

Exploration guideline

Application and assessment process for exploration activities

Including requirements for a review of environmental factors for exploration activities subject to Part 5 of the *Environmental Planning and Assessment Act 1979*

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July 2015	1.0	First published
March 2017	2.0	First scheduled review
May 2018	3.0	Updated hyperlinks to SEED environmental mapping portal. Update to legislative changes being: <i>Environmental Planning & Assessment Act 1979</i> ; <i>State Environmental Planning Policy (Coastal Management) 2018</i> ; <i>Coastal Management Act 2016</i> and <i>Biodiversity Conservation Act 2016</i>
April 2023	4.0	Document title changed and two separate guidelines merged into one (previously <i>ESG5: Assessment requirements for exploration activities</i> and <i>ESG2: Guideline for preparing a review of environmental factors</i> were two separate guidelines). New document template, summary section and re-ordering of content. New section 1.3 dealing within online applications via the Resources Regulator portal. New section 1.3.1 to explain 'making changes to an existing activity approval'. New text in section 2 explaining the online Application Form process.

Amendment schedule

Re-ordering of headings and sub-headings in section 2 to follow the ordering of the online Application Form.

Updated text throughout section 2 to refer to online REF process.

Updated text in sections 3.1 'Environmental assessment of exploration activities', 3.2. 'Assessment timeframes' and 3.3 'Determination' to provide further guidance.

Updated text, terms and glossary to cater for changes in legislation, mapping tools, online Application Form and guidelines.

'Sensitive land location restrictions and thresholds' moved from the main body of the guideline into Appendix 2. Tier 2 - Location Restrictions regarding land reserved under the *National Parks and Wildlife Act 1974* updated to include wild rivers and wildlife refuges. 'Biobanking agreements and Biodiversity Stewardship agreements', 'Wildlife refuge agreements' and 'Other conservation agreements on private land' updated to reflect changes in legislation.

'Impact thresholds' moved from the main body of the guideline into Appendix 1.

'Review of environmental factors guidance' moved from the main body of the guideline into Appendix 4.

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Summary

This guideline has been prepared by the NSW Resources Regulator within the NSW Department of Regional NSW (the department), to assist title holders in understanding the application and assessment process for prospecting operations (also referred to as ‘exploration activities’). It includes guidance for preparing a review of environmental factors for exploration activities subject to Part 5 of the *Environmental Planning and Assessment Act 1979*. This guideline is structured as follows:

- **Section 1** provides guidance regarding whether approval is required prior to carrying out exploration activities and an overview of the application and assessment process.
- **Section 2** sets out details and provides guidance to assist proponents with completion of the online application form. It includes guidance regarding:
 - applications for 'complying exploration activities' (CEA) which are exploration activities which qualify for a streamlined CEA assessment pathway
 - applications for 'non-complying exploration activities' which need to be accompanied by additional supporting information in the form of a review of environmental factors
- **Section 3** sets out the department’s environmental assessment and determination process for exploration activities
- **Section 4** outlines additional approvals that may be required from other agencies.
- **Section 5** contains information about the department’s compliance auditing of exploration activities.
- **Section 6** provides contact details for the department should proponents require additional information.
- the **Glossary** provides an explanation of the technical terms used in this guideline.
- **Appendix 1** sets out the impact thresholds that cannot be exceeded for an activity to be assessed under the CEA assessment pathway.
- **Appendix 2** sets out the sensitive land location restrictions and thresholds that need to be met for an activity to meet the criteria for assessment under the CEA assessment pathway.
- **Appendix 3** contains a checklist to assist title holders determine whether their activity meets the criteria for assessment under the CEA Assessment Pathway.
- **Appendix 4** provides guidance about the review of environmental factors, including how to assess and categorise the potential environmental impacts.

Flowchart 1 below provides a summary of application and assessment process for exploration activities.

Flowchart 1 Summary of exploration activity environmental assessment by the department

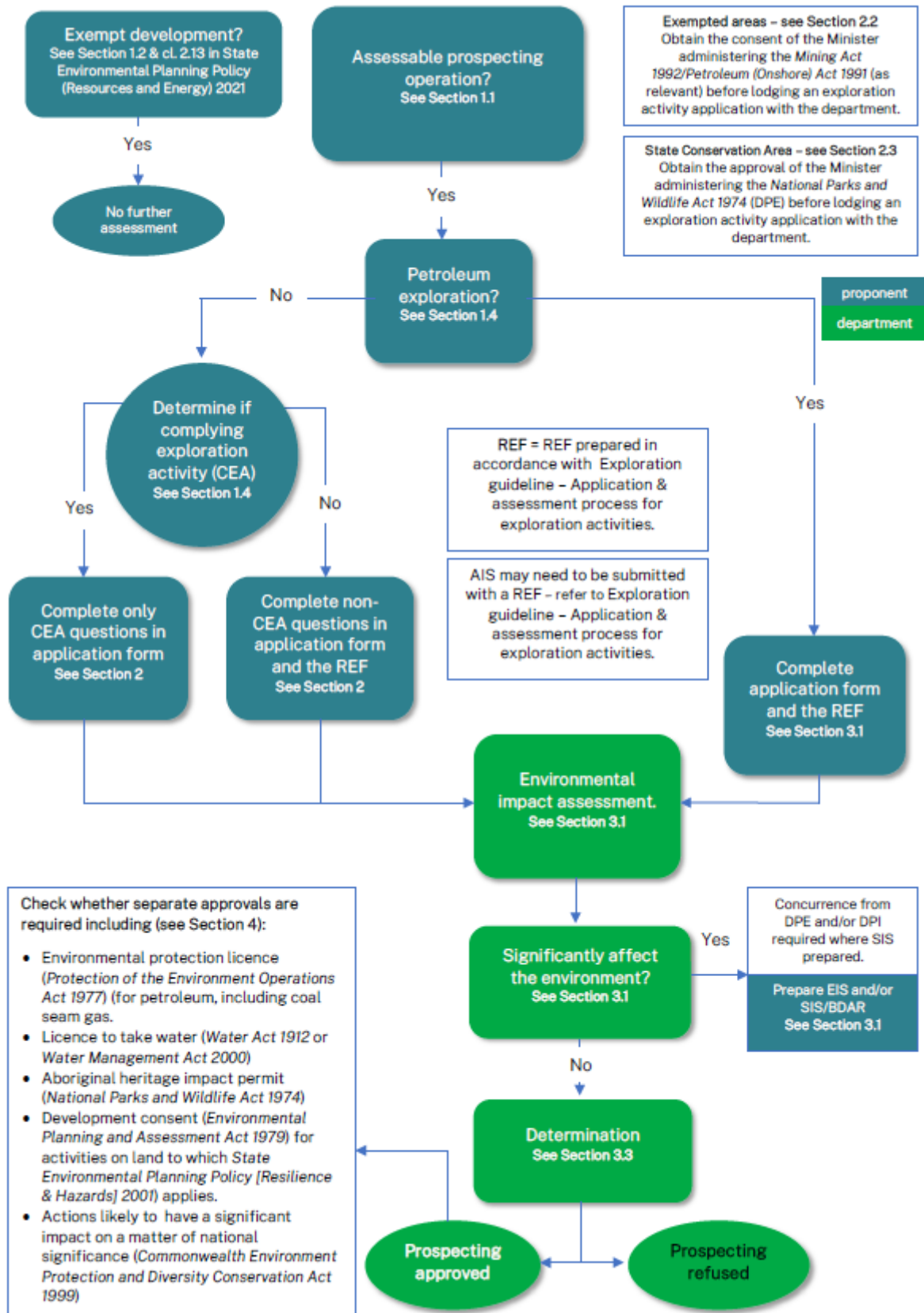


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1. Is approval required?

1.1. Assessable prospecting operations

A prospecting title (such as an exploration licence or assessment lease) granted under the *Mining Act 1992* or the *Petroleum (Onshore) Act 1991* is subject to a statutory condition¹ that the title holder must not carry out an 'assessable prospecting operation' unless an exploration activity approval has been obtained from the Minister (or delegate).

A mining title (such as a mining lease) granted under the *Mining Act 1992* is subject to a condition that the holder must not carry out any assessable prospecting operations on land over which the title has been granted unless:

- it is carried out in accordance with any necessary development consent; or
- if development consent is not required, the prior written approval of the Minister has been obtained.

1.2. Exempt development

The definition of 'assessable prospecting operation' in the *Mining Act 1992* and *Petroleum (Onshore) Act 1991* excludes certain exploration activities with minimal environmental impact that have been identified as exempt development under *State Environmental Planning Policy (Resources and Energy) 2021* (Mining SEPP). These minimal impact activities do not require further environmental assessment or approval prior to being carried out.

Under the Mining SEPP, the following activities are exempt development, provided they are of minimal environmental impact:

- low intensity exploration activities, including:
 - geological mapping and airborne surveying
 - sampling and coring using hand-held equipment
 - geophysical (but not seismic) surveying and downhole logging², and
 - accessing of areas by vehicle that does not involve the construction of an access way, such as a track or road.

These activities can be undertaken without approval provided that they are on land that:

- is not within an environmentally sensitive area of state significance, or
- is within a state conservation area, but is not otherwise on land referred to in section 3 of the Mining SEPP as being an environmentally sensitive area of state significance.

1.3. Lodging an application

Applications for exploration activity approvals must be made using the department's online application form – *Application to undertake assessable prospecting operations* (the Application Form). This is accessed via the NSW Resources Regulator Portal at <https://nswresourcesregulator.service-now.com/regulator>

1.3.1. Making changes to an existing activity approval

As set out in section 3.3, title holders are required to comply with any exploration activity approval granted by the department. This includes complying with the information, commitments and

¹ *Mining Act 1992* (sections 23A and 44A) or the *Petroleum (Onshore) Act 1991* (sections 31A and 36A).

² The construction of the borehole to facilitate downhole logging is not exempt development under the Mining SEPP.

supporting documentation provided by the title holder in the Application Form (including the timeframe to complete the project).

There may be occasions when a proponent needs to make minor changes to an already approved exploration activity that has not been completed and has not expired (i.e. the timeframe stated in the approved Application Form to complete the activity has not lapsed – refer section 2.4).

Proponents should contact the NSW Resources Regulator should they wish to make a change to an already approved exploration activity. The process will include the following steps:

- the proponent lodges a new application which identifies the proposed changes
- the proponent clearly identifies the activity approval that needs to be cancelled and replaced by the new activity approval
- the Regulator then determines and issues a new activity approval and cancels the previous activity approval.

A minor change to an already approved exploration activity must be substantially the same as the existing approval and have environmental impacts consistent with those already assessed and approved.

A minor change may include:

- a change to the timing/scheduling of the activity as outlined in the approved Application Form (e.g. extension of time to permit the activity to be completed) - provided the originally approved timeframe has not expired
- a minor change to the location and/or layout of the activity, such as:
 - within the boundary of an area already assessed
 - within an area already disturbed
 - within an area where the impact will be similar to that already assessed.
- the relocation of approved drill holes within a reasonable distance of the original location/s that meet the above standards
- a reduction in the nature and scale, and related disturbance, of the originally approved activity.

A minor change does not include:

- a change to the location of the activity outside of the area previously assessed
- an increase in the nature, scale, impact and related disturbance, of the original activity
- changes to the timing/scheduling of an activity approval that has already expired (e.g. the timeframe provided in the approved Application Form has passed)
- an increase in the quantity/number of activities (e.g. number of drill holes, number of excavations, increased clearing etc.).

1.4. Assessment process

The department's assessment process for assessable prospecting operations has been designed to satisfy the environmental assessment requirements of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The department (i.e. the determining authority) has a statutory obligation under section 5.5 of the EP&A Act to 'examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity, when determining applications to undertake assessable prospecting operations³. This obligation applies

³ Development for the purposes of mineral exploration may be carried out without development consent pursuant to clause 2.13 of *State Environmental Planning Policy (Resources and Energy) 2021*. However, such development is subject to the environmental assessment and approval requirements of Part 5 of the EP&A Act.

where activities have not previously been approved under a development consent under Part 4 of the EP&A Act, or assessed by another government agency in accordance with Part 5 of the EP&A Act⁴.

The department must assess the activity and determine whether the activity is likely to have a significant impact on the environment, including threatened species or ecological communities (or their habitats), or declared areas of outstanding biodiversity value/critical habitat.

The Application Form asks for specific information about the proposed exploration activity to assist the department's consideration of the likely environmental impacts and to take into account the factors set out in clause 171 of the Environmental Planning and Assessment Regulation 2021.

If the activity is not likely to have a significant impact then the department is able to approve the activity. Otherwise the department is required to consider additional environmental impact assessment information, in the form of an environmental impact statement (EIS) or species impact statement (SIS) and/or a biodiversity development assessment report (BDAR) before making a determination.

Section 3 provides further details about the determination process.

1.4.1. Complying exploration activities on prospecting titles⁵

In order to streamline the assessment process, a subset of assessable prospecting operations has been identified as being unlikely to have a significant environmental impact if carried out in a particular manner on a prospecting title. These activities are referred to as complying exploration activities (CEAs).

Applications to undertake CEAs will require less supporting information than applications for non-CEA's, meaning the assessment process for these activities can be streamlined. The department will consider the environmental impact of the proposed activity based on the information provided in the Application Form and its own assessment of the likely environmental impacts of that activity.

Proponents who maximise the use of CEAs in their exploration programs may benefit from time and cost savings due to the reduced documentation requirements and shorter processing periods (see section 3.2).

The Application Form asks specific questions about the proposed activity, with the answers identifying whether an activity is a CEA or non-CEA. Activities can be assessed under the streamlined CEA assessment pathway if they satisfy the following three tiers of criteria:

- **Tier 1 – Impact thresholds**

The activity, when considered cumulatively with other activities already approved under the title, must be carried out in a manner which does not exceed the identified impact thresholds. These are discussed further in section 2.5 and summarised in Appendix 1.

- **Tier 2 – Sensitive land location restrictions and thresholds**

The activities must not be undertaken within locations identified as having high environmental, heritage and social sensitivities. The activities must also:

- not have a significant effect on any threatened species or ecological communities, or their habitats
- not harm Aboriginal objects or places
- not damage European heritage items.

These restrictions are discussed further in section 2.7 and summarised in Appendix 2.

⁴ Section 5.4 of the EP&A Act exempts certain activities from a Part 5 Assessment where the activity (or part of the activity) has been approved, or is to be carried out, by another determining authority following a Part 5 environmental assessment.

⁵ The CEA assessment pathway does not apply to prospecting on mining leases.

- **Tier 3 – Management controls**

All exploration codes of practice and/or title conditions relevant to the activities being undertaken must be complied with. The codes of practice and title conditions require the implementation of specific management controls to eliminate or mitigate potential environmental risks caused by exploration activities. These management controls are discussed further in sections 2.11.1 and 3.3.1.

All three Tiers must be satisfied for an activity to be assessed under the CEA assessment pathway (see section 3.2 for assessment timeframes).

A CEA checklist is provided in Appendix 3 to assist proponents. The checklist has been designed to enable title holders to quickly identify whether or not a proposed exploration activity will be able to be processed under the CEA assessment pathway and, if not, where the design of the proposed activity can be modified to make it compliant with the CEA criteria.

The checklist should be completed before attempting to complete an Application Form as a completed checklist will:

- identify whether the activity will be assessable via the CEA pathway or non-CEA pathway
- enable proponents to complete the form quickly by having all relevant information on hand.

1.4.1.1. Petroleum exploration and exploration on mining leases excluded from CEA pathway

Exploration on a mining lease and petroleum exploration activities on a prospecting title are not eligible to be assessed under the CEA assessment pathway. Details regarding the non-CEA assessment pathway are provided in section 1.4.2.

1.4.2. Non-complying exploration activities

Applications to undertake activities which do not meet the CEA criteria must be accompanied by additional environmental impact assessment information. The Application Form will require proponents to provide additional information about the environmental impacts and how they will be controlled. This additional information includes a review of environmental factors (REF), which is submitted as an additional component of the Application Form (see section 2.9.2).

1.4.3. Privacy considerations and public access

The department may make the information in the Application Form and any supporting information available for inspection by members of the public, including by publication on the department's website or by displaying the information at any of its offices. If proponents consider any part of their application to be confidential they should provide that part in a separate attachment clearly marked 'Confidential'.

The department may also provide the information to other government agencies for the purposes of its assessment. Proponent's may access or correct your information by contacting the department.

2. Completion of Application Form

The Application Form seeks specific information about the proposed activity and includes detailed guidance and instruction notes. The information sought in the Application Form will vary depending upon a range of factors including the following:

- whether the proposed activities will be carried out on a prospecting title (such as an exploration licence or assessment lease) or a mining title (such as a mining lease)
- whether the proposed activities will be a CEA or a non-CEA.

The sections below follow the general sequence of the information requested in the Application Form and can be used by proponents to assist in completing an application. The information below is included as guidance within the online Application Form .

Database searches, site inspections and impact assessments

A range of databases will need to be searched to not only detail the characteristics of the existing environment but to also assess how the environment will be impacted by the activity. In addition to desktop reviews and database searches, the completion of the Application Form is likely to require:

- site inspections to 'ground truth' the proposed disturbance areas and assess how environmental impacts can be avoided or minimised.
- input from persons with appropriate qualifications or experience to ensure that the application appropriately addresses all relevant issues and does not contain false or misleading information. Applications may involve input from a range of experts with skills in environmental science, biodiversity, Aboriginal and historic heritage, hydrology, noise, air quality, social and economic impact assessment. The extent of any input will depend on the nature of the activity, the level of risk to the environment, and the proposed environmental safeguards.
- site inspections and impact assessments by a suitably qualified persons (e.g. ecologist, archaeologist, Aboriginal cultural heritage advisor, etc) particularly for sites located partly or wholly in areas that have not been subject to surface disturbance or cropped within the past five years and/or do not contain improved pastures.

2.1. Applicant details

This section requires details of the title holder as well as the title (e.g. exploration licence, assessment lease or mining lease) where the exploration activities will be carried out.

2.2. Exempted areas

Exempted areas are defined in the *Mining Act 1992* and *Petroleum (Onshore) Act 1991* as lands set aside for public purposes. They include travelling stock routes, road reserves, state forests, state conservation areas, public reserves/commons and land held under a lease for water supply.

Under the *Mining Act 1992*, the consent of the Minister is required prior to exploration on a prospecting title within the following land:

- land within a State conservation area within an exempted area
- other land in an exempted area, unless an access arrangement under section 140 of the *Mining Act 1992* applies to the land.

Under the *Petroleum (Onshore) Act 1991*, the consent of the Minister is required prior to exploration within any exempted area.

The above provisions of both the *Mining Act 1992* and *Petroleum (Onshore Act) 1991* apply regardless of the type of exploration activity. These provisions do not apply to exploration on mining leases under the *Mining Act 1992*, however, they do apply to exploration on production leases under the *Petroleum (Onshore) Act 1991*.

Explorers must first obtain any required consent from the Minister before lodging an exploration activity application to explore on a prospecting title in an exempted area.

Requests for consent to explore in an exempted area are to be submitted to the Mining Exploration and Geoscience division of the department (www.regional.nsw.gov.au). Applications should include a plan of the proposed activity within the exempted area, as well as the views and requirements of the agency or council controlling the exempted area.

Once consent from the Minister has been obtained, an *Application to undertake assessable prospecting operations* can be lodged with the department. The Application Form requires the consent of the Minister to be included with the application.

2.3. State conservation areas

The National Parks and Wildlife Service (NPWS) within the Department of Planning and Environment (DPE) is responsible for management of State conservation areas (SCAs) under the *National Parks and Wildlife Act 1974* (NPW Act). SCAs are the only category of reserved land where mining and petroleum activities are legally permissible, subject to relevant approvals.

Under section 47J(7) of the NPW Act, approval from the Minister administering the NPW Act is required prior to exploration in a SCA. This applies regardless of the type of exploration activity.

Explorers must first obtain consent from the Minister administering the NPW Act before lodging an exploration activity application to explore in a State conservation area.

Applications to explore in a SCA are to be submitted to the NPWS and will need to be accompanied by a review of environmental factors (REF). The application and the REF will need to be prepared in accordance with the appropriate NPWS guidelines and template. Proponents should liaise with the NPWS prior to commencing the application and the REF. The NPWS will undertake an environmental assessment of the exploration activity pursuant to the provision of Part 5 of the *Environmental Planning and Assessment Act 1979*.

Once consent from the Minister under the provisions of the NPW Act has been obtained, an Application to undertake assessable prospecting operations can be lodged with the department and must include:

- a copy of the consent from the Minister administering the NPW Act
- a copy of the approved application and accompanying REF.

The department will be able to rely on the environmental assessment undertaken by the NPWS prior to granting any subsequent approval for the exploration activities under the *Mining Act 1992* or *Petroleum (Onshore) Act 1991* (as relevant).⁶

2.4. Activity details

This section requires details of the proposed activities including:

- the project name
- project location
- whether the activity will have a capital investment value of more than \$5 million⁷
- details of the proposed drill holes and other exploration activities in a table format. The details required in this table include:
 - location of all surface disturbing activities
 - drilling depths, surface disturbance areas, excavation quantities, earthworks, vegetation clearing, produced water extraction
 - the rehabilitation objectives and completion criteria and final land use goal for all disturbance areas. [Note: When completing the table the proponent will be given the option of adopting and submitting⁸ the rehabilitation objectives and completion criteria from

⁶ Section 5.4 (c) of the EP&A Act exempts certain activities from a Part 5 Assessment where the activity (or part of the activity) has been approved, or is to be carried out, by another determining authority following a Part 5 environmental assessment.

