Document control

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Document history

<table>
<thead>
<tr>
<th>Version</th>
<th>Summary of changes</th>
<th>Author</th>
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<tr>
<td>1.0</td>
<td>Initial release of Table 4 guidance.</td>
<td>James Hart</td>
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<td>2.0</td>
<td>Guidance for EIA worksheet Tables 1-3 added.</td>
<td>James Hart</td>
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<td>Updated guidance for EIA worksheet Tables 1 – 4.</td>
<td>Diana Charteris</td>
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<tr>
<td>4.0</td>
<td>Updated section 2A.6 to reflect EF 250 Aboriginal Heritage Due Diligence Assessment and EG 251 Aboriginal Heritage Guideline.</td>
<td>Diana Charteris</td>
</tr>
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<td>5.0</td>
<td>Updated a number of sections in Tables 1 – 3 to reflect current procedures. Updated with SMART mitigation measures. Updated hyperlinks.</td>
<td>Diana Charteris</td>
</tr>
<tr>
<td>6.0</td>
<td>Updated to reflect the July 2014 version of NUS 174C Environmental Handbook. Updated information on crown land and made minor improvements throughout.</td>
<td>Diana Charteris</td>
</tr>
<tr>
<td>7.0</td>
<td>Updated section 2B.5 to correct information regarding works on classified roads.</td>
<td>Diana Charteris</td>
</tr>
<tr>
<td>8.0</td>
<td>Updated section 3A.4 to remove the requirement to complete EF 17430 Contaminated Site Assessment Checklist when an EIA worksheet is completed.</td>
<td>Diana Charteris</td>
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<tr>
<td>9.0</td>
<td>Updated section 2A.5 and 2B.5.</td>
<td>Diana Charteris</td>
</tr>
<tr>
<td>10.0</td>
<td>Updated section 2B.9 and 4.12 with requirements for the Port Botany Fire Ant Control Area. Updated section 2A.1 (now on the Env GIS). Updated various links throughout. Updated 4.10 with new TMP requirements and calculator.</td>
<td>Diana Charteris</td>
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<thead>
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<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHIMS</td>
<td>Aboriginal Heritage Information Management System</td>
</tr>
<tr>
<td>AHIP</td>
<td>Aboriginal Heritage Impact Permit</td>
</tr>
<tr>
<td>ASS</td>
<td>acid sulfate soils</td>
</tr>
<tr>
<td>ASP</td>
<td>Accredited Service Provider</td>
</tr>
<tr>
<td>CCO</td>
<td>chemical control order</td>
</tr>
<tr>
<td>CEMP</td>
<td>construction environmental management plan</td>
</tr>
<tr>
<td>CFC</td>
<td>chlorofluorocarbon</td>
</tr>
<tr>
<td>Classified road</td>
<td>Classified roads include main roads, highways, freeways, a controlled access road, a secondary road, a tourist road, a tollway, a transit way and State work.</td>
</tr>
<tr>
<td>CLC</td>
<td>customer load control</td>
</tr>
<tr>
<td>Climate Change</td>
<td>Describes both changed average climatic conditions, such as increased temperature and lower average rainfall, as well as changes in the patterns of extreme events, including increased frequency and intensity of storms.</td>
</tr>
<tr>
<td>CPESC</td>
<td>Certified Professional in Erosion and Sediment Control</td>
</tr>
<tr>
<td>DA</td>
<td>development application</td>
</tr>
<tr>
<td>dB</td>
<td>decibels</td>
</tr>
<tr>
<td>DII</td>
<td>Department of Industry and Investment</td>
</tr>
<tr>
<td>DoE</td>
<td>Commonwealth Department of the Environment</td>
</tr>
<tr>
<td>DP</td>
<td>deposited plan</td>
</tr>
<tr>
<td>DP&amp;E</td>
<td>Department of Planning and Environment</td>
</tr>
<tr>
<td>DPI</td>
<td>Department of Primary Industries (part of DII)</td>
</tr>
<tr>
<td>EEC</td>
<td>endangered ecological community</td>
</tr>
<tr>
<td>EHC Act</td>
<td><em>Environmentally Hazardous Chemicals Act 1985</em></td>
</tr>
<tr>
<td>Emergency works</td>
<td>Works for the purpose of maintaining or restoring infrastructure facilities or equipment in order to ensure public safety or to protect buildings or the environment due to:</td>
</tr>
<tr>
<td></td>
<td>• a sudden natural event, including a storm, flood, tree fall, bush fire, land slip or coastal inundation, or</td>
</tr>
<tr>
<td></td>
<td>• accident, equipment failure or structural collapse, or</td>
</tr>
<tr>
<td></td>
<td>• damage caused by vandalism or arson,</td>
</tr>
<tr>
<td></td>
<td>provided the works involve no greater disturbance to soil or vegetation than necessary and are carried out in accordance with all applicable requirements of the Blue Book.</td>
</tr>
<tr>
<td>EMF</td>
<td>electric and magnetic fields</td>
</tr>
<tr>
<td>ENM</td>
<td>excavated natural material</td>
</tr>
<tr>
<td>Env GIS</td>
<td>Environmental Geographic Information System</td>
</tr>
<tr>
<td>Environmental Impact</td>
<td>Any change in the environment whether adverse or beneficial, wholly or partially resulting from organisation activities, products or services.</td>
</tr>
<tr>
<td>EP&amp;A Act</td>
<td><em>Environmental Planning and Assessment Act 1979</em></td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Authority (part of OEH)</td>
</tr>
<tr>
<td>Term</td>
<td>Meaning</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EPBC Act</td>
<td>Environment Protection and Biodiversity Conservation Act 1999</td>
</tr>
<tr>
<td>EPI</td>
<td>environmental planning instruments</td>
</tr>
<tr>
<td>ES Act</td>
<td>Electricity Supply Act 1995</td>
</tr>
<tr>
<td>ESCP</td>
<td>erosion and sediment control plan</td>
</tr>
<tr>
<td>EWP</td>
<td>elevated work platforms</td>
</tr>
<tr>
<td>FM Act</td>
<td>Fisheries Management Act 1994</td>
</tr>
<tr>
<td>Heritage conservation area</td>
<td>Land identified as a heritage conservation area or place of Aboriginal significance (or by a similar description) in an EPI.</td>
</tr>
<tr>
<td>Heritage significance</td>
<td>Historic, scientific, cultural, social, archaeological, natural or aesthetic significance.</td>
</tr>
<tr>
<td>HV</td>
<td>high voltage</td>
</tr>
<tr>
<td>HWC</td>
<td>Hunter Water Corporation</td>
</tr>
<tr>
<td>Hz</td>
<td>hertz</td>
</tr>
<tr>
<td>IBC</td>
<td>Intermediate Bulk Container</td>
</tr>
<tr>
<td>ICNG</td>
<td>Interim Construction Noise Guideline</td>
</tr>
<tr>
<td>IECA</td>
<td>International Erosion Control Association</td>
</tr>
<tr>
<td>Infrastructure SEPP</td>
<td>State Environmental Planning Policy (Infrastructure) 2007</td>
</tr>
<tr>
<td>kg</td>
<td>kilogram</td>
</tr>
<tr>
<td>kV</td>
<td>kilovolts</td>
</tr>
<tr>
<td>kVA</td>
<td>kiloVolt Amperes – rating of load capacity</td>
</tr>
<tr>
<td>LEP</td>
<td>local environmental plan</td>
</tr>
<tr>
<td>Likelihood</td>
<td>a qualitative description of probability or frequency.</td>
</tr>
<tr>
<td>LV</td>
<td>low voltage</td>
</tr>
<tr>
<td>m, m², mm</td>
<td>metre, metres squared, millimetre</td>
</tr>
<tr>
<td>mg</td>
<td>milligrams</td>
</tr>
<tr>
<td>mG</td>
<td>milligauss</td>
</tr>
<tr>
<td>MoU</td>
<td>memorandum of understanding</td>
</tr>
<tr>
<td>MSB</td>
<td>Mine Subsidence Board</td>
</tr>
<tr>
<td>NATA</td>
<td>National Association of Testing Authorities, Australia.</td>
</tr>
<tr>
<td>NES</td>
<td>national environmental significance</td>
</tr>
<tr>
<td>NPW Act</td>
<td>National Parks and Wildlife Act 1974</td>
</tr>
<tr>
<td>NPWS</td>
<td>National Parks and Wildlife Service (part of OEH)</td>
</tr>
<tr>
<td>NVMP</td>
<td>Noise and Vibration Management Plan</td>
</tr>
<tr>
<td>NW Act</td>
<td>Noxious Weeds Act 1993</td>
</tr>
<tr>
<td>OCP</td>
<td>organochlorine pesticides</td>
</tr>
<tr>
<td>OEH</td>
<td>Office of Environment and Heritage</td>
</tr>
<tr>
<td>PCBs</td>
<td>polychlorinated biphenyls</td>
</tr>
<tr>
<td>PBP</td>
<td>Planning for Bushfire Protection</td>
</tr>
<tr>
<td>Term</td>
<td>Meaning</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PT</td>
<td>pole top transformer</td>
</tr>
<tr>
<td>Ramsar</td>
<td>A 'declared Ramsar wetland' is an area that has been designated under Article 2 of the Convention on Wetlands (Ramsar, Iran, 1971) or declared by the Minister to be a declared Ramsar wetland under the EPBC Act.</td>
</tr>
<tr>
<td>REF</td>
<td>review of environmental factors</td>
</tr>
<tr>
<td>RMS</td>
<td>Roads and Maritime Service</td>
</tr>
<tr>
<td>ROL</td>
<td>road occupancy licence</td>
</tr>
<tr>
<td>SCW</td>
<td>scheduled chemical waste</td>
</tr>
<tr>
<td>SF₆</td>
<td>Sulphur hexafluoride</td>
</tr>
<tr>
<td>SEPP</td>
<td>state environmental planning policy</td>
</tr>
<tr>
<td>SOH</td>
<td>standard operating hours</td>
</tr>
<tr>
<td>SOPA</td>
<td>Sydney Olympic Park Authority</td>
</tr>
<tr>
<td>SRZ</td>
<td>structural root zone</td>
</tr>
<tr>
<td>SWMP</td>
<td>soil and water management plan</td>
</tr>
<tr>
<td>TPZ</td>
<td>tree protection zone</td>
</tr>
<tr>
<td>UGOH</td>
<td>underground to overhead connection</td>
</tr>
<tr>
<td>VENM</td>
<td>virgin excavated natural material</td>
</tr>
<tr>
<td>Waterbody</td>
<td>A river, creek, canal, ocean or lake.</td>
</tr>
<tr>
<td>WM Act</td>
<td><em>Water Management Act 2000</em></td>
</tr>
</tbody>
</table>
Introduction

The EIA worksheet guidance notes are designed to provide assistance when completing Tables 1 to 4 of Ausgrid's NUS 174A EIA worksheet, prepared under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). This document is to be used by all Ausgrid employees and Accredited Service Providers (ASPs) undertaking planning work associated with Ausgrid's network in conjunction with Ausgrid's environmental impact assessment (EIA) worksheet. The information buttons in the EIA worksheet will link directly to the relevant section in this document.

