species or ecological communities, it is likely to have a significant impact and should be referred to the minister.

Development of a tourist resort in or adjacent to the Great Barrier Reef Marine Park, a World Heritage property or a National Heritage place is likely to be significant under the EPBC Act and should be referred to the minister. However, a **residential development** such as a block of units or other accommodation in an existing city or coastal town would not normally be expected to have a significant impact on an adjacent World Heritage property.

Marine activities

Otherwise lawful **recreational fishing and recreational boating** would not normally be expected to have a significant impact on a matter of national environmental significance.

Routine ship transits where appropriate precautions have been taken against translocating potential pest species would not normally be expected to have a significant impact on a matter of national environmental significance.

Ballast water operations from vessels in Australian waters, undertaken in accordance with an approved Australian Government arrangement for the management of ballast water, would not normally be expected to have a significant impact on the Commonwealth marine environment.

Small scale infrastructure projects such as new jetties within an existing port would not normally be expected to have a significant impact on a matter of national environmental significance.

Large scale infrastructure projects such as a large pontoon, new aquaculture proposals, construction of a jetty, or a tourist facility (for example, a marina) in the Great Barrier Reef Marine Park may have a significant impact on the environment of the Great Barrier Reef Marine Park and should be referred to the minister.

Expansion of an existing port which requires land reclamation or spoil disposal in a World Heritage property, a National Heritage place, in or adjacent to the Great Barrier Reef Marine Park, a Ramsar wetland or an area containing nationally listed threatened species or ecological communities, or which involves modifying an area of important habitat for a nationally listed migratory species, is likely to have a significant impact on a matter of national environmental significance.

Construction of a new port in a Commonwealth marine area, in or adjacent to the Great Barrier Reef Marine Park, a World Heritage property, or a National Heritage place is likely to have a significant impact on a matter of national environmental significance.

Dredging of a new shipping channel through a World Heritage property, a National Heritage place, through or next to the Great Barrier Reef Marine Park, a Ramsar wetland, or an area containing nationally listed threatened species or ecological communities, or which involves modifying an area of important habitat for a nationally listed migratory species, is likely to have a significant impact on a matter of national environmental significance.

Dredging to maintain existing navigational channels would not normally be expected to have a significant impact on the environment where the activity is undertaken as part of normal operations and the disposal of spoil does not have a significant impact.





Australian Network of Environmental
Defender's Offices Inc

Draft Significant Impact Guidelines under the EPBC Act: Coal seam gas and large coal mining developments – impacts on water resources

July 2013

The Australian Network of Environmental Defender's Offices (ANEDO) consists of nine independently constituted and managed community environmental law centres located in each State and Territory of Australia.

Each EDO is dedicated to protecting the environment in the public interest. EDOs provide legal representation and advice, take an active role in environmental law reform and policy formulation, and offer a significant education program designed to facilitate public participation in environmental decision making.

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Introduction

ANEDO welcomes the development of the “Draft Significant Impact Guidelines: Coal seam gas and large coal mining developments – impacts on water resources” (**draft guidelines**) and appreciates the opportunity to provide comments on these draft guidelines.

ANEDO strongly supports the inclusion of the impact on water resources of coal seam gas and large coal mine developments as ninth matter of national environmental significance (**water trigger**) and is generally supportive of the draft guidelines for applying the water trigger. ANEDO submits that there are a number of ways that the guidelines can and should be strengthened, and we outline these comments further below.

Our comments broadly correspond to parts of the draft guidelines. In brief they relate to:

- Beneficial impacts (and potential adverse impacts)
- General criteria for significant impacts
- Changes to hydrology
- Changes to water quality
- Changes to ecosystem functioning and integrity (including if no significant impact to hydrology or water quality)
- Cumulative impacts and timing
- Scale of development (and sensitivity of environment)
- Value of water resources
- Transitional arrangements (and ‘prior authorisations’)
- Suggestion to include guidance on standard conditions.

Beneficial Impacts

The draft guidelines (pp 6-7) state that:

the following beneficial impacts would not be considered in an EPBC Act referral decision:

- *supply of water to towns for drinking water;*
- *supply of water for irrigation; or*
- *on-supply of excess water to other mines.*

ANEDO reads this section of the draft guidelines to mean that the activity of providing water (post mining use) is not subject to assessment under the water trigger. However, it should be noted that in obtaining this water, the CSG or coal mining activity may well have had a significant impact on the water resource. The guidelines should be clarified to ensure that it cannot be interpreted to support the argument that a plan to reuse water for drinking, irrigation or other mining, exempts these actions from the requirement of assessing their initial impact on the water resource. Similarly, if providing this water involves releasing water into the environment, the Water Trigger Guidelines should be clarified to ensure that such releases are also subject to assessment. For example, transporting drinking quality water to a town via a naturally turbid stream may actually reduce the ecological value of the stream. Noting examples of associated adverse impacts of these activities would be useful.

General Criteria

We make four points on this section. The draft guidelines (p 7) state that:

An action is likely to have a significant impact on a water resource if there is a real chance or possibility that it will directly or indirectly result in:

- *a substantial change to the hydrology of a water resource; or*
- *a substantial change in water quality of a water resource.*

First, guidance on what constitutes changes to hydrology (pp 7-8) does not explicitly discuss changes in the *hydrogeological* characteristics or integrity of *hydrogeological* connections. For clarity, this definition should be explicit and incorporated in the guidelines.

Second, the general criteria (p 7) appear to assume that, where an action does not create a substantial change to hydrology or water quality, the action is unlikely to result in substantial changes to ecosystem function and integrity and therefore do not require consideration of changes to ecosystem function and integrity in the absence of change to hydrology or water quality. This is an inappropriate assumption. While it may be 'less likely' (as on p 6), there are circumstances where even minor changes to hydrology or quality may create a substantial change to ecological function or integrity (for example, a small release of a highly toxic substance may lead to substantial changes in the population size of vulnerable species). Therefore the substantial changes to ecosystem function and integrity should be added to the two General Criteria proposed. This will ensure that biodiversity values vulnerable to even minor changes to water quality or hydrology are appropriately considered within the scope of the MNES and adequately protected. We also note that the figure on p 7 also asks about 'any likely significant impacts on water quantity or quality' rather than reflecting the guidelines' language relating to 'substantial changes to hydrology'. The same box also refers to 'value' of the water resource but not its 'sensitivity' which is also relevant (see comments below).

Third, the examples of changes to a water resource, currently described as possibly being caused by "watercourse diversions, water discharges, impoundments, subsidence, post-action voids or other landscape modifications as well as mining or drilling" should also refer to 'surface water take' and re-injection of produced waters from CSG production or mine dewatering as a potentially significant change.

Fourth, ANEDO strongly supports a precautionary approach when dealing with uncertainty (see draft guidelines, p 6). However, the provision of comprehensive baseline data is fundamental to understanding whether or not a substantial change to water quality, hydrology or ecosystem function and integrity is likely to result, directly or indirectly, from an action. ANEDO therefore submits that CSG development and large coal mining development should not be assessed under the EPBC Act in the absence of comprehensive baseline data. Baseline data is vital insofar as it enables the proponent to clearly articulate the current hydrology and water quality, and to subsequently measure actual (as opposed to predicted) impacts once development has commenced. Such data further enables the consent authority to either halt development or vary conditions of consent where actual impacts diverge from predicted impacts.

Changes to hydrology

ANEDO supports the range of facets of the water resource that must be considered under the guidelines.¹

¹ Draft guidelines, pp 7-8, refer to:

- *flow regimes (volume, timing, duration and frequency of water flows);*
- *recharge rates;*
- *aquifer pressure or pressure relationships between aquifers;*

Based on our experience, CSG development and large coal mining development is often approved by States on the basis of preliminary groundwater studies.² It therefore falls to the Commonwealth Government to ensure that adequate hydrological and hydrogeological modelling, including groundwater-surface water interactions, is undertaken to determine the level of impact *before* a controlled action is approved or refused under the EPBC Act. Assessment must therefore be based on modelling that is appropriately adapted to determining the likely short, medium and long-term impacts of the development in question.

We further submit that the Minister should consider whether ‘general’ or ‘specific’ thresholds are exceeded when determining whether to approve or refuse a CSG development or large coal mining development. These two ‘thresholds’ are discussed in turn.

General threshold

We recommend basing the ‘general threshold’ on the definition of ‘environmentally sustainable level of take’ contained in the *Water Act 2007* (**Water Act**). Specifically, the Minister should consider refusing any CSG development or large coal mining development that individually, or in combination with other developments, is likely to compromise:

- key environmental assets of the water resource; or
- key ecosystem functions of the water resource; or
- the productive base of the water resource; or
- key environmental outcomes for the water resource.³

Specific thresholds

We further recommend considering specific thresholds that are particular to the water system or systems likely to be significantly impacted by the development in question. We note that the draft guidelines recognise the importance of consideration of quantity of water extracted and associated drawdown impacts; water quality; ecosystem services; and impacts on habitat. However no commitment is made to develop appropriate thresholds beyond which project refusal would be mandatory.

Changes to water quality

ANEDO strongly supports the use of Australian and New Zealand Environment Conservation Council (**ANZECC**) guidelines in determining significant impact on aquatic ecosystems, as described on p 9:⁴

-
- *groundwater table levels;*
 - *groundwater/surface water interactions;*
 - *river/floodplain connectivity;*
 - *inter-aquifer connectivity; or*
 - *coastal processes including changes to sediment movement or accretion, water circulation patterns, permanent alterations in tidal patterns, or substantial changes to water flows or water quality in estuaries*

² For example, proposals for CSG pilot drilling at Fullerton Cove, NSW; and the NSW Government’s approval of the Gloucester CSG project.

³ *Water Act 2007*, s. 4 (definitions).

⁴ The draft guidelines refer to the *Australia and New Zealand Guidelines for Fresh and Marine Water Quality*.

For aquatic ecosystems, a significant impact is likely if the predicted change in water quality is greater than that required for 'slightly to moderately disturbed' systems as described in the relevant water quality objectives.

ANEDO also supports the requirement for long term and cumulative considerations,⁵ and recommends that the draft guidelines be expanded to ensure that the interaction of chemicals once exposed to air and potential increases in toxicity through mixing is considered.

Further in relation to hydraulic fracturing, ANEDO is concerned that CSG developments and large coal mining developments classified as 'controlled actions' are being approved in the absence of definitive information regarding hydraulic fracturing agents. By way of example, condition 20 of the approval issued by Minister Burke for the 'Gloucester Coal Seam Methane Gas Project' (**Gloucester Approval**)⁶ states that:

Prior to undertaking any hydraulic fracturing, the person undertaking the action must provide the minister with the following details on any hydraulic fracturing agents or other reinjected fluids likely to be used under this approval:

- *estimated number and location (mapped, and expressed in latitude, longitude and depth) of wells where the agent or fluid may be used;*
- *Chemical Abstracts Service Number;*
- *typical load;*
- *typical concentration; and*
- *toxicity as total effluent toxicity and ecotoxicity, based on methods outlined in the National Water Quality Management Strategy.*

ANEDO is of the view that this information must be provided by the proponent *before* assessing the likely impacts of a CSG development on a water resource or resources. Indeed, we submit that it is difficult to properly assess environmental impacts in the absence of this information.

We understand that certain CSG companies argue that fracturing agents are 'commercial-in-confidence' and accordingly refuse to disclose their contents. ANEDO rejects this rationale, and contends that it is in the public interest for proponents to provide the Commonwealth with all information necessary to meaningfully assess the likely impacts of a CSG development on a water resource or resources. Put differently, we are of the view that the public's interest in protecting Australia's water resources far outweighs commercial interests, as amply demonstrated by continuing community concern regarding the impacts of fracturing on groundwater and surface water.

Changes to ecosystem function and integrity (including 'If no significant impact to hydrology or water quality')

ANEDO supports the range of facets of ecosystem function and integrity that must be considered (p 10), however see our comments above regarding:

⁵ Draft guidelines, p 10:

The quality of water extracted from coal seams needs to be considered in the widest context. Individually, the salts, heavy metals, and other compounds should not be allowed to exceed safe guideline levels, in particular guidelines for ecosystems or water bodies to avoid damage over the term of coal seam gas extraction. In addition, taken cumulatively, their concentration during water treatment processes could potentially produce substantial volumes of salt and heavy metal concentrate that remain in the environment and might be mobilised by water in the future.

⁶ EPBC approval 2008/4432. Issued 11 February 2013.

- the need to consider impacts on ecosystem function and integrity even in the absence of significant impacts on hydrology or water quality; and
- the need for thresholds when the Minister is determining whether to approve or refuse a CSG or large coal mine development.

Cumulative impacts and timing

ANEDO strongly supports the need to consider cumulative impacts and timing in the consideration of potential impacts on water resources associated with CSG activities and large coal mines. (p 11). These issues are particularly important for CSG activities with potential ongoing impacts through increased connectivity of aquifers, and potential for large numbers of well heads to have cumulative impacts on aquifers.

Scale (and sensitivity)

ANEDO accepts that it is reasonable to expect that small scale development are less likely to have a significant impact on water resources (p 11). However, this section of the draft guidelines does not reflect the fact that, if the surrounding environment is highly sensitive, then even small scale developments may have significant impacts. For this reason, ANEDO does not support the implication that exploration, appraisal and pilot developments have less need to consider their potential impact. This is particularly important given that CSG exploration effectively involves the same activity as production (ie, drilling, casing, hydraulic fracturing and disposal of produced fluids) and therefore the impacts are similar.

Rather, consideration of impact must take into account the level of risk and sensitivity of the surrounding environment (as is suggested earlier in the draft guidelines, at p 6). The wording under 'Scale' should be changed to reflect this (or via a separate section on 'sensitivity').⁷ ANEDO suggests that any company that is investing in exploratory drilling has an expectation that this may be successful and lead to full production. As such, considering only the impact of a small number of wells may give unrealistic expectations of the ability to obtain project approvals in the longer term. The draft guidelines could be amended to manage any such expectations.⁸

Value

An additional factor that is relevant to the value of the water resource is the intrinsic and existence values of the resource and its components. ANEDO submits that this be included in addition to the listed 'main factors'.

Transitional arrangements

ANEDO supports the intention of the 'prior authorisation' limitations. However, we note that some of the wording of the provisions is open to interpretation (see p 16, which quotes s 22 of the Amendment Act,⁹ and the guidance at p 20). The draft guidelines state that an "extension or renewal of an authorisation is considered to be a new

⁷ See, for example, *Matters of National Environmental Significance - Significant Impact Guidelines 1.1* (2009), p 15, 'The Commonwealth Marine Environment': 'Actions in or near marine protected areas, or other areas with high conservation value, have a greater likelihood of significant impacts on the Commonwealth marine environment.'

⁸ There is some reference to mineral exploration impacts in the Appendix to the MNES Guidelines 1.1. However, the scale and concerns about CSG drilling and hydraulic fracturing have seen a marked increase since 2009.

⁹ NB: The reference to the Amendment Act on p 16 of the draft guidelines should say '2013', not '1999'.

environmental authorisation where... *further and substantial environmental considerations* are involved” (p 20, emphasis added). Instead, the guidelines should reflect the requirement in s 22, that it is a new environmental authorisation (i.e. the exemption does not apply) where “*any* further consideration of the environmental impacts of the action” is required to properly renew or extend the authorisation (emphasis added).

Standard conditions – guidance recommended

In addition to the matters outlined in the draft guidelines, ANEDO submits that to increase certainty for proponents and the community, the Department should consider publishing guidance on standard conditions relating to monitoring, hydrological and hydrogeological modelling, reporting, and cessation of activities in certain circumstances. These matters are discussed in turn.

Monitoring

ANEDO recommends a standard condition requiring continuous monitoring of water quality at each well head, and at all discharge points. This condition should be accompanied by an explicit statement indicating that monitoring does not authorise pollution and that action to reduce (or eliminate) unauthorised levels of a given substance may be required.

Hydrological and hydrogeological modelling

ANEDO recommends developing a standard condition requiring the proponent to undertake ongoing hydrological and hydrogeological modelling that includes regular review by the Department. This modelling would enable changes to project requirements should the project not proceed as forecast in the original modelling.

Reporting

Given the high level of community and regulatory concern regarding the impacts of CSG development and large coal mining development on water resources,¹⁰ ANEDO recommends developing standard conditions requiring:

- monitoring results to be published online within 14-28 days of the sample being taken from the relevant water source. Raw data, as well as a plain-English version of the data, are to be published on the company’s website (and/or a centralised location);
- the results of ongoing hydrological and hydrogeological modelling to be published online at regular intervals. Raw data, as well as a plain-English version of the data, are to be published on the company’s website (and/or central location); and
- the publication of annual reports specifying both approved and actual impacts. These reports are to be published on the company’s website.

A standard condition regarding ongoing reporting would promote transparency and shared regulatory responsibility. It would also further assist the Commonwealth to determine whether permissible limits are being exceeded by the proponent, and to take

¹⁰ See for example, National Water Commission position statement on Coal Seam Gas (Dec. 2010); NSW Legislative Council Inquiry Report into Coal Seam Gas (May 2012), chapters 7 (Community views) and 13 (Regulation); Queensland Ombudsman, ‘An investigation into the approval and oversight of the Kingaroy underground coal gasification project’ (Sept. 2012).

appropriate action. We note that NSW laws now require licence holders to monitor and publish pollution data, guided and regulated by the NSW Environment Protection Authority.¹¹

Cessation of activity

ANEDO recommends including a standard condition regarding cessation of activity in certain circumstances. Where actual impacts diverge from approved impacts beyond a reasonable margin of error (for example +/- 5%), the proponent must cease the development or relevant activities immediately. The proponent must immediately notify, either orally or electronically, the Commonwealth and/or State contact specified in the approval of both the divergence and the nature and extent of the divergence, and cease the development or relevant activities within 24 hours of initial notification. Where the divergence presents an imminent risk to human health or the environment, such notification shall be provided to affected communities as well. Development may recommence once the Commonwealth is reasonably satisfied that appropriate steps have been taken to first, remediate unacceptable impacts and second, ensure compliance with the original approval.

Requirement to make good

ANEDO recommends developing a standard condition requiring the proponent to (where physically possible) to 'make good' impacts on a water resource or resources, as well as groundwater-dependent ecosystems. These conditions should be divided into two categories: remediating approved impacts and remediating unapproved impacts.

Any standard condition concerning remediation of *approved* impacts should require the work to be undertaken within specified timeframes and to an appropriate standard, where 'appropriate' is defined as being as close to the resource's pre-impact state as possible.

Where *unapproved* impacts exceed the general and/or specific thresholds specified in relevant conditions work would cease. This being the case, ANEDO recommends that the standard condition concerning unapproved impacts should state that resumption of development is conditional on the completion of appropriate remediation work (see definition of 'appropriate', above).

¹¹ *Protection of the Environment Operations Act 1997* (NSW), s 66(6). See also NSW EPA website, <http://www.epa.nsw.gov.au/legislation/faqs/pubpmdata.htm>.

Part 14 Environmental assessment under Part 5 of the Act

Division 1A Preliminary

227AA Demolition of temporary structure not “activity”

Pursuant to paragraph (k) of the definition of *activity* in section 110 (1) of the Act, the demolition of a temporary structure is prescribed not to be such an activity for the purposes of that definition.

Division 1 Circumstances requiring an environmental impact statement

228 What factors must be taken into account concerning the impact of an activity on the environment? (cf clause 82 of EP&A Regulation 1994)

- (1) For the purposes of Part 5 of the Act, the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment include:
 - (a) for activities of a kind for which specific guidelines are in force under this clause, the factors referred to in those guidelines, or
 - (b) for any other kind of activity:
 - (i) the factors referred to in the general guidelines in force under this clause, or
 - (ii) if no such guidelines are in force, the factors referred to subclause (2).
- (2) The factors referred to in subclause (1) (b) (ii) are as follows:
 - (a) any environmental impact on a community,
 - (b) any transformation of a locality,
 - (c) any environmental impact on the ecosystems of the locality,
 - (d) any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality,
 - (e) any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,
 - (f) any impact on the habitat of protected fauna (within the meaning of the *National Parks and Wildlife Act 1974*),
 - (g) any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air,
 - (h) any long-term effects on the environment,
 - (i) any degradation of the quality of the environment,
 - (j) any risk to the safety of the environment,
 - (k) any reduction in the range of beneficial uses of the environment,
 - (l) any pollution of the environment,
 - (m) any environmental problems associated with the disposal of waste,
 - (n) any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply,
 - (o) any cumulative environmental effect with other existing or likely future activities,

- (p) any impact on coastal processes and coastal hazards, including those under projected climate change conditions.
- (3) For the purposes of this clause, the Secretary may establish guidelines for the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment, in relation to activities generally or in relation to any particular kind of activity.
- (4) The Secretary may vary or revoke any guidelines in force under this clause.