⁷ Clause 171(4) of the Environmental Planning and Assessment Regulation 2021 requires the Review of Environmental Factors to be published on the department's website if, amongst other things, the activity has a capital investment value of more than \$5 million.

⁸ Mandatory Requirement No. 2 of *Exploration Code of Practice: Rehabilitation* requires submission to the department of rehabilitation objectives and completion criteria, developed in consultation with landholders, at least 14 days prior to undertaking surface disturbing activities associated with the project.

Appendix 2 in the department's Exploration Code of Practice: Rehabilitation (also see Section 2.11.1)].

- exploration and rehabilitation methods (e.g. diamond drilling, air core drilling, seismic testing, access tracks, bulk sampling, excavations for inground sumps, equipment to be used on site, etc)
- earthworks and vegetation clearing
- access to exploration activities, including any new / upgraded access tracks
- ancillary activities, including requirements for water storage and ancillary infrastructure staging and timing of activities including hours of operation, the anticipated start date, the duration of the activities and timing of rehabilitation completion.

2.5. Impact thresholds

This section only applies to prospecting titles and requires details to be provided regarding:

- areas of vegetation clearing
- amount of surface disturbance and excavations
- amount of groundwater to be extracted (i.e. produced water).

As detailed in section 1.4.1, an activity cannot be assessed under the CEA assessment pathway unless the activity (when considered cumulatively with other activities already approved under the title) can be carried out in a manner which does not exceed the identified 'Tier 1 -Impact thresholds' (see the table in Appendix 1). All Tier 1 thresholds must be satisfied before an activity can be assessed under the CEA assessment pathway. This includes cumulative impact thresholds which encompasses impacts from existing approved activities that have not yet been rehabilitated to the satisfaction of the department (or have not yet been undertaken), as well as the impacts from the proposed CEA. Rehabilitation must only be reported as completed in cases where the department has acknowledged in writing that the area has been satisfactorily rehabilitated, following submission of the relevant application by the title holder.

Activities which do not meet these criteria will be assessed under the non-CEA pathway.

2.6. Impact management

Details need to be provided regarding how impacts associated with the activity will be managed, including prevention and mitigation measures to reduce risks and prevent environmental impacts. Where the proposed activity will be undertaken in accordance with the department's exploration codes of practice (see sections 2.11.1 and 3.3.1) these should be referred to.

This section of the Application Form requires details to be provided regarding the matters below.

2.6.1. Surface water management

Details of how impacts on surface water will be managed, including the controls that will be implemented to:

- prevent pollution of water resources
- prevent changes to flow rates and volumes
- prevent depletion of water resources
- measure and account for any water extraction
- manage water used during operations
- monitor impacts
- account for, mitigate or avoid impacts
- comply with any statutory requirements, regulatory controls or standards applicable to the conduct of the activity and its impacts on water.

2.6.2. Groundwater management

Details of how impacts on groundwater will be managed, including the controls that will be implemented to:

- prevent pollution of groundwater resources
- prevent changes to flow rates and volumes
- prevent depletion of groundwater resources, other than within a target (e.g. coal seam) aquifer
- measure and account for any groundwater extraction
- manage any water produced during operations, including produced water⁹ and flowback water (e.g. above ground storage tanks, in-ground sumps, etc)
- monitor impacts
- account for, mitigate or avoid impacts
- comply with any statutory requirements, regulatory controls or standards applicable to the conduct of the activity and its impacts on groundwater.

2.6.3. Waste and excess material management

Details of how any waste and excess materials (including drill cuttings, excavated material, waste water, solid wastes, radioactive material, hazardous wastes, restricted wastes or special wastes) are to be managed, including:

- the volume and type of material and/or waste that will be generated (including drilling wastes)
- reuse, recycle and disposal methods for each material
- how waste will be stored and treated on site
- statutory requirements under the *Protection of the Environment Operations Act 1997* applicable to the likely types of waste, including how waste will be characterised and disposed of in accordance with the relevant NSW Environment Protection Authority (EPA) waste classification guidelines.¹⁰

2.6.4. Chemical management

Details regarding the handling, use, storage and transportation of any chemicals and hydrocarbons. This section must also identify, quantify and describe any chemicals and additives proposed to be introduced, including:

- drilling muds
- the types, volumes and concentrations of chemicals to be injected as part of any hydraulic fracturing or well stimulation process
- the types, volumes and concentrations of chemicals to be used during any well workovers
- re-injection of associated water or brine
- in situ contaminants within targeted formations, including the potential for methane migration to aquifers or the surface
- the management controls that will be implemented to minimise risks, monitor and account for or mitigate impacts.

⁹ Refer to Exploration Code of Practice: Produced Water Management, Storage and Transfer (NSW Resources Regulator, July 2015).

¹⁰ The NSW Environment Protection Authority has issued resource recovery exemptions for both excavated natural material and treated drilling mud. If the exemption criteria are met, then waste may be applied to land within the confines of the exemption. This does not include drilling mud that has been generated by deep drilling for mineral, gas or coal exploration.

2.6.5. Noise management

Details regarding how noise will be managed with regard to relevant EPA guidelines. For most exploration activities, this will be the Interim Construction Noise Guideline (ICNG) and any associated application or practice notes. This section should include:

- hours of operation
- noise assessment methods
- noise management levels
- management of impacts on identified sensitive noise receivers.

Where the activity is likely to affect an individual or sensitive land use for more than three weeks in total, a quantitative noise assessment should be undertaken in accordance with the ICNG.

2.6.6. Air quality management

Details regarding how air quality impacts will be managed, including any dust generation, gas venting, gas flaring and fugitive emissions associated with the proposal. Where the proposed activity has the potential to impact on air quality, this section must describe the quality and quantity of the impacts from specific components of the activity and the management controls which will be implemented to:

- prevent or minimise air pollution
- monitor and mitigate impacts, where needed.

This must include any contingency plans and emergency procedures to deal with foreseeable risks and hazards, including corrective responses to prevent and mitigate environmental harm.

2.7. Sensitivity of land to be disturbed

This section requires details to be provided regarding whether the proposed activities will:

- be undertaken within locations identified as having high environmental, heritage and social sensitivities
- have a significant effect on any threatened species or ecological communities, or their habitats
- harm Aboriginal objects
- damage European heritage items.

These restrictions are summarised in Appendix 2.

As detailed in section 1.4.1, an activity cannot be assessed under the CEA assessment pathway unless all 'Tier 2 – Sensitive land location restrictions and thresholds' can be satisfied (see the table in Appendix 2).

Activities which do not meet these criteria will be assessed under the non-CEA pathway.

2.8. Site description and existing environment

The Application Form will require information regarding site details and the existing environment to assist the department with the assessment process. This section of the Application Form requires details to be provided regarding the matters below.

2.8.1. Existing land uses

Details of the existing land used that may be affected by the proposed activity (including agricultural land uses) and any proposed changes (temporary or otherwise) to the current land use(s) during the activity.

2.8.2. Sensitive receivers

Details of the location, type and distances to the nearest sensitive receivers that may be affected by the proposed activity. Sensitive receivers to be considered should include any residential accommodation, tourism facility, educational establishment, childcare centre, health services facility, place of public worship, animal boarding or training establishment and intensive livestock agriculture.

2.8.3. Soil types and properties

Describe the soil types and properties (including susceptibility to compaction, erosion and dispersion, presence of acid sulfate soils and potential acid sulfate soils). Refer to the Strategic Agricultural Land Maps, Land and Soil Capability Class Maps and Acid Sulfate Soils Maps (available at www.seed.nsw.gov.au).

2.8.4. Surface and groundwater sources

Details of any surface water or groundwater resources that occur in the area which are likely to be affected by the activity. The study area must extend as far as is reasonably necessary to take all potential impacts of the activity into account. It should include:

- details of the existing surface water sources that are likely to be affected by the activity, including details of the nearest watercourses and the distance between the proposed disturbance areas and the nearest watercourses
- the current state of understanding of regional groundwater systems.

Where the proposed activity has the potential to impact on water¹¹ resources within or surrounding the project area, this section must:

- describe the current level of use, water quality and reliability of the water source
- identify if a Water Sharing Plan under the Water Management Act 2000 is in force for any water resources likely to be affected
- identify if the activity is located within a drinking water catchment
- identify whether any licences/approvals to take water are required
- identify and describe:
 - transmissivity, flow rate, hydraulic conductivity, depth to water table and direction(s) of flow for affected groundwater resources
 - water quality in sufficient detail to enable the characterisation and differentiation of waters in the target reservoir
 - any barriers and connections between the target formation and affected groundwater resources
 - potentially affected users of these groundwater resources, including the location of any groundwater bores and dependent ecosystems
 - flow rate, volume and water quality of affected surface water resources, including the local water quality and river flow objectives.

2.8.5. Topography and vegetation

Details of the existing topography, vegetation cover type, density and condition of vegetation.

¹¹ The *Water Management Act 2000*, *Water Act 1912* and *Protection of the Environment Operations Act 1997* identify the regulatory framework for water.

2.8.6. Matters of national environmental significance

Details of any matters of national environmental significance under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) that are likely to be impacted by the activity. Listed matters of national environmental significance are kept in the Commonwealth government's Protected Matters Search Tool (www.environment.gov.au). They include:

- listed threatened species and communities
- listed migratory species
- Ramsar wetlands of international importance
- Commonwealth marine environment
- world heritage properties
- national heritage places
- the Great Barrier Reef Marine Park
- nuclear actions
- a water resource, in relation to coal seam gas development and large coal mining development.

Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*

Where an activity could have a significant impact on matters of national environmental significance, as defined under the EPBC Act, it will require referral to the Commonwealth Department of the Environment for assessment and approval. If a report generated from the Commonwealth's EPBC Act 'Protected Matters Search Tool' determines that matters protected by the EPBC Act are likely to occur in the project area, then the proponent must hold a 'pre-referral meeting' with the Commonwealth Department of Environment to determine whether formal assessment and approval under the EPBC Act is required. An impact assessment, prepared in accordance with the relevant Commonwealth government guidelines, may also need to be undertaken by the proponent to determine whether the activity is likely to have a significant impact on a matter of national environmental significance.

The Commonwealth EPBC Act process is independent of the Part 5 assessment process under the NSW EP&A Act. Both referral under the EPBC Act and the normal Part 5 process under the EP&A Act apply¹².

Further details are available at www.environment.gov.au.

Copies of the report generated from the Commonwealth's EPBC Act 'Protected Matters Search Tool' will need to be attached to the Application Form under the 'Finalise' section at the end (see section 2.11.5). A copy of any assessments of significance undertaken, and relevant correspondence from the Commonwealth Department of the Environment, must also accompany the application.

2.8.7. Threatened species, ecological communities (or their habitat)

Details of any threatened species or ecological communities, or their habitats, that are likely to be affected by the activity having reference to the relevant biodiversity and threatened species records kept, including:

¹² The Australian Government has bilateral agreements with the NSW state government to accredit environment assessment processes that meet set standards. However, this does not apply to assessments under Part 5 of the *Environmental Planning and Assessment Act 1979* unless an Environmental Impact Statement / Species Impact Statement is submitted with the application.

- The Biodiversity Values Land Map available on the Environment and Heritage Group website (www.environment.nsw.gov.au)
- records kept by the NSW Department of Planning and Environment pursuant to the *Biodiversity Conservation Act 2016* (available at www.bionet.nsw.gov.au and www.seed.nsw.gov.au)
- records kept by the NSW Department of Primary Industries pursuant to the *Fisheries Management Act 1994*

A test / assessment of significance must be undertaken in accordance with the *Biodiversity Conservation Act 2016* or *Fisheries Management Act 1994* (as relevant) for threatened species or ecological communities (or their habitats) identified through desktop searches and site inspections that are likely to (or have real potential to) be impacted by the proposed activities. This is a first step in considering potential impacts and whether the activity is likely to significantly affect threatened species or ecological communities, or their habitats. A test / assessment of significance must be prepared in accordance with:

- the test of significance guidelines prepared by the Department of Planning and Environment for matters under the *Biodiversity Conservation Act 2016*
- the assessment of significance guidelines prepared by the Department of Primary Industries for matters under the *Fisheries Management Act 1994*.

Copies of the database searches relevant to the proposed disturbance areas will need to be attached to the Application Form under the 'Finalise' section at the end (see section 2.11.7). A copy of any tests / assessments of significance undertaken must also accompany the application.

2.8.8. Historic cultural or natural heritage

Details of any historic cultural or natural heritage items that may be impacted by the activity having regard to the heritage lists and registers listed below.

- items on the World Heritage List
- items on the Commonwealth Heritage List
- items on the National Heritage Register
- items on the State Heritage Register
- items listed in the heritage schedules/lists contained within an environmental planning instrument (such as a council's Local Environmental Plan).

This is a first step in considering potential heritage impacts and whether a separate heritage impact assessment, prepared in accordance with the relevant guidelines, is required to assess impacts. Activities that impact on heritage may require additional approvals under the *Heritage Act 1977*. See www.heritage.nsw.gov.au for further information.

Copies of the database searches relevant to the proposed disturbance areas will need to be attached to the Application Form under the 'Finalise' section at the end (see section 2.11.8). Copies of any additional impact assessments must also accompany the application.

2.8.9. Critical habitat¹³ / areas of outstanding biodiversity value

Details of any critical habitat/area of outstanding biodiversity value that is likely to be affected by the activity including:

- declared areas of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* as listed in the Register maintained by the Department of Planning and Environment
- areas declared as critical habitat under the *Fisheries Management Act 1994* as recorded in the Department of Primary Industries register of critical habitat.

¹³ Areas of declared critical habitat under the now repealed *Threatened Species Conservation Act 1995* become Areas of Outstanding Biodiversity Value upon commencement of the *Biodiversity Conservation Act 2016*.

A test / assessment of significance must be undertaken in accordance with the *Biodiversity Conservation Act 2016* or *Fisheries Management Act 1994* (as relevant) for all critical habitat/area of outstanding biodiversity value identified through desktop searches and site inspections that are likely to (or have real potential to) be impacted by the proposed activities. This is a first step in considering potential impacts and whether the activity is likely to significantly affect critical habitat/area of outstanding biodiversity value. A test / assessment of significance must be prepared in accordance with:

- the test of significance guidelines prepared by the Department of Planning and Environment for matters under the *Biodiversity Conservation Act 2016*
- the assessment of significance guidelines prepared by the Department of Primary Industries for matters under the *Fisheries Management Act 1994*.

Copies of the database searches relevant to the proposed disturbance areas will need to be attached to the Application Form under the 'Finalise' section at the end (see section 2.11.6). A copy of any tests / assessments of significance undertaken must also accompany the application.

2.8.10. Aboriginal cultural heritage

Details of Aboriginal cultural heritage likely to occur in the area affected by the activity. This must include the minimum requirements set out below that align with those identified in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (NSW Government, September 2010).

This section must identify whether or not Aboriginal cultural heritage is likely to be affected by the activity. The study area must extend as far as is reasonably necessary to take all potential impacts of the activity into account.

At a minimum, the information provided in this section must:

- identify whether the proposed activity will disturb the ground surface
- identify the extent to which the proposed activity will impact land declared as an Aboriginal place under the *National Parks and Wildlife Act 1974*
- identify the extent to which the proposed activity will impact land identified in an environmental planning instrument (such as a state environmental planning policy or local environmental plan) as being of Aboriginal cultural significance
- identify whether any culturally modified trees occur in the area affected by the activity
- attach copies of Aboriginal Heritage Information Management System¹⁴ (AHIMS) database search results. If the results of the initial AHIMS search indicate that AHIMS contains information about recorded Aboriginal objects in the area of the proposed activity, those records must be appended to the Application Form (subject to any restrictions in providing culturally sensitive information)
- identify any other sources of information used to identify whether or not Aboriginal objects and places are likely to be present in the area. Other sources of information can include previous studies, reports or surveys that have been commissioned or are known to exist. Refer to the relevant due diligence code for a range of examples and publications which may also assist in identifying Aboriginal objects.

The section must also identify whether Aboriginal objects are likely to be in the area of the proposed activity by defining whether the proposed activity is:

- within 200 metres of waters

¹⁴ A report from AHIMS lists recorded sites only and does not represent a comprehensive list of all Aboriginal objects or Aboriginal places in a specified area. In any given area there may be a number of undiscovered and/or unrecorded Aboriginal objects.

- located within a sand dune system
- located on a ridge top, ridge line or headland
- located within 200 metres below or above a cliff face, or
- within 20 metres of or in a cave, rock shelter, or a cave mouth and is on land that is not disturbed land.

(The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (NSW Government, September 2010) provides definitions of the above terms).

The above measures are the first step in the process of investigating and assessing Aboriginal cultural heritage. If it is found through the initial assessment process that Aboriginal objects will, or are likely to be harmed, then further investigation and impact assessment will be required to prepare information about the types of objects and the nature of the harm. This may include an archaeological investigation. If an activity is going to harm an Aboriginal object then a separate Aboriginal Heritage Impact Permit (AHIP) application must be lodged under the *National Parks and Wildlife Act 1974*. See www.heritage.nsw.gov.au for further information.

Copies of the AHIMS database searches relevant to the proposed disturbance areas will need to be attached to the Application Form under the 'Finalise' section at the end (see section 2.11.9). Copies of other sources of information and any relevant assessments must also accompany the application.

2.9. Ancillary forms

This information required in this part of the Application Form depends upon:

- for prospecting titles – whether the cost of fulfilling rehabilitation liabilities associated with the proposed activity (as well as any outstanding rehabilitation liabilities of previously approved exploration activities) will exceed \$30,000¹⁵. If this is the case, then a rehabilitation cost estimate is required to be lodged (see section 2.9.1)
- for mining leases – whether the current security deposit held will cover the cost of fulfilling rehabilitation liabilities associated with the proposed activity. If this is not the case then a rehabilitation cost estimate is required to be lodged (see section 2.9.1)
- whether the proposed activity is a non-CEA. If this is the case, then further environmental impact assessment information is required in the form of a review of environmental factors (see section 2.9.2).

2.9.1. Rehabilitation cost estimate

This section will require the proponent to prepare a rehabilitation cost estimate (RCE) using the department's Rehabilitation Cost Estimation Tool.

Rehabilitation security deposits

The NSW Resources Regulator is responsible for ensuring that the people of NSW do not incur a financial liability as a result of exploration activities.

All title holders are required to lodge a security deposit with the department to cover the government's full costs in undertaking rehabilitation in the event of default by the title holder. This is imposed as a condition on the relevant prospecting title or mining lease.

The department requires title holders to prepare a rehabilitation cost estimate (RCE) in accordance with the department's Rehabilitation Cost Estimation Tool. The RCE is used by the

¹⁵ Refer to 'Guidelines: Rehabilitation security deposits for exploration licences granted under the Mining Act 1992' (Department of Regional NSW, April 2022).

department to help determine the amount of the security deposit, including whether there should be any changes to the existing amount held.

The Resources Regulator requires title holders to undertake progressive rehabilitation over the life of the exploration activity. Progressive rehabilitation will be supported by the partial release of the security deposit when successful rehabilitation has been demonstrated.

Further details are available at www.resourcesregulator.nsw.gov.au

2.9.2. Review of environmental factors¹⁶

This section requires the proponent to prepare a review of environmental factors (REF). Further details regarding a REF and how to assess the environmental impacts are provided in Appendix 4.

A REF is additional information that is submitted with the Application Form. It provides further details of the likely environmental impacts of the proposed non-complying exploration activities. The purpose of a REF is to inform the department's consideration of the likely environmental impact of the activity under Part 5 of the *Environmental Planning and Assessment Act 1979* (refer to section 1.4). The complexity of the REF will depend on the nature of the environmental impact.

The specific environmental issues that must be addressed in the REF are set out under the individual headings below (which align with the sections in the Application Form).

The proponent will be required to assess the extent, size, scope, intensity and duration of the potential environmental impacts for each environmental issue using the categories below:

- nil/not applicable
- negligible
- low adverse
- medium adverse
- high adverse, or
- positive.

Proponents must use the methodology and guidance in Appendix 4 to assess and categorise the potential impacts.

2.9.2.1. Air impacts

This section must assess whether the activity is likely to have any significant air quality impacts, including:

- air quality impacts (including dust, smoke, odours, fumes, fugitive emissions, toxic or radioactive gaseous emissions) with economic, health, ecosystem or amenity considerations
- air impacts through generation of greenhouse gas emissions or release of chemicals which affect the ozone layer or produce photo-chemical smog
- air quality impacts on nearby sensitive receivers (such as residential accommodation, a tourism facility, an educational establishment, a child care centre, a health services facility, a place of public worship, an animal boarding or training establishment and intensive livestock agriculture).

¹⁶ The requirements set out in this section are generally derived from “Guidelines for Division 5.1 Assessment” (NSW Department of Planning, 2022) and the now repealed “Is an EIS required? Best Practice Guidelines for Part 5 of the *Environmental Planning and Assessment Act 1979*” (NSW Department of Planning, 1995). Both the ‘Application Form’ and the addendum REF submitted to the Department comprise a ‘Review of environmental factors’ for the purposes of satisfying the requirements of Part 5 of the EP&A Act.