EIA worksheets must be prepared by competent Ausgrid employees and ASPs who hold current Ausgrid ET 005 Environmental Impact Assessment Training.

Information about determining the environmental approval processes, submitting EIA worksheets, accessing relevant documents and undertaking training can be found on Ausgrid's Environmental Planning website: enviro.ausgrid.com.au.
1.1 Scope of activities covered by this EIA worksheet

The description of the scope of activities is essential to an EIA worksheet because:

- it affects what approvals could be required
- it affects the assessment of the impacts
- only those activities covered by the scope are approved
- a poorly worded scope may restrict what activities can occur
- late changes to the scope may require re-notification to local council which could delay the project by an additional 40 / 21 days.

The description of the scope should include the plant and equipment to be used as well as all of the activities to be assessed including ancillary works such as:

- earth works
- fencing
- tree trimming
- access tracks
- lighting
- site compounds
- construction pads.

It is essential that all activities are described in the scope as only those activities listed are approved. Sources of information for the scope of works section could include:

- the development brief
- site inspection
- the project/construction manager
- design drawings.

It is mandatory to attach a design drawing to the EIA worksheet to assist in describing the scope of works.

Example EIA worksheet text

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Ausgrid / The developer] proposes to:</td>
</tr>
<tr>
<td>- Replace the existing [X] between [asset number] and [asset number]. Refer to attached preliminary design plans dated [INSERT DATE]. If the design is modified consideration must be given to reviewing this EIA.</td>
</tr>
<tr>
<td>- Remove [X] spans of [X] which are no longer used from [asset number] to [asset number].</td>
</tr>
<tr>
<td>- Replace poles and pole top substation [asset number].</td>
</tr>
<tr>
<td>- Tree [trimming/clearing] between [asset number] and [asset number].</td>
</tr>
<tr>
<td>- No access tracks or construction pads are required.</td>
</tr>
</tbody>
</table>

Typical construction methodologies would be utilised and include the use of a [concrete cutter and wet vac, excavator, tip truck, skip bin, pole erector].
Work would occur within a roadway and, as such, provisions for traffic management would be made sufficient to meet local council and the Roads and Maritime Service (RMS) standards. All work, including access during construction, would occur within existing roadways or pre-approved Ausgrid access tracks.

It is expected that hoarding would be required at [location] for a duration of approximately [X] days.

Vegetation [removal/trimming] required to complete this work includes [location and description of vegetation]. Vegetation management is required because [enter justification]. No vegetation trimming or clearing, access tracks or construction pads are required.

If there are modifications to the proposed scope of works or design (attached) consideration must be given to revising this EIA.

1.2 Future maintenance activities

The description should include all foreseeable future maintenance activities, such as:

- operation of the network
- transformer maintenance
- access track usage
- tree trimming
- pole inspections
- termite treatment.

Example EIA worksheet text

Description*

Future maintenance activities, inspection and emergency works would be associated with the [substation/ poles/ conductors/ equipment].

Vegetation maintenance will be in accordance with Ausgrid's Tree Safety Management Plan and NEG-OH21 Vegetation Safety Clearances the ISSC3 guidelines to ensure safety clearances are maintained around Ausgrid's assets.

Pesticide and/or herbicide application will be in accordance with Ausgrid's Pesticides Use Notification Plan to help ensure assets remain safe.

Graffiti removal will be undertaken to maintain the aesthetics of the surrounding area.

Regular operator inspections will be undertaken associated with transformer maintenance such as meter reading and tap changing.

1.3 Major Projects that had an Environmental Impact Assessment (ie REF) associated with this project

The description should include any major projects or other works that have an environmental assessment (ie EIA worksheet or environmental factors (REF)) associated with the works. This includes a development application (DA) that has been approved by local council under Part 4 of the EP&A Act.

Example EIA worksheet text

Description*

This project involves the installation of 11 kV feeders associated with the new Bankstown 132/11 kV zone substation. The new substation has been assessed separately under Part 5 of the Environmental Planning and Assessment Act 1979 (Bankstown 132/11 kV zone substation...
1.4 Project need and justification

A firm project need and justification is required before proceeding with the assessment. In most cases the justification is that the customer requires supply, however in some cases alternatives may exist (e.g., new line extension versus new substation installation) and a justification is required as to why this project is the preferred option.

Example EIA worksheet text

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to increased development in the area and the increased use of appliances such as air conditioners and televisions, this part of the network has become overloaded and needs to be replaced. Replacing this part of the network will ensure the safe and reliable continuation of power supply to customers.</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>This asset has reached the end of its serviceable life and is scheduled for replacement. Replacing this part of the network will ensure the safe and reliable continuation of power supply to customers.</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>Forecast power increases at this part of the network triggers the need to increase power capacity to meet the growing demand.</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>This span or feeder has been identified as being non-compliant to the statutory requirements. Immediate rectification is required to ensure a safe and reliable electricity supply.</td>
</tr>
</tbody>
</table>

1.5 Route / site option justification

Justify why the route or site was selected for the activity. For routine projects with multiple options, a simple desktop analysis is often sufficient to demonstrate why an option is preferred. In some cases site-specific studies and/or community consultation will be required to gain a better understanding of the impacts. For multiple options with multiple competing criteria, EGN 424 Options Analysis Calculator may assist in determining the preferred options. Note that EGN 424 Options Analysis Calculator has limitations that need to be considered.

When a number of options meet the network need, an options analysis is required to determine the preferred route / site. An options analysis aims to identify the preferred project by finding the best balance of the project’s social, environmental, technical and financial objectives. The complexity of the analysis will depend on the nature of these objectives in relation to the options and the extent to which they conflict.

The route / site selected can have important implications for the type of assessment or the permits and approvals required. Sufficient information should be provided to enable an insight into why that particular route / site was chosen and what other routes / sites were considered.

Note: It may be necessary to revisit this step after collecting information about the site and/or identifying any Project Specific Control Measures in Table 4.
Example EIA worksheet text

Description*

Several factors were considered when determining the most suitable option. The preferred project achieves the best balance of social, environmental, technical and financial objectives. Options for this project have been restricted due to the need to make points of connection at certain locations.

Other options considered include:

- X
- X

These options were considered least favourable as it would [be expensive / create more of an impact on the environment / be more disruptive to the community / result in more of a change to the existing network than is necessary].

1.6 Indicative commencement date and duration of works

Provide the timing, phasing and schedule of the work to assess the extent and nature of the impacts.

Example EIA worksheet text

Description*

Work is expected to commence in [INSERT DATE] and take approximately [X] months to complete. This timeframe is indicative of the early planning stages and may vary due to the contractor or specialist availability, resources and liaison with the community. Construction may also vary in duration depending on weather conditions, technical parameters, environmental issues, resources and availability.

Working hours are restricted to Monday to Friday 7 am to 6 pm and Saturdays 8 am to 1 pm, with no work on Sundays and public holidays. Working outside these hours, although not recommended, may be required where [RMS Road Occupancy Licences stipulate out of hours work / there would be a greater environmental or social benefit as a result of out of hours work occurring / electrical outages require that work must be undertaken out of standard operating hours]. In any instance it should be noted that additional community consultation and noise mitigation may be required. Contact your site supervisor with regards to consultation and Table 4 concerning noise mitigation.

1.7 Location and ownership of the relevant land

Where possible include the title information such as Lot and DP.

The Electricity Supply Act 1995 allows Ausgrid to carry out work, install and remove electricity works on a public road or public reserve. Generally speaking easements, leases and licences are required in other locations where the owner is not Ausgrid.

Title searches are required for works not located on a public road or public reserve.

In general when on private land, kiosks will require an easement, chamber substations will require a lease and construction compounds will require a licence.

Where there is doubt on whether land is a ‘public reserve’, a Certificate of Classification of Land and a copy of the Plan of Management should be obtained from the local council.

Any acquisition or leasing of land or easements will need the involvement of the Property Section.
Example EIA worksheet text

Description*

All work would occur on a public road or reserve or existing easments. The *Electricity Supply Act 1995* allows Ausgrid to carry out work on a public road or reserve. As such, no additional approvals are required.

OR

Most work would occur within a public road or reserve with the exception of [location] for the installation of [asset]. Ausgrid’s Property section has been contacted to undertake a title search. An easement is required prior to works commencing.

1.8 Description of the environment and land use

Describe the environmental characteristics of the area relevant to the potential impacts. The detail required will depend on the type of activity, but could include the following:

- water bodies and drainage systems
- landform and landscape character
- soils
- flora and fauna
- visual and scenic quality
- land use (eg residential, industrial, bush land, water bodies etc)
- transportation, public utilities and other services
- population, community services, recreation and tourism
- features of heritage, conservation or archaeological value.

Example EIA worksheet text

Description*

The study area for this project has been defined by coordinates indicated in the attached Env GIS Analysis Report. The study area encapsulates all those matters potentially affected as a result of the proposal. Matters likely to be affected are addressed in this assessment.

This area is dominated by [residential / commercial / industrial / recreational] land uses. Distinguishing features relating to this activity include a [waterway / main road / playground / National Park / trees].

The area has been mapped on Ausgrid’s Env GIS to include [Aboriginal heritage items / acid sulfate soils / contaminated areas / threatened species / Non-Aboriginal heritage items] within the study area.

[No identified items would be directly affected by the proposed work as identified on the Env GIS. Work requires careful management to ensure only minimal environmental impact to those sensitive areas identified on the Env GIS. Sensitive areas identified on the Env GIS which may be impacted on as a result of this work include:]  

- X
1.9 Mandatory council / authority notification

To determine the notification requirements for your works, use the EGN 068 Approvals Process Calculator.