Division 2

229–232 (Repealed)

Division 3 Public participation

233 What is the form for a section 113 notice?

For the purposes of section 113 of the Act, the prescribed form in which a notice under that section is to be prepared is a form that, in addition to the matters required by section 113 (1) of the Act, includes the following matters:

- (a) the following heading in capital letters and bold type:
“**ASSESSMENT OF ENVIRONMENTAL IMPACT OF** *(a title description of the proposed activity and its location)*—**PUBLIC EXHIBITION**”
- (b) a brief description of the proposed activity and its locality,
- (c) the name of the proponent,
- (d) a statement of the places, dates and times for inspection of the environmental impact statement,
- (e) a statement that any person may, before the specified closing date, make written representations to the determining authority about the proposed activity.

234 In what manner must a section 113 notice be given? (cf clause 87 of EP&A Regulation 1994)

- (1) For the purposes of section 113 of the Act, the prescribed manner in which a notice under that section is to be given in relation to an environmental impact statement is by causing notice of the places, dates and times where the statement may be inspected to be published on at least 2 separate occasions:
 - (a) in a daily newspaper circulating generally throughout the State, and
 - (b) in a local newspaper,so as to appear across 2 or 3 columns in the display section of those newspapers.
- (2) The period of 30 days referred to in section 113 (1) of the Act begins on:
 - (a) the date on which the notice is first published in the daily newspaper circulating generally throughout the State, or
 - (b) the date on which the notice is first published in the local newspaper,whichever is the later.

235 Where may an environmental impact statement be inspected? (cf clause 88 of EP&A Regulation 1994)

In addition to the places referred to in section 113 (1) of the Act, a determining authority must make copies of the relevant environmental impact statement available



Australian Government

Department of the Environment

Significant impact guidelines 1.3: Coal seam gas and large coal mining developments— impacts on water resources



December 2013

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1. Introduction

1.1. About the EPBC Act

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places — defined in the EPBC Act as matters of national environmental significance.

These matters of national environmental significance (MNES) are:

- world heritage properties
- national heritage places
- wetlands of international importance
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mining)
- a water resource in relation to coal seam gas (CSG) and large coal mining (the water trigger).

These guidelines relate to this last matter of national environmental significance (the water trigger).

1.1.1. The 'water trigger'

An amendment was made by the *Environment Protection and Biodiversity Conservation Amendment Act 2013* (the Amendment Act) to provide that water resources are a matter of national environmental significance in relation to coal seam gas and large coal mining development. The amendment passed the Parliament on 19 June 2013 and came into effect on 22 June 2013.

Under the EPBC Act, an action which involves a CSG development or a large coal mining development now requires approval from the Australian Government Environment Minister (the Minister) if the action has, will have, or is likely to have a significant impact on a water resource.

1.1.2. Significant impact guidelines

The core purpose of these guidelines is to assist any person who proposes to take an action which involves a CSG development or a large coal mining development to decide whether the action has or is likely to have a significant impact on a water resource.

If the action is likely to have such an impact, the proponent should submit a referral to the Australian Government Department of the Environment (the Department) for a decision by the Minister on whether assessment and approval is required under the EPBC Act.

These guidelines outline a ‘self-assessment’ process (see section 2 for a summary), including detailed criteria, to assist persons in deciding whether or not referral may be required. These guidelines may also assist members of the public or interest groups who wish to comment on actions which have been referred under the EPBC Act.

These guidelines should be read in conjunction with **EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance**.

A range of other EPBC Act policy statements are available to assist proponents in determining whether a proposed action is likely to have a significant impact on a matter of national environmental significance.

EPBC Act policy statements can be obtained from the Department’s community information unit on 1800 803 772 or can be downloaded from the Department’s web site at: www.environment.gov.au/epbc/publications/guidelines.html.

1.1.3. What is a referral?

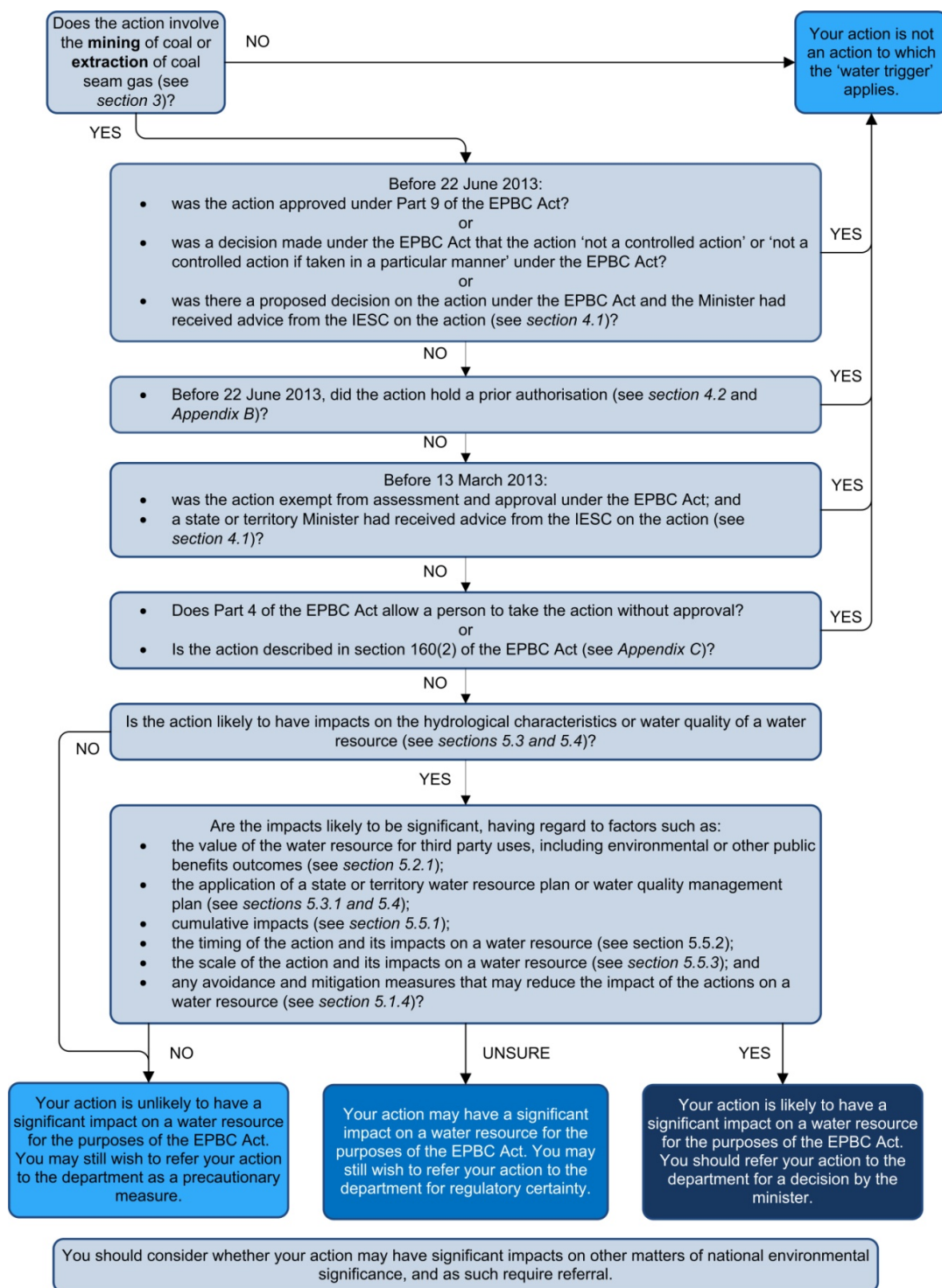
‘Referral’ of an action involves filling out a referral form and sending it to the Department. A referral identifies the person proposing to take the action and includes a brief description of the proposal, the project location, the nature and extent of any potential impacts to matters of national environmental significance, and any proposed avoidance and mitigation measures. The EPBC Act referral process is outlined in more detail at the end of these guidelines.

If a proponent plans to undertake an action which involves a CSG development or large coal mining development which has, will have, or is likely to have, a significant impact on a water resource they must refer the proposal to the Minister before starting. The Minister (or the Minister’s delegate) will then decide within 20 business days whether assessment is required under the EPBC Act. The potential significance of each action is judged on a case-by-case basis and decision makers will have regard to these guidelines. Substantial penalties may apply for undertaking an action, to which the EPBC Act applies, without approval. More information on referral, assessment and compliance under the Act is available at www.environment.gov.au/epbc.

Proponents may also refer their proposed action if they are uncertain about whether the EPBC Act applies. Proponents can contact the Department with any question about referrals, including whether a proposed action needs to be referred, by emailing epbc.referrals@environment.gov.au.

2. Self-assessment flowchart

The flowchart below provides an overview of the steps that a proponent should take in deciding whether to refer a proposed CSG or large coal mining development. Further information on each step is provided in the following sections of the guidelines.



3. Activities covered by the water trigger

3.1. Definitions

A ‘coal seam gas development’ is defined under the EPBC Act (section 528) as:

any activity involving coal seam gas extraction that has, or is likely to have, a significant impact on water resources (including any impacts of associated salt production and/or salinity):

(a) in its own right; or

(b) when considered with other developments, whether past, present or reasonably foreseeable developments.

A ‘large coal mining development’ is defined under the EPBC Act (section 528) as:

any coal mining activity that has, or is likely to have, a significant impact on water resources (including any impacts of associated salt production and/or salinity):

(a) in its own right; or

(b) when considered with other developments, whether past, present or reasonably foreseeable developments.

3.2. Size and purpose of the development

The application of the water trigger relates to a development’s likely impact on a water resource, and not the size of the proposed CSG or coal mining activity per se.

The definitions are not limited to commercial operations. Therefore, actions involved in exploration, appraisal and pilot developments may be captured by the definition where they involve extraction of CSG or coal. Exploration, appraisal and pilot activities are however less likely to have a significant impact on a water resource, given the usually small scale of that activity (see section 5.5.3 on scale for further information).

3.3. Type of proponent

The water trigger only applies to CSG or large coal mining actions that are undertaken by:

- a constitutional corporation
- the Commonwealth
- a Commonwealth agency
- a person who is doing the action for the purpose of domestic (between state or territory jurisdictions) or international trade.

This reflects the limits placed on the Commonwealth’s legislative power by the Australian Constitution.

3.4. Extraction of CSG or coal

The definitions of ‘CSG development’ and ‘large coal mining development’ relate to impacts on a water resource of activities that form part of the process of extracting coal or CSG. The development of associated infrastructure that is not part of the extraction process is not included in the definitions of CSG development or large coal mining development.

Extraction of CSG or coal must form part of the activity and not merely be associated with it. Where referred along with new or modified extraction of CSG or coal, the following activities will form part of the extractive process:

- water supply for use in the extraction of CSG or coal
- management of water generated as a result of extraction of CSG or coal, such as holding dams or water treatment facilities
- management of waste generated as a result of extraction of CSG or coal, such as spoil heaps.

However, these activities will not independently be CSG or coal mining development where there is no new or modified extraction of CSG or coal (see Example 1).

3.5. Associated infrastructure

The development of associated infrastructure that is not part of the extraction process is not included in the definitions of ‘CSG development’ or ‘large coal mining development’. This may include:

- transport infrastructure, such as pipelines, road or rail infrastructure
- office/housing and amenity construction
- environment protection, monitoring and associated land management activities.

The development of infrastructure that is associated with CSG or large coal mining development, but which is not sufficiently proximate that it can be said to involve the extraction of CSG or coal, does not need to be referred for its impacts on a water resource (see Example 2). Note that the action may need to be referred if it impacts on other matters of national environmental significance.

The EPBC Act requires the assessment of a referred action as a whole. As such, where an action referred to the Department includes both extraction of a CSG development or large coal mining development and associated infrastructure then the significance of the *whole* of the referred action on water resources would be considered at the assessment stage (see Example 3).

However, if the CSG development or large coal mining development does not itself have a significant impact on a water resource, then the action does not need to be referred under the water trigger, even if other parts of the action could be considered to have a significant impact on a water resource (see Example 4). Note that the impacts of CSG development or large coal mining development should be considered in context (see section 5.5.1 on cumulative impacts). The action may still need to be referred if it impacts on other matters of national environmental significance.

Example 1 – Associated infrastructure that would not have the water trigger applied

Processing Company is proposing to construct a new CSG processing facility and associated transport infrastructure. The processing facility will receive gas from *CSG Fields A and B*, which are already approved and operational. The project will include the processing facility, underground pipelines, a haul road, and accommodation facilities.

As there is no extraction of CSG as part of *Processing Company's* proposed action, the proposal is not a 'CSG development' or 'large coal mining development' for the purpose of the water trigger.

Example 2 – Associated infrastructure that would not have the water trigger applied

Coal Mining Company (CMC) is operating existing *Coal Mine A*, which was approved under the EPBC Act before the commencement of the Amendment Act on 22 June 2013. *CMC* now wants to construct new accommodation facilities, which will involve new sewage treatment arrangements and clearing of additional land.

As there is no extraction of coal as part of *CMC's* proposed action, the proposal is not a 'CSG development' or 'large coal mining development' for the purpose of the water trigger.

Example 3 – Associated infrastructure that would have the water trigger applied

Coal Mining Company (CMC) is developing a new coal mine (*Coal Mine B*), which will include an open-cut mine, a holding dam for water generated through mine de-watering, a coal washing facility, a rail line and some office buildings.

In assessing whether the water trigger applies to the action, *CMC* should consider the impacts on water from the mine void, the holding dam and the coal washing facility.

If a referral is made, incorporating all aspects of the operations, and the action is determined to be a controlled action (i.e. a significant impact on a water resource is likely), the Department will assess the impacts on water resources of the whole of the action, including the rail line and office buildings.

Example 4 – Associated infrastructure that would not have the water trigger applied

CSG Company is proposing to conduct well testing and pilot studies prior to seeking approvals for commercial operations. This testing will consist of a small number of wells that will operate for only a short period of time. To do this, *CSG Company* will establish accommodation facilities and access roads. The environmental assessment undertaken by *CSG Company* provides sufficient information to demonstrate that there is unlikely to be a significant impact on a water resource as a result of the exploratory CSG extraction. However, *CSG Company* also needs to construct a flood mitigation dam to protect the accommodation facilities. This dam may have an impact on catchment drainage patterns.

The exploration activities may be within the definition of CSG development because there will be extraction of CSG. However, even if the flood mitigation dam could be considered to have a significant impact on a water resource, the water trigger will not be applied. This is because the extractive process itself will not have a significant impact on a water resource, taking into account cumulative and indirect impacts.

However, if the entire project is referred as a single action, and the extractive activities come within the definition of CSG development, then all of the action's impacts on water resources will be considered.

3.6. Expansions or modifications

An expansion or modification to existing facilities may be within the definition of ‘CSG development’ or ‘large coal mining development’ if the expansion or modification involves extractive CSG or coal mining activities which are likely to have a significant impact on a water resource.

See section 4.2.1 for further detail on determining whether the water trigger may apply to an expansion or modification.

A referral may still be required if the action, including non-extractive components, is likely to have a significant impact on any other matter of national environmental significance.



4. Exemptions from the water trigger

The Amendment Act, which introduced the water trigger, includes some exemptions to the assessment and approval provisions under the EPBC Act. In particular, item 22 of the Schedule to the Amendment Act allows certain authorised actions (detailed further below) to continue without further EPBC Act approval in relation to the water trigger.

In other words, if an action is exempt under item 22 then there is no need for assessment or approval under the EPBC Act, in regard to impacts on water resources, even if the action would have a significant impact on a water resource. In addition, taking the action would not constitute an offence under the EPBC Act.

Please note that the provisions of the Amendment Act only provide an exemption from requirements relating to the water trigger. They do not negate the need for assessment and approval that may be required for any other relevant matter of national environmental significance. Broader exemptions from the EPBC Act (including the water trigger) are contained in Part 4 of the EPBC Act.

Where an action is exempt under other provisions of the EPBC Act, including Part 4 and s 160(2), there is no need for assessment and approval in relation to any matter of national environmental significance. Taking the action would not constitute an offence under the EPBC Act.

The purpose of this section is to provide an overview of exemptions that may apply.

4.1. Overview

The water trigger will not apply to a person taking an action involving a CSG development or large coal mining development which has a significant impact on a water resource if the action is exempt under the Amendment Act or the broader exemptions in the EPBC Act.

The Amendment Act contains exemptions for actions where:

- before 22 June 2013, the action was approved by the Minister under Part 9 of the EPBC Act
- before 22 June 2013, the Minister decided under Part 7 of the EPBC Act that the action was not a controlled action or not a controlled action if taken in a particular manner (and the action is taken in that manner)¹
- before 22 June 2013, the relevant person had been notified of a proposed approval decision under the EPBC Act in relation to the action and the Minister had received advice from the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC)² on the action
- before 13 March 2013, both:
 - the action was not required to be assessed and approved under the EPBC Act and
 - a state or territory Minister had received advice from the IESC on the action
- before 22 June 2013, the action held a prior authorisation.

Note that only one of these exemptions need be established for an exemption to apply. See Appendix B for further guidance on the prior authorisation exemption.

¹ See Appendix A for explanation of a ‘not a controlled action – particular manner’ decision.

² The IESC provides scientific advice to decision makers on the impact that CSG and large coal mining development may have on Australia’s water resources.

The EPBC Act also establishes exemptions for actions where:

- Part 4 of the EPBC Act allows a person to take the action without approval under Part 9
- the action is an action described in section 160(2) of the EPBC Act (actions whose authorisation is subject to a special Commonwealth environmental authorisation process).

See Appendix C for further guidance on the general exemptions under the EPBC Act.

4.2. Is the action still the same action that was exempt?

The exemptions under the Amendment Act may not apply if the action being undertaken is substantially different to the action that was originally authorised or otherwise exempt.

Whether the action being undertaken is substantially the same as the action that was originally authorised or otherwise exempt will depend on:

- the purpose of the action
- the nature of the activities being undertaken
- the significant impacts that occur as a result of the action.

An expansion or modification that substantially changes the extraction of CSG or coal may no longer be covered by an exemption (see section 4.2.1 on expansions and modifications for further information).

Where an authorisation allows a particular action to occur at a particular intensity, and the action occurs at a lower intensity, the action will be covered by the specific environmental authorisation. For example, if an approval (a 'specific environmental authorisation') is given to extract 10 million tonnes of coal annually but the activity only extracts 8 million tonnes, then the activity will continue to be within the scope of the specific authorisation.

4.2.1. Expansions and modifications

If a referral for a proposed expansion or modification to a project does not involve extraction of CSG or coal, then it will not be within the definition of 'coal seam gas development' or 'large coal mining development', and the water trigger will not apply (see Example 5). Note however that where an expansion or modification is referred as part of a broader action that involves the extraction of CSG or coal, the water trigger may apply to the expansion or modification. If an expansion or modification involves extractive activities that are likely to have a significant impact on a water resource, the water trigger may apply (see Example 6).

In the case of a proposal to intensify the extraction of CSG or coal beyond that authorised by existing approvals, the water trigger may apply to the whole of the project, including existing approved extractive activities, if the impacts of the intensification cannot be identified separately from the existing extractive activities (see Example 7). If a proposal raises this issue, further advice should be sought from the Department.

Example 5 – Modification that would *not* have the water trigger applied

CSG Company is operating *CSG Field C* under an existing authorisation. The authorisation currently requires *CSG Company* to treat produced water before discharging it into a nearby river. *CSG Company* now wants to create a holding dam for that water instead of using its current treatment facility.

If *CSG Company* refers just the new holding dam, the change to the water discharge arrangements will not have the water trigger applied because the action being referred does not involve extraction of CSG.

Example 6 – Expansion of extractive activities

CSG Company has an authorisation for, and is already operating, *CSG Field D* which currently involves 1000 wells. *CSG Company* proposes to increase the extraction from *CSG Field D*, by developing an additional 300 wells.

As the action involves extraction of CSG, the water trigger may be applied if there are likely to be significant impacts on a water resource.

If the action is determined to be a controlled action and the impacts of the additional 300 wells are able to be distinguished from the existing operations, the water trigger will apply only to the expansion (i.e. the additional 300 wells). The existing operations may be taken into account in considering cumulative impacts; however, a new approval for the existing operations will not be required. *CSG Company* will be able to continue operating the existing 1000 wells while the expansion involving the additional 300 wells is being assessed.

Example 7 – Intensification of extractive activities

Coal Mining Company (CMC) is currently authorised under their state approval to mine coal from *Coal Mine C* at a rate of 10 million tonnes per annum (Mtpa). After commencing operation, *CMC* finds that they are in fact able to extract coal at a rate of 13 Mtpa, without increasing the size or footprint of the mine void. They are therefore seeking an amendment to their approval to allow extraction at a faster rate, while maintaining the same mine footprint.

As the action involves extraction of coal, and the impacts of the intensification cannot be identified separately from the existing extractive activities, the water trigger may be applied if there are likely to be significant impacts on a water resource.