The REF should include a quantitative greenhouse gas assessment where the activity includes the venting or flaring of gases.

The type of potential impact should be identified taking into account the emission of greenhouse gases, ozone-depleting chemicals or precursors to photochemical smog, and the potential to affect air quality with associated economic, health, ecosystem or amenity impacts.

If the emissions to air are not in line with approved codes of practice, guidelines, processes or policies, if a long-term impact may result, or if there is strong community interest in the issues, the REF will need to provide strong reasons as to why the impact is considered likely to be a level other than medium or high adverse.

Medium or high impact levels are likely to occur in areas sensitive to this type of impact, such as areas in close proximity to residences or other sensitive receivers. If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.2. Water impacts

This section must assess whether the activity is likely to have any significant water quality and/or quantity impacts, including impacts from:

- the use of surface or groundwater during the activity (including the use of fracture stimulation injection water)
- the storage of water
- changes to natural waterbodies, wetlands or runoff patterns
- aquifer interference, including changes to inter-aquifer connectivity
- any hydraulic fracturing (well stimulation), including through gas and fluid migration
- changes to flooding or tidal regimes
- changes in surface or groundwater quality and quantity, including impacts on groundwater dependent ecosystems.

'Water' includes the whole or any part of any river, stream, lake, lagoon, swamp, wetland, unconfined surface water, natural or artificial watercourse, dam, tidal waters (including the sea) and groundwater.

Waters will be affected if the activity pollutes water, uses water contained in it, interferes with the natural movement of water in either surface or groundwater, or involves the storage of water.

The types of impact on water should be identified as follows:

- the redirection of flow and changes in flow rates and volumes
- changes to the area, volume or flow of a waterbody
- changes in runoff and stormwater discharges
- changes to flood or tidal regimes or sea level rise
- the actual, or likely, pollution of waters.¹⁷

In assessing possible impacts on waters, proponents should reference the ambient NSW Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for ambient waters. Where these are not available, refer to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC guidelines).

¹⁷ Proponents should refer to section 120 and the Dictionary of the *Protection of the Environment Operations Act 1997* for a definition of water pollution.

The REF should assess if the proposed activity will maintain or protect the environmental values listed for the catchment and waterway type relevant to the proposed activity objectives or make a contribution to the objectives being met over time.

With regard to impacts on water resources, the REF must consider the impact on water quality or quantity where the community is relying on water catchments and water supplies.

If the proposed activity is located within the Sydney Drinking Water Catchment, the REF should describe how the activity will incorporate Water NSW's current recommended practices and standards (or achieve outcomes not less than those achieved by those practices and standards) as required by Chapter 8 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021*.

Environmental values for groundwater

A consolidated and approved list of environmental values is not available for groundwater resources. Where groundwater may be affected, the REF should identify appropriate groundwater environmental values and justify the choice.

If an activity is going to impact on water quality or quantity, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

The level of impact will be medium or high adverse if the impact occurs in sensitive areas. Sensitive areas include:

- drinking water catchments, wetlands¹⁸ or groundwater recharge areas
- coastline or dunes, alpine areas, karst features or other unique landforms
- waterfront land
- erosion prone areas or areas with slopes greater than 18 degrees
- subsidence or slip areas
- areas with acid sulfate, sodic or highly permeable soils
- areas with salinity or potential salinity problems
- areas with degraded or contaminated land or water.

If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion by clearly explaining and justifying how impacts will be avoided or mitigated.

If the proposed activity will result in alteration to flood or tidal regimes (of a temporary or permanent nature) or the activity will be affected by flooding, it is likely that the level of impact will be medium or high adverse.

Activities that impact on 'water land' as defined under Part 7 of the *Fisheries Management Act 1994* (FM Act)

The Department of Primary Industries (Fisheries) protects aquatic habitats under Part 7 of the FM Act and Part 5, Division 3 of the Fisheries Management (General) Regulation 2010

¹⁸ Proponents should contact the Commonwealth Department of the Environment for guidelines on assessing the impact on the ecological character of a Ramsar wetland under the *Environmental Protection and Biodiversity Conservation Act 1999*.

(FM Regulations). There are several permits which can be issued under these Parts of the FM Act and FM Regulations and these are described below:

i. Dredging and reclamation

Division 3 of Part 7 of the FM Act states that it is an offence to dredge or reclaim any 'water land' (as defined under section 198A of the FM Act) in NSW without a permit from DPI or authority from another NSW public authority.

Note: If a proponent has already obtained approval for these works from another relevant public authority (not a local government authority), such as DPI Water (e.g. a controlled activity approval under the *Water Management Act 2000*), a second approval from DPI is NOT required.

ii. Harm to marine vegetation

Division 4 of Part 7 of the FM Act deals with the protection of marine vegetation. Section 205(2) states 'that a person must not harm any such marine vegetation in a protected area, except under the authority of a permit'.

Harm in relation to marine vegetation means, gather, cut, pull up, destroy, poison, dig up, remove, injure, prevent light from reaching or otherwise harm the marine vegetation or any part of it. Protected area means any public water land, or any area that is the subject of an aquaculture lease.

iii. Blocking fish passage

Under section 219 of the FM Act, the passage of fish is not to be blocked unless under the authority of a permit under the FM Act or another Act. This section notes that obstructions can include nets, netting or other material, construction or alteration of a dam, floodgate, causeway or weir, any other obstruction across or within a bay, inlet, river or creek, or around or across a flat.

iv. Use of explosives, electrical devices and other dangerous substances in waters

Under Part 5 of the FM Regulations, a person must not use dynamite or any other explosive substance, or use an electrical device in any waters unless under authority of a permit under the FM Act. A person must not use a chemical substance for the purpose of taking, disturbing, injuring or otherwise harming fish in any waters, unless under the authority of a permit under the FM Act.

2.9.2.3. Soil and stability impacts

This section must assess whether the activity is likely to have significant impacts on soil quality or land stability, including:

- any degradation of soil quality, including contamination, salinisation or acidification
- impacts on land with high agricultural capability
- any loss of soil from wind or water erosion
- any loss of structural integrity of the soil
- any increased land instability with high risks from landslides or subsidence
- any induced seismicity or ground movements associated with fracture stimulation or injection or extraction of groundwater.

In determining the likely impact, the following matters should be considered:

- the extent of the proposed disturbance in terms of area, and how this compares to the surrounding landscape
- prior disturbance to the ground surface (e.g. mechanical scraping, ripping, quarrying, ploughing, trenching, digging, filling or excavating)
- whether the impact is likely to occur in an area which is sensitive to disturbance such as:
 - buried building foundations, or sub-surface archaeological remains or on-ground scatters or features
 - a water catchment, an area in which there are natural waterbodies, wetlands or a groundwater recharge area
 - coastline or dunes, alpine areas, karst features or other unique landforms
 - erosion prone areas or areas with slopes greater than 18 degrees
 - subsidence or slip areas
 - waterfront land
 - areas with acid sulfate, sodic or highly permeable soils
 - areas with salinity or potential salinity problems
 - areas with degraded or contaminated soil or contaminated water.

If an activity will disturb large areas of undisturbed ground, or an area which is sensitive to disturbance, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts are not medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

If work is proposed in a subsidence or slip area, any conclusion as to the likely impact must be based on geotechnical advice.

2.9.2.4. Noise and vibration impacts

This section must assess whether the activity is likely to have significant noise, blasting or vibration impacts, including any increase in noise or vibration likely to have impacts on nearby sensitive receivers (such as residential accommodation, a tourism facility, an educational establishment, a child care centre, a health services facility, a place of public worship, an animal boarding or training establishment and intensive livestock agriculture).

If the emission of noise or vibration is not in line with approved guidelines, processes or policies, if a long-term impact may result, or if there is strong community interest in the issues, the REF will need to provide strong reasons as to why the impact is considered to be other than medium or high adverse.

Noise must be assessed with regard to relevant EPA guidelines. For most exploration activities, this will be the Interim Construction Noise Guideline (ICNG) and any associated application or practice notes.

Medium or high impact levels are likely to occur in areas sensitive to this type of impact, such as areas in close proximity to residences or other sensitive receivers.

If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.5. Coastal location and processes

This section must assess whether the activity is likely to significantly affect coastal environments, coastal processes and coastal hazards, including those under projected climate change conditions.

Erosion is a major risk along the NSW coast. Current projections for sea level rise and increased storm activity and impacts will exacerbate existing risks and pose new challenges for the management of coastal reserves. Areas likely to be affected include lands along the coastline,

beaches, coastal lakes, estuaries, tidal reaches of coastal rivers and low-lying land surrounding these areas.

In determining the likely impact of proposed activities in these areas, the following criteria from the NSW Coastal Planning Guideline: Adapting to Sea Level Rise (Department of Planning, 2010) should be applied to assess whether the proposed activity:

- avoids or minimises exposure to immediate coastal risks (within the immediate hazard area or floodway)
- provides for the safety of residents, workers or other occupants onsite from risks associated with coastal processes
- does not adversely affect the safety of the public offsite from a change in coastal risks as a result of the development
- does not increase coastal risks to properties adjoining or within the locality of the site
- infrastructure, services and utilities onsite maintain their function and achieve their intended design performance
- accommodates natural coastal processes including those associated with projected sea level rise
- coastal ecosystems are protected from development impacts
- existing public beach, foreshore or waterfront access and amenities are maintained.

Impacts are likely to be considered medium or high if there is a reasonable risk of adverse consequences based on consideration of the proximity and exposure to coastal hazards, and the likely severity of impacts on a particular type of activity.

2.9.2.6. Hazardous substances or chemicals

This section must detail all hazardous substances and chemicals to be used during the activity and assess whether the activity is likely to have significant impacts associated with:

- any use, storage or transport of hazardous substances
- any use or generation of chemicals which may build up residues in the environment
- any chemicals or radioactive material that will be reacted, returned to the surface or left in a drill hole or target formation.

Hazardous substances are materials presenting a hazard to people, property or the environment and include flammable, explosive, toxic, radioactive, carcinogenic or mutagenic substances. Chemicals which may build up a residue in the environment include those associated with drilling or fracture stimulation fluids.

The type of impact on the environment should be determined. For example, the use or generation of hazardous substances or chemicals which build up residues in the environment could potentially:

- affect air quality with associated economic, health, ecosystem or amenity impacts
- affect water quality with associated economic, health, ecosystem or amenity impacts
- cause a degradation of soil quality due to contamination, salinisation or acidification.

In determining the likely impact, the following matters in particular should be considered:

- the level of information/degree of confidence regarding the potential impact on the environment of the hazardous substance(s)
- whether chemical concentrations at the point of injection as part of any fracture stimulation process will exceed:
 - ANZECC 2000 guidelines for overlying groundwater and surface water uses that may be affected

- Australian Drinking Water Guidelines (ADWG) if a drinking water supply may be affected
 - natural background concentrations if the water source is not effectively described by ANZECC or ADWG guidelines, or
 - if the chemical is not specified in ANZECC or ADWG guidelines and may have a toxic effect, then assess whether the toxic effect is likely to exceed a trigger toxicity level determined in accordance with a suitable methodology such as those described in Section 2: OECD Guidelines for the Testing of Chemicals.
- the degree of community interest/concern with respect to the transport, use or generation of the substance(s)
 - the requirements of the *Radiation Control Act 1990* and associated regulations and the *Dangerous Goods (Road and Rail Transport) Act 2008* and associated regulations.

If the chemical or hazardous substance is being transported and used in line with an approved best practice guideline, a low level of impact may be more easily demonstrable. If no such guideline exists, then the REF will need to demonstrate that the impacts are low and can be acceptably managed.

This type of impact in environmentally sensitive areas is likely to be medium or high adverse. In this context, environmentally sensitive areas include:

- water catchments, wetlands, groundwater recharge areas or natural water bodies
- areas with acid sulfate, sodic or highly permeable soils
- areas with salinity or potential salinity problems
- areas with degraded or contaminated land or water.

If the proponent determines that the impacts are not medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.7. Wastes and emissions

This section must assess whether the activity is likely to pose any significant risks to the environment resulting from the generation or disposal of gaseous, liquid or solid wastes.

The type of potential impact should be assessed taking into account the generation or disposal of waste and the potential to:

- affect air quality with associated economic, health, ecosystem or amenity impacts
- affect water quality with associated economic, health, ecosystem or amenity impacts, and
- cause a degradation of soil quality due to contamination, salinisation or acidification.

In determining the likely impact level, the following matters should be considered:

- whether there are approved processes for waste disposal that will be used
- whether the activity complies with relevant EPA and SafeWork NSW guidelines
- whether the activity will have a long-term impact
- whether the generation and/or disposal of waste will provoke strong community interest, and
- whether the activity complies with relevant EPA policies.

If the generation and/or disposal of waste is not in line with relevant approved guidelines, processes or policies, if a long-term impact may result, or if there is strong community interest in the issues, then the REF will need to provide strong justification as to why the proponent considers the impact will be other than medium or high adverse.

Medium or high impact levels are likely to occur in areas sensitive to this type of impact, such as:

- drinking water catchments, wetlands, natural waterbodies, riparian zones or flood prone areas

- groundwater recharge areas or areas with high water table
- coastlines or dunes, alpine areas, karst features or other unique landforms
- erosion prone areas or areas with slopes greater than 18°
- subsidence or slip areas
- areas with acid sulfate, sodic or highly permeable soils
- areas with salinity or potential salinity problems
- areas with degraded or contaminated land, and
- areas with degraded or contaminated water (ground or surface).

If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.8. Vegetation

This section must assess whether the activity will result in any significant risks to the environment resulting from vegetation clearing or modification (including vegetation of conservation significance). This includes clearing or modifying marine vegetation, such as seagrass, mangroves or kelp.

In determining the likely level of impact, the following matters should be considered:

- the status of the species or vegetation community. Species or vegetation communities listed as threatened are of greatest concern, followed by rare or threatened Australian plants (ROTAPs) and species or vegetation communities known to be of regional or local significance
- whether threatened species or ecological communities, or their habitats, will be affected (see section 2.8.7)
- whether the individual, species or vegetation community is of any other particular value (e.g. economic or social value)
- whether the vegetation provides important habitat for native species, including threatened species (e.g. hollow-bearing trees, critical food resources such as winter flowering eucalypts, roosting sites, etc.)
- the nature and extent of the clearing or modification proposed
- the condition and size of the vegetated area to be cleared or modified and its proximity to other areas of native vegetation (e.g. local or regional vegetation corridors)
- the likely response of the species or vegetation community to the type of disturbance proposed
- the likely response of exotic/introduced flora, and how this impacts native species
- the potential for regeneration reduced by the proposed activity
- the result of the assessment of significance (see further below).

If clearing or modification is proposed to an individual plant, species or vegetation community of particular conservation value, or if the extent of clearing of native vegetation is medium-large in the local context, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts are not medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.9. Threatened species

This section must assess whether the activity is likely to have an adverse effect on the life cycle of any threatened species such that a viable local population of the species is likely to be placed at risk of extinction. Section 2.8.7 provides further details regarding undertaking a threatened species assessment of significance. The assessment of significance is the first step in considering potential impacts. When a significant effect is likely, further consideration is required and should be documented by preparing a species impact statement (see section 3.1.2).

2.9.2.10. Areas of outstanding biodiversity value/critical habitat

This section must assess whether the activity is likely to have an adverse effect on any declared area of outstanding biodiversity value/critical habitat (either directly or indirectly). This includes:

- declared areas of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* as listed in the Register maintained by the Department of Planning and Environment
- areas declared as critical habitat under the *Fisheries Management Act 1994* as recorded in the Department of Primary Industries register of critical habitat.

Section 2.8.7 provides further details regarding undertaking a test/assessment of significance to determine likely impacts on areas of outstanding biodiversity value/critical habitat. The test/assessment of significance is the first step in considering potential impacts. When a significant effect is likely, further consideration is required and should be documented by preparing a species impact statement (see section 3.1.2).

2.9.2.11. Endangered ecological community or critically endangered ecological community

In the case of an endangered ecological community or critically endangered ecological community, this section must assess whether the activity:

- 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
- 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.

Section 2.8.7 provides further details regarding undertaking an assessment of significance. The assessment of significance is the first step in considering potential impacts. When a significant effect is likely, further consideration is required and should be documented by preparing a species impact statement (see section 3.1.2).

2.9.2.12. Habitat of a threatened species or ecological community

In relation to the habitat of a threatened species or ecological community this section must assess:

- whether the extent to which the habitat is likely to be removed or modified as a result of the activity will be significant
- whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action
- whether the habitat to be removed, modified, fragmented or isolated is important to the long-term survival of the species or ecological community in the locality.

Section 2.8.7 provides further details regarding undertaking an assessment of significance. The assessment of significance is the first step in considering potential impacts. When a significant effect is likely, further consideration is required and should be documented by preparing a species impact statement (see section 3.1.2).

2.9.2.13. Key threatening processes

This section must assess whether the activity 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. Key threatening processes are outlined in Schedule 4 of the *Biodiversity Conservation Act 2016* and include:

- alteration, removal, clearing or degradation of habitat and native vegetation
- loss of hollowing bearing trees
- removal of dead wood and dead trees
- invasion and establishment of exotic species

Section 2.8.7 provides further details regarding undertaking an assessment of significance. The assessment of significance is the first step in considering potential impacts. When a significant effect is likely, further consideration is required and should be documented by preparing a species impact statement (see section 3.1.2).

2.9.2.14. Barriers to movement of fauna

This section must assess whether the activity has the potential to significantly endanger, displace or disturb fauna (including fauna of conservation significance) or create a barrier to their movement. This includes modification of habitat. In determining the likely impact, the following matters should be considered:

- the results of the threatened species assessment of significance (see sections 2.8.7 and 2.8.9)
- the conservation significance of the species
- whether the affected fauna are protected native fauna
- whether the species is of any other particular value (e.g. economic or social value)
- whether the fauna species is at the limit of its natural distribution
- the nature, extent and duration of the disturbance proposed
- the likely response of the species to the type of disturbance proposed (list references)
- whether the species will be able, and likely, to use the area once the disturbance is over
- the likely response of exotic/introduced fauna, and how this impacts native species
- if a barrier to movement is to be created, whether this affects the life-cycle of the species and whether this is permanent or temporary.

If displacement or disturbance of a species of a particular conservation value is proposed, or if a barrier to movement will be created, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

2.9.2.15. Ecological and biosecurity impacts

Is the activity likely to cause a threat to the biological diversity or ecological integrity of an ecological community?

In determining the likely impact, the following matters should be considered:

- the results of the threatened species assessment of significance
- whether the ecological community has additional values (e.g. economic or social values)
- the nature, extent and duration of the disturbance proposed
- the condition and size of the ecological community area to be cleared or modified
- the likely response of the community to the type of disturbance proposed
- whether the community will be able, and is likely to, populate the area once the disturbance is over
- the likely response of exotic/introduced fauna, and how this impacts the community.

An ecological community is not limited to those of conservation significance. Threats may be direct (e.g. clearing) or indirect (e.g. creation of a bushfire risk to a community sensitive to bushfire, impact on a physical or chemical landscape component essential to a species, endangered ecological community such as groundwater dependent ecosystems, or hydrological behaviour).

If a proposed activity is likely to cause a threat to the biological diversity or ecological integrity of an ecological community, it is likely that the level of impact will be medium or high adverse.

If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

Is the activity likely to create a biosecurity risk or introduce genetically modified organisms into an area?

In determining the likely impact, the following matters should be considered:

- mobilisation of pollutants (such as drilling fluids and hydrocarbons) in soils, air or waters
- the introduction of vertebrate animal pests
- the introduction of plant pests and diseases
- the introduction of animal diseases that pose risks to animal and human health
- the introduction or spread of noxious weeds
- the introduction of genetically modified organisms.

If an activity is likely to introduce vertebrate animal pests, plant pests and diseases, animal diseases, noxious weeds or genetically modified organisms into an area, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

Is the activity likely to cause a significant bushfire risk?

The NSW Rural Fire Service publication, Planning for Bushfire Protection, provides guidance on assessing the level of bushfire risk. Buildings or other construction works may require an asset protection zone in accordance with those guidelines and may also be required to comply with the necessary Building Code of Australia standards.

If an activity is likely to cause or be subject to a high bush fire risk in an area of particular conservation value or public use, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.16. Community resources

Is the activity likely to degrade or significantly increase the demand for services and infrastructure resources?

This section must assess whether the activity is likely to degrade or significantly increase the demand for community services or infrastructure, including sites of importance to the community for their recreational or other value. Infrastructure includes roads, power, water, drainage, waste management, educational, medical or social services.

If the impact will be great enough to cause concern within the community, or community services or infrastructure will be affected, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

Is the activity likely to result in any diversion of resources to the detriment of other communities or natural systems?

This section must assess whether the activity is likely result in any significant diversion of resources to the detriment of other communities or natural systems.

If an activity is likely to cause a significant diversion of resources to the detriment of other communities or natural systems, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

2.9.2.17. Natural resources

Is the activity likely to disrupt, deplete or destroy natural resources?

This section must assess whether the activity is likely to significantly disrupt, deplete or destroy natural resources, including water, land and soil, fuels, timber or extractive materials.