Under the ES Act (Section 45), at least 40 days notification is to be given to local council before undertaking electricity works (other than routine repairs or maintenance works).

Under State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP) (Division 1, and Clause 42), 21 days notice may also be required to the local council. These notifications can be served concurrently.

Under Infrastructure SEPP (Division 1) specified development must not be carried out unless written notice has been given to the specified authority in relation to the development and any response received from that authority within 21 days after the notice is given has been taken into consideration. This includes development:

- adjacent to land reserved under the National Parks and Wildlife Act 1974 (NPW Act) – Office of Environment and Heritage (OEH)
- adjacent to a marine park under the Marine Parks Act 1997 – Marine Parks Authority
- adjacent to an aquatic reserve declared under the Fisheries Management Act 1994 (FM Act) – OEH
- in the foreshore area within the meaning of the Sydney Harbour Foreshore Authority Act 1994 – Sydney Harbour Foreshore Authority
- comprising a fixed or floating structure in or over navigable waters – RMS

You must give due consideration to all submissions. Provide details of the notifications, any submissions made, and how they have been addressed.

Templates for consultation with local council and authorities are available here.

Note: The EIA worksheet cannot be verified until the full notification period has expired (see Notification FAQs).

Example EIA worksheet text

Description:

Council did not make a submission in response to the mandatory notification within the statutory timeframe.
The mandatory notifications are attached to this assessment.

OR

Council made a submission on [INSERT DATE] in response to the mandatory notification. It did not include any comments that would affect the environmental assessment process or design of this project.
The mandatory notifications are attached to this assessment.

OR

Council made a submission on [INSERT DATE] in response to the mandatory notification. It included comments on [X]. Those comments have been considered as part of this assessment and have informed Ausgrid's planning decision.
The mandatory notifications are attached to this assessment.
1.10 Date council notified

Enter the date of council notification.

Note: The EIA worksheet cannot be verified until the full notification period has expired (see Notification FAQs).

1.11 Community consultation

To determine the notification requirements for your works, use the EGN 068 Approvals Process Calculator. Under the Infrastructure SEPP, 21 days notice is required to the occupiers of adjoining land if the proposed works are for the purpose of a new or existing electricity substation of any voltage.

You must give due consideration to all submissions. Enter the date of Community Notification, details of any submissions made, and how they have been addressed.

Templates for consultation with occupiers of adjoining land are available here.

Note: The EIA worksheet cannot be verified until the full notification period has expired (see Notification FAQs).

If an activity is likely to have more than a minimal impact, and there is an opportunity for the community to be involved in the route or site selection than additional community consultation should be considered. Submissions received from this consultation should be incorporated into the options analysis and can be incorporated in the EGN 424 Options Analysis Calculator.

Example EIA worksheet text

Description*

Adjoning residents to the substation development were provided notification of the works on [XX/XX/XX]. There were no submissions made.

The notification letter is attached to the assessment.

OR

Adjoning residents to the substation development were provided notification of the works on [XX/XX/XX]. Submissions received made reference to [X]. Those submissions made have been considered as part of this assessment and have informed Ausgrid's planning decision concerning the location of the new substation.

The notification letter is attached to the assessment.

OR

The successful contract will issue notices to all potentially affected [residents / businesses] at least 48 hours prior to the commencement of work. Where [residents / businesses] are directly affected by the work, for example their access will be restricted, at least four clear business days notice must be given. Notices issued will outline the reason for the work, a suitable point of contact, estimated duration and any potential construction impacts. This may include temporary changes to traffic, construction noise and the location of site compounds.

AND (If the project is sensitive or night work is required)

Ausgrid have a dedicated community liaison officer for this project. The community liaison officer will become the public interface for the project during its planning and construction phases. Additional notice will be given out to all potentially affected [residents / businesses] at least four clear business days prior to works commencing. The community liaison officer can be contacted on [INSERT NUMBER] for information concerning this project.
1.12 Environmental planning instruments relevant to the activity/area

Confirm the Infrastructure SEPP is relevant to the activity (see EGN 068 Approvals Process Calculator). List the Local Environmental Plans (LEPs) or State Environmental Planning Policies (SEPPs) that may provide valuable information in undertaking the assessment.

More information about LEPs and SEPPs can be found from the local council.

Example EIA worksheet text

Description

The scope of works as defined by Table 1, fall within the relevant provisions of SEPP (Infrastructure) 2007 which require the works to be assessed under Part 5 of the Environmental Planning and Assessment Act 1979.

Local Environmental Plans (LEPs) are developed by local councils and guide planning decisions for local government areas. Through zoning and development controls, they allow councils to supervise the ways in which land is used. Local council LEPs also list heritage items that are of local heritage significance. Information such as this is used to assist in Ausgrid’s determination under Part 5 of the Environmental Planning and Assessment Act 1979. LEPs do not influence how the project is approved.

This document forms the Part 5 assessment under the Environmental Planning and Assessment Act 1979.

AND (If putting in a new substation)

Clause 41(2)(d) of SEPP (Infrastructure) 2007 permits the development of a new substation without the need to obtain development consent. Under Clause 42 there are notification requirements to occupants of adjoining land and to local council. Any submissions received within 21 days of the notice being received must be considered. This assessment encompasses these notices and takes into consideration any submissions received.

AND (For SEPP 71 Coastal Protection)

SEPP 71 Coastal Protection has been made under the Environmental Planning and Assessment Act 1979 to ensure that development in the NSW coastal zone is appropriate and suitably located. It provides for a consistent and strategic approach to coastal planning and management and a clear development assessment framework for the coastal zone. The aims of the policy largely relate to the maintenance of public access whilst preserving the local ecological fabric. This assessment addresses potential public disruption, visual, ecological and cultural impacts as a result of the proposal.

AND (For SEPP 14 Coastal Wetlands)

SEPP 14 Coastal Wetlands has been made under the Environmental Planning and Assessment Act 1979 to protect and preserve coastal wetlands. Under SEPP 14, a person must not clear land, construct a levee, drain land or fill land which is covered by the SEPP except with the consent of the local council and the concurrence of the Director-General of the Department of Planning and Environment.

AND (For SEPP 26 Littoral Rainforests)

SEPP 26 Littoral Rainforests has been made under the Environmental Planning and Assessment Act 1979 to preserve littoral rainforests, which is a particular type of forest which is adapted to withstand coastal conditions involving harsh, salt-laden, drying winds. Under SEPP 26, a person must not erect a building or carry out work; disturb, alter or change any landform; dump rubbish or chemicals; use a littoral rainforest for any purpose; or disturb native flora (clear) on land which is covered by the SEPP except with the consent of the local council and the concurrence of the Director-General of the Department of Planning and Environment.
Table 2A

If an issue is ticked in Table 2A, the EIA worksheet must be referred to Environmental Services. All necessary approvals, licences and permits required by Table 2A must be obtained to help adequately assess the impacts and controls.

2A.1 Working near matters of national environmental significance (Commonwealth)

Tick ‘yes’ if you are potentially affecting items of national environmental significance (NES) as listed in the Commonwealth Environment Protection and Biodiversity Conservation Act 1979 (EPBC Act) relevant to our network:

1. world heritage properties
2. national heritage places
3. wetlands of international significance (ie Ramsar wetlands)
4. Commonwealth listed threatened species or ecological communities*
5. Commonwealth listed migratory species*
6. Commonwealth marine areas**
7. Great Barrier Reef Marine Park
8. nuclear actions
9. a water resource in relation to coal seam gas development and large coal mining development.

You must also tick ‘yes’ if you are working on Commonwealth land.

* Only tick ‘yes’ if you are:
  - clearing native vegetation (excluding routine maintenance as defined by Ausgrid’s Tree Safety Management Plan and NEG-OH21 Vegetation Safety Clearances)
  - disturbing bush rock, tree hollows, wetlands, mangroves, nests, aquatic or other sensitive habitats
  - working in, storing equipment, parking vehicles or accessing the site through undisturbed areas.

** Only tick ‘yes’ if you are affecting a marine environment.

Note: ‘Clearing’ includes trimming, pruning or removing vegetation.

Collecting information

Refer to Ausgrid's Environmental Geographic Information System (Env GIS) Analysis Report.

Items 1 – 5 are available on the EnvGIS.

Items 6 – 7 are available on the Commonwealth Department of Environment Protected Matters Search Tool.

Commonwealth land details can be found on the Title search. Title searches are required for works not located on a public road or reserve.

Further information

Requirement
Under the EPBC Act, Commonwealth approval is required for any action that could have a significant impact on matters of NES or Commonwealth land.

2A.2 Potentially affecting Threatened Species, Endangered Ecological Communities, etc. (NSW)

Tick ‘yes’ if working within the buffer area of known NSW threatened species or endangered ecological community (EEC) and one of the following applies:

- clearing native vegetation (excluding routine maintenance as defined by Ausgrid’s Tree Safety Management Plan and NEG-OH21 Vegetation Safety Clearances)
- disturbing bush rock, tree hollows, wetlands, mangroves, nests, aquatic or other sensitive habitats
- working in, storing equipment, parking vehicles or accessing the site through undisturbed areas.

Collecting information

Refer to the Env GIS Analysis Report. Identified NSW threatened species are available on the Env GIS.

Note: Data of sensitive items is presented in a denatured point format, and only includes known and recorded items. A record should be used as a guide to indicate there may be particular items present and further investigation is required.

Further information


Requirements

Under Section 5A of the EP&A Act seven factors must be addressed to determine whether any proposed development will have a significant impact on threatened species, population or ecological communities or their habitat. In some cases a species impact statement will be required.

2A.3 Working near marine vegetation (mangroves, seagrass beds etc.) or dredging a water body

Tick 'yes' if working:

- within 100 m of marine vegetation
- within 100 m of mangroves
- in a waterway or creek.
Collecting information

Some mangrove and seagrass data are available on the Env GIS (refer to the Env GIS Analysis Report).

Refer to the site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

Further information

For aquatic habitat information: www.dpi.nsw.gov.au/fisheries/habitat/aquatic-habitats

Requirements

Under the FM Act a permit is required to cut, remove, damage or destroy marine vegetation on public water or land, or on the foreshore of any such land. Marine vegetation is defined in the FM Act as any species of plant that at any time in its life must inhabit water (other than fresh water). This definition includes salt marsh, mangroves, sea grasses, and macro algae.