If the action is determined to be a controlled action, the water trigger will apply to the whole of the activities (i.e. the total extraction of 13 Mtpa). *CMC* can continue to mine at the rate of 10 Mtpa while the intensified action is assessed, provided the original state approval remains in place.

5. Significant impact criteria

5.1. Introduction

The ‘significant impact criteria’, set out on the following pages, are intended to assist in determining whether the impacts on a water resource from a proposed action involving a CSG development or a large coal mining development are likely to be significant, and therefore whether the action will require referral, assessment and approval.

These criteria are intended as a guide. If a proponent is still unsure whether a CSG development or large coal mining development is likely to have a significant impact on a water resource they should refer the action to the Department for a binding decision on whether assessment and approval is required.

The particular facts and circumstances of a proposed action will need to be taken into account in determining whether that action is likely to have a significant impact on a water resource. For example, the timing of water discharges into the system could make an impact more or less significant (see section 5.5.2 on timing).

The significance of an impact may also depend upon the context of other developments: an apparently small impact may still be a significant impact if there are substantial cumulative effects, factoring in existing and reasonably foreseeable prospective actions (see section 5.5.1 on cumulative impacts).

5.1.1. What is a significant impact?

A ‘significant impact’ is an impact which is important, notable, or of consequence, having regard to its context or intensity.³ Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the water resource which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. All of these factors should be considered when determining whether an action is likely to have a significant impact. See the **Significant Impact Guidelines 1.1: Matters of National Environmental Significance** for more information about assessing the significance of impacts on matters of national environmental significance.

5.1.2. When is a significant impact likely?

To be ‘likely’, it is not necessary for a significant impact to have a greater than 50 per cent chance of happening; it is sufficient if a significant impact on a water resource is a real or not remote chance or possibility.⁴

5.1.3. The precautionary principle

Under section 391 of the EPBC Act, the Minister must take into consideration the precautionary principle when deciding whether an action is a controlled action. This principle states 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 to prevent environmental degradation.

In some cases relating to CSG developments and large coal mining developments the potential impacts of an action may be uncertain, because baseline information is unavailable. For example, information may not be available about connectivity and flows between different systems.

³ See *Booth v Bosworth* [2001] FCA 1453

⁴ See *Booth v Bosworth* [2001] FCA 1453

Note that the Minister can request referral of the action under section 70 of the EPBC Act. In making a decision whether to request a referral under section 70, the Minister must take account of the precautionary principle.

Where limited information is available on which to make an assessment of the impacts of a particular action, the Department recommends referring the action so that potential issues can be assessed if necessary through the EPBC Act assessment process.

5.1.4. Avoidance and mitigation measures

Avoidance and mitigation measures may be used to reduce potential adverse impacts on a water resource. Such measures may include the construction of 'protective mechanisms' for water resources, such as low permeability barriers to avoid interaction with groundwater flows, and surface water diversion which are immaterial to catchment drainage patterns. Where properly and reliably implemented, such measures may avoid significant impacts on a water resource.

5.1.5. Beneficial impacts

An action may have both adverse and beneficial impacts on a water resource; however under the EPBC Act only adverse impacts are relevant when determining whether the action should be referred. For example, the following beneficial impacts are not relevant to a referral decision:

- supply of water to towns for drinking water
- supply of water for irrigation
- on-supply of excess water to other mines.

However, if there are likely to be adverse impacts associated with these activities, such impacts should be considered in determining whether the action is likely to have a significant impact on a water resource.

It is important to note that beneficial impacts differ from avoidance and mitigation measures in that the beneficial impacts are not measures designed to reduce potential adverse impacts on a water resource.

5.2. General criteria

An action is likely to have a significant impact on a water resource if there is a real or not remote chance or possibility that it will directly or indirectly result in a change to:

- the hydrology of a water resource,
- the water quality of a water resource,

that is of sufficient scale or intensity as to reduce the current or future utility of the water resource for third party users, including environmental and other public benefit outcomes, or to create a material risk of such reduction in utility occurring. For further information on the utility of a water resource for third party uses, see section 5.2.1 on value of a water resource.

5.2.1. Value of a water resource

It is important to consider the value of the water resource in determining whether the impacts of a proposed action on a water resource are likely to be significant. The key factor that will be relevant in determining the value of a water resource will be its utility for all third party uses, including environmental and other public benefit outcomes (see Example 8). Such outcomes include:

- provisioning services (e.g. use by other industries and use as drinking water)
- regulating services (such as the climate regulation or the stabilisation of coastal systems)
- cultural services (including recreation and tourism, science and education)
- supporting services (e.g. maintenance of ecosystem function).

The ecosystem function of a water resource includes the ecosystem components, processes and benefits or services that characterise the water resource, including support for the biological diversity or species composition of the water resource.

If there is evidence, based on data, modelling and engagement with potentially affected stakeholders, that the action would not materially affect (either by increasing or decreasing) the availability and quality of water for all third party users, including environmental and other public benefit outcomes and including at a future time or in another place, then that would reduce the likelihood of the action having a significant impact (see Example 9).

Example 8 – Large coal mine that would have a significant impact on a water resource

Coal Mining Company is developing a new coal mine (*Coal Mine F*), which will include an open-cut mine void, railroad tracks and roads for a transport corridor and water management infrastructure, including storage dams for mine affected water. The proposed mine site is located in a large catchment with one large river and several smaller tributaries intersecting the site. The catchment is low lying and subject to periodic flooding. The nearby river supports a high degree of biological diversity, and is an important water resource for a number of industries downstream of the action (including agriculture).

The extraction activities that are part of *Coal Mining Company's* proposed operation are likely to impact on nearby water resources as a result of mine affected water releases, and the nearby river supports existing third party uses. Therefore, there may be significant impacts on a water resource, and the action is likely to require referral.

Example 9 – CSG operation that would not have a significant impact on a water resource

CSG Company is proposing to develop *CSG Field F* in a location with no permanent or significant ephemeral surface watercourses. The water in the coal seam impacted by CSG well construction and extraction activities is highly saline and does not support any existing or reasonably foreseeable third party uses. *CSG Company* has also demonstrated that there is no interconnectivity between the impacted coal seam aquifer and any other water resource, nor will the action increase connectivity between aquifers. Co-produced water from the operation will be treated on-site and on-supplied to a nearby town, with no consequential impacts of the urban use for water quality or hydrological characteristics of any water resource. The resultant brine from treated co-produced water is removed from the site and is not mobilised in the environment.

As *CSG Company* has demonstrated that the impacted water resource is of little or no existing or future utility, the CSG development is not likely to have a significant impact on a water resource.

5.3. Guidance on changes to hydrological characteristics

A significant impact on the hydrological characteristics of a water resource may occur where there are, as a result of the action:

- a) changes in the water quantity, including the timing of variations in water quantity
- b) changes in the integrity of hydrological or hydrogeological connections, including substantial structural damage (e.g. large scale subsidence)
- c) changes in the area or extent of a water resource

where these changes are of sufficient scale or intensity as to significantly reduce the current or future utility of the water resource for third party users, including environmental and other public benefit outcomes.

The following aspects may need to be considered when assessing changes in hydrological characteristics:

- flow regimes (volume, timing, duration and frequency of surface water flows)
- recharge rates to groundwater
- aquifer pressure or pressure relationships between aquifers
- groundwater table and potentiometric surface levels
- groundwater-surface water interactions
- river-floodplain connectivity
- inter-aquifer connectivity
- coastal processes including changes to sediment movement or accretion, water circulation patterns, permanent alterations in tidal patterns, or substantial changes to water flows or water quality in estuaries.

Unless the proponent can establish otherwise, the Department will assume that there is a connection between surface water and subjacent aquifers, and between adjacent aquifers. The proponent should also consider the potential impact of drilling, excavating or fracing on connectivity between surface water and subjacent aquifers, and between adjacent aquifers, and whether this is likely to impact on the hydrology of the system beyond the life of the proposed action.

5.3.1. State water resource plans

The National Water Initiative (NWI) is the national blueprint for water reform, agreed in 2004 by the Council of Australian Governments. Through the NWI, governments across Australia agreed on actions to achieve a more cohesive national approach to the way Australia manages, measures, plans for, prices, and trades water. One of the key elements of the NWI is a framework for water access entitlements and planning.

A proponent may obtain entitlements to extract water under a state water plan which has been prepared in accordance with the requirements of the NWI.

If a proponent can demonstrate that all of the water used by a proposed action is authorised through such entitlements, the action is less likely to require a referral due to significant impacts on the hydrological characteristics of a water resource.

However there may be situations where the water used by the proponent in a particular location at a given time exceeds the environmentally sustainable level of extraction for that location, or for another hydrologically connected location. In these cases the action is more likely to have a significant impact on a water resource.

It is important to note that the impact on water resources from the disposal or release of extracted water and from changes to the physical environment will need to be considered separately from any consideration of the entitlements held. The relevance of state water quality management plans is discussed in section 5.4, below.

5.4. Guidance on changes to water quality

A significant impact on a water resource may occur where, as a result of the action:

- a) there is a risk that the ability to achieve relevant local or regional water quality objectives would be materially compromised, and as a result the action:
 - i. creates risks to human or animal health or to the condition of the natural environment as a result of the change in water quality
 - ii. substantially reduces the amount of water available for human consumptive uses or for other uses, including environmental uses, which are dependent on water of the appropriate quality
 - iii. causes persistent organic chemicals, heavy metals, salt or other potentially harmful substances to accumulate in the environment
 - iv. seriously affects the habitat or lifecycle of a native species dependent on a water resource, or
 - v. causes the establishment of an invasive species (or the spread of an existing invasive species) that is harmful to the ecosystem function of the water resource, or
- b) there is a significant worsening of local water quality (where current local water quality is superior to local or regional water quality objectives), or
- c) high quality water is released into an ecosystem which is adapted to a lower quality of water.

For water-dependent ecosystems, a significant impact is likely if the predicted change in water quality is greater than that required for 'moderately to slightly disturbed' systems as described in the relevant local or regional water quality objectives (typically the 80% to 95% ecosystem protection guideline values listed in the Australian Water Quality Guidelines⁵). Note that other thresholds may apply where changes in water quality may impact on other matters of national environmental significance, such as threatened species or ecological communities.

⁵ ARMCANZ (2000)

Local or regional water quality objectives may include:

- for locations within the Murray Darling Basin, the water quality targets of the *Murray Darling Basin Plan*
- for Queensland, other than the Murray Darling Basin, the *Queensland Water Quality Guidelines 2009*
- for Victoria, other than the Murray Darling Basin, the *State Environment Protection Policy (Waters of Victoria)*, or parallel regional policies such as Waters of the Yarra
- for South Australia, other than the Murray Darling Basin, the water quality objectives listed in Schedule 2 of the current *Environment Protection (Water Quality) Policy*
- if not covered above, the 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality', as outlined in the *National Water Quality Management Strategy*.

Where an action may impact on a water resource for which there are no relevant local or regional water quality objectives, the proponent may propose water quality objectives for the impacted water resource in accordance with the appropriate guidelines under the *National Water Quality Management Strategy* and in consultation with a relevant local authority. Relevant guidelines may include:

- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*
- *Guidelines for groundwater protection*
- *Australian drinking water guidelines*
- *Australian Guidelines for Water Recycling: Managed Aquifer Recharge*.

A proponent may also influence water quality within a surface water catchment or groundwater resource under the provisions of a state water quality management plan (for example, a salinity trading scheme). Where water quality impacts from an action are managed through a management scheme that accounts for all other third party uses, including at a future time or another place, compliance with such management schemes may reduce the likelihood of a significant impact on a water resource.



5.5. Other important considerations

5.5.1. Cumulative impacts

The definitions of CSG development and large coal mining development refer to the action having a significant impact ‘when considered with other developments, whether past, present or reasonably foreseeable developments’. This means that a significant impact on water resources may be caused by one CSG development or large coal mining development, or the cumulative impact of other developments in the area.

The consideration of cumulative impacts is not limited to impacts from CSG and large coal mining development, nor is it limited to the immediate project area or only those developments that occur ‘upstream’ from the proposed action. Cumulative impacts should be considered at the local, aquifer or catchment, and regional scale.

The term ‘cumulative impacts’ refers to the impacts of a number of different actions or other broader influences on a matter of national environmental significance which, when considered together, have a greater impact on that matter than each action or broader influence considered individually. Therefore, in considering whether an action has, or is likely to have, a significant impact, the seriousness or intensity of the relevant impacts should be considered in context.

This context may include existing developments that have an impact on particular water resources, reasonably foreseeable developments which may have an impact on particular water resources and/or the overall development of a region. Therefore, the potential for the impact of an action to be significant is likely to be greater in a more developed system, or where a number of existing or proposed developments are or will be using or impacting upon a water resource.

At the referral stage, cumulative impacts should be assessed qualitatively on the basis of potential risks, and only existing and reasonably foreseeable future uses should be considered (see section 5.6 on information and data requirements for further information).

5.5.2. Timing

The significance of impacts must be assessed in both the short and the long term. Given the length of time that impacts may take to become observable in groundwater systems, the ‘long term’ may be beyond the life of the action.

The timing of particular actions may also increase or decrease the significance of an action’s impacts. For example, steady water releases changing an ephemeral watercourse or intermittently flooded wetland into a continuous flow or permanent wetland would be likely to increase the significance of an action’s impacts. Releasing water during a flood event within, or marginally outside water quality guidelines and for a short period may be less likely to be significant.

5.5.3. Scale

The significance of impacts on a water resource should be considered on each of a local, aquifer or catchment, and regional scale (including in connected or potentially connected hydrological systems). For example, extracting water from a confined aquifer may have no effect on the local groundwater table in an overlying unconfined aquifer, or on surface water flow. However, if at some distance the drawn-down confined aquifer approaches the surface and becomes unconfined such that it connects to more shallow aquifers or surface water systems, or is accessed more readily as a water resource, there may be important regional scale impacts to surface water flows and the water table associated with the localised development.

Small scale development may be less likely to have a significant impact on a water resource. For example, exploration, appraisal and pilot developments, due to their scale and short duration of activity may be less likely to have a significant impact on a water resource.

5.6. Information and data requirements

The level of information and data provided to the Department at the referral stage should be sufficient to allow a decision to be made as to whether an action is a ‘controlled action’ under the EPBC Act. Where the Minister decides that an action requires assessment and approval, additional, more detailed information and data may be required to fully assess the impacts of the action.

Information provided to the Department at the referral stage should include:

- the characteristics of the potentially impacted water resource(s)
- known baseline conditions of the water resource(s), including existing third party uses, including environmental and other public benefit outcomes
- reasonably foreseeable future use of the water resource(s)
- the likely impact of the action on the water resource(s), including consideration of impacts in the context of existing impacts
- proposed avoidance and mitigation measures
- the alignment of the action with any relevant water resource and/or water quality plans.

The level of detail and information included in a referral to the Department would also reflect the proponent’s approvals strategy. For example, where a proponent is seeking a ‘not controlled action’ or ‘not controlled action – particular manner’ decision under the EPBC Act, the level of information and detail relating to the action, its impacts (including consideration of cumulative impacts) and proposed mitigation measures should be sufficient to satisfy the Minister that all likely impacts have been considered and (where appropriate) quantified, and that action will not have a significant impact on a water resource.

6. The referral, assessment and approval process

6.1. Referral process

If after undertaking a self-assessment a proponent concludes that their action is likely to have a significant impact on a matter of national environmental significance, or if they are unsure, they should refer the action to the Minister. Substantial penalties may apply for taking an action that has, will have or is likely to have a significant impact on a matter of national environmental significance without approval.

Referral forms and a guide to assist in filling out the referral form can be obtained from the Department's community information unit on 1800 803 772, or from the Department's website at: www.environment.gov.au/epbc/assessments/referral-form.html. Proponents can also contact the department for advice on whether a proposed action should be referred by emailing epbc.referrals@environment.gov.au.

After receiving a referral, the Minister will decide whether the action is likely to have a significant impact on a matter of national environmental significance:

- if the Minister decides that the action is **likely to have a significant impact** on a matter of national environmental significance, then the action requires approval under the EPBC Act (it is a controlled action).
- if the Minister decides that the action is **not likely to have a significant impact** on a matter of national environmental significance, then the action does not require approval under the EPBC Act (it is a not controlled action).
- if the Minister decides that the action would have **clearly unacceptable** impacts on a matter of national environmental significance, then the action will be refused.
- The Minister may also decide that an action is not likely to have a significant impact on a matter of national environmental significance, and does not require approval under the EPBC Act, because it will be taken in a 'particular manner'.⁶ However, the action must be undertaken in a way that is consistent with the manner specified in this decision, or penalties apply.

The Minister is generally required to make a binding decision on whether an action requires approval within 20 business days of receiving a referral. If the Minister's decision is that an action does not require approval, a person will not contravene the Act if the action is taken in accordance with that decision.

6.2. Assessment and approval process

If the Minister decides that an action requires approval, then an environmental assessment of the action must be carried out. If a bilateral agreement is in place, the action may be assessed by the state or territory in which the action is to be undertaken, using the processes accredited under the bilateral agreement. If a Ministerial declaration is in place accrediting another Australian Government assessment process, the action may be assessed by the process accredited under that declaration.

Otherwise, the assessment will be undertaken by one of a range of assessment approaches outlined under the EPBC Act. An environmental assessment report will then be prepared.

⁶ See Appendix A for explanation of a 'not a controlled action – particular manner' decision.

Under the EPBC Act the Australian Government Environment Minister must seek and consider the advice of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) before deciding whether or not to approve a proposed coal seam gas or large coal mine development that may have a significant impact on a water resource.

After considering the environmental assessment report and advice of the IESC, the Australian Government Environment Minister decides whether to approve the action, and what conditions (if any) to impose.

Assessments will rely as much as possible on information that has already been collected in the existing state or territory assessment processes, to ensure assessments proceed efficiently.

Regardless of whether approval is required under the EPBC Act, separate environmental assessment and approval may also be required under state/territory and/or local government legislation.



7. Links to further information

Exemptions from requiring assessment and approval under the EPBC Act

www.environment.gov.au/epbc/publications/exemptions.html

National Water Quality Management Strategy:

<http://www.environment.gov.au/resource/national-water-quality-management-strategy-water-quality-management-outline-policies> NWQMS Document 4: Australian and New Zealand guidelines for fresh and marine water quality – 2000:

<http://www.environment.gov.au/water/publications/quality/nwqms-introduction-4a.html>

Atlas of groundwater dependent ecosystems:

<http://www.bom.gov.au/water/groundwater/gde/>

Independent Expert Scientific Committee on Coal Seam Gas
and Large Coal Mining Development

<http://www.environment.gov.au/coal-seam-gas-mining/index.html>

APPENDIX A – Glossary of terms

Action includes a project, development, undertaking, activity, or series of activities, or an alteration to any of those things. The terms ‘project’, ‘development’, ‘undertaking’ and ‘activity’ have their ordinary meaning in the context of the EPBC Act.

Affected area means the area likely to be affected by the action. This includes the project site and any additional areas likely to be affected, either directly or indirectly.

Environment means:

- (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).

Environmentally sustainable level of extraction* means the level of water extraction from a particular system, which if exceeded would compromise key environmental assets or ecosystem functions and the productive base of the resource.

Extraction means the extraction of coal seam gas or coal (through the construction and operation of CSG wells or mine voids) and may also include the following, where referred along with new or modified extraction of CSG or coal:

- (a) water supply for use in the extraction of CSG or coal
- (b) management of water generated as a result of extraction of CSG or coal, such as holding dams or water treatment facilities
- (c) management of waste generated as a result of extraction of CSG or coal, such as spoil heaps.

Groundwater* means:

- (a) water occurring naturally below ground level (whether in an aquifer or otherwise); or
- (b) water occurring at a place below ground that has been pumped, diverted or released to that place for the purpose of being stored there;

but does not include water held in underground tanks, pipes or other works.

Lake*

- (a) means a natural lake, pond or lagoon (whether modified or not); and
- (b) includes a part of such a lake, pond or lagoon.

* National Water Commission (2004) *Intergovernmental agreement on a National Water Initiative*

* *Water Act 2007* (Cth)

* *Water Act 2007* (Cth)

Local or regional water quality objectives[#] means a set of numbers or guidelines which satisfy all of the environmental and other public benefit outcomes associated with the water resource, and are contained within a relevant plan which sets out the proposed water quality objectives and the implications of adopting them for particular catchments, coastal waters or aquifers.

Not a controlled action – particular manner decision means a decision by the Minister for the Environment under s 75 of the EPBC Act that an action is not a controlled action under the EPBC Act if it is taken in a particular manner. The Minister's notice of the decision includes a description of the prescribed particular manner. Section 77A of the EPBC Act prohibits a person from taking the action in a way that is inconsistent with the manner prescribed in the notice.