If a considerable amount of natural resources is to be used, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

Is the activity likely to disrupt existing activities which rely upon natural resources, including forestry, farming or extractive industries (or reduce options for future activities)?

This section must assess whether the activity is likely to significantly disrupt existing activities which rely upon natural resources (including forestry, farming or extractive industries).

If considerable disruption of existing activities will occur, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

Is the activity likely to result in the degradation of any area reserved for conservation purposes?

This section must assess whether the activity is likely to significantly degrade any area reserved for conservation purposes. Areas reserved for conservation purposes include:

- land reserved or acquired under the *National Parks and Wildlife Act 1974* including national park, nature reserve, karst conservation reserve, historic site, regional park, state conservation area, Aboriginal areas, wild rivers and wildlife refuges
- land subject to a 'conservation agreement' under the *National Parks and Wildlife Act 1974* and/or the *Biodiversity Conservation Act 2016*
- land declared as an aquatic reserve or marine park under the *Marine Estate Management Act 2014*
- land within a state forest set aside under the *Forestry Act 2012* for conservation values. This includes flora reserves and special management (and other) zones
- land reserved or dedicated under the *Crown Lands Act 1989/Crown Lands Management Act 2016* (as applicable) for the preservation of flora, fauna, geological formations, or for other environmental protection purposes
- land identified as wilderness or declared a wilderness area under the *Wilderness Act 1987*
- land subject to a Biobanking agreement (established under the now repealed *Threatened Species Conservation Act 1995*) or a Biodiversity Stewardship agreement established under the *Biodiversity Conservation Act 2016*
- land subject to a Wildlife Refuge agreement established under the *Biodiversity Conservation Act 2016*
- conservation agreements on private land (including trust agreements under the now repealed *Nature Conservation Trust Act 2001*; property vegetation plans made under the now-repealed *Native Vegetation Act 2003*; registered property agreements under the repealed *Native Vegetation Conservation Act 1997*)
- land identified in an environmental planning instrument (such as the Council's Local Environmental Plan) as being of biodiversity / conservation significance or zoned for environmental conservation, protection and/or management.

An activity which degrades land reserved for conservation purposes is likely to have a high adverse impact and may not be approved.

2.9.2.18. Social impacts

Is the activity likely to result in a change to the demographic structure of the community, including changes to workforce or industry structure of the area/region?

In general, impacts that will have a direct adverse effect on the demographic structure of the community are likely to be rated at a medium to high level.

Is the activity likely to have any environmental impact that may cause substantial change or disruption to the community, including loss of facilities, reduced links to other communities or loss of community identity?

In general, impacts that will cause substantial change or disruption to the community are likely to be rated at a medium to high level.

Is the activity likely to result in some individuals or communities being significantly disadvantaged, including a change in the level of demand for community resources (e.g. community facilities / services and labour force)?

This section must assess whether the activity is likely to result in some individuals or communities being significantly disadvantaged.

In general, impacts that will cause substantial disadvantage to the community are likely to be rated at a medium to high level.

Is the activity likely to result in any impacts on the health, safety, privacy or welfare of individuals or communities because of factors such as pollution, odour, noise, vibration, lighting, visual impacts, etc?

If the activity is likely to create a health or safety risk for the community, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will be medium or high adverse, the REF will need to provide strong justification for this conclusion.

Is the activity likely to have 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?

If the activity is likely to have an adverse direct impact on Aboriginal heritage (including intangible cultural significance), architectural heritage, social / community values and identity or scenic values, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will be medium or high adverse, the REF will need to provide strong justification for this conclusion.

2.9.2.19. Economic impacts

This section must assess whether the activity is likely to have significant economic impacts, including:

- any impacts which may affect economic activity (positive or negative), particularly impacts which result in a decrease to net economic welfare
- any impacts which may result in a decrease in the economic stability of the community
- any impacts which may result in a change to the public sector revenue or expenditure base.

In general, impacts that will have a direct adverse effect on local economies are likely to be rated at a medium to high level.

2.9.2.20. Heritage impacts

Is the activity likely to cause impacts on localities, places, landscapes, buildings or archaeological relics of heritage significance?

This section must describe and assess whether the activity is likely to significantly impact on localities, places, landscapes, buildings or archaeological relics of heritage significance, based on the information provided under section 2.8.8. This must not only deal with the physical impacts of the activity, but also with the impact on the heritage values of the place.

If an activity is likely to have a significant impact on known historic heritage items and is inconsistent with any conservation management plan, there will need to be strong justification to proceed. Where there is going to be a significant impact to historic heritage, it is good practice to prepare a separate heritage impact statement. This document will set out the justification for the impacts and the mitigating measures to be taken to ameliorate any identified impacts. Guidelines on

how to prepare that document can be found on the Department of Planning and Environment website.

Activities that impact on heritage may require additional approvals under the *Heritage Act 1977*.

2.9.2.21. Aesthetic impacts

Is the activity likely to cause impacts on the visual or scenic landscape, including any lighting, venting or flaring of gas?

In determining the likely impact, the following matters should be considered:

- the viewshed of the activity (i.e. from what area will the activity be able to be seen)
- whether there are any particular points within the viewshed of the activity which may cause concern (e.g. lookouts, popular walking tracks, neighbours)
- whether there are any impacts such as loss of privacy for members of the community
- whether the design of the activity is visually sympathetic to the surrounding environment and blends in, or whether it will stand out as an obvious feature.

If an activity is likely to cause a noticeable impact to the visual or scenic landscape, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse in these sensitive environments, the REF will need to provide strong justification for this conclusion.

2.9.2.22. Cultural impacts

Will the activity disturb the ground surface or any culturally modified trees (e.g. a scar tree)?

This section must assess whether the activity is likely to disturb the ground surface or any culturally modified trees (e.g. a scar tree) based on the information provided under section 2.8.10.

Activities that disturb the ground surface or culturally modified trees will have a higher potential to harm Aboriginal objects.

Will the activity affect known Aboriginal objects or Aboriginal places?

This section must assess whether the activity is likely to affect known Aboriginal objects or Aboriginal places based on the information provided under section 2.8.10.

Is the activity located in areas where landscape features indicate the likely presence of Aboriginal objects?

This section must assess whether the activity is likely to be located in areas where landscape features indicate the presence of Aboriginal objects based on the information provided under section 2.8.10.

Activities that are located in areas where landscape features indicate the likely presence of Aboriginal objects will have a higher potential to harm Aboriginal objects.

This section must assess whether harm to objects or disturbance of landscape features can be avoided based on the information provided under section 2.8.10.

If answers to the previous questions indicated that Aboriginal objects or landscape features are known or likely to be present in the area of the activity, the REF must demonstrate the steps to be taken to avoid harm to these as the first priority. Possible solutions include reducing the proposed footprint of an activity, re-positioning particular elements, or controlling and limiting access to areas.

If it is clearly demonstrated that harm can be avoided (or that no objects or places are known or likely to be present), then assessment of the proposed activity can proceed with caution, without the need for further investigation or the preparation of an AHIP application.

If there is still potential for harm or disturbance to occur to objects or landscape features, and it cannot be avoided for certain, then the proponent should proceed to the next step. Refer to the due diligence codes referenced under section 2.8.10 for further information.

If it is considered that an activity is likely to impact on Aboriginal objects or Aboriginal places, then the proponent will need to redesign the proposed activity to avoid impacts as the first priority. If impacts are unavoidable, the title holder will need to apply for an AHIP under the *National Parks and Wildlife Act 1974*.

Consultation with the Aboriginal community is critical to ensure they have early input into the design and decision-making stages, on the necessary steps to avoid impacts. This should involve an inspection of the site with representatives of the relevant Aboriginal groups and may also involve persons with appropriate qualifications or training in locating and identifying Aboriginal objects.

Does the proposed activity affect areas subject to native title claims, indigenous land use agreements or joint management arrangement?

This section must assess whether the proposed activity is likely to affect areas subject to native title claims, indigenous land use agreements or joint management arrangements. It is a standard condition of prospecting titles that title holders must not prospect on any land or waters within the exploration area on which Native Title has not been extinguished under the *Commonwealth Native Title Act 1993* without the prior written consent of the Minister.

2.9.2.23. Land use impacts

Is the activity likely to result in major changes to land use, including any curtailment of other beneficial land uses?

This section must assess whether the activity is likely to significantly disrupt or change current land uses, including any curtailment of other beneficial land uses.

In determining the likely impact, consideration should be given to impacts on land identified as Strategic Agricultural Land (SAL) on the maps that form part of *State Environmental Planning Policy (Resources and Energy) 2021*. There are two types of SAL identified being:

- biophysical strategic agricultural land (BSAL) which is land with high quality soil and water resources capable of sustaining high levels of productivity. BSAL plays a critical role in sustaining the State's agricultural industry and has been identified as having high agricultural production capacity due to the biophysical attributes it possesses and climatic factors. This land has been identified as warranting special consideration when assessing mineral and petroleum exploration and extraction industries due to their potential to impact on the productive capacity of this land, particularly if the activities will remove or relocate soil material, alter the terrain, or impact on surface water and groundwater systems that are relied upon to maintain the productive capacity of this land.
- critical industry clusters (CICs) which are localised concentrations of an agricultural industry that provides significant employment opportunities and contribute to the identity of the region. Equine and viticulture CICs have been identified across NSW.

An agricultural impact statement (AIS) may be required for some exploration activities as detailed in section 2.11.2.

If an activity will result in a significant and/or long-term disruption or change to current land uses, it is likely that the level of impact will be medium or high adverse. If the proponent determines that the impacts will not be medium or high adverse, the REF will need to provide strong justification for this conclusion.

2.9.2.24. Transportation impacts

This section must assess whether the activity is likely to have any significant impacts on transportation, including:

- any substantial impacts on existing transportation systems (such as road, rail, pedestrian) which alter present patterns of circulation or movement
- any impacts associated with direct or indirect additional traffic.

In general, impacts that will have a direct adverse effect on transportation will be likely to be rated at a medium to high level.

2.9.2.25. Applicable local strategic planning statements, regional strategic plans or district strategic plans

This section must assess whether the activity is consistent with any applicable local strategic planning statements, regional strategic plans or district strategic plans made under Division 3.1 of the *Environmental Planning and Assessment Act 1979*.

Local strategic planning statements for each Council are published on the NSW Planning Portal at www.planningportal.nsw.gov.au and set out the 20 year vision for land use in the local area. Regional and district strategic plans are available on the NSW Planning website www.planning.nsw.gov.au and set out a 20 year framework, vision and direction for land use in a regional area or the Greater Sydney Commission's 'districts', respectively.

In general, impacts that will have a direct and long term adverse effect on the 20 year vision for land use will be likely to be rated at a medium to high level.

2.9.2.26. Matters of national environmental significance

This section must assess whether the activity likely to impact on any of the following matters of national environmental significance under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*:

- listed threatened species and communities
- listed migratory species
- Ramsar wetlands of international importance
- Commonwealth marine environment
- world heritage properties
- national heritage places
- Great Barrier Reef Marine Park
- nuclear actions
- a water resource, in relation to coal seam gas development and large coal mining development

This assessment should be based on the information provided under section 2.8.6. The REF must consider potential impacts on these matters to identify whether referral to, and approval by, the Commonwealth is required.

2.9.2.27. Cumulative impacts

This section must assess any cumulative environmental effects with other existing or likely future activities. Cumulative impacts are a result of incremental, sustained and combined effects of human action and natural variations over time, both positive and negative, or by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and relevant future projects. The following types of development are 'relevant future projects':

- State significant development and State significant infrastructure projects
- projects classified as designated development and require an EIS
- projects that require assessment under Division 5.1 of the EP&A Act that are likely to significantly affect the environment and require an EIS
- projects that have been declared to be controlled actions under the EPBC Act
- any major greenfield and urban renewal developments that are scheduled for the area (e.g. new areas zoned for urban development).

In general, cumulative impacts affecting an environment that is already stressed and will be further degraded by existing or likely future activities, will be likely to be rated at a medium to high level.

2.9.2.28. Environmental assessment conclusions

This section of the REF must provide the environmental assessment conclusions. The proponent will be required to determine whether:

- the activity is not likely to significantly affect the environment, including threatened species or ecological communities (or their habitats), or declared areas of outstanding biodiversity value/critical habitat
- the activity is likely to significantly affect the environment (if so, an environmental impact statement will be required – refer to section 3.1.1)
- the activity is likely to significantly affect threatened species, ecological communities or their habitats, but not other significant impacts are likely (if so, a species impact statement and/or biodiversity development assessment report will be required – refer to section 3.1.2)
- the activity is in respect of land that is, or is part of, a declared area of outstanding biodiversity value/critical habitat, but not other impacts are likely (if so, a species impact statement and/or a biodiversity development assessment report will be required – refer to section 3.1.2).

The ranking of the potential significance of the 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. Appendix 4 provides further guidance about assessing the extent, size, scope, intensity and duration of the potential environmental impacts for each environmental issue.

Examples of activities that have the potential to have significant effect on the environment include, but are not limited to, circumstances where:

- the impacts from the proposed activity would result in a permanent and adverse change to the environment
- there is a low level of confidence in forecasting outcomes. In this case the risks may be high. If the risks to the environment are high, then impacts can be judged to have the potential to significantly affect the environment
- the risks of irreversible change may be high due to the environment's natural sensitivity and/or induced sensitivity because of cumulative impacts
- it is known that the environment is already stressed and therefore the acceptability of activity that will further degrade the environment may be significantly reduced.

2.10. Appointment of a ‘mine operator’

This section of the Application Form facilitates notification to the Resources Regulator of the appointment of an operator. The *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and associated Regulation requires the title holder to provide notification of the appointment of a ‘mine operator’, being the operator of a workplace where ‘mining operations’ are being carried out. ‘Mining operations’ includes exploring for minerals by mechanical means (refer Section 5 of this Act for clarification regarding ‘mechanical means’).

Appointment of a ‘mine operator’ and notification to the NSW Resources Regulator is required prior to the commencement of exploring by mechanical means.

2.10.1. Notification of commencement of operations

The *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and associated Regulation requires notification prior to the commencement of ‘mining operations’ - which includes exploring for minerals by mechanical means that disturb the ground (refer to clause 129 of the Work Health and Safety (Mines and Petroleum Sites Regulation 2014).

Mechanical exploration that disturbs the ground must be notified before commencement using the NSW Resources Regulator Portal at <https://nswresourcesregulator.service-now.com/regulator>

Notification is not required for mining or petroleum operations that only involve exploration for minerals or petroleum by non-mechanical means. Non-mechanical exploration means exploring for minerals or petroleum (other than by mechanical means that disturb the ground) and includes the following:

- geological mapping
- sampling and coring using hand-held equipment
- geophysical surveying (but not seismic surveying) and borehole logging
- access by vehicle (but not if access requires the construction of an access way such as a track or road)
- shallow reconnaissance drilling involving no more than minimal site preparation (e.g. nonmechanical means such as a hand auger)
- minor excavations (but not costeaning or bulk sampling) (e.g. non-mechanical means such as using hand held equipment).

2.11. Finalising and attaching documents

This is the final part of the Application Form which includes the attachment of relevant supporting documents and the declaration by the title holder (or their authorised representative). This section of the Application Form requires details to be provided regarding the matters below.

2.11.1. Compliance with exploration codes of practice

Specific management controls have been identified in the department's exploration codes of practice that eliminate or mitigate potential environmental risks presented by exploration activities.

All codes of practice relevant to the activities being undertaken must be implemented to qualify for the CEA assessment pathway (see section 1.4.1).

The Application Form requires the title holder (or authorised representative) to declare that the proposed exploration activities will be undertaken in accordance with the requirements of the following exploration codes of practice (as relevant):

- Exploration Code of Practice: Environmental Management (NSW Resources Regulator, July 2015)
- Exploration Code of Practice: Rehabilitation (NSW Resources Regulator, July 2015)
- Exploration Code of Practice: Produced Water Management, Storage and Transfer (NSW Resources Regulator, July 2015).

Mandatory requirement 2.a. of the Exploration Code of Practice: Rehabilitation requires a Rehabilitation Management Plan to be provided to the Secretary no later than 14 days prior to undertaking 'higher-risk prospecting operations' (which includes excavations in excess of 60 cubic metres, surface disturbance exceeding 5ha and any construction of petroleum wells). Title holders are able to attach a Rehabilitation Management Plan to the Application Form to satisfy this mandatory requirement.

Exploration codes of practice

The exploration codes of practice set out enforceable mandatory requirements, and related guidance, regarding the expected performance to ensure that exploration is undertaken in a manner that manages and minimises risks and achieves sustainable rehabilitation outcomes. Compliance with codes of practice is required as either:

- a standard condition of prospecting titles, or
- a condition/term of exploration activity approvals granted by the department.

2.11.2. Agricultural impact statement

Applications for non-CEAs¹⁹ may need to be accompanied by an agricultural impact statement (AIS). The Application Form is structured to identify when an AIS is required.

Pursuant to the NSW Strategic Regional Land Use Policy, an agricultural impact statement (AIS) is required for exploration activities that:

- are assessable prospecting operations that require further approval under the *Mining Act 1992* or *Petroleum (Onshore) Act 1991*, and
- require submission of an REF for assessment under Part 5 of the *Environmental Planning and Assessment Act 1979*, and
- may impact on agricultural resources or industries.

An AIS is not required for a non-CEA if the entire project area is located:

1. within a state forest, nature reserve or SCA, or
2. on existing residential, village, business or industrial zoned land under a local environmental plan (LEP), or
3. within an existing mining lease, or
4. on Land and Soil Capability Classes 7 or 8²⁰.

AND is completely located 500 metres or further, inside the boundary of the areas listed 1–4 above.

Explorers should refer to the *Guideline for Agricultural Impact Statements at the Exploration Stage* (NSW Government, August 2015) for further details, including when an AIS is required and how to prepare an AIS.

The department may refer the AIS to the Department of Primary Industries for further advice and specialist assessment prior to determining the activity.

2.11.3. Site plan and location details

This section requires the attachment of site plans and/or maps at an appropriate scale showing the following (as relevant):

- boundaries of the authority
- lot/DP numbers and boundaries
- topographic contours
- location of the proposed activity (including location of key features of the activity using MGA94 co-ordinates or co-ordinates of the area specified for proposed activity)
- GPS co-ordinates of the area covered by the exploration site
- layout of the proposed activity (using dimensions and alignments where appropriate)
- major regional features
- existing and proposed access tracks
- existing structures and infrastructure (including dimensions and alignments where relevant)
- nearby sensitive receivers (including residential accommodation, tourism facility, educational establishment, childcare centre, health services facility, place of public worship, animal boarding or training establishment and intensive livestock agriculture).

¹⁹ Applications for CEAs do not require the lodgement of an AIS as they do not require a REF.

²⁰ Refer to Land and Soil Capability Mapping for NSW, Department of Planning and Environment (www.seed.nsw.gov.au)

Where the exact location of exploration sites is unknown, the plan(s) and/or map(s) should show the area that the proposed exploration activities and associated disturbance will occur. As such, the scope of the application to conduct assessable prospecting operations will be applicable to the areas demarcated on the attached plan(s) and/or map(s). Assessable prospecting operations proposed to be undertaken outside of approved areas would need to be the subject of a new application.

2.11.4. Photographs

This section requires the attachment of photographs of all sites to be disturbed.

2.11.5. Matters of national environmental significance records search

This section requires the attachment of records obtained from the Commonwealth government's Protected Matters Search Tool (www.environment.gov.au) providing details of any matters of national environmental significance under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) that are likely to be impacted by the activity.

2.11.6. Critical habitat / area of outstanding biodiversity value records search

This section requires the attachment of database search records relating to critical habitat/area of outstanding biodiversity value that is likely to be affected by the activity including:

- declared areas of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* as listed in the Register maintained by the Department of Planning and Environment
- areas declared as critical habitat under the *Fisheries Management Act 1994* as recorded in the Department of Primary Industries register of critical habitat.

2.11.7. Threatened species or ecological communities records search

This section requires the attachment of the database search records of any threatened species or ecological communities, or their habitats, that are likely to be affected by the activity, including:

- the [Biodiversity Values Land Map](http://www.environment.nsw.gov.au) available on the Environment and Heritage Group website (www.environment.nsw.gov.au)
- records kept by the NSW Department of Planning and Environment pursuant to the *Biodiversity Conservation Act 2016* (available at www.bionet.nsw.gov.au and www.seed.nsw.gov.au)
- records kept by the NSW Department of Primary Industries pursuant to the *Fisheries Management Act 1994*

2.11.8. Historic cultural or natural heritage items records search

This section requires the attachment of the database search records of any historic cultural or natural heritage items that may be impacted by the activity having regard to the heritage lists and registers listed below:

- items on the World Heritage List
- items on the Commonwealth Heritage List
- items on the National Heritage Register
- items on the State Heritage Register
- items listed in the heritage schedules/lists contained within an environmental planning instrument (such as a council's Local Environmental Plan).

2.11.9. Aboriginal cultural heritage records search

This section requires the attachment of the search records from the Aboriginal Heritage Information Management System (AHIMS) database of any matters of Aboriginal cultural heritage that may be impacted by the activity.

2.11.10. Declaration

This section requires a declaration to be made by the title holder (or an authorised representative of the title holder) that:

- the information provided in the application is true and correct
- they understand that under Part 5A of the *Crimes Act 1900*, knowingly giving false or misleading information is a serious offence, and
- under Section 378C of the *Mining Act 1992* and section 125D of the *Petroleum (Onshore) Act 1991*, any person who provides information that the person knows to be false or misleading is guilty of an offence, for which they may be subject to prosecution.