Ausgrid has been granted a permit, under Part 7 of the FM Act, which provides an exemption to Section 205 subject to Ausgrid meeting a number of specific conditions. The permit allows Ausgrid employees or contractors to undertake mangrove clearing works for maintaining the visibility of warning signs, maintenance of access tracks and clearing power lines to maintain statutory clearances.

Note: The permit does not cover new works.

Under the FM Act, approval is required before carrying out dredging and reclamation work in a waterway (stream, river, lake, lagoon, estuary or marine waters). A public authority must give the Minister 28 day’s written notice of the proposed work. Dredging work is defined as any work that involves excavating water land (land submerged by water whether permanently or intermittently, including wetlands).

Under the FM Act, a permit is required to create an obstruction across or within a river or creek or across or under a flat where fish will be blocked or left stranded, or immature fish will or could be destroyed, or the free passage of fish will or could be obstructed.

2A.4 Working within a conservation area (NSW), national parks estates, etc.

Tick ‘yes’ if working within or adjacent to a:
- marine parks
- aquatic reserves
- national park estate
- declared wilderness areas.

Collecting information

Conservation areas, national park estates and declared wilderness areas are available on the Env GIS (refer to the Env GIS Analysis Report).
Requirements

Easements are required for new works in conservation areas, national parks and declared wilderness areas and new works may require a National Parks and Wildlife Service (NPWS) review of environmental factors.

Ausgrid has a protocol for maintenance of power lines in land reserved under the NPW Act (for example national parks, reserves or state conservation areas). This protocol requires prior notification and consultation with NPWS before commencing works. All works, including inspection, maintenance and emergency works, on land reserved under the NPW Act must be done in accordance with the protocol between the OEH and Ausgrid. Maintenance and inspection activities, as defined under the protocol, in national parks estate should be restricted to periods of dry weather and to daylight hours. This will help to minimise any damage to access tracks that could increase erosion. Ausgrid is also required to follow any instructions from the NPWS regarding access to weather-affected tracks.

Access track works within land reserved under the NPW Act must follow the requirements in section 4.4.

Refer to the notification requirements in section 0. Under Infrastructure SEPP (Division 1) development adjacent to land reserved under the NPW Act must not be carried out unless written notice has been given to OEH in relation to the development and any response received from that authority within 21 days after the notice is given has been taken into consideration.

2A.5  Impacting state, local or S170 register (non-Aboriginal) heritage

Tick ‘yes’ if works could potentially affect:

- state heritage items
- local heritage items
- s170 listed heritage items
- an archaeological area.

Collecting information

Check Ausgrid’s Env GIS (refer to the Env GIS Analysis Report).

Note:  Local heritage data is unavailable on the Env GIS for the Singleton, Lake Macquarie, Bankstown and Sutherland LGAs. This will be flagged on the Env GIS Analysis Report to remind you to check the LEP for local heritage information for these areas.

Refer to s.45/Infrastructure SEPP responses and any other consultation response. Most local councils have a specialist heritage officer.

Further information

For non-Aboriginal heritage information: www.heritage.nsw.gov.au

For information on local heritage items, refer to the local council LEP.

Archaeological areas are available on the archaeological zoning plans from the local council.
Requirements

State significance - Under the NSW Heritage Act 1977, approval from the Heritage Office is required when affecting directly or indirectly a place of state significance or an item subject to an Interim Heritage Order.

Local significance - Ausgrid is exempt from the need to obtain Heritage Office approval for works associated with items of 'local' significance which are not made by the Minister. However, under the Infrastructure SEPP, when undertaking work that is likely to have an impact that is not minor or inconsequential on a local heritage item or a heritage conservation area, Ausgrid must submit a statement of heritage impact to local council. Any submission that is received from the local council within 21 days of the notice must be taken in to consideration.

Ausgrid must give due consideration to the potential impacts as part of the environmental assessment process and should consult with the Council's heritage officer. It should also be noted that working in the vicinity of a heritage item/place may affect the approval process and could require a DA.

S170 register - see Environmental Services for requirements.

Archaeological areas - Under the Heritage Act 1977, a permit is required if there is a possibility of disturbing a relic (Archaeological areas).

2A.6 Potentially affecting Aboriginal heritage, a potential Aboriginal deposit (PAD), native title or land rights

Tick 'yes' if the activity is:
- within the buffer of an Aboriginal heritage object on the Env GIS, or
- disturbing ground surface or clearing vegetation on undisturbed land with any of the following landscape features:
  - within 200 m of waters, or
  - within a sand dune system, or
  - on a ridge top, ridge line or headland, or
  - within 200 m below or above a cliff face, or
  - within 20 m of a cave, rock shelter, or cave mouth.

Note: If in doubt, contact Environmental Services.

Collecting information

1. Check Ausgrid’s Env GIS (refer to the Env GIS Analysis Report). Aboriginal heritage may be present on up to four layers on the Env GIS including: Commonwealth Heritage, National Heritage, Aboriginal Heritage Information Management System (AHIMS) and Sensitive Environmental Features (SEF). Examples of Aboriginal items include artefacts, middens, axe-grinding or tool sharpening grooves, scarred or carved trees, paintings, rock engraving and burial sites.

Note: Data of sensitive items is presented in a denatured point format, and only includes known and recorded items. A record should be used as a guide to indicate there may be particular items present and further investigation is
required. Surveys for Aboriginal items have not been done in many parts of NSW. Aboriginal items may exist even if they have not been recorded.

2. Undertake a site inspection using EF 17410 EIA Site Inspection Checklist and include it with the project file. Determine if there are any landscape features (referred to above) that may indicate the presence of Aboriginal objects. Use the information gathered during the site inspection to determine whether the site is on disturbed or undisturbed land.

Further information

For Aboriginal heritage information: www.environment.nsw.gov.au/nswcultureheritage

Requirements

Aboriginal objects and places are protected under the NPW Act. When an activity is likely to impact upon Aboriginal cultural heritage a permit may be required. The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (OEH, 2010) sets out the steps to be followed to decide whether Aboriginal objects are likely to be present and whether further approvals are necessary. Environmental Services will organise a Due Diligence Assessment to be undertaken where necessary.

As part of the Due Diligence Assessment, AHIMS site cards will need to be obtained for all objects within the vicinity of the works. To obtain AHIMS site cards, you must logon to AHIMS web services: www.environment.nsw.gov.au/awssapp/login.aspx. If you are a first time user you will need to register using an email address. You will be asked to fill in some details and a password.

After obtaining site cards, confirm that these objects can be located in the area where your works are proposed. If you are aware of any other sources of information, you need to use these to identify whether or not Aboriginal objects are likely to be present in the area. Other sources of information can include previous studies, reports or surveys which you have commissioned or are otherwise aware of.

2A.7 Working near wetlands and rainforests protected by SEPP 14 and 26

Tick ‘yes’ if working within 100 m of a:

- SEPP 14 wetland
- SEPP 26 littoral rainforest.

Collecting information

SEPP 14 and 26 areas are available on the Env GIS (refer to the Env GIS Analysis Report).

Further information

Requirements

Under SEPP 26 - Littoral Rainforests where a development is proposed to disturb, change or alter any land form or disturb, remove, damage or destroy any native flora or other element of the landscape or dispose of or dump any liquid, gaseous or solid matter approval is required by the local council and the NSW Department of Planning and Environment.

Under SEPP 14 – Coastal Wetlands ad hoc clearing, draining, filling and levee construction requires the preparation of an environmental impact statement to be approved by the local council and the NSW Department of Planning and Environment.

Under the Infrastructure SEPP emergency works, or routine maintenance works, on the site of an existing component of a network or on land that is adjacent to such a site (whether or not the works are on land to which SEPP 14—Coastal Wetlands or SEPP 26—Littoral Rainforests applies but, if they are on such land, only if any adverse effect on the land is restricted to the minimum possible to allow the works to be carried out).

2A.8 Working within a drinking water catchment area

Tick 'yes' if you are working within a:

- drinking water catchment area
- special catchment area, such as:
  - Woronora Catchment Area
  - Hunter Special Catchment Area and the works are not covered by the blanket notification under s55 of the Hunter Water Act 1991.

Collecting information

Hunter and Central Coast (Ourimbah, Wyong, Porters Creek) catchment areas are available on the Env GIS (refer to the Env GIS Analysis Report).


Further information


Requirements

Works must not be carried out in Sydney special catchment areas unless 28 days notice has been given to the SydneyCatchment Management Authority outlining the scope of the proposed works.
Ausgrid has undertaken a blanket notification under s55 of the *Hunter Water Act 1991* with Hunter Water Corporation (HWC) for Hunter Special Catchment Areas. This blanket notification includes all minor maintenance and upgrade works undertaken by Ausgrid on overhead and underground power lines (with voltages of 415, 11,000, 33,000, 66,000 and 132,000 volts), and substations (including small pole-top and kiosk substations as well as larger zone and sub-transmission substations).

Ausgrid must still notify HWC for the following works within Hunter Special Catchment Areas:

- new power lines outside of an existing easement
- new pole top substations or kiosk substation (not replacing existing assets)
- replacement kiosk or pole top substations in a substantially different location
- any new zone or sub-transmission substation.

Ausgrid is not required to gain approval on the Central Coast. However, in the Ourimbah Catchment area development must be in line with the objective of Gosford City Council’s *Water Supply Catchment Area Development Policy (WS5.15)*, which is to ensure zero impact on the quality of the Central Coast Water Supply. Care must be taken to ensure that no pollution occurs within the construction area.

### 2A.9 Working within state forests / area subject to a forest agreement

Tick ‘yes’ if working within:

- state forests
- an area subject to a forest agreement.

**Collecting information**

State forests and areas subject to forest agreements are available on the Env GIS (refer to the Env GIS Analysis Report).

**Further information**

For forest information: [www.forestrycorporation.com.au](http://www.forestrycorporation.com.au)

**Requirements**

Under s27G of the *Forestry Act 2012* a clearing licence to ringbark or otherwise kill or destroy trees in a state forest or area subject to a forest agreement may be required to be obtained by Ausgrid or its contractor. Contact the Forestry Corporation of NSW to determine whether a licence is required.
2A.10 Altering ground water, water bodies, etc.

Tick ‘yes’ if works involve temporary or long term alteration of groundwater and/or surface water, including:

- extracting water from a waterway
- extracting groundwater
- excavations requiring dewatering

Collecting information

Refer to scope of works, site inspection, and geotechnical reports (if available).