Significant impact means an impact which is important, notable, or of consequence, having regard to its context or intensity.

Surface water⁺ means:

- (a) water in a watercourse, lake or wetland; and
- (b) any water flowing over or lying on land:
 - (i) after having precipitated naturally; or
 - (ii) after having risen to the surface naturally from underground.

Utility means the use of a water resource for any third party use, including environmental and other public benefit outcomes (see section 5.2.1 on value of a water resource for examples).

Watercourse⁺

- (a) means a river, creek or other natural watercourse (whether modified or not) in which water is contained or flows (whether permanently or from time to time) and
- (b) includes:
 - (i) a dam or reservoir that collects water flowing in a watercourse; and
 - (ii) a lake or wetland through which water flows; and
 - (iii) a channel into which the water of a watercourse has been diverted; and
 - (iv) part of a watercourse; and
 - (v) an estuary through which water flows.

[#] Adapted from the Australian and New Zealand Environment and Conservation Council (1998) *National Water Quality Management Strategy – implementation guidelines*

Water-dependent ecosystem* means a surface water ecosystem or a groundwater ecosystem, and its natural components and processes, that depends on periodic or sustained inundation, waterlogging or significant inputs of water for its ecological integrity and includes an ecosystem associated with:

- (a) a wetland; or
- (b) a stream and its floodplain; or
- (c) a lake or a body of water (whether fresh or saline); or
- (d) a salt marsh; or
- (e) an estuary; or
- (f) a karst system; or
- (g) a groundwater system;

and a reference to a water-dependent ecosystem includes a reference to the biodiversity of the ecosystem.

Water plan* means a statutory plan for surface and/or groundwater systems, consistent with the Regional Natural Resource Management Plans, developed in consultation with all relevant stakeholders on the basis of best scientific and socio-economic assessment, to provide secure ecological outcomes and resource security for users.

Water resource* means:

- (a) surface water or groundwater; or
- (b) a watercourse, lake, wetland or aquifer (whether or not it currently has water in it);

and includes all aspects of the water resource (including water, organisms and other components and ecosystems that contribute to the physical state and environmental value of the water resource).

Wetland has the same meaning as in the Ramsar Convention which is: ‘areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres’.

* National Water Commission (2004) *Intergovernmental agreement on a National Water Initiative*

* *Water Act 2007* (Cth)

APPENDIX B –

Prior authorisation exemption

Overview

Item 22 in the Schedule to the Amendment Act exempts certain actions from assessment and approval under the EPBC Act where the action was fully approved for environmental purposes as necessary by the Commonwealth, and/or a state or territory before the Amendment Act came into force (prior authorisation).

Section 22 of the Amendment Act provides in part that:

- (3) A person may take an action described in section 24D or 24E of the new law without an approval under Part 9 of the new law for the purposes of that section if:*
- (a) the action involves:*
 - (i) coal seam gas development; or*
 - (ii) large coal mining development; and*
 - (b) before the day this item commences, the action was authorised by a specific environmental authorisation; and*
 - (c) immediately before the day this item commences, no further specific environmental authorisation was necessary to allow the action to be taken lawfully; and*
 - (d) at the time the action is taken, the specific environmental authorisation continues to be in force.*
- (4) For the purposes of paragraphs (3)(c) and (d), a renewal or extension of a specific environmental authorisation is taken to be a new specific environmental authorisation unless:*
- (a) the action that is authorised by the authorisation following the renewal or extension is the same as the action that was authorised by the authorisation before the day this item commences; and*
 - (b) the renewal or extension could properly be made or given without any further consideration of the environmental impacts of the action.*

Note that the number of activities covered by these exemptions may diminish over time as the relevant activities cease or the relevant authorisations expire.

The following four criteria must be met for an action to have prior authorisation:

1. the action involves a large coal mining development or a CSG development
2. the action was authorised by a specific environmental authorisation before commencement of the Amendment Act
3. no further specific environmental authorisation was needed for the action to be lawfully taken before commencement of the Amendment Act on 22 June 2013
4. the specific environmental authorisation is in operation at the time the action is taken.

Criterion 1 – The action involves large coal mining or coal seam gas development

The definitions of ‘CSG development’ and ‘large coal mining development’ are set out in section 528 of the EPBC Act. Those definitions relate to activities that form part of the extraction process. This is because the definitions refer to ‘extraction’ and ‘mining’ respectively.

See section 3, above, for further information on actions that are within the definitions of large coal mining or coal seam gas development.

Criterion 2 – The action was authorised by a specific environmental authorisation, before commencement of the Amendment Act

What is an environmental authorisation?

An environmental authorisation means an authorisation under a law of the Commonwealth, a state or a self-governing territory that has either or both of the following objects (whether express or implied):

- a) to protect the environment
- b) to promote the conservation and ecologically sustainable use of natural resources.

An environmental authorisation must be made under Commonwealth or state or territory legislation. The legislation must give the power to grant the authorisation in the form of a permit, licence or authority.

The purpose of the legislation, under which the authorisation is granted, must be to protect the environment and/or to promote the conservation and ecologically sustainable use of natural resources. The purpose of the legislation may be explicitly written or it may be implied in the legislation. The most important issue is that the purpose of the specific provision under which the authorisation is given is related to environmental protection.

What is a specific authorisation?

The prior authorisation must also be a ‘specific environmental authorisation’, which means the authorisation must:

- a) specifically identify the action to be undertaken by referring to unique aspects of the action, or
- b) have been issued following a consideration of the action to be undertaken by referring to unique aspects of the action.

Generally, to be a specific environmental authorisation, the authorisation must:

- authorise a specific action to be undertaken, rather than referring to types, groups or classes of actions, and
- grant authority to take the action, and not just identify that there are no environmental constraints associated with an action.

If the person or organisation undertaking the action changes then the continuing use exemption may still apply to the action. However, the action must be substantially the same and must not be terminated and restarted by the new person or organisation.

Examples of documents that would not be specific environmental authorisations include:

- a management plan that permits the disposal by any person of a certain amount of waste in a waterway, or
- a statement that identifies that there are no environmental impacts associated with the construction of a holding dam for water produced in dewatering a coal mine or depressurising a coal seam associated with CSG extraction, but does not authorise that activity.

An approval that is subsidiary to the primary environmental authorisation and which the regulator cannot refuse to grant (although they may require certain standards to be met), such as approval of a management plan, is less likely to be a specific environmental authorisation. This is because the subsidiary approval relates to the manner in which the action must be conducted, rather than whether the action may be undertaken. Whether or not a subsidiary approval is a specific environmental authorisation will depend on the circumstances of each case.

Is the action covered by a specific environmental authorisation?

The action being undertaken must fall within the scope of the authorisation. The prior authorisation exemption will not apply if the action being undertaken is substantially different to the action that was originally authorised. See section 4.2, above, for guidance in determining whether the action is still the same action that was authorised by the specific environmental authorisation.

The authorisation will also not apply if the original authorisation is renewed or extended, unless the extension or renewal is for the same action and there is no assessment of the environmental impacts of the action (see criterion 4 for further information on extensions and renewals).

Criterion 3 – No further specific environmental authorisation was needed for the action to be lawfully taken before commencement of the Amendment Act

If there are any outstanding specific environmental authorisations needed on commencement of the Amendment Act for the action to be lawfully undertaken, the exemption in section 22 of the Amendment Act will not apply.

This requirement includes any outstanding authorisations under the laws that existed immediately before commencement of the Amendment Act. However, if new legislation requiring further environmental authorisations (other than the EPBC Act) was introduced after that date, the exemption will apply even if the action does not yet have those authorisations (see Example 10). In other words, whether any further authorisations were required is to be determined at the date that the Amendment Act commenced (22 June 2013).

As outlined above in relation to criterion 2, a subsidiary approval (such as a management plan) is not a specific environmental authorisation. Therefore a project may be exempt despite an outstanding requirement to obtain such an approval.

Example 10 – Operations that would *not* have the water trigger applied

CSG Company is currently operating *CSG Field E*. They hold all of the necessary environmental authorisations to lawfully commence mining activities in A State before 22 June 2013. Subsequent to 22 June 2013, A State introduces the *Development Approvals Act 2013*, which changes the regime for approving CSG operations.

In this case, subject to criterion 4, the action will continue to be exempt under the prior authorisation exemption because there were no outstanding environmental authorisations needed for the action to be undertaken lawfully before commencement of the Amendment Act on 22 June 2013. Therefore, *CSG Field E* is covered by the prior authorisation exemption.

Criterion 4 – The specific environmental authorisation is in operation, at the time the action is taken

Many environmental approvals specify the dates within which an action must have occurred. If this timeframe has not been met then it is possible that the environmental authorisation has expired.

An extension or renewal of an authorisation is considered to be a new environmental authorisation

- where any further specific environmental considerations are required, or
- the extension or renewal is not for the same action as previously approved.

In these cases the exemption in section 22 of the Amendment Act will not apply, either to the whole or part of the operations, and the action may require assessment and approval (see Example 11).

However, the prior authorisation exemption would continue to be valid where an extension or renewal is granted for the same action as previously approved, and is properly made without any further assessment of environmental impacts (see Example 12).

As outlined above in relation to criterion 2, a subsidiary approval (such as a management plan) is not a specific environmental authorisation. Therefore a change to, or renewal of, such an approval will not change the application of the prior authorisation exemption to a project.

Example 11– Operations that may have the water trigger applied

Coal Mine D is an existing operation with prior authorisation from the relevant state authority. The state authorisation allowed the extraction of 30 million tonnes of coal, but the authorisation expires on 1 July 2020. At that time, *Coal Mining Company* has only extracted 20 million tonnes of coal from *Coal Mine D*. Before 1 July 2020, *Coal Mining Company* applies to the state authority for approval to continue extracting the remaining 10 million tonnes of coal. The state authority assesses the environmental impacts of the action, and decides to grant the authorisation to extract the remaining 10 million tonnes of coal.

In this case, the prior authorisation exemption will not apply. Even though a new authorisation has been obtained, the extraction of coal after the expiry of the authorisation is not covered by a specific environmental authorisation that was issued before commencement of the Amendment Act, and a further environmental assessment was required before reissuing the approval. Therefore, the water trigger would apply if the additional extraction of coal is likely to have a significant impact on a water resource.

In determining whether the action is likely to have a significant impact on a water resource, the Department will consider only the extraction of coal that remains to be undertaken. The Department will not consider the extraction that was originally authorised and undertaken prior to the lapse of the original authorisation.

Example 12 – Operations to which the water trigger does not apply

Coal Mining Company has an authorisation for construction of *Coal Mine E* under the *Assessment of Coal Mines Act 2010 (A State)* before 22 June 2013. In addition to this approval, *Coal Mining Company* also needs a water licence under the *Water Licence Act 2005 (A State)*. *CMC* held a water licence at 22 June 2013, however, it lapses on 1 July 2015. Before 1 July 2015, *Coal Mining Company* applies to the state authority for a renewal of the water licence. The renewal of the licence is an administrative process only, so state authority does not consider the environmental impacts of the action. The water licence is renewed for an additional 5 years.

In this case, the prior authorisation exemption will continue to apply because the renewal is for the same action and does not require consideration of environmental impacts of the approved coal mining extraction. Therefore, *Coal Mine E* will not need to be referred in relation to the water trigger because it is covered by the prior authorisation exemption.

APPENDIX C – General EPBC Act exemptions

The EPBC Act also contains a number of exemptions that apply generally to all matters of national environmental significance. In particular, sections 43A and 43B of the EPBC Act exempt certain actions from the assessment and approval provisions of the EPBC Act. These exemptions allow for:

- a) the continuation of activities that were fully approved by the Commonwealth, or a state or territory before the EPBC Act came into force on 16 July 2000 (section 43A of the EPBC Act)
- b) otherwise lawful activities, which commenced before the Act commenced on 16 July 2000, and which have continued without substantial interruption (continuing uses) (section 43B of the EPBC Act).

When determining whether section 43A or 43B might apply to an action a person will need to consider whether section 43A applies first. This is because section 43B may only apply if the 'action' is not exempt under section 43A.

Actions described in section 160(2) of the EPBC Act are subject to a special environmental authorisation process, and are therefore exempt from assessment and approval under Chapter 4 of the EPBC Act.

There are a number of criteria that must be satisfied to rely on any exemptions in the EPBC Act. More information on general exemptions under the EPBC Act is available at www.environment.gov.au/epbc/publications/exemptions.html.



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Is an EIS required?



**BEST PRACTICE GUIDELINES FOR PART 5 OF THE
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

Department of Urban Affairs and Planning

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2nd Edition

Printed November, 1996

96/95 ISBN 0 7310 8920 0

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Setting the context

BACKGROUND

The New South Wales *Environmental Planning and Assessment Act 1979* (EP&A Act) provides a comprehensive framework for the assessment of the environmental impact of development proposals. At the core of the Environmental Impact Assessment (EIA) system is the integration of environmental considerations into decision making processes for both private and public sector development and infrastructure projects and activities.

The basic principle is that all proposed activities should have an appropriate level of EIA. This may range from considerations of environmental impacts described in a licence or development application for very minor matters through to assessment of significant impacts in Environmental Impact Statements (EISs). In each case, the level of EIA should reflect the level of likely environmental significance of impacts.

For development proposals requiring development consent (mostly undertaken by the private sector) the requirements of Part 4 of the EP&A Act apply. The types of developments requiring an EIS are listed or designated in a schedule to the Environmental Planning and Assessment (EP&A) Regulation 1994 and are known as designated developments.

Development consent is often not required for activities undertaken by government agencies and statutory authorities. The decision as to whether an EIS is required in these cases is based on a discretionary approach with procedures and criteria stipulated in the EP&A Act and EP&A Regulation. Any public authority responsible for granting an approval for an activity (termed 'determining authority') must consider the likely environmental significance of the proposed activities in accordance with those requirements prior to approving the activity (Appendix A).



IS AN EIS REQUIRED?

Proposed activities by public authorities

A public authority may be a proponent for an activity as well as having the responsibility for approving the activity. In 1994, amendments were introduced to Part 5 of the EP&A Act to strengthen the environmental impact assessment and decision making processes for these types of activities. The amendments apply to proposed activities that are likely to significantly affect the environment and hence warrant the preparation of an EIS.

A formal environmental assessment report must now be prepared by the Director-General of Urban Affairs and Planning for activities when the determining authority is also the proponent. The Minister for Urban Affairs and Planning, after considering this report, has the approving role prior to the determination of the activity by the proponent. The amendments do not apply to local councils, electricity distributors nor to county councils.

Applying the guidelines

The main purpose of these guidelines is to facilitate a structured and systematic process for determining the level of environmental significance of proposed activities. The guidelines provide a tool by which the relevant criteria and heads of consideration under the EP&A Act and Regulation can be interpreted and the extent of EIA determined. The relationship of this process to other processes in EIA is demonstrated in Appendix B.

The guidelines apply to all proposed activities that must be evaluated by determining authorities to fulfil their responsibilities under Part 5 of the EP&A Act. Determining authorities include government departments, local councils, county councils, electricity distributors and statutory bodies. Figure 1 depicts the range of outcomes expected as the result of the application of these guidelines, namely the level and extent of environmental assessments.

RECORDING THE DECISION

For increased accountability, a register should be maintained to demonstrate that environmental matters were considered prior to granting an approval. This register should also indicate the extent of impact assessment prior to deciding to proceed with the activity.

As a minimum, all decisions should be recorded on a register in the headquarters for the region where the activity is proposed. It would also be preferable if a central register of all REFs and EISs prepared was maintained at the head office of the determining authority.

NOTES ON THE IMPLEMENTATION OF THE GUIDELINES

The guidelines are for determining whether an EIS is required.

The design of the guidelines is not appropriate for assessing EISs. The issues identified, however, will be the same as those that will need to be addressed in an EIS, if required, and considered in determining if the proposal should be approved. As importantly, the guidelines present a range of environmental factors that should be considered early in the formulation of proposed activities in order to ensure proper consideration of environmental impacts.

The determining authority must decide the level of EIA.

The decision as to whether an EIS is required or not remains with the determining authority. The guidelines will assist in fulfilling the determining authority's obligations in deciding the level of EIA necessary as required by the EP&A Act and Regulation.

There may be more than one determining authority for an activity.

Some activities may require approvals from more than one determining authority. Each determining authority has a responsibility for deciding if the activity is likely to significantly affect the environment. The application of the guidelines should therefore be considered by all determining authorities as appropriate.

The guidelines apply to all activities unless specific guidelines are issued for a particular type of activity.

The guidelines should form the framework for evaluating the need for an EIS. They are generic in nature and apply where no specific guidelines for specific types of activities have been prepared.

In March 1995, the Director General of Planning issued this guideline to apply to all determining authorities (except local councils and county



IS AN EIS REQUIRED?

councils) under the provisions of clause 82 of the EP&A Regulation 1994. For councils, the guideline is advisory and is considered to be best practice.

The process for deciding if an EIS is required will depend on the size and complexity of the activity.

The level of analysis necessary to decide if an EIS is required will depend on the facts of each case. The level of detailed analysis will vary with the size and type of impacts and the sensitivity of the receiving environment.

1. For activities with relatively minor impact, the guidelines provide a tool for identifying and analysing impacts. For many activities, the evaluation framework will provide for sufficient analysis of environmental factors for decision making.
2. For classes of activities that have very predictable impacts, the evaluation frameworks could be streamlined following consultation between the Department of Planning and the determining authority.
3. For those activities where there are impacts that are complex or for which further analysis is required to understand the potential impacts, a more comprehensive study will need be prepared in using the evaluation framework. This study is usually reported in a document called a 'review of environmental factors' (REF). Following an evaluation of the factors in the REF a decision can then be made if the impacts are likely to be significant.
4. In some cases where the impacts are obviously very significant, the determining authorities may decide that an EIS is required without proceeding through the full implementation of the guidelines.

The evaluation framework in the guidelines will provide for adequate documentation of the process to decide if an EIS is required.

In cases where the impacts are minor or very predictable, no additional documentation would be needed to demonstrate that the impacts have been considered as far as practicable. However, where the impacts are more complex and require more detailed analysis or additional research, an

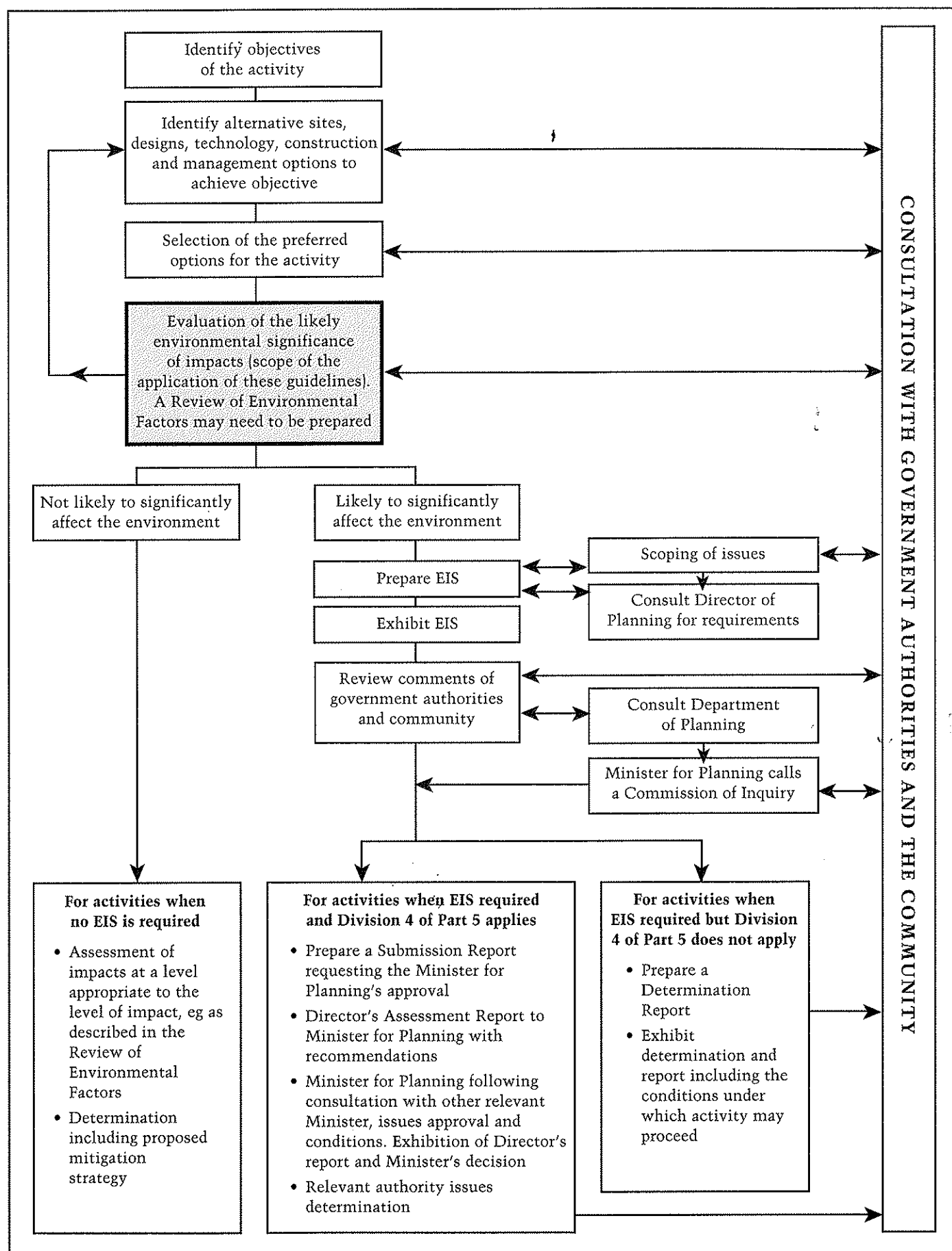
REF will need to be prepared to document the investigation undertaken in using the evaluation framework to make a decision.