If the application is lodged by any party other than the title holder (i.e. an authorised agent), the department may seek confirmation of that authority and any limits of that authority given to that other party by the authority holder (refer to section 163F *Mining Act 1992* and section 97F of the *Petroleum (Onshore) Act 1991*). The agent will need to complete the declaration at the end of the Application Form and supply evidence of their appointment.

3. Assessment and determination process

3.1. Environmental assessment of exploration activities

The department's assessment process for assessable prospecting operations has been designed to satisfy the environmental assessment requirements of Part 5 of the *Environmental Planning and Assessment Act 1979* (Note: The Part 5 requirements do not apply to exploration activities that have previously been approved under Part 4 or assessed by another agency under Part 5²¹ of the *Environmental Planning and Assessment Act 1979*).

In assessing applications, section 5.5 of the *Environmental Planning and Assessment Act 1979* requires the department to 'examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity'.

The department (i.e. the determining authority) must assess whether the activity:

- is not likely to significantly affect the environment, including threatened species or ecological communities (or their habitats), or declared areas of outstanding biodiversity value/critical habitat. In such cases the department is able to approve the activity.
- is likely to significantly affect the environment. In such cases an environmental impact statement (EIS) is required to be prepared by the proponent and considered by the department prior to any determination (refer to section 3.1.1).
- is likely to significantly affect threatened species or ecological communities (or their habitats), or impact on declared areas of outstanding biodiversity value/critical habitat, but no other significant impacts are likely. In such cases a species impact statement (SIS) and/or a biodiversity development assessment report (BDAR) is required to be prepared by the proponent and considered by the department prior to any determination (refer to section 3.1.2).

The determining authority (i.e. the department) may also require a proponent to provide additional information²² if it considers that the information set out in the Application Form (including the REF component) is insufficient to enable it to properly consider all matters likely to affect the environment in connection with an activity.

²¹ Section 5.4 of the EP&A Act exempts certain activities from a Part 5 Assessment where the activity (or part of the activity) has been approved, or is to be carried out, by another determining authority following a Part 5 environmental assessment.

²² The application may be refused if the proponent fails to provide the information required by the department within the time required (refer to sections 23A / 44A of the *Mining Act 1992* and sections 31A / 36A of the *Petroleum (Onshore) Act 1991*).

3.1.1. When is an environmental impact statement required?

If, in reviewing the application and any supporting REF, the determining authority (i.e. the department) forms the opinion that the activity is likely to significantly affect the environment, an EIS must be prepared (section 5.7(1) of the *Environmental Planning and Assessment Act 1979*). The purpose of an EIS is to provide a thorough public examination of a proposed activity that is likely to have a significant impact on the environment, and to inform a decision as to whether that activity should proceed.

In many cases, the scale of the activity may be such that the proponent will know from the outset that an EIS is required and will operate on that basis from the outset. For some activities, however, it may be the case that the significance of impacts becomes apparent only after some assessment has taken place (such as a REF).

Guidelines for Division 5.1 Assessment (NSW Department of Planning, 2022) is a useful guide to assist a proponent to determine whether an EIS is likely to be required.

The form, content and process for preparing and exhibiting an EIS are set out in the EP&A Act and associated regulations. Environmental assessment requirements for inclusion in the EIS must be sought from the Department of Planning and Environment prior to preparing an EIS.

Preparation of the EIS may take some time, particularly if the potential impacts associated with the activities require detailed environmental studies to be completed.

3.1.2. When is a species impact statement or biodiversity development assessment report required?

If the determining authority forms the opinion that the activity is likely to significantly affect threatened species or ecological communities (or their habitats), or impact on land that is a declared area of outstanding biodiversity value/critical habitat, but no other significant impacts are likely, then:

- a species impact statement (SIS) is required to be considered as part of the activity assessment process²³ or if the proponent so elects, a biodiversity development assessment report (BDAR)²⁴ may be prepared in place of the SIS where the activity impacts terrestrial flora and fauna
- if the activity is likely to significantly impact aquatic threatened species, populations or ecological communities, a SIS is required
- if the activity is likely to have significant impacts on both terrestrial and aquatic threatened species, populations or ecological communities, both a BDAR and SIS may be required.

The purpose of a SIS/BDAR is to provide a thorough public examination of a proposed activity that is likely to have a significant impact and to inform a decision as to whether that activity should proceed.

In many cases, the scale of the activity may be such that the proponent will know from the outset that SIS/BDAR is required and will operate on that basis from the outset. For some activities, however, it may be the case that the significance of impacts becomes apparent only after some assessment has taken place (such as a REF).

The “threatened species test of significance” is used to determine if an activity is likely to significantly affect threatened species or ecological communities (or their habitats) as set out in the *Biodiversity Conservation Act 2016*. The Threatened Species Test of Significance Guidelines (State of NSW and Office of Environment and Heritage, 2018) assist proponents to interpret and apply the factors in the test of significance.

²³ An activity is taken not to significantly affect threatened species or ecological communities, or their habitats, if the activity is to be carried out on biodiversity certified land (within the meaning of Part 8 of the *Biodiversity Conservation Act 2016*).

²⁴ For Part 5 activities under the EP&A Act the BDAR and biodiversity offset scheme are not mandatory.

The form, content and process for preparing a SIS/BDAR are set out in the *Biodiversity Conservation Act 2016* or the *Fisheries Management Act 1994* (as applicable to the impacted species). Environmental assessment requirements for inclusion in the SIS must be sought from the Department of Planning and Environment or the Department of Primary Industries (as applicable to the impacted species) prior to preparing a SIS.

Preparation of the SIS/BDAR may take some time, particularly if the potential impacts associated with the activities require detailed environmental studies to be completed.

3.2. Assessment timeframes

Applications will be assessed according to the department's assessment procedures.

The department aims to process all CEAs within 10 business days and all non-CEAs within 30 business days .

The department may require the title holder to provide additional information, within a specified time, before considering the application or at any time during consideration of the application²⁵.

In order to efficiently process and report on applications, a process has been implemented that includes 'stop the clock' provisions. The processing clock starts when a complete application, including all required supporting material, is received. The processing clock stops when additional supporting information is sought and re-commences once adequate information is received. Processing is complete when the proponent is notified of the result of the decision.

The application may be refused if the proponent fails to provide the information required by the department within the time required (refer to sections 23A / 44A of the *Mining Act 1992* and sections 31A / 36A of the *Petroleum (Onshore) Act 1991*).

Exploration activity applications accompanied by an EIS/SIS have prescribed public exhibition periods and an assessment timeframe which is considerably longer than for other assessable prospecting operations with less significant impacts.

3.3. Determination

Following assessment of the application the department may²⁶:

- grant the activity approval, or
- refuse the application.

It may be the case that the department determines that there is insufficient information in the Application Form and REF document to discharge their duties under Part 5 of the EP&A Act.

The title holder will be provided with written notice of the determination.

The title holder is required to comply with any activity approval granted by the department. This includes:

- undertaking the activity in accordance with the information and commitments included in the Application Form, including any REF component and any supporting/associated document and attachments
- undertaking the activity in accordance with any additional terms (i.e. conditions) imposed by the department.

²⁵ The application may be refused if the proponent fails to provide the information required by the department within the time required (refer to sections 23A / 44A of the *Mining Act 1992* and sections 31A / 36A of the *Petroleum (Onshore) Act 1991*).

²⁶ Refer to sections 23A / 44A of the *Mining Act 1992* and sections 31A / 36A of the *Petroleum (Onshore) Act 1991*.

3.3.1. Compliance with Exploration Codes of Practice

Exploration activity approvals granted by the department will require the title holder to comply with the following exploration codes of practice²⁷ when carrying out the activity:

- Exploration Code of Practice: Environmental Management
- Exploration Code of Practice: Rehabilitation²⁸

The exploration activity approval will also require the title holder to comply with the Exploration Code of Practice: Produced Water Management, Storage and Transfer in the following circumstances:

- petroleum exploration which requires the management of produced water
- activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks).

3.3.2. Rehabilitation security deposits

As part of the assessment process the department may review the adequacy of the existing security deposit held and any RCE lodged with the Application Form. The RCE will be reviewed against the requirements of the Exploration Guideline: Rehabilitation Cost Estimates (NSW Resources Regulator) and the department's Rehabilitation Cost Estimation Tool.

The department will calculate whether the existing security deposit held covers the government's full costs in undertaking rehabilitation in the event of default by the title holder. The department will then determine what the security deposit should be (i.e. the "assessed deposit"). If an increase in the security deposit amount is required, the notice to the title holder granting the activity approval will set out what the new security deposit should be. A separate notice of the change in the security deposit condition for the title, and details of how the security deposit should be provided to the department, will be sent to the title holder following approval of the exploration activity.

4. Other approvals

The assessment and approval of an exploration activity under the *Mining Act 1992* or *Petroleum (Onshore) Act 1991* does not affect any obligation to comply with the requirements (including any requirement to obtain an approval) under other legislation.

Exploration activities may require approval under other legislation, including:

- an Environment Protection Licence (*Protection of the Environment Operations Act 1997*) (for petroleum, including coal seam gas)
- a licence to take water (*Water Act 1912* or *Water Management Act 2000*)
- an Aboriginal heritage impact permit (*National Parks and Wildlife Act 1974*)
- development consent (*Environmental Planning and Assessment Act 1979*) for activities on land to which *State Environmental Planning Policy (Resilience and Hazards) 2021* applies
- approval from the Commonwealth government for actions likely to have a significant impact on a matter of national environmental significance (*Commonwealth Environment Protection and Biodiversity Conservation Act 1999*).

The title holder is responsible for gaining all required approvals or licences prior to commencement of the activity.

²⁷ The exploration codes of practice are available on the department's website.

²⁸ Compliance with the Exploration Code of Practice: Rehabilitation and Exploration Code of Practice: Community Consultation are conditions of prospecting titles.

5. Auditing

The department may conduct inspections and audits at any time to determine whether the activities being carried out by the title holder comply with the terms of the approval, and that the actual impacts are consistent with those described in the application. Failure to comply with the terms of an activity approval may trigger enforcement action.

From 1 July 2015, under the NSW Gas Plan, the NSW Environment Protection Authority is the lead authority to regulate compliance with and enforcement of all conditions (excluding work health and safety) contained within petroleum titles and associated activity approvals.

6. More information

For more information contact:

Department of Regional NSW
 NSW Resources Regulator
 516 High Street Maitland NSW 2320
 PO Box 344, Hunter Region Mail Centre NSW 2310
 Telephone 1300 814 609 (toll free)
 Email nswresourcesregulator@service-now.com
 Website www.resourcesregulator.nsw.gov.au

Glossary

Term	Definition
Aboriginal object	Has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i> .
Aboriginal place	Has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i> .
Access track	All unsealed routes that will be traversed multiple times, but does not include single pass (ingress and egress) routes or seismic shot and receiver lines.
Acid Sulfate Soils	Sediments and soils containing iron sulfides which, when exposed to oxygen, generate sulfuric acid. Acid sulfate soils include actual acid sulfate soils (AASS) or potential acid sulfate soils (PASS).
Activity	Any activity carried out in connection with exploration, including: <ul style="list-style-type: none"> • the use of land • means of accessing land • the carrying out of a work.
Activity approval	An approval to carry out assessable prospecting operations granted under the <i>Mining Act 1992</i> or the <i>Petroleum (Onshore) Act 1991</i> .
Actual Acid Sulfate Soils (AASS)	Sediments and soils containing highly acidic soil horizons or layers resulting from the aeration of sediments and soils that are rich in iron sulfides, primarily sulfide.
Aboriginal Heritage Information Management System (AHIMS)	The Aboriginal Heritage Information Management System database administered by the Department of Planning which holds records and information about Aboriginal Places, objects and other significant sites.
Application Form	Means the department's application form to undertake assessable prospecting operations.
Aquatic reserve	Has the same meaning as it has in the <i>Marine Estate Management Act 2014</i> .

Term	Definition
Aquifer	Has the same meaning as it has in the <i>Water Management Act 2000</i> .
Areas of Outstanding Biodiversity Value (AOBVs)	Has the same meaning as it has in the <i>Biodiversity Conservation Act 2016</i> . (Note: Areas of declared critical habitat under the now repealed <i>Threatened Species Conservation Act 1995</i> have become Areas of Outstanding Biodiversity Value (AOBVs) under the <i>Biodiversity Conservation Act 2016</i>).
Assessable prospecting operation	Any prospecting operation that is not exempt development within the meaning of clause 2.13 of <i>State Environmental Planning Policy (Resources and Energy) 2021</i>
Authority	An exploration licence, assessment lease or mining lease granted under the <i>Mining Act 1992</i> .
Blue Book	In relation to access track construction, refers to <i>Managing Urban Stormwater: Soils and Construction, Volume 2C, Unsealed Roads</i> (DECC 2008a). In relation to the management of disturbed areas other than access tracks, refers to <i>Managing Urban Stormwater: Soils and Construction Volume 2E: Mines and Quarries</i> (DECC 2008b).
Borehole	A hole made by drilling or boring, but excludes: <ul style="list-style-type: none"> • sampling and coring using hand held equipment • petroleum wells.
Canopy cover	The upper tree canopy, where the upper canopy is greater than 1.5 metres in height above ground level.
Capital investment value	Has the same meaning as in the Environmental Planning and Assessment Regulation 2021. It includes all costs necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment, other than the following costs: (a) amounts payable, or the cost of land dedicated or other benefit provided, under a condition imposed under the Act, Division 7.1 or 7.2 or a planning agreement, (b) costs relating to a part of the development or project that is the subject of a separate development consent or project approval, (c) land costs, including costs of marketing and selling land, (d) GST, within the meaning of the <i>A New Tax System (Goods and Services Tax) Act 1999</i> of the Commonwealth.
Clearing of vegetation	Any one or more of the following: <ul style="list-style-type: none"> • cutting down, felling, thinning, lopping, logging or removing vegetation • killing, destroying, poisoning, ringbarking, uprooting or burning vegetation.
Complying exploration activities (CEA)	Exploration activities that are considered unlikely to significantly affect the environment.
Critical habitat	Has the same meaning as it has in the <i>Fisheries Management Act 1994</i> . Areas of declared critical habitat under the now repealed <i>Threatened Species Conservation Act 1995</i> have become Areas of Outstanding Biodiversity Value (AOBVs) under the <i>Biodiversity Conservation Act 2016</i> .
Department	Department of Regional NSW.
Determining authority	Has the same meaning as it has in the <i>Environmental Planning and Assessment Act 1979</i> .

Term	Definition
Drilling	The perforation of the earth's surface crust by mechanical means to form a hole, whether the hole caused by the perforation is vertical, inclined or horizontal, and includes all operations for preventing collapse of the sides of any such hole or for preventing it from being filled with extraneous materials including water.
Drilling fluid	Any liquid or gaseous fluid, or mixture of fluids and solids (as solid suspensions, mixtures and emulsions of liquids, gases and solids) used in operations to drill boreholes into the earth.
Drilling mud	Liquid-based drilling fluid.
Environment	Has the same meaning as it has in the <i>Mining Act 1992</i> .
Environmentally sensitive area of state significance	Has the same meaning as it has in <i>State Environmental Planning Policy (Resources and Energy) 2021</i> .
Evaporation pond	A pond designed in such a way that the principal method of removing (extracting) the liquid being stored is via evaporation. Evaporation ponds are relatively large and shallow and may incorporate methods to accelerate the evaporation process (such as mechanical diffusers or sprays).
Excavation	The removal of the surface layer to a depth greater than 500 mm from the natural surface level.
Exempt development	Has the same meaning as it has in <i>State Environmental Planning Policy (Resources and Energy) 2021</i> .
Exploration	Has the same meaning as it has in <i>State Environmental Planning Policy (Resources and Energy) 2021</i> . Also referred to as 'prospecting'.
Fauna	Has the same meaning as it has in <i>National Parks and Wildlife Act 1974</i> .
Flowback water	Fluids actively extracted from a petroleum well following fracture stimulation, in preparation for a subsequent phase of fracture stimulation or clean-up prior to dewatering of produced water
Forestry Management Zone	The management zones identified by the relevant Ecologically Sustainable Forest Management Plan prepared by Forestry Corporation.
Fracture stimulation	The process by which target hydrocarbon bearing formations are 'stimulated' when fluids or gases are forced at high pressure to create a conductive flow path, resulting in enhanced flow of hydrocarbons to the wellhead (also known as 'hydraulic fracturing', 'fraccing' or 'fracking').
Geological mapping	The non-intrusive field recording of the surface distribution of rock types, age relationships and structural features, in order to create a map of these features allowing interpretation of the sub-surface geology.
Groundwater	Water that occurs beneath the ground surface in the saturated zone
Habitat	Has the same meaning as it has in the <i>Biodiversity Conservation Act 2016</i> or the <i>Fisheries Management Act 1994</i> (as relevant)
Harm	In relation to matters of national environmental significance, has the same meaning as 'significant impact' as provided by the Significant Impact Guidelines used to determine whether assessment and approval is required under the Commonwealth <i>Environment Protection & Biodiversity Conservation Act 1999</i> . In relation to the environment, has the same meaning as it has in the <i>Protection of the Environment Operations Act 1997</i> .

Term	Definition
	<p>In relation to threatened species or ecological communities, has the same meaning as:</p> <ul style="list-style-type: none"> • 'harm an animal' in the National Parks and Wildlife Act 1974 • 'pick a native plant' in the National Parks and Wildlife Act 1974 • 'harm' in the Fisheries Management Act 1994. <p>In relation to an aquifer or waterfront land, has the same meaning as it has in the <i>Water Management Act 2000</i>.</p> <p>In relation to Aboriginal places or Aboriginal objects has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i>.</p> <p>In relation to items of heritage significance, has the same meaning as it has in the <i>Heritage Act 1977</i>.</p> <p>In relation to protected marine vegetation, has the same meaning as it has in the <i>Fisheries Management Act 1994</i>.</p>
Items of heritage significance	<p>Means:</p> <ul style="list-style-type: none"> • any heritage items listed in one or more of the following: <ul style="list-style-type: none"> — the Commonwealth Heritage List — the World Heritage List — the National Heritage List — the State Heritage Register — an Environmental Planning Instrument • any relic (being any deposit, object or material evidence which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and which is 50 or more years old) • within State Conservation Areas: <ul style="list-style-type: none"> — items that are listed on the DECC Historic Heritage Information Management System — any deposit, object or material evidence relating to the settlement or occupation of New South Wales or a part of New South Wales (not being Aboriginal settlement or occupation) if the deposit, object or material evidence is more than 25 years old at the date of the interference or removal.
Land	<p>Includes:</p> <ul style="list-style-type: none"> • the sea or an arm of the sea; • a bay, inlet, lagoon, lake or body of water, whether inland or not and whether tidal or non-tidal; • a river, stream or watercourse, whether tidal or non-tidal; and • a building erected on the land.
Marine vegetation	<p>Has the same meaning as it has in the <i>Fisheries Management Act 1994</i>.</p>
Matters of national environmental significance	<p>Matters of national environmental significance' protected under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>.</p>
Mining title	<p>A mining lease granted under the <i>Mining Act 1992</i>.</p>
Minister	<p>The Minister administering the <i>Mining Act 1992</i> or <i>Petroleum (Onshore) Act 1991</i>, as relevant.</p>

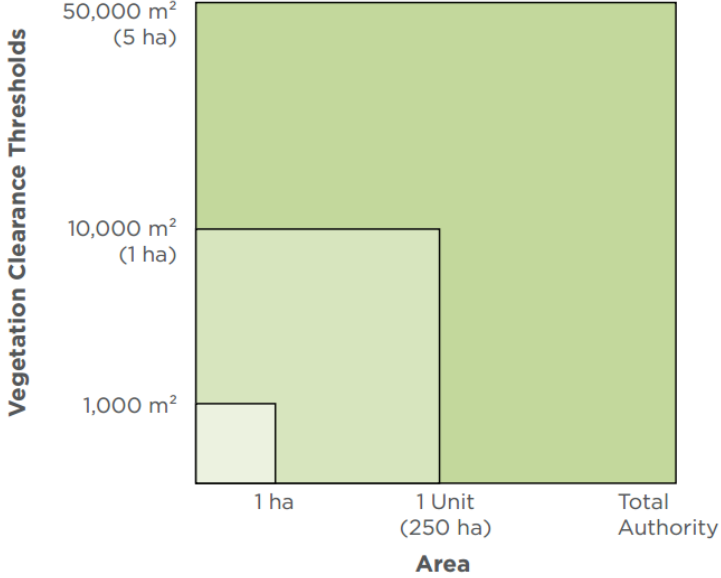
Term	Definition
Native grassland	Any grassland community that contains a groundcover of greater than 50% native (endemic) species.
Native vegetation	Has the same meaning as it has in the <i>Local Land Services Act 2013</i> .
Petroleum title	Has the same meaning as it has in the <i>Petroleum (Onshore) Act 1991</i> .
Petroleum well	A hole made by drilling or boring in connection with prospecting for petroleum or operations for the recovery of petroleum, but excludes: <ul style="list-style-type: none"> • sampling and coring using hand held equipment • a hole constructed and operated for the following purposes where the operation of that hole does not involve fracture stimulation or the recovery of petroleum: <ul style="list-style-type: none"> — stratigraphic definition — seismic (for example shot holes, geophone, tilt meters bores) — water monitoring — environmental assessment.
Potential acid sulphate soils (PASS)	Sediments and soils which contain iron sulfides or sulfidic material which have not been exposed to air and oxidized.
Produced water	Any form of groundwater that is actively extracted from a borehole, petroleum well or excavation, excluding incidental groundwater mixed with drilling fluids.
Production lease	Has the same meaning as it has in the <i>Petroleum (Onshore) Act 1991</i> (as relevant).
Proponent	In relation to an exploration activity, the title holder, or the person proposing to carry out the exploration activity on behalf of the title holder.
Prospect	Has the same meaning as it has in the <i>Mining Act 1992</i> and the <i>Petroleum (Onshore) Act 1991</i> (as relevant). Commonly referred to a 'exploration'.
Prospecting title	An exploration licence, assessment lease or special prospecting authority granted under the <i>Mining Act 1992</i> or the <i>Petroleum (Onshore) Act 1991</i> .
Rehabilitation	Has the same meaning as it has in the <i>Mining Act 1992</i> .
River	Has the same meaning as it has in the <i>Water Management Act 2000</i> .
Riparian zone	The area identified in Figure 1 in Appendix 2.
Seismic survey	The use of shock waves (generated in the ground using either small explosive charges detonated below the surface, hand-held mechanical hammers or vehicle-mounted hammers) and an array of geophones, which are connected to measuring instruments, to differentiate the geophysical properties of the subsurface of the earth.
Site	The land on which an activity is located.
State conservation area	Has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i> .
Surface disturbance	Means: <ul style="list-style-type: none"> • disturbance or exposure of the soil or surface rock layer • degradation or deterioration in any manner of the physical surface of land.
Threatened species or ecological communities	Has the same meaning as it has in the <i>Biodiversity Conservation Act 2016</i> or <i>Fisheries Management Act 1994</i> (as relevant).