Further information


Requirements

Under the *Water Management Act 2000* (WM Act), an Aquifer Interference Approval may be required for groundwater extraction or dewatering.

Under the *Water Act 1912*, for any temporary or permanent works not defined in a gazetted water sharing plan under the WM Act, a licence or permit is required to extract:

- water from a stream, river, or water course via a pump or other work
- groundwater via any type of bore, well, spear point or groundwater interception scheme (including dewatering).

2A.11 Discharging to stormwater or sewer

Tick ‘yes’ if works involve discharging anything to stormwater or sewer.

**Note:** Excludes clean rainwater which is discharged in accordance with the Environmental Handbook.

Collecting information

Refer to the scope of works and site inspection.

Further information


Requirements

Under the *Protection of the Environment Operations Act 1997* (POEO Act), a licence is required to discharge any pollutant to stormwater. To discharge to a stormwater system, permission must be obtained from Sydney Water if they are the owner of the stormwater system (Sydney Operations).
2A.12 Altering an item of movable heritage

Tick 'yes' if decommissioning or altering movable heritage.

Collecting information

Movable heritage items are available the Env GIS (refer to the Env GIS Analysis Report).

Further information

For movable heritage information: www.heritage.nsw.gov.au/06_subnav_04.htm

Requirements

Prior to decommissioning or altering an item of movable heritage, projects should be referred to Environmental Services for assessment. All reasonable options for avoiding impact on the item of movable heritage should be considered. Where avoidance is not possible, in situ or off-site storage will need to be investigated. In situ, storage will only be allowed if sufficient space is available and if not compromising on safety. If storage is not possible, then archival recording will need to be undertaken prior to disposal.

Any decisions will need to be justified and documented in the form of a Movable Heritage Assessment prepared with the assistance of Environmental Services.
Table 2B

All necessary approvals, licences and permits required by Table 2B must be obtained to help adequately assess the impacts and controls.

2B.1 Handling, storing, transporting or disposing of Hazardous, Restricted Solid, Liquid or Special Wastes

Tick ‘yes’ if any Hazardous, Restricted Solid, Liquid or Special Wastes will be generated, stored, transported, processed or disposed. These include:

- asbestos
- batteries (lead acid and NiCad)
- bioguard bandages
- contaminated soil (above general solid waste thresholds)
- chemicals
- clinical waste (eg syringes)
- industrial cleaning agents
- polychlorinated biphenyls (PCB) waste (greater than or equal to 2ppm)
- pesticides / biocides / herbicides / fungicides (including container rinsate)
- sulfur hexafluoride (SF₆) and chlorofluorocarbon (CFCs)
- liquid waste
- wastes classified as dangerous goods (some exemptions apply).

Collecting information

The full list of Hazardous, Restricted Solid, Liquid or Special Waste is available at www.epa.nsw.gov.au/waste/index.htm

To determine equipment PCB level, refer to section 2B.3.

Ausgrid employees can also refer to the EGN 323 Waste Database.

Further information

Ausgrid employees can also refer to EG 120 Waste.

Requirements

Under the POEO Act licences may be required to store, transport or process Hazardous, Restricted Solid, Liquid or Special Waste (generally more than 5 tonnes stored, more than 200 kg transported or any processing). It should be noted that there are a number of exemptions and thresholds (refer to Section 4.2 of the NUS 174C Environmental Handbook). Ausgrid holds a number of Environment Protection Licences (EPLs) for the storage of transformer oil, PCBs and oily water at certain depots. Ausgrid employees intending to rely on these licences must comply with the specific licence conditions, including reporting and record keeping requirements.

Hazardous, Restricted Solid, Liquid and Special Wastes require consignment approval and completion of waste tracking documentation prior to transporting by licensed
transporters. Exemptions apply in some cases (refer to Section 4.2 of the NUS 174C Environmental Handbook). In particular, Ausgrid employees do not need a licence to transport wastes in Ausgrid vehicles between Ausgrid locations (eg from a substation to a depot).

Example text:

Description of Potential Impact and Cause *

The oil in the transformer to be decommissioned is classified as Liquid waste under the POEO Act. If the oil contains greater than 50ppm PCBs then the drained transformer would be classified as hazardous waste.

Description of Approval Requirement *

A transport licence or waste tracking is not required to transport oil (liquid or hazardous waste) in Ausgrid vehicles between Ausgrid locations (eg from the substation to a depot). A licence for storage of liquid or hazardous waste of greater than 5 tonnes is required. If these licensing thresholds are breached ensure storage is on a licensed Ausgrid depot. If liquid or hazardous waste will be transported by non-Ausgrid vehicles the appropriate licences must be in place. The waste oil must be disposed to a facility licensed to accept Liquid and, or hazardous waste. The waste oil must be managed in accordance with Ausgrid's waste licence and additional requirements outlined in EG120 Waste Guidelines.

2B.2 Handling, storing or transporting Dangerous Goods and Hazardous Chemicals

Tick 'yes' if any dangerous goods or hazardous chemicals will be stored, handled or transported. These include:

- gases such as aerosol cans, gas cylinders, LPG bottles
- flammable solids and liquids such as fuel and solvents
- explosive, corrosive, radioactive, toxic, oxidising or infectious substances
- scheduled PCBs (> 50 ppm) (see information in 2B.3).

Indicate in the EIA worksheet the requirements for these substances, such as:

- licensing, labelling, safety data sheets and signage
- control of ignition sources and segregation.

Collecting information

Refer to the scope of works. Confirm PCB level of oil filled equipment using the relevant procedure outlined in Section 2B.3.

Hazardous chemicals are classified under the Work Health and Safety Regulation 2011.

Dangerous goods are classified under the Australian Dangerous Goods Code.

Ausgrid employees can also refer to the Workplace Substances database. Contact your Safety representative for further assistance and guidelines.
Further information


For hazardous chemicals information: www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardous-chemicals/pages/hazardous-chemicals-other-substances

Ausgrid employees can also refer to HG-18 Workplace Substances Hazard Guideline.

Environmental Services employees can find a summary of the requirements for transformer oil and oil filled equipment on the ESU Library.

Requirements

Dangerous goods must be transported in accordance with the Dangerous Goods (Road and Rail Transport) Act 2008 and Dangerous Goods (Road and Rail Transport) Regulation 2009. Dangerous goods are defined, for the purposes of this legislation, by the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Ed.).

Licensing under Part 18 of the Dangerous Goods (Road and Rail Transport) Regulation 2009 is required for a road vehicle and driver transporting dangerous goods in a receptacle with a capacity of more than 500 kg (L). Exemptions apply in some cases, including the transport of dangerous goods if they are transported in an Intermediate Bulk Container (IBC) of capacity less than 3000 L, and the IBC is not packed or unpacked on the vehicle. The regulation also details labelling, placarding, emergency preparedness and insurance requirements.

Hazardous chemicals must be stored and handled in accordance with the Work Health and Safety Act 2011 and regulation. Notification to WorkCover NSW is required for storage of hazardous chemicals in excess of manifest quantities.

Labelling and signs are required where the quantity of hazardous chemicals exceed the placarding quantity. Liquid hazardous chemicals must be stored to eliminate the risk of a spill or leak entering the environment. For further information refer to AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids or AS/NZS 1596-2008 The Storage and Handling of LP Gas.

Example text:

<table>
<thead>
<tr>
<th>Description of Potential Impact and Cause</th>
<th>Description of Approval Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>As the oil in the transformer to be decommissioned has not been tested it may be contaminated with PCBs. If the PCB contamination is greater than 50ppm, then the oil would be classified as a Hazardous Substance under the WH&amp;S Act. If the PCB concentration is greater than 50 ppm, then a licence under the DG (Road and Rail Transport) Act is required for a road vehicle and driver transporting more than 500 kg or in a receptacle with capacity greater than 500L. There are also labelling, placarding and insurance requirements.</td>
<td>The transformer and oil will be stored in a bunded area on an Ausgrid depot which complies with the labelling and notification requirements under the WHS Act. If the PCB concentration is greater than 50ppm (and greater than 500 L of oil) then a Dangerous Goods licensed transporter must be used to transport the decommissioned transformer. The waste oil must be managed in accordance with the Be Safe Hazard Guideline 18: Workplace Substances.</td>
</tr>
</tbody>
</table>
2B.3 Handling, storing, transporting or disposing of controlled chemicals such as PCBs or OCPs

Tick ‘yes’ if PCBs or scheduled chemical wastes will be generated, transported, stored or disposed. Scheduled chemicals include:

- benzene
- chlordane
- heptachlor
- organochlorine pesticides (OCPs) such as aldrin, dieldrin and endrin.

Collecting information

Equipment manufactured prior to 1997 (or where the date is uncertain) requiring disposal or return to stores must be tested for the presence of PCBs prior to transporting. The PCB level can be obtained either from the PCB register or via an oil test undertaken at a suitable National Association of Testing Authorities, Australia. (NATA) accredited laboratory

Ausgrid’s preferred option for PCB oil testing is to use the Ausgrid Network Test Insulation Assessment Laboratory located at Chatswood. Alternatively, external labs used for PCB oil testing must be NATA accredited for sampling PCBs in oil. Oil filled equipment manufactured during or after 1997 is not expected to contain PCBs.

An Oil Test Report specifying the PCB content of the oil or an extract from the PCB register must accompany oil filled equipment movement requests (except for new oil or equipment). Oil filled equipment must not be drained until the PCB content is known.

<table>
<thead>
<tr>
<th>Contact</th>
<th>Contact details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ausgrid Network Test</td>
<td>Address - 14 Nelson St, Chatswood NSW 2067</td>
</tr>
<tr>
<td>Insulation Assessment Laboratory</td>
<td>Phone - 9410 5119 or 9410 5117</td>
</tr>
<tr>
<td></td>
<td>Fax - 9410 5181</td>
</tr>
<tr>
<td></td>
<td>Email - <a href="mailto:rkielich@ausgrid.com.au">rkielich@ausgrid.com.au</a></td>
</tr>
</tbody>
</table>

Ausgrid employees can also refer to EG 100 Oil Handling and spill response and the Waste Database.