The level of information on potential impacts required at this stage of the assessment process need only be sufficient for deciding if the impacts are likely to be significant.

It is not expected that at this stage of the assessment process there should be a detailed analysis and assessment of potential impacts. The requirement is to consider the likely impacts as far as practicable. In most cases, it is expected that well trained individuals, with a good understanding of the project and the receiving environment, should be able to undertake the decision without the need to consult specialists.

A Species Impact Statement (SIS) may also be required under the provisions of the Threatened Species Conservation (TSC) Act 1995. In addition to deciding if an EIS is required, consideration should be given to whether the activity is likely to significantly affect critical habitats, threatened species, populations or ecological communities or involve threatening processes (see Appendix B).

FIGURE 1
STAGES IN THE EIA PROCESS



The framework

EVALUATION FRAMEWORK

There are three steps in the determination of the likely environmental significance of the impacts of proposed activities (Figure 2):

- identification of issues associated with the siting, construction and operation of the proposed development likely to affect the environment
- analysis of the identified impacts in terms of the extent and nature of the environmental effects
- evaluation of the level of significance of the impacts in light of the previous two steps.

The methodology involves the following three steps.

Step 1: Identify the issues

This step identifies the characteristics of the proposed activity that may have an effect on the existing environment. It also identifies any environmentally sensitive areas that the activity is likely to affect (Table 1).

Outcome: A full range of identified issues and impacts associated with a particular activity at the proposed location(s) for further analysis and evaluation.

Step 2: Analyse the impacts

This step includes an analysis of the extent and nature of the impacts.

The **extent** of the impacts is analysed by considering their:

- type
- size
- scope
- intensity
- duration.

This analysis is undertaken for all impacts on the environment in Table 2(a). In addition,



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Table 2(b) is provided to analyse the impacts of the activity on environmentally sensitive areas.

The **nature** of the impact on the existing environment is analysed in Table 2(c). The criteria for this analysis include:

- the level of predictability of impacts
- the resilience of the environment to change
- the level of reversibility of impacts
- the ability to manage or mitigate the impacts,
- the ability of the impacts to comply with performance criteria
- the level of public interest.

Impacts are identified and evaluated in accordance with the criteria and are ranked according to their potential significance.

Outcome: A qualitative statement or quantitative measure of the extent and nature of the various impacts.

Step 3: Evaluate the likely environmental significance of impacts

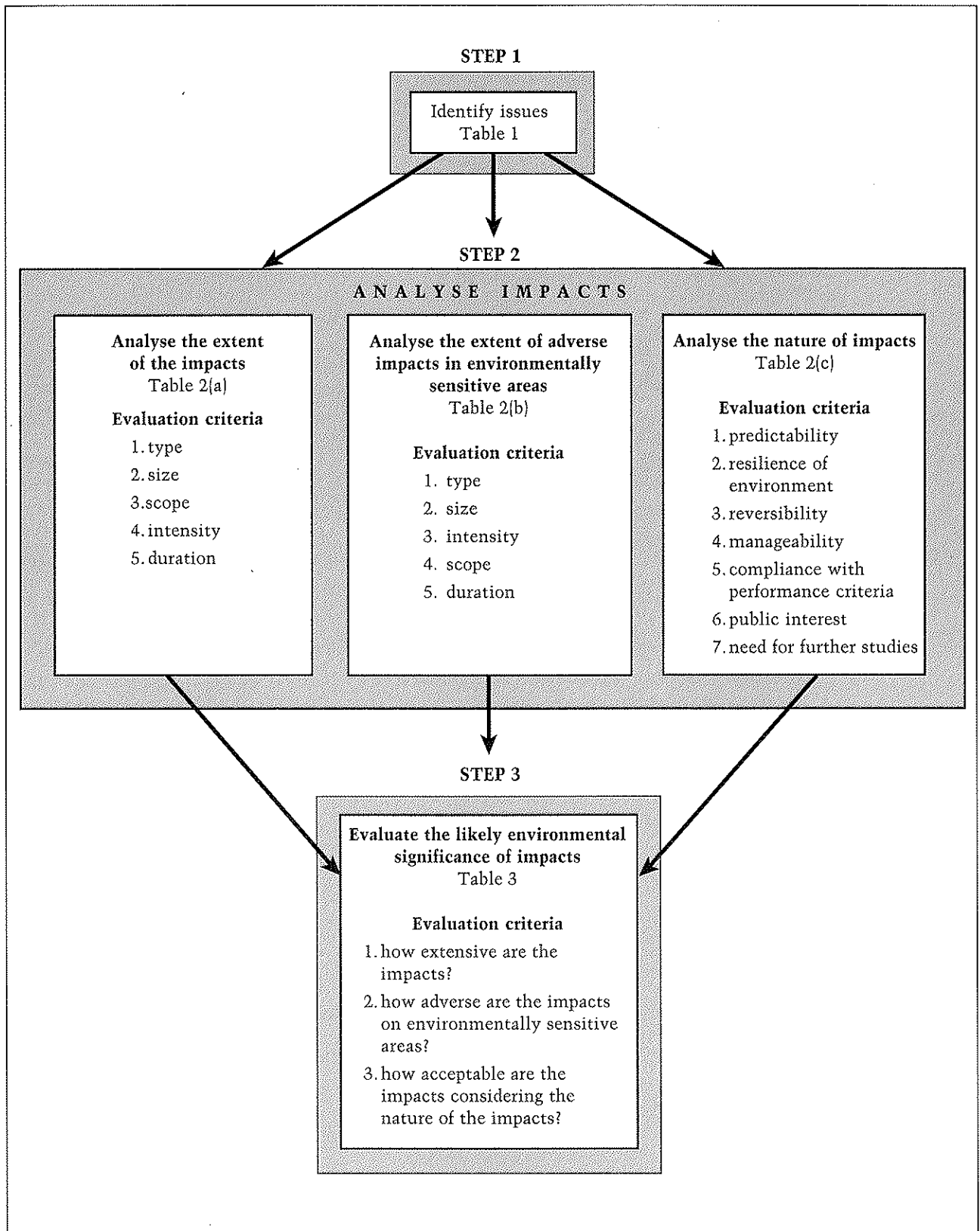
The likely significance of impacts can be judged as a result of identification, analysis and ranking procedures adopted in the previous two steps.

Table 3 identifies issues to be addressed in the determination of the likely significance. These are

- how extensive are the impacts?
- do the impacts adversely affect environmentally sensitive areas?
- how acceptable are the impacts considering the nature of the impacts?

Outcome: A statement of the level of environmental significance of the impacts of the activity.

**FIGURE 2
EVALUATION FRAMEWORK**



Step 1

Identify the issues

.....

Evaluation criteria for identifying issues

1. Identify the characteristics of the activity that are likely to result in environmental impacts.
2. Determine whether the proposed activity is likely to affect environmentally sensitive areas.

.....

As an initial step the proposed activity should be clearly described by identifying major elements — any environmental mitigation measures, any ancillary works, the location(s), time frame and methods of construction and operation.

Table 1 provides a checklist that will assist in the identification of relevant issues in terms of the characteristics of the proposal itself and the dynamic interaction of the activity with the environment. This table also seeks to identify any environmentally sensitive areas likely to be affected by the activity. The lists of potential impacts provided in the tables are not exhaustive. Other relevant impacts should be added.

If no issues are identified in a particular section of the table, that section can be ignored when it comes to the analysis in Step 2.

1. Identify the characteristics of the activity that are likely to result in environmental impacts.

The characteristics of activities that, by their nature, may have major impacts on the environment must be identified. The checklist in Table 1 will assist in identifying which characteristics are likely to have impacts that require careful consideration. For example, activities that divert the flow of a river or reduce the water supply to a wetland result in a disturbance to the hydrology and biota in these systems. The presence of these types of activities should alert any evaluation process to the possibility of significant impacts.

2. Determine whether the proposed activity is likely to affect environmentally sensitive areas.

The characteristics of the existing environment are a critical factor in determining the ability of an activity to be carried out in a location without having unacceptable impacts. The checklist will assist in identifying most



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environmental constraints associated with the sensitivity of the location.

Certain locations can be vulnerable because of natural factors such as physical characteristics (e.g. coastal dune fields or areas that are erosion prone). Other locations could be considered to be sensitive because of biological factors such as the habitat areas of threatened species. Community factors can also result in the location being considered to be sensitive, for example, if an area is of high heritage or scenic value.

The environment can also have an induced vulnerability because of the cumulative impact of past activities that have put stress on the environment.

There may also be constraints associated with conservation values of a particular area that may be dedicated for conservation purposes, such as national parks, wilderness areas or nature reserves.

TABLE 1
IDENTIFY THE ISSUES

| |
|---|
| Description of proposed activity |
| Activity |
| Objectives |
| |
| |
| Major elements including any environmental impact mitigation measures |
| |
| |
| Any ancillary works |
| |
| |
| Outline of construction methods |
| |
| |
| Outline of operations |
| |
| |
| Location(s) |
| |
| Time frame |



**TABLE 1 continued
IDENTIFY THE ISSUES**

| Characteristics of the activity (during construction & operation) | Potential issues |
|--|---|
| <p>How is the proposal likely to affect the physical aspects of the environment or introduce pollution or safety risk factors?</p> <ol style="list-style-type: none"> 1. disturbs the topography or above or below ground features including filling, excavation, dredging, tunnelling: eg landforming, site preparation, quarrying, reclamation, creation of islands, waterbodies, etc; involves the disposal of large quantities of spoil 2. affects a natural waterbody, wetland or groundwater aquifer or the natural water drainage pattern; affects the quality or quantity of water in the systems 3. uses groundwater or surface water from a natural waterbody; stores water in a dam or artificial waterbody 4. changes the flood or tidal regimes or is affected by flooding or tides 5. uses, stores, disposes or transports hazardous substances (flammable, explosive, toxic, radioactive, carcinogenic or mutagenic substances); uses or generates pesticides, herbicides, fertilisers or other chemicals which may build up residues in the environment 6. generates or disposes of gaseous, liquid or solid waste (industrial, medical or domestic waste, sewage, sludge or effluent, spoil or overburden); generates greenhouse gas emissions or releases chemicals which affect the ozone layer or are precursors to photochemical smog; generates or disposes of hazardous waste 7. emits dust, odours, noise, vibrations, blasts, electromagnetic fields or radiation in the proximity of residential areas or landuses likely to be affected 8. any other matters | <p>If no impacts identified this section can be ignored in Tables 2(a) and 2(c)</p> |
| <p>How is the proposal likely to affect the biological aspects of the environment?</p> <ol style="list-style-type: none"> 1. clears or modifies (including by modifying the drainage) native vegetation (including trees, shrubs, grasses, herbs or aquatic species) 2. displaces or disturbs fauna (terrestrial or aquatic)* or creates a barrier to fauna movement; clears remnant vegetation or wildlife corridors 3. introduces noxious weeds, vermin, feral species or disease or releases genetically modified organisms 4. undertakes activity which affects revegetation or replenishment of native species following a disturbance 5. introduces high bushfire risk factors or changes the fire regime 6. any other issues | <p>If no impacts identified this section can be ignored in Tables 2(a) and 2(c)</p> |

* A Fauna Impact Statement will be required if the activity is likely to significantly affect the environment of endangered species.



IS AN EIS REQUIRED?

**TABLE 1 continued
IDENTIFY THE ISSUES**

| Characteristics of the activity (during construction & operation) | Potential issues |
|--|---|
| <p>How is the proposal likely to affect natural or community resources?</p> <ol style="list-style-type: none"> 1. uses or results in the use of community services or infrastructure including roads, power, water, drainage, waste management, education, medical or social services 2. uses or results in the use of natural resources including water (ground or surface), fuels, timber, extractive material, minerals, prime agricultural land, etc 3. affects future potential of commercial deposits of minerals or extractive material or areas important for fishing, agriculture or forestry 4. changes the demographics of an area 5. changes the transport requirements of an area 6. creates a new route alignment for the provision of infrastructure (eg rail, roads, power, etc) 7. any other issues | <p>If no impacts identified this section can be ignored in Tables 2(a) and 2(c)</p> |
| <p>How is the proposal likely to affect the community?</p> <ol style="list-style-type: none"> 1. generates population movements including influx or departure of the workforce 2. changes the workforce or industry structure of the area/region; 3. affects employment opportunities affects areas of high population densities or established development patterns 4. affects access to an area, building or items of aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, recreational, aesthetic or social significance or other special value for present or future generations 5. affects the visual or scenic landscape (including major cuts/fills, towers, projects on escarpments, etc) 6. affects sunlight or views of another property 7. affects the amenity of publicly owned land (particularly recreational areas, national parks or reserves) 8. changes surrounding land uses as a direct or indirect result of the activity; forms a barrier to movement within the community or access to existing properties; leads to a loss of housing 9. generates significant volume of traffic (road, rail, air, pedestrian, etc) 10. generates nuisance, health or safety risks including air pollution, odour, noise or vibration, blasting, electromagnetic fields or radiation; releases diseases or genetically modified organisms; changes the bush fire regime 11. any other issues | <p>If no impacts identified this section can be ignored in Tables 2(a) and 2(c)</p> |



IS AN EIS REQUIRED?

**TABLE 1 continued
IDENTIFY THE ISSUES**

| Characteristics of the activity (during construction & operation) | Potential issues |
|---|---|
| <p>How is the proposal likely to affect areas sensitive because of physical factors?</p> <ol style="list-style-type: none">1. coastline and dune fields, alpine areas, deserts, caves or other unique landforms2. land with high agricultural capability3. natural waterbodies, riparian zones, wetlands, drinking water catchments or flood prone areas4. groundwater recharge areas or areas with high water table5. erosion prone areas; areas with slopes of greater than 18 degrees6. subsidence or slip areas7. areas with acid sulphate, sodic or highly permeable soils8. areas with salinity or potential salinity problems9. areas with degraded air quality10. areas with degraded or contaminated soil area or degraded or contaminated water (ground or surface)11. any other sensitive areas | <p>If no impacts identified this section can be ignored in Tables 2(b)</p> |
| <p>How is the proposal likely to affect areas sensitive because of biological factors?</p> <ol style="list-style-type: none">1. corals and seagrass beds, wetland communities (coastal, peatlands or inland), native forests, urban bushland, arid and semi-arid communities2. critical habitats or the habitats of threatened fauna or flora species, populations or ecological communities (within the meaning of the TSC Act)3. habitat of species listed under international agreements including Japan-Australia Migratory Birds Agreement (JAMBA) and China-Australia Migratory Birds Agreement (CAMBA)4. wildlife corridors and remnant vegetation5. habitat of protected aquatic species (within the meaning of Fisheries Management(General) Regulation 1994) or of aquatic species having conservation status under Conference on Australian Threatened Fishes6. fishing grounds and commercial fish breeding or nursery areas7. bushfire prone areas8. any other sensitive areas | <p>If no impacts identified this section can be ignored in Tables 2(b)</p> |



IS AN EIS REQUIRED?

**TABLE 1 continued
IDENTIFY THE ISSUES**

| Characteristics of the activity (during construction & operation) | Potential issues |
|---|--|
| <p>How is the proposal likely to affect areas allocated for conservation purposes?</p> <ol style="list-style-type: none"> 1. national parks and other areas reserved or dedicated under the NP&W Act 2. land reserved or dedicated within the meaning of the <i>Crown Lands Act 1989</i> for preservation or other environmental protection purposes 3. world heritage areas 4. environmental protection zones in environmental planning instruments or lands protected under SEPP 14 — Coastal Wetlands or SEPP 26 — Littoral Rainforests 5. land identified as wilderness under the <i>Wilderness Act 1987</i> or declared as wilderness under the NP&W Act 6. aquatic reserves dedicated under the <i>Fisheries Management Act 1994</i> 7. wetlands areas dedicated under the Ramsar Wetlands Convention 8. heritage items identified on the Register of the National Estate, under the NSW Heritage Act or an environmental planning instrument 9. community land under the Local Government Act (for which a plan of management has been prepared) 10. land subject to a 'conservation agreement' under the NP&W Act 11. any other areas | <p>If no impacts identified this section can be ignored in Tables 2(b)</p> |
| <p>How is the proposal likely to affect areas sensitive because of community factors?</p> <ol style="list-style-type: none"> 1. Aboriginal communities or areas subject to land rights claims 2. communities with a strong sense of identity 3. disadvantaged communities (reduced economic, social or cultural indicators) 4. areas with degraded amenity from noise, traffic congestion or odour 5. areas or items of high anthropological, archaeological, architectural, cultural, heritage, historical, recreational or scientific value 6. areas or items of high aesthetic or scenic value 7. any other areas | <p>If no impacts identified this section can be ignored in Tables 2(b)</p> |

Step 2

Analyse the impacts

.....

Based on the issues identified in Table 1, potential impacts can be analysed and evaluated to determine whether they are likely to have a significant effect on the environment. This analysis is undertaken in three tables in Step 2. The tables provide a check list of potential impact of activity on the physical and biological components of the environment, including social, economic, land use and traffic factors. The potential risks from pollution should also be considered as well as potential impacts on resources.

The direct and indirect or flow-on effects should also be considered in determining the extent of the impacts. In addition, these impacts must be considered in the light of impacts from other activities currently or previously undertaken in the area. The broader region as well as the immediate area must be considered.

This analysis considers both the extent and the nature of the impacts. Using the evaluation criteria, the potential importance of the impacts can be ranked. Both quantitative and qualitative measures are important. If quantitative estimates are not possible at this stage of the project development, then a subjective estimate should be made of the impacts.

It is not expected that a full analysis of the impacts is necessary to decide if an EIS is required. The information need only be to a level appropriate for deciding if the impacts are likely to be significant. The requirement is to consider the likely impacts as far as practicable in making this decision.

In determining the potential significance each impact must be considered in its own right. In addition, the aggregation of all impacts of the activity should be considered.



IS AN EIS REQUIRED?

Criteria used in Table 2(a) analyse the general extent of the impacts on the environment. The criteria include consideration of the type, size, intensity, scope and duration of the impacts. While the scale of the activity is a useful indicator of the scale of the impacts, the impacts will not always be directly proportional to the size of the activity itself.

Table 2(b) uses the same criteria to analyse the extent of adverse impacts on environmentally sensitive locations.

The analysis of the nature of the impacts in Table 2(c) is complementary to the analysis of the extent of the impacts in Tables 2(a) and 2(b). The analysis of the nature of the impacts attempts to determine the level of understanding of the potential impacts and how successfully they can be mitigated. Table 2(c) also evaluates the ability of the environment to cope with the impacts without exceeding the carrying capacity and how easily the effects of the impacts can be reversed. It is also important to consider at this stage whether the impacts are able to meet established performance standards and if there is a high level of public concern.

HOW TO ANALYSE THE EXTENT OF THE IMPACTS

.....

Evaluation criteria for analysing
the extent of impact

1. What is the type of the impacts?
2. What is the size of the impacts?
3. What is the scope of the impacts
considering the direct or indirect effects?
4. What is the intensity of the impacts?
5. What is the duration of impacts
considering construction, operations and
any decommissioning proposals?



IS AN EIS REQUIRED?

The following criteria are used to determine the extent of the impacts on the environment.

1. Determine the type of impact.

The characteristics of impacts that are likely to affect the environment should be noted. For instance, if water pollution impacts are likely to be an issue, the types of material that are likely to pollute should be noted (eg sewage, oil, effluent with a low pH, low temperature or high heavy metal content, etc).

2. Determine the size of the impacts

- amount
- quantity
- volume
- mass
- other.

An estimate should be made of the size of the impacts. This could be considered in terms of a time period such as annual or daily levels or total quantity for the life of the activity.

3. Determine the scope of the impacts' effects

- area
- number
- range or limits
- other.

An estimate of the limits of the impacts' effects should be made. For instance, the number of people likely to be affected or number of flora or fauna species or communities disturbed. The area likely to be affected should also be considered. If quantitative estimates are not possible at this stage of the project development, then a subjective estimate of the scope should be made.