Term	Definition
Title	An authority under the <i>Mining Act 1992</i> or a petroleum title under the <i>Petroleum (Onshore) Act 1991</i> .
Title holder	A person or company to whom a title has been issued.
Track	All unsealed routes that will be traversed multiple times, but does not include single pass (ingress and egress) routes or seismic shot and receiver lines.
Understorey	The layer of vegetation located beneath the main canopy of a stand of vegetation.
Unit	Has the same meaning as it has in the <i>Mining Regulation 2016</i> (being approximately 3 km ² or 300 ha).
Unrehabilitated sites	Sites disturbed by exploration activities which have not been acknowledged in writing by the department as being rehabilitated.
Upper canopy	The layer of vegetation that is formed by the tree crowns.
Watercourse	A river, estuary or lake, as defined in the <i>Water Management Act 2000</i> .
Waterfront land	Has the same meaning as it has in the <i>Water Management Act 2000</i> .
Well	Has the same meaning as it has in the <i>Petroleum (Onshore) Act 1991</i> .
Wetlands	Has the same meaning as it has in the <i>Fisheries Management Act 1994</i> .
Wilderness	Lands identified as wilderness under the <i>Wilderness Act 1987</i> .
Wilderness area	Lands (including subterranean lands) declared to be a wilderness area under the <i>Wilderness Act 1987</i> or the <i>National Parks and Wildlife Act 1974</i> .

Appendix 1: Impact thresholds

As detailed in section 1.4.1, an activity cannot be assessed under the CEA assessment pathway unless the activity (when considered cumulatively with other activities already approved under the title) can be carried out in a manner which does not exceed the identified 'Tier 1 -Impact thresholds' (see Table 1 below).

Table 1: Tier 1 – Impact thresholds

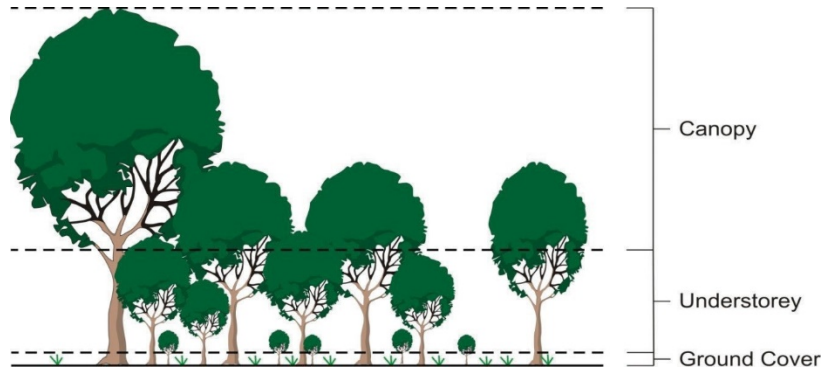
Impact Thresholds	Explanatory Notes								
Cumulative impact thresholds (existing approved + proposed) – vegetation clearing									
<p>Cumulative vegetation clearing and/or removal of tree canopy, must not exceed 1,000 square metres in any single hectare.</p> <p>Note: Explorers should use a grid overlay of 1 hectare cells over the unit/title area to assist with this calculation.</p>	<p>The vegetation clearing thresholds which apply to CEAs are presented in Figure 2. The vegetation clearing threshold is cumulative and includes disturbance associated with other approved exploration activities that have not yet been rehabilitated to the satisfaction of the department. (Note: Rehabilitation must only be reported as completed in cases where the department has acknowledged in writing that the area has been satisfactorily rehabilitated, following submission of the relevant application by the title holder.</p>								
<p>Cumulative vegetation clearing and/or removal of tree canopy, must not exceed 1 hectare in any single unit of the title (or every 250 hectares in the case of authorities which do not align to unit boundaries).</p>	<p>Figure 2. Vegetation clearing thresholds</p>  <table border="1"> <caption>Data for Figure 2: Vegetation clearing thresholds</caption> <thead> <tr> <th>Area</th> <th>Vegetation Clearance Threshold</th> </tr> </thead> <tbody> <tr> <td>1 ha</td> <td>1,000 m²</td> </tr> <tr> <td>1 Unit (250 ha)</td> <td>10,000 m² (1 ha)</td> </tr> <tr> <td>Total Authority</td> <td>50,000 m² (5 ha)</td> </tr> </tbody> </table> <p>The vegetation clearing thresholds apply to surface disturbing activities that will remove vegetation cover. Exceptions are prescribed for noxious weeds, crops and non-native species dominant grasslands discussed below. Figure 3 provides a basic understanding of vegetation structure and the canopy component for the purposes of the calculations required to understand the vegetation clearing thresholds for CEAs. The removal of vegetation cover in a partly vegetated location is considered to constitute groundcover removal, even where groundcover density is less than 100%</p>	Area	Vegetation Clearance Threshold	1 ha	1,000 m ²	1 Unit (250 ha)	10,000 m ² (1 ha)	Total Authority	50,000 m ² (5 ha)
Area	Vegetation Clearance Threshold								
1 ha	1,000 m ²								
1 Unit (250 ha)	10,000 m ² (1 ha)								
Total Authority	50,000 m ² (5 ha)								

Impact Thresholds

Cumulative vegetation clearing and/or removal of tree canopy must not exceed 5 hectares within any single title.

Explanatory Notes

Figure 3. Vegetation strata



Canopy cover is defined as the upper canopy where the upper canopy is greater than 1.5 metres in height. The actual height of the boundary between the understorey and the canopy is variable, depending on the vegetation community present. The removal of any vegetation greater than 1.5 metres in height which forms part of the canopy is to be counted in vegetation clearing calculations. The clearing of heath land with a canopy height above 1.5 metres is also subject to the vegetation clearing thresholds.

The canopy cover to be removed within any stand of trees can be estimated with reasonable accuracy through the use of aerial photography and satellite imagery by identifying the crowns of trees that will be removed.

Non-native species, crops and grasslands dominated by introduced species

The vegetation clearing thresholds do not apply to the removal of crops, non-native groundcover species or other non-native species declared to be noxious under the *Noxious Weeds Act 1993*.

The vegetation clearing thresholds also do not apply to the clearing of grassland communities that contain a groundcover of less than 50% native (endemic) species (surface disturbance thresholds do however apply).

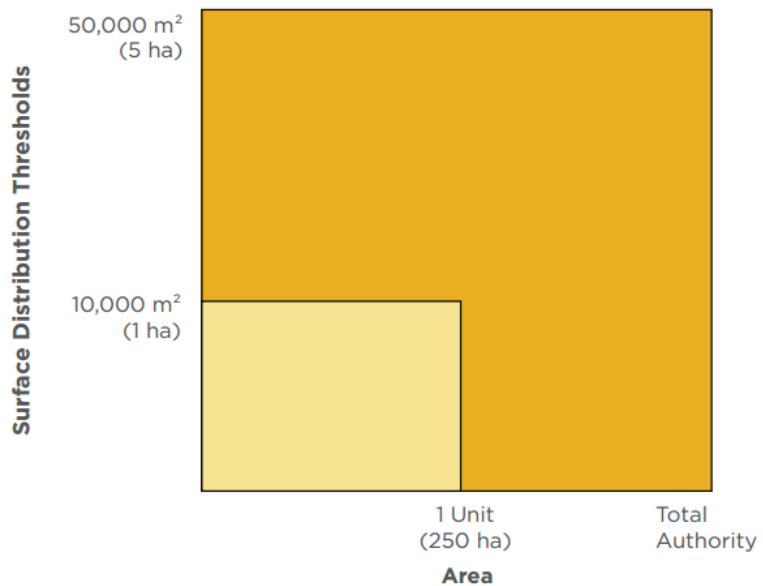
The nature of the grassland can be determined by:

- using existing background information, such as previous environmental assessments, management plans or vegetation mapping undertaken for the area
- survey of the area by a suitably qualified ecologist or other competent person (such as a local council vegetation/weed officer).

If background information is not available for the area and the location of exploration activities has no ongoing disturbance (such as farming and/or pasture improvement), the proponent should assume that the grassland is native unless the area has been surveyed by a suitably qualified ecologist or other competent person (such as a local council vegetation/weed officer).

Access tracks

Vegetation clearing thresholds apply to works associated with the construction of new access tracks, realigned sections of existing access tracks, or sections of upgraded access tracks. Existing access tracks should be used wherever possible and upgrading existing access tracks to meet *Blue Book: Unsealed Roads* requirements is encouraged.

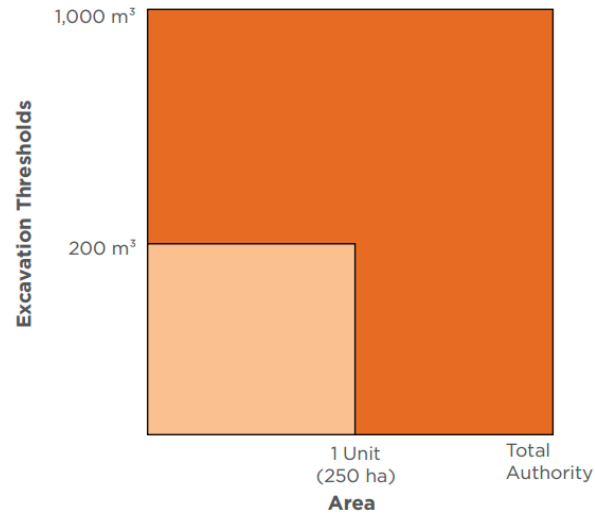
Impact Thresholds	Explanatory Notes
	<p>Maintenance works on access tracks (such as the cleaning of drains, grading or vegetation clearing) which remove or disturb vegetation previously impacted by the original development of the access track, are not counted in vegetation clearing calculations.</p> <p>Access track upgrade works permitted in waterfront land must not result in the removal of any trees or shrubs. Removal of groundcover, where necessary for access track upgrade works along the access track alignment in accordance with <i>Blue Book: Unsealed Roads</i>, does not count towards clearance thresholds.</p> <p>Rehabilitated sites and calculating cumulative impacts</p> <p>For the purpose of cumulative calculations, an area is not to be counted as being cleared if the department has acknowledged in writing that the site has been satisfactorily rehabilitated. (Note: Rehabilitation must only be reported as completed in cases where the department has acknowledged in writing that the area has been satisfactorily rehabilitated, following submission of the relevant application by the title holder).</p>
<p>Cumulative impact thresholds (existing approved + proposed) — surface disturbance</p>	
<p>Cumulative surface disturbance must not exceed a total of 1 hectare within any single unit of a title (or every 250 hectares in the case of authorities which do not align to unit boundaries).</p>	<p>Surface disturbance limits</p> <p>The surface disturbance thresholds which apply to CEAs are summarised graphically in Figure 4.</p> <p>Surface disturbance is defined as being:</p> <ul style="list-style-type: none"> • disturbance of the soil or surface rock layer, or • degradation or deterioration in any manner of the physical surface of land. <p>Figure 4. Surface disturbance thresholds</p>  <p>The figure is a bar chart with 'Surface Distribution Thresholds' on the vertical axis and 'Area' on the horizontal axis. There are two bars: a shorter, light yellow bar representing '1 Unit (250 ha)' with a threshold of '10,000 m² (1 ha)', and a taller, orange bar representing 'Total Authority' with a threshold of '50,000 m² (5 ha)'. The horizontal axis labels are '1 Unit (250 ha)' and 'Total Authority'. The vertical axis labels are '10,000 m² (1 ha)' and '50,000 m² (5 ha)'.</p>
<p>Cumulative surface disturbance must not exceed a total of 5 hectares within any title.</p>	<p>Determining the areas of surface disturbance</p> <p>Cumulative surface disturbance needs to be calculated for each single unit within the title. The cumulative surface disturbance can be estimated on an activity basis. Estimations can be made by determining typical disturbance areas associated with exploration activities, mapping of larger scale exploration activities, or area calculations of known disturbance areas such as access tracks.</p> <p>Examples of activities that disturb the surface include:</p>

Impact Thresholds	Explanatory Notes
	<ul style="list-style-type: none"> • excavation • drilling and the associated drilling infrastructure • bulk sampling activities • seismic activities • construction of new access tracks. <p>Examples of activities that may result in the loss of surface cover include:</p> <ul style="list-style-type: none"> • the activities listed above • erosion and sediment controls • vegetation clearing • soil and vegetation stockpiles. <p>The calculation of cumulative surface disturbance from the exploration activities must consider all phases of the activities, including:</p> <ul style="list-style-type: none"> • construction • operation • rehabilitation (all un-rehabilitated sites are to be included in cumulative surface disturbance calculations). <p>Access tracks</p> <p>Any surface disturbance associated with upgrading existing access tracks carried out to comply with the requirements of the <i>Blue Book: Unsealed Roads</i> is not included in threshold calculations, provided the surface disturbance is no wider than 6 metres (excluding drainage works). Any surface disturbance outside a 6-metre-wide corridor is to be included in threshold calculations.</p> <p><i>Note:</i> Excavated material (and stockpile areas of excavated material) counts towards surface disturbance and excavation threshold calculations unless the excavated material is used as part of the access track upgrade works (e.g. excavated material used in cut and fill or creation of rollover banks, drains, etc., does not count towards surface disturbance or excavation calculations, even if temporarily stockpiled prior to use).</p>
<p>Cumulative impact thresholds (existing approved + proposed) — excavations</p>	
<p>Cumulative excavations must not exceed 200 cubic metres within any single unit of a title (or every 250 hectares in the case of authorities which do not align to unit boundaries), or 1,000 cubic metres within any single title.</p>	<p>Excavation limits</p> <p>The excavation thresholds which apply to CEAs are summarised graphically in Figure 5. To calculate the cumulative total of excavations, the proponent should identify all excavation activities to be undertaken within each single unit of the title, as well as across the whole title.</p>

Impact Thresholds

Explanatory Notes

Figure 5. Excavation thresholds



Access track upgrades

Excavation associated with upgrading existing access tracks to comply with the requirements of the *Blue Book: Unsealed Roads* is not included in threshold calculations, provided the excavation is located within the 6 metre road corridor (excludes drainage works). Excavations outside the 6-metre-wide corridor are to be included in threshold calculations.

Note: Excavated material (and stockpile areas of excavated material) counts towards surface disturbance and excavation threshold calculations unless the excavated material is used as part of the access track upgrade works (e.g. excavated material used in cut and fill or creation of rollover banks, drains, etc., does not count towards surface disturbance or excavation calculations, even if temporarily stockpiled (less than one week) prior to use).

Rehabilitated sites

All excavations are to be filled following completion of the exploration activity. For the purpose of cumulative calculations, excavations are to be counted in the excavation threshold, unless the department has acknowledged in writing that the site has been satisfactorily rehabilitated. (*Note:* Rehabilitation must only be reported as completed in cases where the department has acknowledged in writing that the area has been satisfactorily rehabilitated, following submission of the relevant application.

Cumulative impact thresholds (existing approved + proposed) — extraction of groundwater (produced water)

Cumulative extraction of groundwater from all exploration activities within the title does not exceed a total of 3 ML per year.

The cumulative groundwater extraction from all exploration activities within the title area must not exceed 3 ML per year. The *Water Management (General) Regulation 2011* provides an exemption that allows the taking of up to 3 ML of water per year without the need for approval. CEAs which may result in the taking of groundwater include:

- drilling
- excavations (including bulk samples).

The proponent is required to determine the total groundwater use/withdrawal for all activities within the title for each year that the CEAs will be undertaken. The proponent will need to have a clear understanding of the groundwater sources within the title which may be intercepted by the proposed activities.

Appendix 2: Sensitive land location restrictions and thresholds

As detailed in section 1.4.1, an activity cannot be assessed under the CEA assessment pathway unless all 'Tier 2 – sensitive land location restrictions and thresholds' can be satisfied (see Table 2 below).

The proponent should obtain an up-to-date copy of the certificate of title for all land on which it intends to carry out exploration activities in order to comply with all notification and land access requirements under the *Mining Act 1992* or *Petroleum (Onshore) Act 1991*. Certificates of title can be obtained from NSW Land Registry Service. Information on the certificates of title will also assist in confirming whether a proposed activity meets some of the location restriction criteria for CEAs.