Further information

For further information on pesticides: www.epa.nsw.gov.au/pesticides/Pesticides.htm

Requirements

For PCBs

<table>
<thead>
<tr>
<th>Category</th>
<th>Concentration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB free material</td>
<td>2 ppm or less</td>
<td>Materials or wastes that contain PCBs at levels at or below 2 ppm. These items are considered PCB free.</td>
</tr>
<tr>
<td>Non-scheduled PCB material or waste</td>
<td>Between 2 ppm and 50 ppm</td>
<td>Materials or wastes that contain PCBs at levels above 2 ppm and less than 50 ppm.</td>
</tr>
<tr>
<td>Scheduled PCB material or waste</td>
<td>50 ppm or greater</td>
<td>Materials or wastes that contain PCBs levels at or above 50 ppm and that contain more than 50 g of pure PCBs.</td>
</tr>
</tbody>
</table>
A PCB licence is required for the transport and storage of scheduled PCB greater than one tonne. Where a PCB licence is required:

- use PCB licensed transporters and storage facilities or
- transport and store in accordance with Ausgrid’s PCB licence, including:
  - transport only between Ausgrid premises by Ausgrid employees
  - store for no more than 60 days at Ausgrid premises
  - store in a covered and bunded area.

All other non-Ausgrid storage of scheduled PCB waste (greater than one tonne) must be undertaken using an externally licensed storage facility. The occupier of premises on which PCB material or waste is kept, must apply safe storage, decommissioning practices (approved disposal methods) appropriate signage and notification.

Under the *Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code)*, scheduled PCBs are a dangerous good. Dangerous goods requirements apply when transporting scheduled PCBs. These include:

- labelling as dangerous goods in accordance with the ADG Code
- carrying required PPE, safety equipment and documentation on transport vehicles
- when carrying receptacles (ie drums, containers and tanks, but not equipment containing oil) greater than 500 kg(L), use a dangerous goods licensed driver and vehicle
- placard receptacles greater than 500 kg(L) and aggregate loads greater than or equivalent to 1000 kg(L) with emergency information panels.


The ASP process for sampling and returning equipment is detailed in the *Policy for ASP/1 Premises Connections*.

All PCB waste must be disposed to an EPA licensed facility. Waste licensing and tracking requirements must be complied with. To arrange disposal, Ausgrid employees can contact:

- Ausgrid’s workshops for non-scheduled PCB oil
- Ausgrid’s Environmental Services for all other PCB waste. Booking forms for PCB waste removal (EF 104) and PCB transformer insitu treatment (EF 105) are available on *The Wire*.

**For SCW (Scheduled chemical waste)**

Under the SCW CCO a licence is required to transport or store more than 1 tonne of scheduled chemical waste. Scheduled chemical wastes are wastes with a concentration of total scheduled chemicals of more than 2ppm (2mg/kg). Scheduled chemicals are listed in Schedule A of the SCW CCO and include benzene, chlordane, heptachlor and OCPs such as aldrin, dieldrin, endrin and pentachlorophenol.

Soil and accumulated water from below the slab of Ausgrid’s 132 kV cables, installed prior to 1980, may be contaminated with OCPs.

Requirements for keeping of SCW include where more than:
• 50 kg but less than one tonne is stored, the storage area must be sited and constructed so as to prevent any discharge to the external environment

• one tonne is stored, the scheduled chemical waste must be kept in an approved manner or in a storage facility in accordance with the conditions of a licence under the EHC Act

• SCW may also be classified as a dangerous good under the Dangerous Goods (Roads and Rail Transport) Act 2008 and may a dangerous goods licensed vehicle and driver for transport.

**Example text:**

<table>
<thead>
<tr>
<th>Description of Potential Impact and Cause</th>
<th>Description of Approval Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The oil filled equipment may contain PCBs and must be considered PCB material until testing proves otherwise.</td>
<td>If the PCB concentration is greater than 50ppm (Scheduled PCB) a licence under the Environmentally Hazardous Chemicals Act is required to transport or store more than 1 tonne of the waste transformer oil. The PCB material must be safely stored and labelled and disposed by an approved method. Ausgrid has a PCB licence, which allows Ausgrid employees and contractors to transfer scheduled PCB material, on Ausgrid vehicles, between Ausgrid premises and store scheduled PCB waste for up to 60 days. The PCB waste must be managed in accordance with Ausgrid's PCB licence.</td>
</tr>
</tbody>
</table>

**2B.4 Working within a mine subsidence district**

Tick 'yes' if works are within a mine subsidence area.

**Collecting information**

Mine subsidence areas are available on the Env GIS (refer to the Env GIS Analysis Report).

**Further information**

For mine subsidence information: www.minesub.nsw.gov.au

**Requirements**

Approval is required when subdividing, erecting or altering on these areas. Contact the Mine Subsidence Board (MSB) or indicate in the EIA worksheet that the MSB must be contacted prior to construction.

Approval is not required for minor works, repairs and maintenance such as:

- distribution transformers
- low voltage distribution networks etc
- wood pole installations
- street lighting
- fibreglass housings
- pillars
- service lines.

The MSB development and building approvals expire two years from the date approved.
2B.5 Working on a classified road

Tick ‘yes’ if works are on a state or regional classified road.

Collecting information

Classified roads are available on the Env GIS (refer to the Env GIS Analysis Report).

Further information

For state and regional classified road information:

Ausgrid employees can refer to Ausgrid’s Memorandum of Understanding (MoU) with the Roads and Maritime Service (RMS) and Transport for NSW:

Requirements

Classified roads fall into two major categories, state roads and regional roads, and include freeways, state highways, main roads, tourist roads and secondary roads.

If works are proposed on a classified road, consent is required under section 138(1) of the Roads Act 1993. To apply for a section 138 consent, write to RMS for classified state roads or the relevant local council for classified regional roads to request approval, providing a description of the work and including a plan showing the extent of the works. Ausgrid employees should use the relevant templates from Appendix 1 of Ausgrid’s Procedure to Seek Consent Under Section 138 of the Roads Act.

After section 138 consent is obtained and prior to starting works, a road occupancy licence (ROL) will need to be obtained for works as outlined in Appendix 6 of the memorandum of understanding (MoU) between Ausgrid and RMS. An ROL is required in the Sydney region for all classified state roads, classified regional roads, and local roads within 100 m of a traffic signal or a classified state road and in the Hunter region for all state roads.

An ROL is not required prior to verification of the EIA worksheet. Further information on applying for ROLs is available on the RMS Applications Pack website.

If works will require out of hours works (ie night works), ensure that it is sufficiently addressed in Table 4 under construction noise.
2B.6 Working on Crown Lands or Crown Timber Lands

Tick ‘yes’ if works are on:

- Crown lands
- Crown timber lands

Collecting information

Indicative locations of Crown lands and Crown timber lands are available on the Env GIS (refer to the Env GIS Analysis Report).

Some new works on Crown lands require referral to Ausgrid’s property section to undertake an assessment of tenure.

Works on Crown lands that do not require referral to Ausgrid’s property section include:

- work on public roads or reserves
- work to maintain, repair or replace an existing asset within an existing developed footprint on Crown land. However, if additional disturbance is required outside the existing developed footprint, or if an asset is being upgraded, the works must be referred to Ausgrid’s property section for an assessment of tenure.

Refer to Table 1 for examples of works that do and do not require an assessment of tenure.

In summary, the works must be referred to Ausgrid’s property section as native title and land rights may apply if the Env GIS indicates that the work is on Crown land that is not a public road or reserve, and it is not work to maintain, repair or replace an existing asset within an existing developed footprint.

Table 1 Works on Crown land

<table>
<thead>
<tr>
<th>Description of Works</th>
<th>Assessment of tenure required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building a new PT on a new/existing pole on an existing overhead distribution power line.</td>
<td>No</td>
</tr>
<tr>
<td>Building a new recloser on a new/existing pole on an existing overhead distribution power line.</td>
<td>No</td>
</tr>
<tr>
<td>Building a regulator on a new/existing pole on an existing overhead distribution power line.</td>
<td>No</td>
</tr>
<tr>
<td>Building a capacitor bank on a new/existing pole on an existing overhead distribution power line.</td>
<td>No</td>
</tr>
<tr>
<td>Replacing timber poles with concrete poles.</td>
<td>No</td>
</tr>
<tr>
<td>Upgrading from 415 V to 11 kV, 11 kV to 33 kV, etc.</td>
<td>Yes</td>
</tr>
<tr>
<td>Relocating a pole by a metre if it goes from being on one property to a different property.</td>
<td>Yes</td>
</tr>
<tr>
<td>Rebuilding an existing single phase overhead line (two wires) to three phases (three wires) on the same overhead power line route.</td>
<td>No</td>
</tr>
<tr>
<td>Installing communication wire on an existing overhead power line.</td>
<td>No</td>
</tr>
<tr>
<td>Installing a control cubicle or pilot wire box on the ground within an existing overhead power line easement.</td>
<td>No</td>
</tr>
</tbody>
</table>
Description of Works | Assessment of tenure required?
---|---
Relocating overhead power lines due to an encroachment to meet clearance standards. | Yes
Distribution substation earthing inside easement. | No
Install overhead earth wire (OHEW) on an existing overhead power line. | No
Upgrade PT and relocate 20m, on the same property. | No
Acquiring easements over existing assets (generally 11 kV) as a condition of a subdivision. | Yes

Further information

For Crown timber land information:

Requirements

Under the *Land Acquisition (Just Terms Compensation) Act 1991*, an easement is required over Crown land. Checks for any native title claims under the *Native Title Act 1993* (Commonwealth) and Aboriginal land claims under the *Aboriginal Land Rights Act 1983* should also be made.

The *Native Title Act 1993* provides for the determinations of native title in Australia. Native title can apply to Crown land and land held under land rights and water areas where it can be demonstrated that there is a continuous traditional connection to the land. Where works are proposed on land where native title may continue to exist, an assessment of the tenure should be undertaken. Native title holders and claimants have a statutory right to notification and consultation in terms of what impact a proposed project may have over their native title rights and interests. As is the case for ordinary title holders, native title holders hold the right to claim compensation for the extent to which their native title rights and interests are impacted or extinguished by our works.

The *Aboriginal Land Rights Act 1983* was established in NSW to compensate Aboriginal people for the loss of land which has occurred over successive generations. This Act provides for the establishment of the NSW Aboriginal Land Council (ALC) which operates as a three tiered system consisting of the state body, local ALCs and regional ALCs. Through the ALCs, land claims can be made for the benefit of its members to claim back land for community purposes. The land must be unused Crown land and not required for public purpose.