4. Determine the intensity of the impacts

- power, vigour, force, strength
- concentration
- rate
- ratio, proportion
- degree
- other.

Attention must be given to the intensity or severity of impacts on the physical, biological and community aspects of the environment. For some types of impacts the intensity can be quantified. For instance, the concentration or

toxicity of effluent to be discharged. However, for other types of impacts, a more qualitative measure must be made, for instance the effect of the loss of amenity or threats to biodiversity.

5. Determine the duration of the impacts

- time length
- period
- interval
- term
- continuation
- other.

Some impacts may be short term while others may occur throughout the life of the activity. Some impacts may occur only during the construction phase while quite different impacts may occur during the operational phase. Some effects may occur intermittently while others may be continuous.

The time context must include immediate effects as well as the cumulative effects that may result over time.

6. Considering the extent of the impacts, rank the potential significance for each impact, and the impacts for each section (considered as a whole) as:

- high
- medium
- low.

The potential importance of each impact should be estimated based on the extent of the impact. For instance, impacts should be ranked as having a high potential significance if they are very intense or affect a large area or significant numbers of individuals or species over a long period of time. Impacts that adversely affect endangered species or environmentally significant areas should also be ranked as having a high potential significance.

In addition, consideration should be given to the overall effects of the impacts. Although impacts may be of only low to medium concern when considered individually, the cumulative effect of all the impacts acting together could be substantial.

TABLE 2(A)
ANALYSIS OF THE EXTENT OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria | | Ranking of potential significance of extent |
|--|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Physical or pollution impacts (during operation and construction) (a) Air impacts <ol style="list-style-type: none"> 1. air quality impacts (eg dust, smoke, grit, odours, precursors to photochemical smog, fumes, toxic or radioactive gaseous emissions) with economic, health, ecosystem or amenity considerations 2. air impacts with greenhouse or ozone damage considerations 3. any other air impacts | | | | |
| (b) Water impacts <ol style="list-style-type: none"> 1. impacts from changes in surface or groundwater quantity; 2. impacts from use of water 3. impacts from changes to natural waterbodies, wetlands or runoff patterns 4. impacts from changes to flooding or tidal regimes 5. impacts from changes in water quality with economic, health, ecosystem or amenity considerations — eg salinity, colour, odour, turbidity, temperature, dissolved oxygen, nutrients, pH factors or pollutants (intentional or unintentional releases of oil, fuels, toxins – including heavy metals and anti-foulants, spoil, sediment, sewage or other waste) 6. any other impacts on water or from the use or storage of water | | | | |

TABLE 2(A) continued
ANALYSIS OF THE EXTENT OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria | | Ranking of potential significance of extent |
|---|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Physical or pollution impacts (during operation and construction) (c) Soil and stability impacts 1. degradation of soil quality including contamination (intentional or unintentional), salinisation or acidification 2. loss of soil from wind or water erosion 3. loss of structural integrity of the soil 4. increased land instability with high risks from land slides or subsidence 5. any other soil impacts | | | | |
| (d) Noise and vibration impacts 1. results in increased noise or vibrations to unacceptable levels for the surrounding communities 2. affects sensitive properties (educational, hospitals, residential, heritage) 3. any other impacts from noise, blasting or vibration | | | | |
| (e) Any other physical or pollution impacts | | | | |
| Accumulation of physical or pollution impacts | | | | |

TABLE 2(A) continued
ANALYSIS OF THE EXTENT OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria | | Ranking of potential significance of extent |
|--|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Biological impacts (during operation and construction) (a) Fauna impacts 1. any endangering or displacement of fauna species (including animals, birds, frogs, reptiles, insects, fish or crustaceans)* 2. any reduction of critical habitat of any unique, threatened or endangered fauna (within the meaning of the NP&W Act) 3. impacts which create significant barriers to fauna movement 4. any other impacts | | | | |
| (b) Flora impacts 1. any endangering of flora species (including trees, shrubs, grasses, herbs or aquatic plants) 2. impacts from the clearing or modifying of extensive areas of relatively undisturbed native vegetation or wetlands 3. any other impacts | | | | |
| (c) Ecological impacts 1. Any threat to the biological diversity or ecological integrity of species or communities 2. any barrier to the normal replenishment or revegetation of existing species following disturbance 3. impacts from the introduction of noxious weeds, vermin, feral species or diseases or releases of genetically modified organisms 4. impacts from the uses of pesticides, herbicides, fertilisers or other chemicals which may build up residues in the environment 5. high bushfire risk impacts 6. any other impacts | | | | |
| Accumulation of biological impacts | | | | |

* A Species Impact Statement will be required if the activity is likely to significantly affect the environment of critical habitats, threatened species, populations or ecological communities or their habitats.

TABLE 2(A) continued
ANALYSIS OF THE EXTENT OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria | | Ranking of potential significance of extent |
|--|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Resource use impacts (during operation and construction) (a) Community resources 1. any significant increase in the demand for services and infrastructure resources including roads, power, water supply and drainage, waste (including sewage) management, education, medical and social services 2. any significant resource recycling or reuse schemes to reduce resource usage 3. any diversion of resources to the detriment of other communities or natural systems 4. any degradation of infrastructure such as roads, bridges 5. any other impacts | | | | |
| (b) Natural resources 1. any disruption or destruction of natural resources (eg fish habitat or fish species) with impacts on industries based on these resources 2. any disruption of existing activities (or reduction of options for future options) because of the natural resource demands of the proposal 3. any use which results in the wasteful use of large amounts of natural resources 4. any use which results in the substantial depletion of natural resources 5. any use which results in the degradation of any area reserved for conservation purposes 6. any other impacts | | | | |
| Accumulation of resource use impacts | | | | |

TABLE 2(A) continued
ANALYSIS OF THE EXTENT OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria | | Ranking of potential significance of extent |
|--|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Community impacts (during operation and construction) (a) Social factors 1. any impacts which result in a change in the community's demographic structure 2. any environmental impact that may cause substantial change or disruption to the community (loss of neighbourhood cohesion, access to facilities, links to other communities, community identity or cultural character) 3. any impacts which result in some individuals or communities being significantly disadvantaged 4. any impacts on the health, safety, security, privacy or welfare of individuals or communities because of factors such as i) air pollution or odour ii) noise, vibration, blasting, electromagnetic fields or radiation iii) release of disease or genetically modified organisms iv) lighting, overshadowing or visual impacts 5. any impacts that result in a change in the level of demand for community resources (eg facilities, services and labour force) 6. any other social impacts | | | | |
| (b) Economic factors (including impacts on employment, industry and property value) 1. any impacts which result in a decrease to net economic welfare 2. any impacts that result in a direct cost to the community or individuals 3. any impacts that result in a decrease in the community's economic stability 4. any impacts which result in a change to the public sector revenue or expenditure base 5. any other economic impacts | | | | |

TABLE 2(A) continued
ANALYSIS OF THE EXTENT OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria | | Ranking of potential significance of extent |
|---|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Community impacts (during operation and construction) (c) Heritage, aesthetic, cultural impacts 1. any impacts on a locality, place, building or natural landmark having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, recreational, scenic or social significance or other special value for present or future generations 2. any impacts from new lighting, glare or shadows 3. any other heritage, aesthetic or cultural impacts | | | | |
| (d) Land use impacts 1. any major changes in land use 2. any curtailment of other beneficial uses 3. any property value impacts with land use implications 4. any other land use impacts | | | | |
| (e) Transportation impacts (during construction and operation) 1. substantial impacts on existing transportation systems (rail, water, road, air or pedestrian — both public and private), altering present patterns of circulation, modal split or movement of people and/or goods 2. directly or indirectly encouraging additional traffic a) during construction b) during operation 3. increased demand for parking (off and on street including residential areas) 4. any other impacts on transport or traffic | | | | |
| Accumulation of community impacts | | | | |

TABLE 2(B)
ANALYSIS OF THE EXTENT OF POTENTIAL ADVERSE IMPACTS IN SENSITIVE LOCATIONS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria- | | Ranking of potential significance of extent |
|--|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| On areas sensitive because of physical factors 1. coastline and dune fields, alpine areas, deserts, caves or other unique landforms 2. land with high agricultural capability 3. natural waterbodies, riparian zones, wetlands, drinking water catchments or flood prone areas 4. groundwater recharge areas or areas with high water table 5. erosion prone areas; areas with slopes of greater than 18 degrees 6. subsidence or slip areas 7. areas with acid sulphate, sodic or highly permeable soils 8. areas with salinity or potential salinity problems 9. areas with degraded air quality 10. areas with degraded or contaminated soil area or degraded or contaminated water (ground or surface) 11. any other factors | | | | |
| Accumulation of impacts | | | | |

TABLE 2(B) continued
ANALYSIS OF THE EXTENT OF POTENTIAL ADVERSE IMPACTS IN SENSITIVE LOCATIONS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria- | | Ranking of potential significance of extent |
|---|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| On areas sensitive because of biological factors 1. corals and seagrass beds, wetland communities (coastal, peatlands or inland), native forests, urban bushland, arid and semi-arid communities 2. critical habitats or the habitats of threatened fauna or flora species, populations or ecological communities (within the meaning of the TSC Act) 3. habitat of species listed under international agreements including Japan-Australia Migratory Birds Agreement (JAMBA) and China-Australia Migratory Birds Agreement (CAMBA) 4. wildlife corridors and remnant vegetation 5. habitat of protected aquatic species (within the meaning of Fisheries Management(General) Regulation 1994) or of aquatic species having conservation status under Conference on Australian Threatened Fishes 6. fishing grounds and commercial fish breeding or nursery areas 7. bushfire prone areas 8. any other sensitive areas | | | | |
| Accumulation of impacts | | | | |

TABLE 2(B) continued
ANALYSIS OF THE EXTENT OF POTENTIAL ADVERSE IMPACTS IN SENSITIVE LOCATIONS

| Characteristics of potential impacts (adverse & beneficial) | Type of potential impacts | Evaluation criteria- | | Ranking of potential significance of extent |
|---|---------------------------|-------------------------|----------|---|
| | | size, scope & intensity | duration | |
| Sensitive because of conservation factors 1. national parks and other areas reserved or dedicated under the NP&W Act 2. land reserved or dedicated within the meaning of the <i>Crown Lands Act 1989</i> for preservation or other environmental protection purposes 3. World Heritage areas 4. environmental protection zones in environmental planning instruments or lands protected under SEPP 14 — Coastal Wetlands or SEPP 26 — Littoral Rainforests 5. land identified as wilderness under the <i>Wilderness Act 1987</i> or declared as wilderness under the NP&W Act 6. aquatic reserves dedicated under the <i>Fisheries Management Act 1994</i> 7. wetlands areas dedicated under the Ramsar Wetlands Convention 8. heritage items identified on the Register of the National Estate, under the NSW Heritage Act or an environmental planning instrument 9. community land under the Local Government Act (for which a plan of management has been prepared) 10. land subject to a 'conservation agreement' under the NP&W Act 11. any other factors | | | | |
| Accumulation of impacts | | | | |
| Sensitive because of community factors 1. Aboriginal communities or areas subject to land rights claims 2. communities with a strong sense of identity 3. disadvantaged communities (reduced economic, social or cultural indicators) 4. areas with degraded amenity from noise, traffic congestion or odour 5. areas or items of high anthropological, archaeological, architectural, cultural, heritage, historical, recreational or scientific value 6. areas or items of high aesthetic or scenic value 7. any other factors | | | | |
| Accumulation of impacts | | | | |

HOW TO ANALYSE THE NATURE OF IMPACTS

• • • • •

Evaluation criteria for analysing the nature of impacts

1. What is the level of confidence in predicting impacts?
2. How resilient is the environment to cope with impacts?
3. How reversible are the impacts?
4. How adequately can the impacts be mitigated or managed?
5. Will the activity comply with standards, plans or policies?
6. What is the level of public interest in the activity or its impacts?
7. Are further studies required on impacts or mitigation strategies?



IS AN EIS REQUIRED?

Seven criteria are used to analyse the potential significance of the impacts of an activity on the environment. The criteria also consider the ability of the environment to accommodate the impacts.

1. What is the level of confidence in predicting impacts?

- a) Is there an adequate level of knowledge and understanding of:
 - i) the environment likely to be affected?
 - ii) the proposed technology or design?
 - iii) the potential interaction?
 - iv) the proposed mitigation and management?
 - v) the community's concerns and values?
- b) Are there established and reliable predictive modelling techniques?
- c) Is there past experience which demonstrates the acceptability of the type of activity or the ability of the environment to cope with similar impacts?

In evaluating the potential impacts, the level of confidence in predicting the impacts must be considered. When there are deficiencies in predictive modelling techniques or there is inadequate scientific or technical information to make modelling feasible, a precautionary approach must be adopted.

Where there is very low level of confidence in the ability to predict outcomes, further research may be required prior to proceeding with any further stages in the EIA process.

2. How resilient is the environment?

- a) What is the ability of the environment to resist change?
- b) What is the ability of the environment to assimilate change without undergoing irreversible changes?
- c) Is the environment close to its assimilation capacity for the type of impacts identified?
- d) Can other land uses at and around the site be sustained?
- e) What is the ability of the environment to return to its original state once external influences are removed?

In evaluating the potential significance of impacts, consideration must be given to the ability of the receiving environment to accommodate the impacts without suffering irreversible change.

The evaluation should consider the normal operations of the activity as well as any atypical events that may result from the activity. It should also consider the impacts that may accumulate over time as well as more immediate effects. Particular attention should be given to any impacts that may affect areas identified as environmentally sensitive or which are highly valued by the community.

3. How reversible are the impacts?

- a) Will the site be able to be used beyond the life of the proposed activity for the same or other purposes (eg the area can be reused, rehabilitated or restored)?
- b) Can restoration works be undertaken to assist in reversing impacts?
- c) What is the likely recovery rate?
- d) To what extent will there be any flow-on impacts resulting from any restoration works?

In considering whether impacts are likely to be significant, the reversibility of the impacts must be considered. The natural ability of the environment to reverse impacts must be considered as well as rehabilitation measures that may be proposed as a component of the proposal. Factors such as the likelihood that the carrying capacity of the environment will be exceeded must be considered as well as the ease to which degraded conditions can be restored.

4. Can the impacts be mitigated or managed?

- a) How extensive are the risks without the proposed mitigation measures?
- b) How effective are the mitigation measures to reduce the risks?
- c) Is there adequate precedent that the proposed mitigation measures will be effective?
- d) How acceptable are the residual risks?
- e) Considering the past performance of the proponent, is there likely to be adequate commitment that the proposed mitigation measures will be implemented and maintained?

Activities that contain mitigation measures that reduce the impacts and decrease the residual risks, are less likely to be considered to result in a significant impacts.



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A range of measures for reducing or controlling the impacts on the environment should be considered as a component of the proposed activity including:

avoidance

measures which reduce impacts by reducing the size of the activity or by introducing alternative site, design, technology, management or other options to avoid impacting altogether

minimisation

measures which limit the degree or magnitude of impacts by limiting the size of the activity or by implementing design, operational or organisational safeguards and controls

compensation

measures which offset the loss of environmental quality by providing substitute resources or environments or restoration measures. These measures can only be considered when adequate knowledge exists eg for the reconstruction of ecological systems such as wetlands

The adequacy of mitigation measures proposed as a component of the activity must be considered when evaluating the characteristics of the activity and the extent of the resulting impacts.

5. Will the activity comply with standards, plans or policies?

- a) Is the proposed activity consistent with strategic planning objectives for the local area, region or State considering:
 - i) existing zoning and development control plans?
 - ii) existing resource allocation strategies?
 - iii) long term policy framework for the area or the region eg resource sector policy (forests, minerals, agricultural land, etc) or environmental protection policy (for rivers, estuaries, etc).
- b) Can the activity meet performance standards including:
 - i) codes of practice or guidelines?
 - ii) environmental protection requirements?
 - iii) design and technology standards?
- c) Is the proposed activity consistent with precedents established in the Land and Environment Court?

In evaluating the likely significance of impacts, the existence of standards, policies, codes or guidelines that assist in controlling or managing the impacts should be considered.

These may be in areas such as:

- pollution controls
- design and safety standards or other performance standards
- planning and development controls
- protection of biodiversity
- protection of ecological sustainability.

A greater level of attention should be given to the evaluation of impacts for which there are no controls or performance standards.

These standards, policies, codes or guidelines establish performance criteria based on scientific or technical research or extensive consultation. In evaluating a proposal, regard must be given to the ability of the activity to meet these performance criteria.

6. What is the level of public interest in the activity or its impacts?

- a) Does the community perceive that the carrying capacity of the environment will be exceeded?
- b) Does the community consider that there is a threat to human health or safety?
- c) Does the community perceive that the amenity, lifestyle or value of private property will be adversely affected?
- d) Does the community consider that new inequities will be generated in the community?
- e) Does the community object to materials or technologies that are a component of the activity?
- f) Is there a high level of uncertainty about the effects of the activity on the community?

In determining the likely significance of the potential impacts, the interests or values of individuals, sectors of the community or the community as a whole must be considered.

In assessing the importance of the public interest in an activity, consideration must be given to the level of information available and the experience of the community with similar activities. A community with no previous experience with a



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particular type of activity may not anticipate the impacts of an activity until provided with further information, for instance in an EIS or REF. Lack of public controversy at an early stage is not always a good indicator of community perception that the impacts are not significant. In this circumstance consideration should be given to the appropriate form and level of public consultation to effectively inform the community about the proposed activity.

Activities that have the potential to threaten highly valued tangible and non-tangible aspects of community life may be strongly opposed. A high level of public concern about a particular impact should add weight to the attention given to that impact in the evaluation.

In assessing the importance of the degree of controversy consideration must be given to the:

- level of information available to the community and the level of understanding of the potential impacts
- past experience with similar activities
- extent of changes or dislocation experienced by the community in the past
- structure of the community and the existence of a public interest group
- extent to which there is a need to reduce public concern.

7. Are further studies required on impacts or mitigation strategies?

The EP&A Act requires that all potential environmental impact of an activity must be considered *to the fullest extent practicable*. It is not expected that the information on impacts should be exhaustive at this stage. However, there should be sufficient knowledge on which to confidently base a decision as to whether an EIS is required.

To fulfil the requirements under the EP&A Act, the information required on each impact will vary according to the importance of the impact to the decision. If an impact is key to the decision making, a higher degree of information may be required than for matters that are not so critical in determining if the activity will have a significant effect on the environment. With impacts or environments where there is a high level of understanding and information generally,

less detailed information in relation to the specific activity will be required for the decision

If there is insufficient information, further investigations should be undertaken prior to making the decision. These investigations could involve the reconsidering of options for the activity. The results of the further investigation should be recorded in an REF. In some circumstances where there are sizeable gaps in information, the proponent may choose to adopt a precautionary approach and prepare an EIS without knowing if the impacts are likely to be significant.

8. Considering the nature of the impacts, rank the potential significance for each impact, and the impacts for each section (considered as a whole) as:

- high
- medium
- low.

The potential importance of each impact should be estimated, taking into consideration all the criteria used to analyse the nature of the impact. For instance, impacts should be ranked as having a high potential significance if there is a great deal of uncertainty about the impacts themselves or the ability of the environment to cope with the impacts. Impacts which do not comply with standards or policies should also be ranked as having a high potential significance.

In addition consideration should be given to the overall effects of the impacts. Although impacts may be of only low to medium concern when considered individually, the cumulative effect of all the impacts acting together could be substantial.