Table 2: Tier 2 – Sensitive land location restrictions

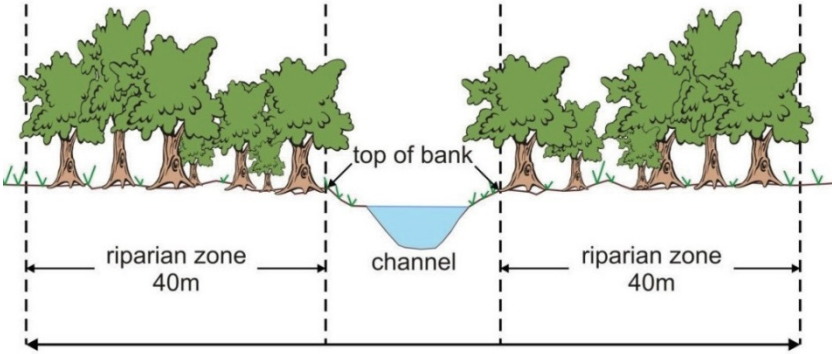
Restrictions & Thresholds	Explanatory Notes	
Location restrictions – conservation areas		
Land reserved under <i>National Parks and Wildlife Act 1974</i>	CEAs must not occur on land reserved under the <i>National Parks and Wildlife Act 1974</i> .	<p>Land reserved under the <i>National Parks and Wildlife Act 1974</i> includes national park, nature reserve, karst conservation reserve, historic site, regional park, state conservation area, Aboriginal areas, wild rivers and wildlife refuges. These areas are mapped by the NSW National Parks and Wildlife Service with mapping available on their website and the 'Miners and Explorer's Map on the NSW Government's SEED portal (www.seed.nsw.gov.au).</p> <p>If the preliminary mapping of the boundaries of a title identifies that reserved lands are located within those boundaries, the proponent should obtain geo-referenced data to identify the precise location of those lands in relation to any proposed exploration activities.</p> <p><i>Note: Exploration activities are typically prohibited in all of these areas, other than SCAs.</i></p>
Land acquired under Part 11 of the <i>National Parks and Wildlife Act 1974</i>	CEAs must not occur on land acquired by the Minister under Part 11 of the <i>National Parks and Wildlife Act 1974</i> .	<p>Under Part 11 of the <i>National Parks and Wildlife Act 1974</i>, the Minister can acquire and hold land which is not reserved under the <i>National Parks and Wildlife Act 1974</i>.</p> <p>The relevant NSW Minister will be identified as the landowner on the certificate of title for all land acquired under Part 11.</p> <p>Discussions with the NPWS will also identify whether or not land owned by or vested in the Minister is Part 11 land.</p>
Conservation agreements	CEAs must not occur on land subject to a 'conservation agreement' under the <i>National Parks and Wildlife Act 1974</i> and/or the <i>Biodiversity Conservation Act 2016</i> .	<p>A conservation agreement is a joint agreement between landholders and the NSW Government, entered into under either the <i>National Parks and Wildlife Act 1974</i> and/or the <i>Biodiversity Conservation Act 2016</i>.</p> <p>If an area is subject to a conservation agreement, it will be registered and identified on the certificate of title for that land.</p> <p>Further information will also be available from either the National Parks and Wildlife Service or the Environment and Heritage Group (EHG) Group within the Department of Planning and Environment (as relevant).</p>
Aquatic reserves	CEAs must not occur on land declared as an aquatic reserve under the <i>Marine Estate</i>	<p>Aquatic reserves are part of the marine protected areas system declared under the <i>Marine Estate Management Act 2014</i>.</p> <p>Information relating to the location of aquatic reserves is available on the NSW Department of Primary Industries website and the</p>

Restrictions & Thresholds	Explanatory Notes	
	<p><i>Management Act 2014.</i></p>	<p>'Miners and Explorer's Map on the NSW Government's SEED portal (www.seed.nsw.gov.au).</p> <p>If the available mapping identifies that an aquatic reserve is located within the title, the proponent should obtain geo-referenced data identifying the location of the aquatic reserve in relation to the proposed exploration activities.</p>
<p>Marine parks</p>	<p>CEAs must not occur on land declared as a marine park under the <i>Marine Estate Management Act 2014</i>.</p>	<p>Marine Parks are declared under the <i>Marine Estate Management Act 2014</i>. Information relating to the location of marine parks is available on the NSW Department of Primary Industries website and the 'Miners and Explorer's Map on the NSW Government's SEED portal (www.seed.nsw.gov.au).</p> <p>If the available mapping identifies that a marine park is located within the title, the proponent should obtain geo-referenced data identifying the location of the marine park in relation to the proposed exploration activities.</p>
<p>Forestry conservation areas</p>	<p>CEAs must not occur on land within a state forest set aside under the <i>Forestry Act 2012</i> for conservation values. This includes flora reserves and special management (and other) zones.</p>	<p>Forestry management zones are provided for under the <i>Forestry Act 2012</i>, including the declaration of special management zones and flora reserves. The mapping of forestry management zones is available on the Forestry Corporation website and the 'Miners and Explorer's Map on the NSW Government's SEED portal (www.seed.nsw.gov.au).</p> <p>Proponents should consult with Forestry Corporation NSW to obtain more detailed mapping and information regarding the location of flora reserves and special management zones that may be located within the title area.</p>
<p>Crown reserves for environmental protection purposes</p>	<p>CEAs must not occur on land reserved or dedicated under the <i>Crown Lands Act 1989/Crown Lands Management Act 2016 (as applicable)</i> for the preservation of flora, fauna, geological formations, or for other environmental protection purposes.</p>	<p>Areas of Crown land are identified by cadastral information available from Crown Lands within the Department of Planning and Environment.</p> <p>Spatial information on Crown Lands is available on the 'Miners and Explorer's Map on the NSW Government's SEED portal (www.seed.nsw.gov.au).</p> <p>The proponent should contact Crown Lands regarding the presence of Crown land reserves within the title.</p>
<p>Wilderness</p>	<p>CEAs must not occur on land identified as wilderness or declared a wilderness area under the <i>Wilderness Act 1987</i>.</p>	<p>Areas identified as wilderness or declared as a wilderness area under the <i>Wilderness Act 1987</i> are mapped by the NSW National Parks and Wildlife Service with mapping available on their website and the 'Miners and Explorer's Map on the NSW Government's SEED portal (www.seed.nsw.gov.au).</p> <p>If the available mapping identifies that a wilderness area is located within the title, the proponent should obtain geo-referenced data identifying the location of the wilderness area in relation to the proposed exploration activities.</p>

Restrictions & Thresholds	Explanatory Notes	
Biobanking agreements and Biodiversity Stewardship agreements	<p>CEAs must not occur on land subject to a Biobanking agreement (established under the now repealed <i>Threatened Species Conservation Act 1995</i>) or a Biodiversity Stewardship agreement established under the <i>Biodiversity Conservation Act 2016</i>.</p>	<p>Biobanking agreements are established between a landowner and the NSW Government (under the now repealed <i>Threatened Species Conservation Act 1995</i>). This was replaced by Biodiversity Stewardship agreements which are established between the NSW Government under the <i>Biodiversity Conservation Act 2016</i>.</p> <p>These agreements run with the land and generally have effect in perpetuity so as to offset the impacts of development on biodiversity values. Sites subject to these agreements are able to generate biodiversity credits under the Biodiversity Offsets Scheme.</p> <p>These agreements will be identified on the certificate of title to the land. Further information will also be available from the Environment and Heritage Group (EHG) within the Department of Planning and Environment.</p>
Wildlife Refuge agreements	<p>CEAs must not occur on land subject to a Wildlife Refuge agreement established under the <i>Biodiversity Conservation Act 2016</i>.</p>	<p>Wildlife Refuge agreements are established between a landowner and the NSW Government under the <i>Biodiversity Conservation Act 2016</i>.</p> <p>These agreements generally run with the land and have effect in perpetuity to protect and conserve wildlife.</p> <p>The existence of a Wildlife Refuge agreement will be identified on the certificate of title to the land. Further information will also be available from the Environment and Heritage Group (EHG) within the Department of Planning and Environment.</p>
Other conservation agreements on private land	<p>CEAs must not occur on land subject to existing conservation agreements that continue to have effect even where legislation has been repealed.</p>	<p>Existing conservation agreements registered on the certificate of title for the land continue to be governed by the legislation they were made under, even where that legislation has been repealed. This includes:</p> <ul style="list-style-type: none"> • Trust agreements under the now repealed <i>Nature Conservation Trust Act 2001</i> • Property vegetation plans made under the now-repealed <i>Native Vegetation Act 2003</i> • Registered property agreements under the repealed <i>Native Vegetation Conservation Act 1997</i> <p>The existence of these agreements will be identified on the certificate of title to the land. Further information will also be available from the Environment, Energy and Heritage Group (EHG) within the Department of Planning and Environment.</p>
Location restrictions — drinking water catchment protection areas		
Drinking water catchment protection areas	<p>CEAs must not occur on land declared to be a 'controlled area' or a 'special area' under the <i>Water NSW Act 2014</i>, or a 'special area' under the <i>Water Management Act</i></p>	<p>Access to land within catchment management areas, particularly surrounding drinking water dam catchment areas, can be restricted by the relevant controlling water authority. For example, areas surrounding Warragamba Dam are special and controlled areas declared under the <i>Water NSW Act 2014</i>, and areas around Grahamstown Dam are special areas under the <i>Hunter Water Regulation 2010</i>.</p> <p>The proponent is required to contact the relevant water management authority responsible for the regulation of water storage facilities in relation to areas of restricted access within the</p>

Restrictions & Thresholds	Explanatory Notes	
	<p>2000 or <i>Hunter Water Act 1991</i>.</p>	<p>title. Further information regarding catchments managed by WaterNSW is available on their website.</p> <p>Spatial information on drinking water catchments is available on the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p>
Location restrictions – environmentally sensitive areas		
<p>Area of outstanding biodiversity value/critical habitat</p>	<p>CEAs must not occur on land declared as areas of outstanding biodiversity value under the <i>Biodiversity Conservation Act 2016</i> or critical habitat under Part 7A of the <i>Fisheries Management Act 1994</i>.</p>	<p>Declared areas of outstanding biodiversity value under the <i>Biodiversity Conservation Act 2016</i> are listed in the Register maintained by the Environment, Energy and Science (EES) Group within the Department of Planning and Environment.</p> <p>Areas declared as critical habitat under the <i>Fisheries Management Act 1994</i> are recorded in the Department of Primary Industry’s register of critical habitat.</p> <p>If the available mapping identifies that an area of outstanding biodiversity value/critical habitat is located within the title, the proponent should obtain geo-referenced data identifying the location of the area in relation to the proposed exploration activities.</p>
<p>Ramsar wetlands</p>	<p>CEAs must not occur on land designated as a wetland of international significance under the Ramsar Convention on Wetlands.</p>	<p>Information relating to the Ramsar Wetlands located within Australia can be obtained from the Australian Wetlands Database provided by the Australian Government Department of Environment and the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>If a Ramsar wetland is located within a title, the proponent should obtain geo-referenced data to accurately identify the location of the Ramsar wetland in relation to the proposed exploration activities. Exploration activities cannot be undertaken within a Ramsar wetland without further approvals under the relevant legislation.</p> <p>Ramsar wetlands are also recognised as a matter of national environmental significance under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>, and activities located in close proximity to a Ramsar wetland may also require approval under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>.</p>
<p>Nationally important wetlands</p>	<p>CEAs must not occur on land designated as a nationally important wetland in the Directory of Important Wetlands of Australia.</p>	<p>Information relating to nationally important wetlands can be obtained from the Australian Wetlands Database provided by the Australian Government Department of Environment and the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p>
<p>Coastal wetlands</p>	<p>CEAs must not occur on land identified as Coastal Wetlands under <i>State Environmental Planning Policy</i></p>	<p>Land identified as coastal wetlands by <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> is mapped by the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>Coastal wetlands declared under the SEPP are also typically mapped by local councils. Mapping may be available from the development planning or environment sections of the local council relevant to the location of the authority. Mapping may also be available via the council website.</p>

Restrictions & Thresholds	Explanatory Notes	
	<i>(Resilience and Hazards) 2021.</i>	Should the available mapping identify that the title may contain coastal wetlands declared under the SEPP, the proponent should obtain geo-referenced data to accurately identify the location of the wetlands in relation to the proposed exploration activities.
Littoral rainforests	CEAs must not occur on land identified as Littoral Rainforests under <i>State Environmental Planning Policy (Resilience and Hazards) 2021.</i>	<p><i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> applies to littoral rainforests, which are rainforests which occur in coastal areas. Mapping of littoral rainforests is contained in the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>Local councils may also have more detailed mapping of littoral rainforests within their local government areas.</p> <p>Should the available information identify that littoral rainforest may be located within or near to the title, the proponent should obtain geo-referenced data to accurately identify the location of the littoral rainforest in relation to the proposed exploration activities.</p>
Coastal zone	CEAs must not occur within the coastal zone as defined in the <i>Coastal Management Act 2016.</i>	<p>The Coastal Zone includes the Coastal Waters of the State. The Coastal Waters of the State are defined by the <i>Interpretation Act 1987</i> as being:</p> <ul style="list-style-type: none"> the part or parts of the territorial sea of Australia that is or are within the adjacent area in respect of the state, other than any part referred to in section 4 (2) of the <i>Coastal Waters (State Powers) Act 1980</i> of the Commonwealth any sea that is on the landward side of any part of the territorial sea of Australia and is within the adjacent area in respect of the state, but is not within the limits of the state. <p>The Coastal Waters of the State generally extend up to three nautical miles from the NSW coastline.</p>
Areas of biodiversity or conservation significance and environmentally sensitive land	CEAs must not occur on land identified in an environmental planning instrument as being of biodiversity / conservation significance or zoned for environmental conservation, protection and/or management.	<p>Environmental planning instruments (such as local environmental plans, regional environmental plans and state environmental planning policies) relevant to the title may identify land as being of biodiversity or conservation significance or zoned for environmental conservation, protection and/or management. Land identified as such is considered to be environmentally sensitive.</p> <p>Relevant environmental planning instruments should be referred to in determining whether the title contains an area of biodiversity/conservation significance or is zoned for environmental conservation, protection and/or management.</p> <p>Spatial information on land use zoning is available on the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>Environmental planning instruments which apply in NSW can be found at NSW Legislation (www.legislation.nsw.gov.au).</p>
Waterfront land	<p>CEAs must not occur on waterfront land as defined under the <i>Water Management Act 2000.</i></p> <p><i>Note:</i> This does not apply to the use of existing access tracks and upgrading</p>	<p>The <i>Water Management Act 2000</i> defines waterfront land as the bed of any river, lake or estuary and any land within 40 metres of the river banks, lake shore or estuary mean high water mark. Rivers, lakes or estuaries can be identified with reference to the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>Waterfront land forms a transition zone between the land, also known as the terrestrial environment, and the river or watercourse or aquatic environment. The waterfront land consists of:</p> <ul style="list-style-type: none"> the channel which comprises the bed and banks of the watercourse (to the highest bank)

Restrictions & Thresholds	Explanatory Notes	
	<p>existing access tracks to satisfy the requirements of the <i>Managing Urban Stormwater: Soils and Construction, Volume 2C, Unsealed Roads</i> (DECC 2008a) and <i>Policy and Guidelines for Fish Habitat Conservation and Management</i> (DPI 2013).</p>	<ul style="list-style-type: none"> the vegetated riparian zone adjoining the channel. <p>Figure 1 provides a representation of waterfront land.</p> <p style="text-align: center;">Figure 1. Waterfront land</p>  <p>CEAs are not permitted within waterfront land, being 40 metres from the top of the bank of a watercourse (refer to Figure 1).</p> <p>Only works ancillary to exploration activities for the purpose of using and/or upgrading an existing access track are permitted on waterfront land for the purpose of a CEA. Upgrade works are only permitted within waterfront land if the works are undertaken in accordance with the <i>Managing Urban Stormwater: Soils and Construction Requirements: Volume 2C Unsealed Roads</i> (DECC, 2008a) (<i>Blue Book: Unsealed Roads</i>) and the <i>Policy and Guidelines for Fish Habitat Conservation and Management</i> (DPI, Update 2013).</p> <p>Where exploration activities are located near to waterfront land, it is recommended that the proponent obtains geo-referenced data which will provide accurate mapping of the riparian areas and assist in communicating the exclusion zones with the relevant contractors and staff.</p> <p>New access tracks on waterfront land are not CEAs.</p>
<p>Steep slopes</p>	<p>CEAs must not occur on slopes greater than 18 degrees from horizontal.</p>	<p>Vegetation removal on steep slopes can contribute to slope instability or erosion.</p> <p>Only works ancillary to exploration activities for the purposes of upgrading existing access tracks to satisfy the requirements of the <i>Blue Book: Unsealed Roads</i> are permitted on slopes greater than 18 degrees.</p> <p>The proponent is to identify areas within the title where slopes are likely to be greater than 18 degrees from horizontal. The identification of these areas can be undertaken using topographic mapping or geographic information systems. These areas can also be identified in the field using a clinometer or similar instrument.</p> <p>Spatial information on slope of land/contours is available on the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>The upgrade of existing access tracks can be undertaken in areas where the slope is greater than 18 degrees provided that the existing access tracks are upgraded in accordance with <i>Blue Book: Unsealed Roads</i> requirements and appropriate drainage controls are installed. Access track upgrade works must not remove shrubs or trees on slopes greater than 18 degrees.</p>

Restrictions & Thresholds	Explanatory Notes	
Location restrictions — land with potential for soil and water contamination		
Acid sulfate soils	CEAs must not include excavations (other than drill holes) in potential acid sulfate soils or actual acid sulfate soils as defined by the NSW Acid Sulfate Soils Risk Maps.	<p>Acid sulfate soils occur in two forms — potential acid sulfate soils (PASS) and actual acid sulfate soils (AASS). Both PASS and AASS are formed from sediments containing iron sulfides which were formed in anaerobic and water logged conditions. In-situ, PASS pose no threat to the environment as the material has not been exposed to air and oxidised.</p> <p>The field pH of these soils in their undisturbed state can be pH 4 or more, and may be neutral or slightly alkaline.</p> <p>AASS are PASS which have been exposed to oxygen as a result of drainage or disturbance. The sulphides in the soil mix with oxygen when exposed to air and produce sulfuric acid which makes the soil more acidic with a pH of below 4.0. AASS often release toxic quantities of iron, aluminium and heavy metals. PASS and AASS are often found in the same soil profile with AASS typically overlying PASS.</p> <p>Acid sulfate soils risk maps for NSW are managed by the Environment, Energy and Science (EES) Group within the Department of Planning and Environment. Acid sulfate soils risk mapping is also available on the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>The proponent is to determine whether acid sulfate soils are mapped as being present within the title and whether the proposed activities are to be undertaken within these areas.</p>
Location restrictions — Aboriginal heritage protection areas		
Aboriginal places under the <i>National Parks and Wildlife Act 1974</i>	CEAs must not occur on land declared as an Aboriginal place under the <i>National Parks and Wildlife Act 1974</i> .	<p>Under section 84 of the <i>National Parks and Wildlife Act 1974</i>, the Minister may, by order published in the Gazette, declare any place specified or described in the order, being a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture, to be an Aboriginal place.</p> <p>Information regarding Aboriginal places is available through the NSW Aboriginal Heritage Information Management System database.</p> <p>If an Aboriginal place is located within the title, the proponent should obtain geo-referenced data identifying the location of the Aboriginal place in relation to the proposed exploration activities.</p>
Areas of Aboriginal cultural significance	CEAs must not occur on land identified in an environmental planning instrument as being of Aboriginal cultural significance.	<p>Environmental planning instruments (such as local environmental plans, regional environmental plans and state environmental planning policies) relevant to the title may identify land as being of Aboriginal cultural significance.</p> <p>Spatial information on land identified in an environmental planning instrument as being of Aboriginal cultural significance is available the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>The proponent is required to refer to the relevant environmental planning instruments and determine whether the title contains an area of Aboriginal cultural heritage.</p> <p>Environmental planning instruments which apply in NSW can be found at NSW Legislation (www.legislation.nsw.gov.au).</p>

Restrictions & Thresholds	Explanatory Notes	
Location restrictions — historic or natural heritage protection areas		
Nationally and internationally recognised heritage sites	CEAs must not occur on land identified on the World Heritage List, National Heritage List or Commonwealth Heritage List.	<p>A full list of world heritage sites located within Australia is maintained by the Australian Government Department of Environment.</p> <p>The Australian Government Department of Environment also maintains the National Heritage List.</p> <p>The Commonwealth Heritage List is a list of natural, Indigenous and historic heritage places owned or controlled by the Australian Government.</p> <p>The various heritage lists are available on the Australian Government Department of Environment website and the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p>
Items listed on State Heritage Register	CEAs must not occur on land, places, buildings or structures listed on the State Heritage Register.	<p>The State Heritage Register is a list of places and objects which are legally protected under the <i>Heritage Act 1977</i>.</p> <p>This spatial information can be viewed on the Heritage NSW website and the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p>
Heritage items and conservation areas identified in an environmental planning instrument	CEAs must not occur on land identified in an environmental planning instrument as being of heritage significance or a heritage conservation area.	<p>Environmental planning instruments (such as local environmental plans, regional environmental plans and state environmental planning policies) relevant to the title may identify land as being or containing a heritage item or heritage conservation area.</p> <p>This spatial information can be viewed on the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p> <p>The proponent is required to refer to the relevant environmental planning instruments and determine whether it contains any heritage items. Environmental planning instruments which apply in NSW can be found at NSW Legislation (www.legislation.nsw.gov.au).</p>
Location restrictions — critical industry clusters		
Critical industry clusters	CEAs must not occur on land identified as a critical industry cluster land under a strategic regional land use plan and state environmental planning policy.	<p>The Mining SEPP provides for the classification of certain land as critical industry cluster (CIC) land under a strategic regional land use plan (SRLUP). CICs are concentrations of highly productive rural industries within a region that are related to each other, contribute to the identity of that region, and provide employment opportunities.</p> <p>The SRLUP prepared for the Upper Hunter includes mapping of land identified as CIC land; two types of CIC land, equine and viticulture, have been mapped to date. The SRLUP for New England North West does not include CIC land.</p> <p>CIC land is identified on the strategic agricultural land maps in the Mining SEPP.</p> <p>This spatial information can be viewed on the NSW Legislation (www.legislation.nsw.gov.au).</p>
Location restrictions — community land		
Community land	CEAs must not occur on public land classified as community land under the <i>Local</i>	Local councils are responsible for the management of public land classified as community land. All community land must be managed in line with a plan of management prepared in accordance with the <i>Local Government Act 1993</i> . Councils are also

Restrictions & Thresholds	Explanatory Notes	
	<p><i>Government Act 1993.</i></p>	<p>required under the <i>Local Government Act 1993</i> to keep a register of all land vested in it or under its control.</p> <p>Areas classified as community land are identified by the relevant local environmental plan (which can be found at NSW Legislation www.legislation.nsw.gov.au) and by reviewing the Council Land Register.</p>
Location Restrictions — other areas		
Other areas	<p>CEAs must not occur on any other land identified as environmentally sensitive land by the title.</p>	<p>Refer to the conditions of the title for details of any other land identified as being environmentally sensitive.</p>
Impact thresholds - ecology		
Threatened species or ecological communities, or their habitats	<p>CEAs must not have a significant effect on any threatened species or ecological communities, or their habitats.</p>	<p>To determine a proposed activity's likely impact on threatened species or ecological communities, or their habitats, a search of relevant state and Commonwealth databases should be undertaken. These searches should identify any threatened species or communities that have been recorded within the vicinity that may be affected by the proposed activity.</p> <ul style="list-style-type: none"> • the Biodiversity Values Land Map available on the Environment and Heritage Group website (www.environment.nsw.gov.au) • records kept by the NSW Department of Planning and Environment pursuant to the <i>Biodiversity Conservation Act 2016</i> (available at www.bionet.nsw.gov.au and www.seed.nsw.gov.au) • records kept by the NSW Department of Primary Industries pursuant to the <i>Fisheries Management Act 1994</i> • Commonwealth Protected Matters Search Tool (www.environment.gov.au) <p>In addition to a database search, a site inspection by a qualified ecologist or other competent person should be undertaken for all sites located partly or wholly in areas that have not been subject to surface disturbance or cropped within the past five years and/or do not contain improved pastures comprising more than 50% of the ground cover. Access tracks should also be inspected unless no upgrade works are proposed. This site inspection should assess the site for the presence of any threatened ecological communities and identify any threatened species that may be present in the proposed disturbance area and the immediate vicinity.</p> <p>An assessment of significance must be undertaken in accordance with Section 7.3 of the <i>Biodiversity Conservation Act 2016</i> for all threatened flora and fauna species identified through the desktop searches and site inspection that are likely to or have real potential to be impacted by the proposed activities. If the activity is located in a threatened ecological community or a threatened ecological community has real potential of being impacted by the activity, an assessment of significance must also be undertaken to assess the likely significance of the proposed activities impact on the community. Only activities identified as being unlikely to have a significant effect on threatened species or ecological communities, or their habitats, can be classified as CEAs.</p>