Crown timber lands are managed by the Department of Primary Industries (DPI). Crown timber lands are governed by the *Forestry Act 2012* and also the *Forestry and National Park Estate Act 1998*, where the land is subject to a forest agreement. A clearing licence issued under s.27G of the *Forestry Act 2012* is required to clear timber on Crown-timber land. There are currently no Crown timber lands within Ausgrid’s network area.
2B.7 Working within bushfire prone land

Tick ‘yes’ if the works are in bush fire prone land.

Collecting information

Ausgrid employees can refer to Balin for bush fire prone land maps.

Use the Scout GIS or Rural Fire Services Maps (for historical purposes only).

Information on bush fire prone land can be found from the relevant local council.

Further information

For bush fire information: www.rfs.nsw.gov.au/dsp_content.cfm?cat_id=1052

For Ausgrid’s NS 141 Specification for Site Selection for Kiosk Type Substations.

Ausgrid employees can refer to Chapter 4 Bush fire Management Plan of the Network Management Plan.

Requirements

Sections 63(1) and 63(2) of the Rural Fires Act 1997 require public authorities and owners/occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of bushfires on or from, that land.

Ausgrid manages bush fire risk by adopting a risk management approach to ensure that our assets and our customer’s private powerlines are properly designed, equipped and maintained by the responsible party. All new and replacement assets must feature appropriate technology in order to limit bush fire risks.

The location of kiosk substations within bush fire prone land areas, where there is a significant risk that a kiosk fault or fire could cause a bush fire, should be avoided wherever reasonably practicable.

All zone substation developments on land that is designated as bush fire prone have a legal obligation to consider bush fire and meet the requirements of NSW Rural Fire Services guide, Planning for Bush Fire Protection 2006 and AS3959 – 2009 Construction of Buildings in Bushfire-prone Areas.

Zone substation developments must comply with Ausgrid's NS187 Passive Fire Mitigation Design of Substations which provides details for the design of passive fire mitigation requirements for substations and for safe egress from substation buildings and switchyards in the event of a fire. Substations under NS187 deemed to be in bush fire prone areas shall satisfy all the requirements of AS3959 – 2009 Construction of Buildings in Bushfire-prone Areas and the NSW Rural Fire Services guide, Planning for Bushfire Protection.
2B.8 Excavating within <40m from a water body

Tick ‘yes’ if works include excavation within 40m of a waterway, such as a river, creek, ocean, lake, open stormwater channel or dam.

Collecting information

Refer to the Env GIS Analysis Report. Most waterways, except for small creeks, are available on the Env GIS.

Refer to the site inspection.

Further information


Requirements

If unable to move the site/route, include in the EIA worksheet requirements for protecting the water body.

Under the WM Act, a controlled activity approval is required to excavate within 40 m of a water body (river, creek, canal, ocean, lake), however, the Water Management (General) Regulation 2011 provides that public authorities are exempt from controlled activity approvals that they carry out in, on or under waterfront land. Ausgrid is exempt from controlled activity approvals as a public authority. Regarding contestable works undertaken by ASPs, if the works meet all of the following criteria, a controlled activity approval is not required:

- the proposed works are carried out on behalf of Ausgrid
- Ausgrid approves the design/specification for the proposed works
- Ausgrid signs off on the work complete.

As such, the majority of contestable work will not require a controlled activity approval.

2B.9 Other

Tick ‘yes’ if other approvals apply.

Provide details including the conditions of approval.

Collecting information

Refer to site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

Further information

Some examples could include:

- undertaking works within Sydney Olympic Park Authority (SOPA) land
- undertaking excavation or vegetation clearing works in the Port Botany Fire Ant Control Area
- encroaching on airspace near airports
- restricting access along a river.

**Requirements**

Restrictions are in place on the movement of fire ant host material (soil, gravel, mulch, bark, grass, turf) and excavation equipment in the Port Botany Fire Ant Control Area. These restrictions are regulated under the *Animal Diseases and Animal Pests (Emergency Outbreaks) Act 1991* by a control order issued under that Act by the DPI Control (Red Imported Fire Ant) Order 2014.

Where possible, plan the works to reduce the volume of spoil and waste generated and stockpile excess host material within the Control Area to prevent relocating fire ants outside of the Control Area. Under the Control Order a permit is required from the DPI for the removal of host material from within the Control Area, which can be arranged by emailing a request to the DPI (operation.lcc-rosebery@dpi.nsw.gov.au).

Fire ants can be carried on equipment, including slashers, if host material is attached. All equipment working in the Control Area must be cleaned down and free of host material before being moved outside the Control Area.

If fire ants are identified, works must be stopped immediately and Ausgrid's Environmental Services must be contacted.

### Table 3A

If an issue is ticked in Table 3A, the EIA worksheet must be referred to Environmental Services.

#### 3A.1 Siting oil filled equipment within 40 m of a sensitive area or within 5 m upstream of a drain

Tick ‘yes’ if works involve siting oil filled equipment within:
- 40 m of a waterway
- 5 m upstream of a stormwater drain (inlet not the gutter).

**Collecting information**

Waterways are available on the Env GIS (refer to the Env GIS Analysis Report).

Refer to the site inspection and EGN 420 Relative Risk Model (Oil Filled Equipment).

Ensure that alternative options are assessed using EGN 420 Relative Risk Model (Oil Filled Equipment) and discussed in Table 1: Route / site option justification of the EIA worksheet.

**Further information**

These Network Standards apply to locating new kiosks and pole top transformers (PTs):
- *NS141 Site Selection and Site Preparation Standards for Kiosk Type Substations* outlines the siting requirements for kiosks
• **NS122 Pole Mounted Substation Construction** outlines the siting requirements for pole transformers

• **NS117 Design and Construction Standards for Kiosk Type Substations** general requirements for kiosk design and installation.

### Requirements

Where there are no reasonable alternatives to siting oil filled equipment in the above areas, ensure the EIA worksheet includes a justification for the chosen location. Complete the rest of the EIA worksheet and refer the project to Environmental Services.

Environmental Services will make the following recommendations for new kiosks in most cases:

- all cable seals within the bunded area must be fire and oil resistant
- all cable seals must meet fire stopping requirements of NS117
- the base of a kiosk substation must be able to contain 100 percent of the oil volume of the largest item of oil filled equipment.

If these recommendations are not relevant or are insufficient for any reason, the matter will need further investigation.

### 3A.2 Working within areas with contaminated land

Tick 'yes' if works involve siting infrastructure or disturbing the ground surface within known contaminated land.

#### Collecting information

Refer to the Env GIS Analysis Report. EPA regulated sites are available on the [Env GIS](http://www.epa.nsw.gov.au/clm/index.htm).

Refer to the s.45 Infrastructure SEPP notification response from local council and any other consultation responses. Other contaminated sites are regulated by local council.

Refer to the site inspection. Indicators of contaminated land include odorous material (eg fuels, solvents, rotten egg gas), oil staining, oil sheen on groundwater, underground storage tanks (UST), buried waste (eg asbestos, construction waste, containers), imported fill (eg ash, coke, asbestos), unusually coloured material, 132 kV transmission cable trenches installed before 1980. Some examples of where you may find a contaminated site include fuel storage areas, areas where oil filled equipment are being used or have been used, petrol stations, drycleaners and industrial sites.

#### Further information


#### Requirements

Where there are no reasonable alternatives to siting works in contaminated land, ensure the EIA worksheet includes a justification for the chosen location. Complete the rest of the EIA worksheet and refer the project to Environmental Services.

Where the site may be contaminated, Ausgrid would in most cases require satisfactory assurances (supported by suitably qualified technical advice) that:
• there are no contaminants which would present any risks to the integrity and long-term viability of Ausgrid’s infrastructure

• there are no contaminants which would present any risks to the health and safety of employees, contractors and the public

• there are no contaminants (in excess of the existing land use criteria) which would result in additional construction, handling, transport and disposal expenses to Ausgrid (both now and in the future)

• any contamination was not caused by Ausgrid.

Note: OEH’s register relates only to contaminated sites that the EPA has determined pose a significant risk of harm and in relation to which it has issued a notice under the Contaminated Land Management Act 1997. Other contaminated sites may be addressed by local councils through the planning process in accordance with SEPP 55 under the EP&A Act. The contamination may also be the subject of regulatory action under the POEO Act.
3A.3 Impacting hollow bearing trees

Tick ‘yes’ if works will affect (destroy, clear or move):

- a hollow bearing tree
- the habitat surrounding a hollow.

Collecting information

Refer to the site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

Further information

For hollow bearing tree information:

Requirements

Where there are no reasonable alternatives to affecting hollow bearing trees, ensure the EIA worksheet includes a justification for the chosen location. Complete the rest of the EIA worksheet and refer the project to Environmental Services.

Note: A specialist ecological investigation will be required when affecting hollow bearing trees.

3A.4 Decommissioning substations with either evidence of contamination, a history of spills/leaks or where the land use will change (sale / end of lease)

Tick ‘yes’ if:

- to your knowledge there have been any oil spills or leaks
- there is anything to suggest that oil may have penetrated into the ground, groundwater or a waterway (eg cracked concrete slab with oil staining)
- there is anything else to suggest that this substation may be contaminated (eg if the soil being disturbed or contains oily or odorous material, buried or exposed fill/waste, dead vegetation, ash, slag, coke or brightly coloured material, asbestos)
- if the land will be sold / lease will expire after the substation is decommissioned
- if the land will be converted to a sensitive land use after the substation is decommissioned (excluding a road reserve, including a park).

Collecting information

Refer to the scope of works. When decommissioning a substation you must undertake a site inspection.

Further information

Refer to section 3A.2.
Requirements

Decommissioning substations poses a risk of future liability. When decommissioning a substation and there is evidence of contamination, you must undertake a site inspection and take photographs. Photographs should show land adjacent to and within the substation to be decommissioned.

Where decommissioning a substation on private property (under easement, lease, ownership or other) upon which Ausgrid is absolving their occupation, additional intrusive investigation may be required.

Ausgrid employees can refer to EG 180 Contaminated Land.

3A.5 Impacting high value habitat

Tick ‘yes’ if works are impacting high value habitat:

- wildlife corridors or wildlife refuges
- key fauna habitat
- key fish habitat
- native forests
- wildlife management areas
- significant tree registers
- koala habitat (> 1 hectare of bush land)
- remnant roadside vegetation.