TABLE 2(C)
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|--|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| Physical impacts or pollution impacts (during operation and construction) (a) Air impacts 1. air quality impacts (eg dust, smoke, grit, odours, precursors to photo-chemical smog, fumes, toxic or radioactive gaseous emissions) with economic, health, ecosystem or amenity considerations 2. air impacts with greenhouse or ozone damage consideration 3. any other air impacts | | | | | | | | |
| (b) Water impacts 1. impacts from changes in surface or groundwater quantity 2. impacts from use of water 3. impacts from changes to natural waterbodies, wetlands or runoff patterns 4. impacts from changes to flooding or tidal regimes 5. impacts from changes in water quality with economic, health, ecosystem or amenity considerations — eg salinity, colour, odour, turbidity, temperature, dissolved oxygen, nutrients, pH factors or pollutants (intentional or unintentional releases of oil, fuels, toxins (including heavy metals, and anti-foulants), spoil, sediment, sewage or other waste 6. any other impacts on water or from the use or storage of water | | | | | | | | |

TABLE 2(C) continued
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|---|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| Physical impacts or pollution impacts (during operation & construction) (c) Soil and stability impacts 1. degradation of soil quality including contamination (intentional or unintentional), salination or acidification 2. loss of soil from wind or water erosion 3. loss of structural integrity of the soil 4. increased land instability with high risks from land slides or subsidence 5. any other soil impacts | | | | | | | | |
| (d) Noise and vibration impacts 1. results in increased noise or vibrations to unacceptable levels for the surrounding communities 2. affects sensitive properties (educational, hospitals, residential, heritage) 3. any other impacts from noise, blasting or vibrations | | | | | | | | |
| (e) Any other physical or pollution impacts | | | | | | | | |
| Accumulation of physical or pollution impacts | | | | | | | | |

TABLE 2(C) continued
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|--|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| Biological impacts (during operation & construction) (a) Fauna impacts 1. any endangering or displacement of fauna species (including animals, birds, frogs, reptiles, insects, fish or crustaceans) * 2. any reduction of critical habitat of any unique, threatened or endangered fauna (within the meaning of the NP&W Act) 3. impacts which create significant barriers to fauna movement 4. any other impacts | | | | | | | | |
| (b) Flora impacts 1. any endangering of flora species (including trees, shrubs, grasses, herbs or aquatic plants) 2. impacts from the clearing or modifying of extensive areas of relatively undisturbed native vegetation or wetlands 3. any other impacts | | | | | | | | |
| (c) Ecological impacts 1. Any threat to the biological diversity or ecological integrity of species or communities 2. any barrier to the normal replenishment or revegetation of existing species following disturbance 3. impacts from the introduction of noxious weeds, vermin, feral species or diseases or releases of genetically modified organisms 4. impacts from the uses of pesticides, herbicides, fertilisers or other chemicals which may build up residues in the environment 5. high bushfire risk impacts 6. any other impacts | | | | | | | | |
| Accumulation of biological impacts | | | | | | | | |

* A Species Impact Statement will be required if the activity is likely to significantly affect the environment of critical habitats, threatened species, populations or ecological communities or their habitats.

TABLE 2(C) continued
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|---|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| Resource use impacts (during operation & construction) (a) Community resources 1. any significant increase in the demand for services and infrastructure resources including roads, power, water supply and drainage, waste (including sewage) management, education, medical and social services 2. any significant resource recycling or reuse schemes to reduce resource usage 3. any diversion of resources to the detriment of other communities or natural systems 4. any degradation of infrastructure such as roads, bridges 5. any other impacts | | | | | | | | |
| (b) Natural resources 1. any disruption or destruction of natural resources (eg fish habitat or fish species) with impacts on industries based on these resources 2. any disruption of existing activities (or reduction of options for future options) because of the natural resource demands of the proposal 3. any use which results in the wasteful use of large amounts of natural resources 4. any use which results in the substantial depletion of natural resources 5. any use that results in the degradation of any area reserved for conservation purposes 6. any other impacts | | | | | | | | |
| Accumulation of resource use impacts | | | | | | | | |

TABLE 2(C) continued
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|--|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| Community impacts (during operation & construction) (a) Social impacts 1. any impacts which result in a change in the community's demographic structure 2. any environmental impact that may cause substantial change or disruption to the community (loss of neighbour cohesion, access to facilities, links to other communities, community identity or cultural character) 3. any impacts which result in some individuals or communities being significantly disadvantaged 4. any impacts on the health, safety, security, privacy or welfare of individuals or communities because of factors such as i) air pollution or odour noise, ii) vibration, blasting, electromagnetic fields or radiation iii) release of disease or genetically modified organisms iv) lighting, overshadowing or visual impacts 5. any impacts that result in a change in the level of demand for community resources (eg facilities, services and labour force) 6. any other social impacts | | | | | | | | |

TABLE 2(C) continued
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|---|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| (b) Economic factors <i>(including impacts on employment, industry and property value)</i> <ol style="list-style-type: none"> any impacts which result in a decrease to net economic welfare any impacts that result in a direct cost to the community or individuals any impacts that result in a decrease in the community's economic stability any impacts which result in a change to the public sector revenue or expenditure base any other economic impacts | | | | | | | | |
| (c) Heritage, aesthetic, cultural impacts <ol style="list-style-type: none"> any impacts on a locality, place, building or natural landmark having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, recreational, scenic or social significance or other special value for present or future generations any impacts from new lighting, glare or shadows any other heritage, aesthetic, cultural impacts | | | | | | | | |
| (d) Land use impacts <ol style="list-style-type: none"> any major changes in land use any curtailment of other beneficial uses any property value impacts with land use implications any other land use impacts | | | | | | | | |

TABLE 2(C) continued
ANALYSIS OF THE NATURE OF THE POTENTIAL IMPACTS

| Characteristics of potential impacts (adverse & beneficial) | Evaluation criteria | | | | | | | Ranking of potential significance |
|--|---|--|------------------------------|--|---|--------------------------------------|--|-----------------------------------|
| | What is the confidence in predicting impacts? | How resilient is the environment to cope with impacts? | Can the impacts be reversed? | How well can the impacts be mitigated? | Do the impacts comply with plans, policies? | What is the level of public concern? | Are further studies required on impacts or mitigation? | |
| <i>e) Transportation impacts</i> 1. substantial impacts on existing transportation systems (rail, water, road, air or pedestrian — both public and private), altering present patterns of circulation, modal split or movement of people and/or goods 2. directly or indirectly encouraging additional traffic i) during construction ii) during operation 3. increased demand for parking (off and on street including residential areas) 4. any other impacts on transport or traffic | | | | | | | | |
| Accumulation of community impacts | | | | | | | | |

Step 3

Evaluate the significance

Criteria for evaluating the likely environmental significance of the impacts

1. How extensive are the impacts?
2. How adverse are the impacts on environmentally sensitive areas?
3. How acceptable are the impacts considering the nature of the impacts?

EVALUATE THE SIGNIFICANCE

Identification and analysis of the various impacts (as performed in Steps 1 and 2) make it possible to judge the significance of the various impacts.

Step 3 brings together the results of the analysis of the extent and nature of all the impacts to decide if there is likely to be a significant effect on the environment. Table 3 will assist in the implementation process. The criteria for deciding the probability of the potential impacts being significant are discussed below.

1. Extensive impacts are likely to be significant.

In deciding if the impacts of an activity are likely to significantly affect the environment, the type, degree and range of each impact must be considered on its merits. If an impact is extensive in terms of spatial or time dimensions and intensity or severity, there is potentially a high risk to the environment.

Any impact that results in a threat to the health or safety of individuals or the community, has a low acceptability level. In considering risks to the community, particular attention should be given to the welfare of children, the aged or any disadvantaged group. Any impact that threatens biodiversity also has a low level of acceptability and has the potential to significantly affect the environment.

The ranking of the potential significance of individual impacts of an activity must be considered as well as the aggregation of all the impacts of the activity. The cumulative effect could result in the activity as a whole having a significant effect.



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2. Impacts which adversely impact on environmentally sensitive areas are likely to be significant.

The impacts of activities undertaken in environmentally sensitive areas are more likely to be significant than similar activities proposed in less sensitive locations. Relatively small activities carried out in sensitive locations can result in substantial impacts on the environment. A precautionary approach should be adopted for activities proposed in locations known to be environmentally sensitive, including careful investigation of alternatives and mitigation strategies.

Activities that are likely to indirectly affect sensitive locations may also be considered to significantly affect the environment.

3. Impacts with a low level of acceptability because the nature of the impacts are likely to be significant.

When considering the impacts of an activity, the extent of the potential impacts is only one factor to be considered. Impacts that are not very extensive may still significantly affect the environment.

Where there is a low level of confidence in forecasting outcomes, the risks may be high. In these circumstances further investigation should be undertaken before making a decision on whether an EIS should be prepared, or a precautionary approach should be adopted and an EIS prepared to document the further investigation.

Where there is low resilience because of the environment's natural sensitivity and/or an induced sensitivity because of cumulative impacts, the risks of irreversible change may be high. Where it is known that the environment is already stressed, the acceptability of activities that will further degrade the environment should be further investigated.

In many circumstances, a technical or scientific evaluation can be made of the environment's ability to accommodate the impacts, based on the principles of ecologically sustainable development. However, when there is inadequate information about the characteristics of the

environment or uncertainty about the performance of the activity, a precautionary approach must be adopted. The level of certainty is a critical factor in determining the significance of the potential impacts of an activity.

The reversibility of impacts and the ability to successfully mitigate the impacts must also be considered. Impacts will be significant if they result in a permanent and adverse change to the environment.

Standards, plans and policies provide the framework for performance measures for pollution control, health and safety, future land use, infrastructure strategies or resource allocation. These mechanisms are usually developed following extensive consultation with government departments and the community, and represent important parameters for performance. Activities that fall outside these norms represent risks to the achievement of the objectives. The acceptability of the impacts of these types of activities can be questioned and further investigation in an EIS could be justified.

The level of public concern is a useful indicator of the potential significance of impacts on a locality. Activities that will unacceptably change or transform a locality or place at risk items, buildings or localities that are particularly valued by the community will be considered significant. It can also be expected that the community will have a low acceptance of impacts that threaten property values or decrease the options for a secure livelihood of individuals or the community generally.

The community will also be less tolerant of impacts if it is perceived that sections of the community will be disadvantaged by loss of amenity due to dislocation or impacts from dust, noise, odour, traffic congestion or other physical effects. The level of public concern and the degree of controversy must be considered and weighed with other factors in deciding if an EIS is warranted.

Making the decision

By analysing the impacts of an activity, the potential risk to the environment can be assessed. If the risks are high, then the impacts can be



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judged to have the potential to significantly affect the environment. Table 3 provides a framework for recording the decision.

Examples of activities that may warrant EISs are listed in Appendix C. The list is indicative only and is based on past experience with implementation of the EIA system in NSW.



IS AN EIS REQUIRED?

TABLE 3
EVALUATE THE LIKELY SIGNIFICANCE OF POTENTIAL IMPACTS ON THE ENVIRONMENT

| Impacts | Potential significance considering the extent of impacts | Potential significance considering the level of adverse impacts on environmentally sensitive areas | Potential significance considering the nature of the impacts |
|---|--|---|--|
| Physical and pollution a) air impacts b) water impacts c) soil impacts d) noise and vibration impacts | | | |
| Biological a) fauna b) flora c) ecological | | | |
| Resource use a) community resources b) natural resources | | | |
| Community a) social impacts b) economic impacts c) heritage, aesthetic, cultural impacts d) land use impacts e) transportation impacts | | | |
| Activity as a whole | | | |

This activity is **not likely** to significantly affect the environment. No EIS is required.

or

This activity is **likely** to significantly affect the environment. An EIS is required.

Person responsible for analysing the potential impacts

(eg preparing REF if necessary) Date

Signature of person responsible for making

the decision if an EIS is required Date

Appendix A

RESPONSIBILITIES OF AUTHORITIES

What are the responsibilities under the EP&A Act?

Part 5 is concerned with ensuring that appropriate consideration is given to the potential environmental impacts of an activity prior to a public authority granting approval to carry out that activity.

Under EP&A Act the public authority responsible for granting the approval (called the determining authority), must examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment as a result of activity being carried out. The determining authority has a duty to consider the likely environmental impacts of granting any approval.

Some activities may require approvals from more than one determining authority. Each of these determining authorities have a responsibility for deciding if the granting of their approval is likely to significantly affect the environment.

If the impacts are likely to significantly affect the environment, then an EIS must be prepared and exhibited before any approval is given. Public submissions must be considered in the decision making process.

These guidelines apply to all proposals that require an approval from a determining authority but do not require development consent from a consent authority (usually a local council) under Part 4 of the Act. The environmental impact assessment for these activities is under Part 5 of the Act.

Many government projects do not require development consent because of the provisions of SEPP 4 — *Development Without Consent*. This SEPP permits public authorities to construct water storage dams, sewage treatment works, electricity transmission lines, classified



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roads, toll works without consent from local councils.

Activities that are usually permissible without consent under the provisions of an LEP are listed in Schedule 1 of the EP&A Model Provisions 1980 and include certain rail, road, ports, water, drainage, powerlines, gas, forestry and flood mitigation undertakings. Part 5 also applies to activities undertaken in areas where environmental planning instruments do not apply. These areas include the ocean, some bays and estuaries and rivers, National Parks and some Crown lands and areas in western NSW.

However, Part 5 does not apply to any activity that is prohibited by any environmental planning instrument.

What are the responsibilities under the EP&A Regulation?

The EP&A Regulation provides guidance in assisting agencies in deciding when an activity is likely to significantly affect the environment. Under the EP&A Regulation 1980, determining authorities were required to consider certain factors listed in clause 56 in making the decision. Following the regulation review, the revised regulation gazetted on 1 September 1994, lists these factors in clause 82(2).

However the regulation provides alternative guidance to this list. Under the provisions of clause 82(1), the Director can issue guidelines for particular kinds of activities. If no guidelines are in force, only then will the factors in clause 82(2) be relevant in deciding if an activity is likely to significantly affect the environment.



IS AN EIS REQUIRED?

DUTY UNDER ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

PART 5 Environmental Assessment

Division 2 — Duty of determining authorities to consider environmental impact of activities

Duty to consider environmental impact

111. (1) For the purpose of attaining the objects of this Act relating to the protection and enhancement of the environment, a determining authority in its consideration of an activity shall, notwithstanding any other provisions of this Act or the provisions of any other Act or of any instrument made under this or any other Act, examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.

• (2) Without limiting subsection (1), a determining authority shall consider the effect of an activity on:

- (a) any conservation agreement entered into under the National Parks and Wildlife Act 1974 and applying to the whole or part of the land to which the activity relates; and
- (b) any plan of management adopted under that Act for the conservation area to which the agreement relates.

(3) Without limiting subsection (1), a determining authority shall consider the effect of an activity on any wilderness area (within the meaning of the Wilderness Act 1987) in the locality in which the activity is intended to be carried on.

Decision of determining authority in relation to certain activities

112. (1) A determining authority shall not carry out an activity, or grant an approval in relation to an activity, being an activity that is a prescribed activity, an activity of a prescribed kind or an activity that is likely to significantly affect the environment unless:

- (a) the determining authority has obtained or been furnished with and has examined and considered an environmental impact statement in respect of the activity:
 - (i) prepared in the prescribed form and

manner by or on behalf of the proponent; and

- (ii) except where the proponent is the determining authority, submitted to the determining authority in the prescribed manner;



IS AN EIS REQUIRED?

DUTY UNDER ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 1994

PART 8 — Environmental Assessment under Part 5 of the Act

Division 1 — Circumstances requiring an environmental impact statement

What factors must be taken into account concerning the impact of an activity on the environment?

82. (1) For the purposes of Part 5 of the Act, the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment include:

- (a) for activities of a kind for which specific guidelines are in force under this clause, the factors referred to in those guidelines; or
- (b) for any other kind of activity:
 - (i) the factors referred to in the general guidelines in force under this clause; or
 - (ii) if no such guidelines are in force, the factors referred to subclause (2).

(2) The factors referred to in subclause (1) (b) (ii) are as follows:

- (a) any environmental impact on a community;
- (b) any transformation of a locality;
- (c) any environmental impact on the ecosystems of the locality;
- (d) any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality;
- (e) any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations;
- (f) any impact on the habitat of protected or endangered fauna (within the meaning of the National Parks and Wildlife Act 1974);
- (g) any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air;
- (h) any long-term effects on the environment;
- (i) any risk to the safety of the environment;
- (k) any reduction in the range of beneficial uses of the environment;

- (l) any pollution of the environment;
- (m) any environmental problems associated with the disposal of waste;
- (n) any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply;
- (o) any cumulative environmental effect with other existing or likely future activities.

(3) For the purposes of this clause, the Director may establish guidelines for the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment, in relation to activities generally or in relation to any particular kind of activity.

(4) The Director may vary or revoke any guidelines in force under this clause.



IS AN EIS REQUIRED?

DEFINITION OF TERMS

The following terms are defined in the EP&A Act or as a result of Court precedents or are based on definitions accepted in EIA literature. When the definition is derived from the Act the relevant section is included in brackets.

activity (s.110) means:

- 1 the erection of a building
- 2 the carrying out of a work in, on, over or under land
- 3 the use of land or of a building or works
- 4 the subdivision of land
- 5 any act, matter or thing prescribe in an environmental planning instrument under section 26 of the EP&A Act as an activity.

but does not include any act, matter or thing which requires development consent under Part 4 or is prohibited under an environmental planning instrument. (Matters exempted from requiring development consent are listed in planning instruments such as SEPP 4 & 35 or local environmental plans).

Note: An activity may include an individual project or a series of related works carried out under a single approval (for instance funding allocation) and may include a program of maintenance, restoration or improvement works.

affect means:

to act on or to produce a change including direct or indirect, temporary or continuous, short or long term, reversible or irreversible, adverse or beneficial, local, regional national or global, cumulative or single.

approval (s. 110) means:

a consent, licence, permission or any form of authorisation or the provision of finance by a determining authority to another person.

Note: the approval may be an authorisation of a new activity or a new authorisation of a continuing activity. It does not include the renewal of an existing authorisation.

consent authority (s. 4) in relation to a development application means:

- 1 the council
- 2 the Minister, public authority (other than a council) or Director where specified in an environmental planning instrument.

determining authority (s110) means:

- 1 a Minister or a public authority by or on whose behalf an activity is to be carried out, or
- 2 whose approval is required in order to enable the activity to be carried out

environment (s4) means:

all aspects of the surroundings of man whether affecting him as an individual or in his social groupings

Note: Including physical, biological, social, health, cultural, heritage, aesthetics, economic, resources, infrastructure, land use aspects

likely means:

a real chance or possibility

proponent (s110 & 110B) means:

- 1 any person proposing to carry out the activity
- 2 the Forestry Commission in respect of forestry activities authorised by the Commission on land under the management of the Commission
- 3 any determining authority which the Minister certifies in writing to be the proponent of a particular activity or for which the regulation declares to be the proponent of an activity of the kind specified in the regulation (but excludes the Minister for the purpose of giving an approval under Division 4 of the EP&A Act).



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public authority (s.4) means:

- 1 a public or local authority (including local council) constituted by or under any Act,
- 2 a government Department
- 3 a statutory body representing the Crown
- 4 a person exercising functions on behalf of that authority, Department or body

Review of Environmental Factors (REF) means:

a document which identifies and evaluates the impacts of an activity (undertaken under Part 5 of the Act) to decide if the impacts are likely to significantly affect the environment. If the impacts are not considered to be significant, then an EIS is not required. The REF should document environmental management strategies.

Statement of Environmental Effects (SEE) means:

a document required in Form 1 of Schedule 5 of the EP&A Regulations. This document must accompany development applications for non-designated developments unless the proposal is considered to have negligible effects. The SEE should demonstrate that the environmental impacts of the development have been considered and should set out steps to be taken to protect the environment or mitigate the harm.

Significant means:

important, notable, weighty or more than ordinary, of consequence and depends on

- 1 fact or degree and is conditioned by the circumstances of the environment
- 2 the context and intensity
- 3 the existence of pre-established legal limits or precedents
- 4 the level of social or political acceptance

The principles of ecologically sustainable development

- 1 The **precautionary principle**, namely 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 to prevent environmental degradation
- 2 **Inter-generational equity**, namely, 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.
- 3 Conservation of biological diversity and ecological integrity
- 4 Improved valuation and pricing of environmental resources.

Appendix B

RELATIONSHIP OF THE EVALUATION FRAMEWORK TO EIA UNDER PART 5

The process for deciding if an EIS is required is closely aligned to other important stages in the EIA.

1. Option selection process

This process assesses various options for the location, design, technology, construction methods and operational management and selects a preferred option to meet the activity's objectives.

For major projects there is usually extensive consultation with other government agencies and technical experts in the development of options and the selection of the preferred approach.

A number of government authorities undertake formal and informal public consultation to enable the affected community to have an input into the decision. Consultation may be in the form of route selection studies, value management studies or informal meetings with groups of affected residents. Other authorities have encouraged the establishment of permanent committees which they can consult on various issues including route selection issues.

Information gathered during the option selection process can be used for deciding if an EIS is required.

2. Evaluation of impacts

The process of evaluation of impacts to determine if an EIS is required is very closely aligned to the concept development and option selection processes.

As these steps often occur in tandem, each provides input for the other. As such, the evaluation process cannot be finalised and a decision made until the option selection process



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has evolved to a point where the major components of the activity have been finalised.

Even after this point, there may be a need to revisit the decision as to whether an EIS is required. This may be required if plans for the activity change or new mitigation measures are introduced later in the design development stage or additional information comes to light through the assessment process.

The guidelines should form the starting point for determining whether an EIS is required. For most activities which have minor impacts, the guidelines will provide sufficient analysis of environmental factors for decision making. However, for those activities where the impacts are complex or further analysis of environmental factors is required, a more comprehensive study will be prepared. This document is generally called a 'review of environmental factors' (REF). Following an evaluation of the REF a decision can be made if the impacts are likely to be significant and a full EIS is required.