Restrictions & Thresholds	Explanatory Notes	
	<p>Guidance for the preparation of assessments of significance for flora and fauna is provided in the <i>Threatened Species Test of Significance Guidelines</i> (Office of Environment and Heritage, NSW Government, 2018). For threatened fish species, guidance is provided by the <i>Threatened Species Assessment Guidelines</i> (NSW DPI, 2008).</p> <p>A copy of the results of the database searches and details of any threatened species or ecological communities identified during the site inspection should accompany the Application Form. A copy of any assessments of significance undertaken, together with an explanation of why any species or communities identified in either the site inspection or database searches were not, must accompany the application. This will enable the determining authority to confirm the adequacy of the assessment of potential impacts.</p> <p>(See also the Explanatory Notes regarding vegetation clearing thresholds and access tracks).</p>	
Impact thresholds – Aboriginal heritage		
Aboriginal objects	CEAs must not harm Aboriginal objects.	<p>An Aboriginal object is defined under the <i>National Parks and Wildlife Act 1974</i> as:</p> <p><i>any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.</i></p> <p>Aboriginal objects include artefacts, culturally modified trees, grinding grooves and artwork sites.</p> <p>The proponent is to undertake an Aboriginal archaeological due diligence assessment in accordance with the requirements of the <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i> (DECCW, 2010).</p> <p>Checking the Aboriginal Heritage Information Management System (AHIMS), which includes information about Aboriginal objects, is a part of the due diligence process.</p> <p>Previously disturbed areas where Aboriginal objects have previously been identified should be inspected as part of the due diligence process, minimising the risk of activities being delayed if an object is identified during the undertaking of the activity.</p> <p>The due diligence assessment is to consider all activities, including the upgrade of existing access tracks. If an Aboriginal object is located near to and within the land where exploration activities are to be conducted, appropriate measures must be put in place to prevent harm. This could include demarcation with flagging tape or fencing.</p> <p>Surface disturbing activities associated with upgrading existing access tracks are subject to this restriction.</p> <p>Any activity that is likely to occur on land that is declared as an Aboriginal place is not eligible for consideration under the CEA assessment pathway. Refer to the Tier 2 location restrictions outlined in section 1.4.1.</p>

Restrictions & Thresholds	Explanatory Notes	
Impact thresholds – European heritage		
Heritage items	CEAs must not damage heritage items.	<p>The proponent is required to avoid any impacts to a heritage item. An item means a place, building, work, relic, moveable object or precinct. The presence of a heritage item can be identified by using the following registers and instruments:</p> <ul style="list-style-type: none"> • World Heritage List • Commonwealth Heritage List • National Heritage List • State Heritage Register • relevant environmental planning instrument (local environment plan, regional environmental plan or state environmental planning policy). <p>This spatial information can be viewed on the Australian Government’s Protected Matters Search Tool and the NSW Government’s SEED portal (www.seed.nsw.gov.au).</p>

Appendix 3: Complying exploration activities checklist

Provided below is a checklist for CEA criteria. This checklist aligns with questions asked in the Application Form (refer to section 1.4.1).

The checklist will assist proponents in completion of the Application Form. The checklist has been designed to enable title holders to quickly identify whether or not a proposed exploration activity will be able to be processed under the CEA assessment pathway and, if not, where the design of the proposed activity needs to be modified to make it compliant with the CEA criteria.

The checklist is split into three tables which align with the CEA criteria:

- **Checklist 1** relates to the Tier 1 – Impact thresholds
- **Checklist 2** relates to the Tier 2 – Sensitive land location restrictions and thresholds
- **Checklist 3** relates to the Tier 3 – Management controls.

A completed checklist should speed up the process of completing the Application Form. A single checklist can be used for multiple exploration activities (e.g. an entire work program involving more than one drill site can be covered by a single checklist) or can be completed independently.

Tier 1 Impact thresholds

Tier 1 impact thresholds and criteria which apply to proposed CEAs are detailed in Checklist 1 below.

An activity cannot be assessed under the CEA if it will result in the impact thresholds in Checklist 1 being exceeded.

The cumulative impact thresholds in Checklist 1 include impacts from existing approved activities that have not yet been rehabilitated to the satisfaction of the department (or have not yet been undertaken) as well as the impacts from the proposed CEA.

Further information on these criteria and how the areas of impact are calculated are discussed in Appendix 1 of the guideline.

(Note: Rehabilitation must only be reported as completed in cases where the department has acknowledged in writing that the area has been satisfactorily rehabilitated, following submission of the relevant application by the title holder).

Checklist 1

Criteria	Existing Approved	Proposed	Total (Existing + Proposed)	Tier 1 Criteria	Guidelines Section	Criteria Satisfied?	
						Yes	No
Vegetation Clearing							
Total area of clearing/removal of tree canopy within any single hectare.				1,000 m ²	Appendix 1		
Total area of clearing/removal of tree canopy within any single unit (or 250 ha) of title.				10,000 m ²			
Total area of clearing/removal of tree canopy within any single title.				50,000 m ²			

Criteria	Existing Approved	Proposed	Total (Existing + Proposed)	Tier 1 Criteria	Guidelines Section	Criteria Satisfied?	
						Yes	No
Surface Disturbance and Excavations							
Maximum area of surface disturbance within any single unit (or 250 ha) of title.				10,000 m ²	Appendix 1		
Total area of surface disturbance within title.				50,000 m ²			
Maximum size of excavations within any single unit (or 250 ha) of title.				200 m ³			
Total size of excavations within title.				1,000 m ³			
Groundwater Make							
Cumulative extraction of groundwater from all exploration activities within the title.				3 ML/year	Appendix 1		

Tier 2 – Sensitive land location restrictions and thresholds

To be a CEA, the activity and associated development must meet the following location restriction criteria. All of the following must be answered 'No' for the activity to qualify for the CEA assessment pathway. Further information on these location restrictions is provided in Appendix 2 of the guideline.

Checklist 2

Restrictions & Thresholds	Guidelines Section	No	Yes
Location restrictions - conservation areas			
Will the activity occur in areas reserved under the <i>National Parks and Wildlife Act 1974</i> ?	Appendix 2		
Will the activity occur on land acquired by the Minister for the Environment under the <i>National Parks and Wildlife Act 1974</i> ?			
Will the activity occur on land subject to a 'conservation agreement' under the <i>National Parks and Wildlife Act 1974</i> and/or the <i>Biodiversity Conservation Act 2016</i> ?			
Will the activity occur on land declared as an aquatic reserve under the <i>Marine Estate Management Act 2014</i> ?			
Will the activity occur on land declared as a marine park under the <i>Marine Estate Management Act 2014</i> ?			

Restrictions & Thresholds	Guidelines Section	No	Yes
Will the activity occur in areas of State Forest set aside under the <i>Forestry Act 2012</i> for conservation values?			
Will the activity occur on land reserved or dedicated under the <i>Crown Lands Act 1989 / Crown Lands Management Act 2016</i> (as applicable) for the preservation of flora, fauna, geological formations or for other environmental protection purposes?			
Will the activity occur on land identified as wilderness or declared a wilderness area under the <i>Wilderness Act 1987</i> ?			
Will the activity occur on land subject to a Biobanking agreement (established under the now repealed <i>Threatened Species Conservation Act 1995</i>) or a Biodiversity Stewardship agreement established under the <i>Biodiversity Conservation Act 2016</i> ?	Appendix 2		
Will the activity occur on land subject to a Wildlife Refuge agreement established under the <i>Biodiversity Conservation Act 2016</i> ?			
Will the activity occur on land subject to existing conservation agreements that continue to have effect even where legislation has been repealed? (including Trust agreements under the <i>Nature Conservation Trust Act 2001</i> ; Property vegetation plans made under the <i>Native Vegetation Act 2003</i> ; Registered property agreements under the <i>Native Vegetation Conservation Act 1997</i>).			
Location restriction - drinking water catchment protection areas			
Will the activity occur on land declared to be a 'controlled area' or a 'special area' under the <i>Water NSW Act 2014</i> ?	Appendix 2		
Will the activity occur on land declared to be a 'special area' under the <i>Water Management Act 2000</i> or <i>Hunter Water Act 1991</i> ?			
Location restriction - environmentally sensitive areas			
Will the activity occur on land declared as an area of outstanding biodiversity value under the <i>Biodiversity Conservation Act 2016</i> or critical habitat under Part 7A of the <i>Fisheries Management Act 1994</i> ?			
Will the activity occur on wetlands of international significance declared under the Ramsar Convention on Wetlands?	Appendix 2		
Will the activity occur on land identified as a nationally important wetland in the Directory of Important Wetlands of Australia?			
Will the activity occur on coastal wetlands to which the <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> applies?			

Restrictions & Thresholds	Guidelines Section	No	Yes
Will the activity occur on littoral rainforests to which <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> applies?			
Will the activity occur in the Coastal Zone under the <i>Coastal Management Act 2016</i> (including coastal waters of the State)?			
Will the activity occur on land identified in an environmental planning instrument as being of biodiversity / conservation significance or zoned for environmental conservation, protection and/or management?			
Will the activity occur on waterfront land as defined under the <i>Water Management Act 2000</i> ? (Note: This does not include the upgrade or use of existing access tracks.)			
Will the activity occur on land with a slope greater than 18 degrees? (Note: This does not include the upgrade or use of existing access tracks.)			
Location restrictions - land with potential for soil and water contamination			
Will the activity include excavations in Potential Acid Sulfate Soils (PASS) or Actual Acid Sulfate Soils (AASS)?	Appendix 2		
Location restrictions – Aboriginal heritage protection areas			
Will the activity occur in an Aboriginal Place declared under the <i>National Parks and Wildlife Act 1974</i> ?	Appendix 2		
Will the activity occur on land identified in an environmental planning instrument as being of Aboriginal cultural significance?			
Location restrictions – historic or natural heritage protection areas			
Will the activity occur on land identified on the World Heritage List, National Heritage List, or Commonwealth Heritage List?			
Will the activity occur on or affect land, places, buildings or structures on the State Heritage Register?	Appendix 2		
Will the activity occur on land identified in an environmental planning instrument as being of heritage significance or a heritage conservation area?			
Location restrictions - critical industry clusters			
Will the activity occur on land identified as a critical industry cluster land identified by a strategic regional land use plan and state environmental planning policy?	Appendix 2		
Location restrictions - community land			
Will the activity occur on public land classified as community land under the <i>Local Government Act 1993</i> (for which a plan of management has been prepared)?	Appendix 2		

Restrictions & Thresholds	Guidelines Section	No	Yes
Location restrictions - other areas			
Will the activity occur on land identified as environmentally sensitive land by the title?	Appendix 2		
Impact thresholds – ecology			
Will the activity have a significant effect on any threatened species or their habitats?	Appendix 2		
Will the activity have a significant impact on any threatened ecological community or their habitats?			
Will the activity remove any vegetation or marine vegetation for an access track upgrade works in waterfront land?	Appendix 2		
Impact thresholds – Aboriginal heritage			
Will the activity harm Aboriginal objects?	Appendix 2		
Impact thresholds – European heritage			
Will the activity damage heritage items?	Appendix 2		

Tier 3 – Management controls

The following management controls must be implemented (where relevant) for all CEAs.

Checklist 3

Management Control	Guidelines Section	Will The Control Be Implemented?	
		Yes	N/A
Exploration Code of Practice: Environmental Management			
Activity will be undertaken in accordance with the <i>Exploration Code of Practice: Environmental Management</i> .	Section 2.11.1		
Exploration Code of Practice: Rehabilitation			
Activity will be undertaken in accordance with the <i>Exploration Code of Practice: Rehabilitation</i> .	Section 2.11.1		
Exploration Code of Practice: Produced Water Management, Storage and Transfer			
Activity will be undertaken in accordance with the <i>Exploration Code of Practice: Produced Water Management, Storage and Transfer</i> .	Section 2.11.1		

Appendix 4: Review of environmental factors guidance²⁹

What is a review of environmental factors?

The determining authority is required to take into account a number of factors as set out in clause 171 of the *Environmental Planning and Assessment Regulation 2021* in order to discharge its obligations under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

A review of environmental factors (REF) is simply a document that sets out how these factors are likely to impact the environment and is submitted as an additional component of the Application Form.

The purpose of a REF is to inform the determining authority's consideration of the likely environmental impact of the activity under Part 5 of the EP&A Act. Therefore, the length and complexity of a REF will depend on the nature of the environmental impact.

When is a REF required?

The Application Form identifies when supporting information in the form of a REF is required to be submitted to enable the assessment to be completed in accordance with relevant statutory requirements of Part 5 of the EP&A Act.

Who prepares a REF?

REFs are prepared by (or on behalf of) the title holder. Title holders (or proponent's acting on behalf of title holders) should ensure that REFs are prepared by a person with appropriate qualifications or experience to ensure that the REF appropriately addresses all relevant issues and does not contain false or misleading information.

A typical REF may involve input from a range of experts with skills in environmental science, biodiversity, Aboriginal and historic heritage, hydrology, noise, air quality, social and economic impact assessment. The extent of any input will depend on the nature of the activity, the level of risk to the environment, and the proposed environmental safeguards.

Title holders should note that the provision of false or misleading information in an application under the *Mining Act 1992* or *Petroleum Act (Onshore) Act 1991* is an offence.

What information must be included in a REF?

The information in a REF can be very short or very detailed depending on the nature of the activity, the level of risk to the environment, and the proposed environmental safeguards. The Application Form is structured to identify the specific additional supporting information required in the REF component to facilitate the environmental assessment.

The REF should clearly demonstrate that the title holder has identified, and sought to avoid and minimise, adverse impacts on the environment and communities to the fullest.

The determining authority (i.e. the department) may also require a proponent to provide additional information³⁰ if it considers that the information set out in the Application Form (including the REF component) is insufficient to enable it to properly consider all matters likely to affect the environment in connection with an activity.

²⁹ Based on *Guidelines for Division 5.1 assessments* (Department of Planning and Environment, February 2022) and the now repealed "Is an EIS required? Best Practice Guidelines for Part 5 of the *Environmental Planning and Assessment Act 1979*" (NSW Department of Planning, 1995).

³⁰ The application may be refused if the proponent fails to provide the information required by the department within the time required (refer to sections 23A / 44A of the *Mining Act 1992* and sections 31A / 36A of the *Petroleum (Onshore) Act 1991*).

How to assess and categorise the potential impacts

The proponent will be required to assess the extent, size, scope, intensity and duration of the potential environmental impacts for each environmental issue using the categories below:

- nil/not applicable
- negligible
- low adverse
- medium adverse
- high adverse, or
- positive.

The table below provides a guide of the criteria to be used to categorise the impacts. The potential importance of each impact should be estimated, taking into account all the criteria used to analyse the nature of the impact. However, proponents will also need to use their own judgment, particularly if the activity is, for example, small in size but of a high intensity.

Guide to categorising the extent of the impact

Analysis Of Impact	Factors To Consider	Low Adverse	High Adverse
Size	<ul style="list-style-type: none"> • Amount • Quantity • Volume • Mass • Other 	Small-scale size/volume	Large-scale size/volume
Scope	<ul style="list-style-type: none"> • Area • Number • Range or limits • Other 	Localised	Extensive
Intensity	<ul style="list-style-type: none"> • Power / force / strength • Concentration • Rate • Ratio / proportion • Degree • Other 	Small impact dispersed over a long period	Large impact over a short or long period
Duration	Duration during site preparation, operations, decommissioning and rehabilitation	Short term	Long term
Level of confidence in predicting impacts	Is there adequate level of understanding of: <ul style="list-style-type: none"> • the environment likely to be affected? • proposed technology or design? • potential interactions? • proposed mitigation and management? • community's concerns and values? 	High confidence/knowledge and past experience	Low confidence, numerous uncertainties and unknowns

Analysis Of Impact	Factors To Consider	Low Adverse	High Adverse
	<p>Are there established and reliable predictive modelling techniques?</p> <p>Does past experience demonstrate the ability of the environment to cope with similar impacts?</p>		
Resilience of the environment to cope with impacts	<p>What is the ability of the environment to resist change?</p> <p>What is the ability of the environment to assimilate change without undergoing irreversible changes?</p> <p>Is the environment close to its assimilation capacity for the type of impacts identified?</p> <p>Can other land uses at and around the site be sustained?</p> <p>What is the ability of the environment to return to its original?</p>		
Level of reversibility of impacts	<p>Will the site be able to be used beyond the life of the proposed activity for the same or other purposes (e.g. rehabilitation and restored)?</p> <p>Can restoration works be undertaken to assist in reversing impacts?</p> <p>What is the likely recovery rate?</p> <p>To what extent will there be any flow-on impacts from restoration works?</p>	Impacts are reversible and rehabilitation likely to be successful	Reversibility impossible or unlikely due to cost or other factors
Ability to manage or mitigate the impacts	<p>How extensive are the risks without proposed mitigation?</p> <p>How effective are the mitigation measures to reduce the risk?</p> <p>Is there adequate precedent that the proposed mitigation measure will be effective?</p> <p>How acceptable are the residual risks?</p>	Effective mitigation measures available	Mitigation measures untested or unavailable
Ability of the impacts to comply with standards, plans or policies	<p>Is the proposed activity consistent with strategic planning objectives (local, regional, state)?</p> <p>Can the activity meet performance standards?</p>	Total compliance	Uncertain or part compliance
Level of public interest	<p>Does the community perceive that the environmental capacity will be exceeded (i.e. will not recover/withstand the impact)?</p> <p>Does the community consider that there is a threat to human health or safety?</p> <p>Does the community perceive that the amenity will be affected?</p> <p>Does the community consider that new inequities will be generated in the community?</p>	Low interest and predictable impacts on community	High interest and uncertain impacts on community

Analysis Of Impact	Factors To Consider	Low Adverse	High Adverse
	<p>Does the community object to materials or technologies that are a component of the activity?</p> <p>Is there a high level of uncertainty about the effects of the activity on the community?</p>		
<p>Requirement for further information on the impacts of the activity or mitigation</p>	<p>Are further studies required on impacts or mitigation strategies?</p>	<p>High level of understanding and information on the impact</p>	<p>Low level of information on and understanding of key issues</p>

Methodology to characterise impacts

The REF must consider the total impact of the activity based on the classification of individual impacts as:

- nil/not applicable
- negligible
- low adverse
- moderate adverse
- high adverse
- positive.

Impacts should also be ranked as high adverse if there is a high level of uncertainty about the impacts themselves.

Proposed activities which do not comply with standards, codes of practice or policies should also be regarded as having the potential to have a medium or high adverse impact.

In some instances the overall benefits of a proposed activity will be positive. Where this is the case, the positive aspects of the impact should be commented upon.

The assessment needs to consider impacts at all phases of the activity, including site preparation, construction, routine operation, decommissioning and rehabilitation as relevant.

Guide to considering the likely environmental significance of impacts

When considering the likely environmental significance of the impacts associated with the proposed activity, proponents should consider each of the following:

- how extensive are the impacts?
- how adverse are the impacts on environmentally sensitive areas?
- how acceptable are the impacts considering the nature of the impacts?

In addition to medium and high impacts, consideration should also be given to the overall effects of the low impacts. Although impacts may be of only low to medium concern when considered individually, the total effect of the impacts could be substantial.

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, then there is potentially a high risk to the environment.

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.

Impacts with a low level of acceptability because of 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.

Impacts with potential to significantly affect 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 the 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.

Activities that will adversely affect a community's amenity, or 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.

Impacts should be ranked as having a high adverse impact 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 threatened species or environmentally significant areas would also attract a ranking of high impact.

REF requirements of other government agencies

Where the approval of another government agency is also required, proponents must have regard to any relevant guidelines published by that agency. In such circumstances, proponents may decide to prepare a single REF document that addresses the requirements of both agencies.

Activities relating to, or adjoining, land reserved or acquired under the *National Parks and Wildlife Act 1974*

The Department of Planning and Environment (DPE) is responsible for management of lands reserved or acquired under the *National Parks and Wildlife Act 1974*. State conservation areas (SCAs) are the only category of reserved land where mining and petroleum activities are legally permissible, subject to approval from the DPE or the Minister for the Environment.

- REFs accompanying applications relating to land within SCAs must be prepared in accordance with the appropriate DPE guidelines and template. Proponents should liaise with the DPE office prior to commencing the REF.
- REFs for activities on land adjoining National Parks and Wildlife Service land must have regard *Development adjacent to National Parks and Wildlife Service Lands: Guidelines for consent and planning authorities* (National Parks and Wildlife Service, 2020).

As outlined in section 2.3, the DPE is responsible for assessing REFs for exploration activities in SCAs.