3. Species Impact Statement

If the applicant or the determining authority considers that a proposal is likely to significantly affect the conservation of critical habitats and threatened species, populations or ecological communities and their habitats, a Species Impact Statement must be prepared under the provisions of the *Threatened Species Conservation (TSC) Act 1995*.

What are critical habitats, threatened species, populations or ecological communities and threatening processes?

Critical habitats are prescribed in Part 3 of the TSC Act. Threatened species, populations or ecological communities and threatening processes are prescribed in Part 2 and Schedules 1 and 2 of the TSC Act.

When is a Species Impact Statement required?

Under section 77 (d1) and section 112 (1B) of the EP&A Act, if a proposal

- is likely to significantly affect threatened species, populations or ecological communities or their habitats,

a species impact statement (SIS) must be prepared in accordance with Division 2 of Part 6 of the TSC Act.

Factors when deciding if an SIS is required

The following factors must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities or their habitats:

- a) in the case of a threatened species, whether the life cycle of the species is likely to be disrupted such that a viable local population of the species is likely to be placed at risk of extinction,
- b) in the case of an endangered population, whether the life cycle of the species that constitutes the endangered population is likely to be disrupted such that the viability of the population is likely to be significantly compromised,
- c) in relation to the regional distribution of the habitat of a threatened species, population or ecological community, whether a significant area of known habitat is to be modified or removed,
- d) whether an area of known habitat is likely to become isolated from currently interconnecting or proximate areas of habitat for a threatened species, population or ecological community,
- e) whether critical habitat will be affected,
- f) whether a threatened species, population or ecological community, or their habitats, are adequately represented in conservation reserves (or other similar protected areas) in the region,
- g) whether the development or activity proposed is of a class of development or activity that is recognised as a threatening process,
- h) whether any threatened species, population or ecological community is at the limit of its known distribution.

- is on land that contains a "critical habitat" or



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Form and content of a SIS

Under section 110 of the TSC Act, the general requirements on the form and content of a SIS are as follows.

General information

1. A SIS must include a full description of the action proposed, including its nature, extent, location, timing and layout and, to the fullest extent reasonably practicable, the information referred to in this section.

Information on threatened species and populations

2. A SIS must include the following information as to threatened species and populations:
 - a) a general description of the threatened species or populations known or likely to be present in the area that is the subject of the action and in any area that is likely to be affected by the action,
 - b) an assessment of which threatened species or populations known or likely to be present in the area are likely to be affected by the action,
 - c) for each species or population likely to be affected, details of its local, regional and State-wide conservation status, the key threatening processes generally affecting it, its habitat requirements and any recovery plan or threat abatement plan applying to it,
 - d) an estimate of the local and regional abundance of those species or populations,
 - e) a general description of the threatened species or populations known or likely to be present in the area that is the subject of the action and in any area that is likely to be affected by the action,
 - f) a full description of the type, location, size and condition of the habitat (including critical habitat) of those species and populations and details of the distribution and condition of similar habitats in the region,
 - g) a full assessment of the likely effect of the action on those species and populations, including, if possible, the quantitative effect of local populations in the cumulative effect in the region,
 - h) a description of any feasible alternatives to the action that are likely to be of lesser effect and the reasons justifying the carrying out of the action in the manner

proposed, having regard to the biophysical, economic and social considerations and the principles of ecologically sustainable development,

- i) a full description and justification of the measures proposed to mitigate any adverse effect of the action on the species and populations, including a compilation (in a single section of the statement) of those measures,
- j) a list of any approvals that must be obtained under any other Act or law before the action may be lawfully carried out, including details of the conditions of any existing approvals that are relevant to the species or population.

Information on threatened species and populations

3. A SIS must include the following information as to ecological communities:
 - a) a general description of the ecological community present in the area that is the subject of the action and in any area that is likely to be affected by the action,
 - b) for each ecological community present, details of its local, regional and State-wide conservation status, the key threatening processes generally affecting it, its habitat requirements and any recovery plan or any threat abatement plan applying to it,
 - c) a full description of the type, location, size and condition of the habitat of the ecological community and details of the distribution and condition of similar habitats in the region,
 - d) a full assessment of the likely effect of the action on the ecological community, including, if possible, the quantitative effect of local populations in the cumulative effect in the region,
 - e) a description of any feasible alternatives to the action that are likely to be of lesser effect and the reasons justifying the carrying out of the action in the manner proposed, having regard to the biophysical, economic and social considerations and the principles of ecologically sustainable development,
 - f) a full description and justification of the measures proposed to mitigate any adverse effect of the action on the ecological community, including a compilation (in a single section of the statement) of those measures,



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- g) a list of any approvals that must be obtained under any other Act or law before the action may be lawfully carried out, including details of the conditions of any existing approvals that are relevant to the ecological community.

Credentials of persons undertaking SIS

4. A species impact statement must include details of the qualifications and experience in threatened species conservation of the person preparing the statement and of any other person who has conducted research or investigations relied on in preparing the statement.

State-wide conservation status

The requirements of subsections (2) and (3) (above) in relation to information concerning the State-wide conservation status of any species or population, or any ecological community, are taken to be satisfied by the information in that regard supplied to the principal author of the species impact statement by the NPWS, which information that Service is by this subsection authorised and required to provide.

Procedures for preparing a SIS

Under section 111 of the TSC Act, the Director General for NPWS must be consulted in writing for the requirements for a SIS. These requirements must be provided within 28 days from when a request is made.

Because of the circumstances of the case, the Director General may limit or modify the extent of matters prescribed in Section 110. In other cases if the impacts are considered to be trivial or negligible, the Director General may dispense with the requirement for an SIS to be prepared.

An SIS may be prepared as a separate document or incorporated in an EIS. If the SIS is separate to the EIS, it must be exhibited concurrently with the EIS.

The SIS must be in writing and be signed by the principal author of the document and the applicant/proponent.

Scope of issues to be addressed in an EIS

The processes for option selection and for determining whether an EIS is required will both assist the identification of issues to be addressed in the EIS.

Consultation with government agencies, local councils, affected parties and the broad community will further assist in determining the scope of issues to be addressed and will identify the significant matters which need to be analysed in depth.

5. Assessment of the activity

The EIA process should result in a decision as to whether the activity can proceed based on an assessment of the net environmental benefits of the activity's implementation weighted against the environmental costs.

In order to make this decision, additional information and analysis may be necessary beyond that required to decide whether an EIS is required. In those cases where the impacts are likely to be significant, a full analysis of environmental issues should be undertaken and reported in the EIS. The EIS should also outline recommendations for impact mitigation strategies (including monitoring regimes).

For activities for which an EIS is not required, the decision-making process should be preceded by an assessment of the impacts at a level appropriate for the impacts. This assessment is usually an extension of the evaluation process for deciding if an EIS is required. The REF usually documents this analysis and outlines the mitigation measures to manage the impacts. For projects with very minor impacts, no further assessment of impacts beyond the evaluation stage may be required and only a mitigation strategy to manage the impacts would be required.

6. Determination

Based on an assessment of the environmental impacts of the proposed activity, the determining authority must decide whether to grant an approval for the activity and if so under what conditions.



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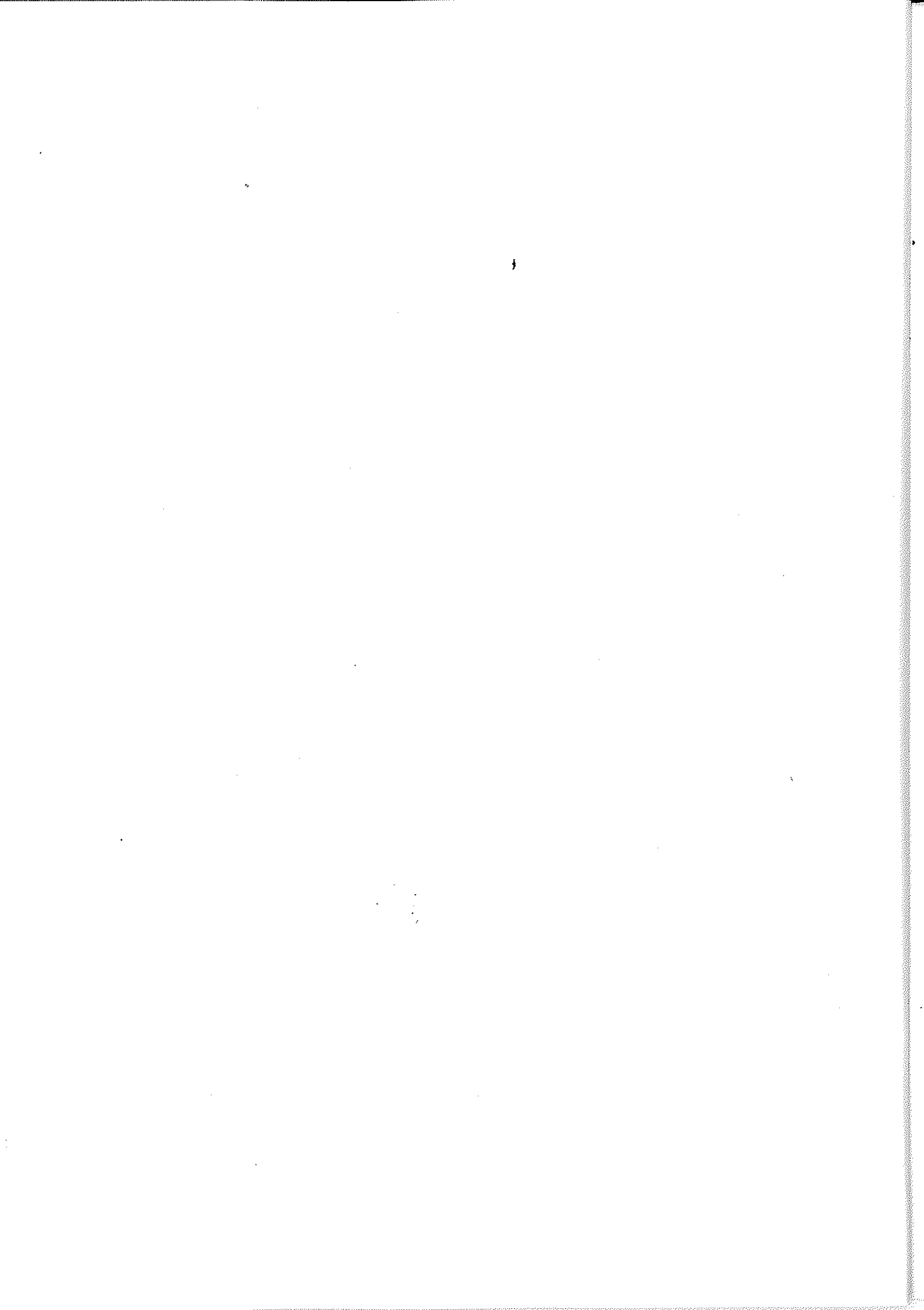
For activities which require an EIS a determination report must be prepared addressing the matters raised in the EIS and in submissions, the proposed mitigation and any findings of commissions of inquiry or advice from the Minister.

For activities where the determining authority is also the proponent, under the provisions of Division 4 of the EP&A Act, the determining authority cannot carry out an activity unless the Minister for Planning has approved the activity.

7. Monitoring of Environmental Performance

The environmental performance of activities should be monitored during the construction and operational phase to ensure compliance with the proposal in the EIS and any conditions of the determination. Monitoring should also consider whether the predictions in the EIS of the extent and nature of impacts were accurate.

If the predictions underestimated the significance of the impacts, the adequacy of the environmental protection measures will need to be reviewed. Additional works may be required to further mitigate impacts. The potential significance of any supplementary works must be considered in accordance with these guidelines.



Appendix C

EXAMPLES OF ACTIVITIES WHICH MAY REQUIRE AN EIS

LIST 1. TYPE, SIZE OR NATURE OF ACTIVITIES

This list provides examples of activities which may require an EIS by virtue of their size and context. It is not a list of activities which will always require an EIS. It is not intended to be an exhaustive list and other activities not listed may require an EIS. An evaluation of whether the activity is likely to significantly affect the environment will always need to be undertaken on a case-by-case basis.

Transportation activities

Roads

1. new motorways, freeways or major works on highways
2. major road improvements resulting in the dislocation of adjacent land uses
3. road widening projects or major upgrading programs in urban areas
4. road works in new service corridors
5. new roads or bridges in or near environmentally sensitive areas¹
6. quarry operations similar to those listed in Schedule 3

Rail or cable ways

1. major heavy or light railway lines (including elevated or underground)
2. new lines or major additions to existing lines resulting in the dislocation of adjacent land uses
3. new railway lines in environmentally sensitive areas
4. other major railway works (including stabling and maintenance facility) or upgrading programs in urban areas
5. construction of ski lifts, cable railways or similar suspended lines used exclusively or mainly for passenger transport

¹ Environmentally sensitive areas are listed in List 2 in this Appendix (C).



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Ports and water transport

1. major port facilities (including wharves, dry docks, terminals)
2. major harbours works including land reclamation, construction of groynes or wave barriers
3. construction or major changes to inland waterways including locks, ports and associated structures
4. the widening or deepening of a navigable waterway or canal
5. construction or expansion of boat harbours, marinas, ferry terminals, vessel maintenance or servicing facilities including pumpout facilities
6. significant maintenance dredging for maintaining the navigability of the waterways or maintenance dredging in areas where the material to be disturbed is contaminated

Aircraft facilities

1. activities similar to those designated under Schedule 3 of the EP&A Regulation

Powerlines, communication facilities and associated works

1. new overhead power lines capable of accommodating 132 kV or more
 - a) incorporating steel towers; or
 - b) in environmentally sensitive areas
2. new overhead power lines capable of accommodating 33 kV or more in a new service corridor
3. upgrading of existing power lines to a voltage rating of 132 kV or more
4. relocating of powerlines of 132 kV or more into a new service corridor
5. new overhead or underground power lines, new access roads or clearing of native vegetation in environmentally sensitive areas
6. communication lines, towers or earth station in environmentally sensitive areas

Oil, gas or minerals activities

1. pipelines carrying energy related products (including gas, petroleum or coal) in a new service corridor
2. pipelines carrying energy related products in environmentally sensitive areas
3. offshore extraction of gas, oil or minerals including marine aggregate
4. offshore pipelines carrying energy related products

Waste including sewage activities

1. activities similar to those designated under Schedule 3 of the EP&A Regulation
2. other waste water treatment plants
3. discharging or depositing effluent or other deleterious substances into natural waterways, groundwater or the ocean
4. other sludge or effluent disposal schemes
5. pipelines disturbing environmentally sensitive areas

Water projects

1. constructing or enlarging dams (which come under the Australian National Committee on Large Dams (ANCOLD) Referable Dam Classification or Large Dam Classification) which results in a change of downstream flow;
2. diverting a natural waterbody²
3. establishing a new drinking water scheme including storage and management of water supply and quality
4. extraction of groundwater adversely impacting on the resource in the short or long term, for instance extraction in excess of the recharge rate or infiltration of water into groundwater
5. plans or works associated with land and water management, groundwater or floodplain management, river or estuary management
6. major upgrading or expansion of drinking water supply systems, water treatment works, water distribution systems in environmentally sensitive areas
7. changes in water allocation practices
8. extraction of water from waterbodies that results in a major impact on morphology or ecological function of the waterbody. Major impacts may arise from
 - a) changes to the frequency, timing and velocity of flow
 - b) changes to water levels
 - c) changes to the natural variability of the waterbody
9. major farm irrigation schemes; other major water management projects for agriculture or major upgrading of water channels
10. pipelines or channels disturbing environmentally sensitive areas
11. flood mitigation works; drainage and stormwater management works



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12. major river bank stabilisation works
13. blocking of a natural waterbody which prevents the passage of fish
14. substantial maintenance dredging
15. substantial reclamation of land
16. activities similar to those designated under Schedule 3 of the EP&A Regulation

Coastal activities

1. construction of major beach stabilisation works
2. construction of major groynes, tidal or storm surge barriers
3. activities which affect acid sulphate soils by excavating the soil or changing the groundwater levels
4. substantial land reclamation
5. substantial dredging works
6. activities similar to those designated under Schedule 3 of the EP&A Regulation

Activity in forestry

1. logging operations³ in unlogged native forests (excluding plantations⁴)
2. logging operations which disturb critical habitat areas for endangered fauna species in native forests (excepting plantations)
3. clearing of native forests for a change of land use (including plantations)
4. activities similar to those designated under Schedule 3 of the EP&A Regulation

Activities in conservation areas

1. ski fields, resorts, other tourist facilities and associated activities
2. recreational facilities within a national park or aquatic reserves
3. extraction of water from a national park or wilderness area or the inundation of any conservation areas
4. activities similar to those designated under Schedule 3 of the EP&A Regulation

Activities on Crown land and other areas

1. large scale clearing of native vegetation (including mechanical, chemical or burning)
2. reduction of fish populations or communities by any means other than fishing, or the harmful alteration or destruction of fish habitat
3. cloud seeding
4. activities similar to those designated under Schedule 3 of the EP&A Regulation

LIST 2: LOCATION OF ACTIVITIES

This list provides examples of locations where, by virtue of the environmental sensitivity or other constraints, an activity may require an EIS. An evaluation of whether the activity is likely to significantly affect the environment will always need to be undertaken on a case by case basis. However, if an activity listed as 'may require an EIS' in List 1 is located in an area listed as being environmentally sensitive in List 2, then the activity will usually require an EIS.

Areas sensitive because of physical factors

1. coastline and dune fields, alpine areas, deserts, caves or other unique landforms
2. land with high agricultural capability
3. natural waterbodies, riparian zones, wetlands, drinking water catchments or flood prone areas
4. areas where groundwater is at risk, for instance, recharge areas or areas with a high water table
5. erosion prone areas, areas with slopes of greater than 18 degrees, subsidence or slip areas
6. areas where there are acid sulphate, sodic or highly permeable soils or areas where salinity or potential salinity problems
7. areas with degraded air quality, degraded or contaminated soil or degraded or contaminated water (ground or surface)

Areas sensitive because of biological factors

1. corals and seagrass beds, wetlands communities (coastal, peatlands or inland), native forests, urban bushland, arid and semi arid communities,

² Natural waterbodies include lakes or lagoons naturally formed or artificially modified, or rivers or streams, whether perennial or intermittent, flowing in a natural channel with an established bed or in a natural channel artificially modifying the course of the stream; or tidal waters including any bay, estuary or inlet.

³ Logging operations include operations associated with the commercial management of forests including logging, thinning, road construction and burning.

⁴ A plantation is a group of planted exotic and native species of trees.



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2. habitat of endangered terrestrial or aquatic fauna species and of species listed under Japan–Australia Migratory Birds Agreement (JAMBA) and China–Australia Migratory Birds Agreement (CAMBA)
3. wildlife corridors and remnant vegetation
4. protected, rare or threatened plant species or inadequately reserved plant communities
5. areas which are bushfire prone
6. fishing grounds and fish breeding or nursery areas

Areas allocated for conservation purposes

1. national parks and other areas reserved or dedicated under the National Parks and Wildlife Act 1974
2. land reserved or dedicated within the meaning of the Crown Lands Act 1989 for preservation or other environmental protection purposes
3. world heritage areas
4. environmental protection zones in environmental planning instrument or lands protected under SEPP 14 — *Coastal Wetlands* or SEPP 26 — *Littoral Rainforests*
5. land declared as wilderness under the *Wilderness Act 1987*
6. aquatic reserves reserved or dedicated under the *Fisheries Management Act 1994*
7. wetlands areas dedicated under the Ramsar Wetlands Convention

Areas sensitive because of community factors

1. Aboriginal communities or areas subject to land rights claims
2. communities with strong sense of identity
3. disadvantaged communities (reduced economic, social or cultural indicators)
4. areas with degraded amenity from noise, traffic congestion or odour
5. areas or items of high anthropological, archaeological, architectural, cultural, heritage, historical, recreational or scientific value
6. areas or items of high aesthetic or scenic value

5A Significant effect on threatened species, populations or ecological communities, or their habitats

- (1) For the purposes of this Act and, in particular, in the administration of sections 78A, 79B, 79C, 111 and 112, the following must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats:
 - (a) each of the factors listed in subsection (2),
 - (b) any assessment guidelines.
- (2) The following factors must be taken into account in making a determination under this section:
 - (a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,
 - (b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,
 - (c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:
 - (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
 - (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
 - (d) in relation to the habitat of a threatened species, population or ecological community:
 - (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and
 - (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and
 - (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,
 - (e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),
 - (f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,
 - (g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

- (3) In this section:

assessment guidelines means assessment guidelines issued and in force under section 94A of the *Threatened Species Conservation Act 1995* or, subject to section 5C, section 220ZZA of the *Fisheries Management Act 1994*.

key threatening process has the same meaning as in the *Threatened Species Conservation Act 1995* or, subject to section 5C, Part 7A of the *Fisheries Management Act 1994*.