Impacting includes disturbing or removing fauna habitat (eg vegetation, tree hollows, bush rocks, wetlands) in the area.

Collecting information

Refer to the Env GIS Analysis Report. The Greater Eastern Ranges Conservation Corridor, key fauna habitat and key fish habitat are available on the Env GIS.

Refer to the site inspection, EGN 425 TPZ and SRZ Calculator, s.45/Infrastructure SEPP responses and any other consultation response.

Requirements

Where there are no reasonable alternatives to siting works within high value habitat, ensure the EIA worksheet includes a justification for the chosen location. Complete the rest of the EIA worksheet and refer the project to Environmental Services.

Note: A specialist ecological investigation will be required when affecting high value habitat.
3A.6 Clearing native vegetation

Tick ‘yes’ if works involve clearing native vegetation. ‘Clearing’ includes trimming, pruning or removing vegetation.

Collecting information

Refer to the scope of works, site inspection and EGN 425 TPZ and SRZ Calculator.

Further information


Requirements

Where there are no reasonable alternatives to clearing native vegetation ensure the EIA worksheet includes a justification for the chosen location in Table 1. Complete the rest of the EIA worksheet and refer the project to Environmental Services. A suitably qualified ecologist will need to be consulted when affecting native vegetation. An ecological report may not be required if the project only involves clearing landscaped vegetation.
### Table 3B

#### 3B.1 Impacting on a sensitive community area

Tick ‘yes’ if works are likely to affect shops, businesses, schools, hospitals, childcares, playgrounds or bush regeneration areas.

**Collecting information**

Refer to the site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

**Requirements**

Where there are no reasonable alternatives to siting works near the above areas, ensure the EIA worksheet includes a justification for the chosen location. It may be necessary to consult with the community in order to determine the suitably of the plans and identify any controls.

Where a distribution substation is planned to be installed as part of a larger development and it is likely to be immediately adjacent to a habitable room or share a common wall with a habitable room, correspondence can be considered with the land owner through the electrical designer to assist with the approval process.

An example of a letter that can be used by Ausgrid employees for consultation with the land owner is available [here](#).

#### 3B.2 Working within coastal areas, areas subject to coastal processes and hazards, including climate change or erosion prone land

Tick ‘yes’ if:

- siting infrastructure within 1 m above sea level
- siting infrastructure within flood prone land
- disturbing the ground within erosion prone land.

**Collecting information**

Erosion prone land (vulnerable land) typically includes land > 1 hectare with a slope > 18 degrees, or land within 20 m of a prescribed stream.

Coastal areas and vulnerable land are available on the Env GIS (refer to the Env GIS Analysis Report).

Flood prone land information is available from local council. Refer to the site inspection.

**Further information**


Requirements

Where there are no reasonable alternatives to siting works in the above areas ensure the EIA worksheet includes a justification for the chosen location.

The following projected sea level increases should be considered in relation to coastal processes and hazards, including climate change:

- 0.4 metres (m) higher than the 1990 mean sea level by 2050
- 0.9 m higher than the 1990 mean sea level by 2100.

Developing infrastructure on flood prone land is an engineering risk. Substations must be built above the 1 in 100 year flood level.

3B.3 Working within areas of high aesthetic, scenic or recreational value

Tick ‘yes’ if works could adversely affect:

- natural, geological, scenic or other feature that enhances the visual amenity of the area
- recreational areas such as public reserves, natural areas, sportsgrounds or parks.

Collecting information

Refer to site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

Requirements

Recreational areas are considered sensitive areas. They can include public reserves and include areas categorised as natural areas, sportsgrounds and parks. The core objectives for management of recreational areas are to:

- encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities
- provide for passive recreational activities or pastimes and for the casual playing of games
- improve the land in such a way as to promote and facilitate its use to achieve the other core objectives for its management.

When planning to construct or modify a development near a recreational area the core objectives for management must be considered. Community consultation may be required.
3B.4 Disturbing acid sulfate soils

Tick ‘yes’ if works are likely to disturb soils located in an acid sulfate soils (ASS) mapped area.

Collecting information

ASS Planning Maps (Classes 1-4) are available on the Env GIS (refer to the Env GIS Analysis Report).

Refer to the scope of works (consider depth of excavation works).

Refer to the site inspection. Indicators of the presence of ASS include:

- the presence of mangroves, reeds, rushes or swamp vegetation
- sulfurous (rotten egg) smell after rain following a dry spell or when soils are disturbed
- marine or estuarine sediments
- soils that can be described as unripe muds or sediments (e.g., soft, buttery, blue/grey or dark greenish grey) which can include sands and gravels
- milky blue/green water
- shell fragments in the soil
- waterlogged, scalded or backswamp areas
- land below 10 m Australia height datum (AHD) elevation
- any jarosite (a pale yellow mineral deposit) or iron oxide (rusty) mottling
- extensive iron stains on any drain surfaces or iron stained drain water and ochre deposits
- corrosion of concrete and/or steel structures
- surface or ground water with either a pH below 5.5 or that is unusually clear.

Further information


Requirements

Where there are no reasonable alternatives to siting works in ASS areas, ensure the EIA worksheet includes a justification for the chosen location.

If disturbing < 50 m³ of ASS at any one time, refer to the NUS 174C Environmental Handbook. Ausgrid employees can use Ausgrid’s Environmental Work Method Statement (EWMS) 167 Acid Sulfate Soils.

If disturbing > 50 m³ of ASS at any one time, a site specific management plan needs to be developed (Ausgrid employees can contact Environmental Services).
3B.5 Working near noxious weeds

Tick ‘yes’ if known noxious weeds are located within the worksite.

Collecting information

Refer to the site inspection (use the Environmental Handbook as a guide for identification).

Refer to s.45/Infrastructure SEPP responses, other consultation response, and ecological reports (where available).

Further information

For noxious weed information refer to local council websites and here:


Requirements

The Noxious Weeds Act 1993 (NW Act) divides noxious weeds into five categories which determine the level of control required - ‘control classes’ (CC) 1, 2, 3, 4 and 5.

Responsibility for the control of noxious weeds lies with the owner and/or occupier of private and Crown land, as well as local councils and other public authorities on land they occupy. The obligation can be enforced by the issue of weed control notices by the Minister and local control authorities.

Under the NW Act certain noxious weed must be prevented from spreading and their numbers and distribution reduced. Where noxious weeds have been identified within the proposed work area or on land Ausgrid own, weed management actions will need to be prepared for the identified categories of noxious weeds in order to comply with the NW Act.

Weed management control measures within the NUS 174C Environmental Handbook (or construction environmental management plan (CEMP) for major projects) need to be followed. Identification and control actions of noxious weeds should be part of any vegetation assessment report.

3B.6 Restricting access or mobility for people with disabilities

Tick ‘yes’ if works affect people with disabilities (eg those in wheelchairs or with visual impairments).

Collecting information

Refer to site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

Requirements

Issues affecting people in wheelchairs and the effect of electricity works on people with visual impairments should properly be considered when Ausgrid assesses the environmental effects of a particular proposal to place pillars, poles, kiosks etc in footpaths or access ways.
Disability Discrimination Act 1992 and building standards that sit under that Act, including the Building Code of Australia and the AS1428 series, which contain design standards for new buildings and building modifications in order to accommodate people with disabilities.

3B.7 Other

Tick ‘yes’ if there are any other issues identified.

If so, the issue must be addressed and relevant controls outlined in order to minimise the impact.

Collecting information

Refer to the site inspection, s.45/Infrastructure SEPP responses and any other consultation response.

Further information

Other issues may be identified through community consultation. Refer to section 1.11.
Table 4

Table 4 is used to assess the impacts of the proposal with controls (mitigation measures) in place.

Controls are legal requirements, and a breach of these is considered an offence.

For assistance in writing controls, refer to:

- NUS 174C Environmental Handbook
- responses to notification
- conditions in approvals, licences and permits
- specialist studies or management plans.

Tips for writing enforceable controls are to follow the SMART acronym:

- **Specific**
  - what must be done
  - who must do it
  - where it needs to be done
  - how it must be done
  - use consistent language
  - define words that have special or technical meanings
  - use active rather than passive voice
  - avoid using ‘may’ or ‘should’, use ‘must’.

- **Measurable**
  - How will compliance with the condition be measured?
    - site inspection?
    - sampling or monitoring?
  - Is there room for argument about whether a condition has or has not been complied with?

- **Achievable**
  - Can the condition be complied with?

- **Relevant / Reasonable**
  - Consider what you are trying to achieve and what would be a reasonable requirement to place on someone.
  - Ask yourself what you are trying to achieve and whether the proposed condition is relevant to achieving that.
Time Specific:
- Clearly state when something must be done by:
  - Specific date (eg 1 January 2014)
  - Specific period (eg within 7 days).
- Do not use:
  - ‘immediately’ or ‘as soon as possible’
  - ‘regularly’ or ‘frequently’

4.1 Is dust generation an issue?

Vegetation and ground cover protects soils from erosion. By exposing soils, they are more likely to produce dust from wind, vehicle movement or use of equipment.

Dust generation can have adverse effects on surrounding vegetation and waterways, and health implications for workers and residents.

When is dust generation an issue?

Tick ‘yes’ and assess further if works include excavating, trenching, stockpiling, earth rod drilling or vegetation clearing.

Mitigating impacts by design

- Identify and where appropriate maximise distance to sensitive receivers eg schools, hospitals, cafes, high pedestrian traffic areas.
- Choose sites/route which minimise disturbance of soil, vegetation and groundcover.
- Design project so that all exposed surfaces can be stabilised as soon as practical.
- Require an erosion and sediment control plan (ESCP) or soil and water management plan (SWMP) to be prepared which addresses revegetation / stabilisation where more than 250m² of soil will be disturbed. A suitably qualified person (ie completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) must prepare the ESCP or SWMP in accordance with ‘Managing Urban Stormwater – Soils and Construction’ (Landcom, 2004).

Example text: consider specific impacts & SMART controls for each project

<table>
<thead>
<tr>
<th>Description of Impacts and Cause</th>
<th>Additional Instructions for Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed excavation / trenching / stockpiling / access track / vegetation removal works could create offsite dust emissions. Dust generation can have adverse effects on surrounding vegetation and waterways, and have health implications for workers and residents. Vegetation and ground cover (including hardstand areas) protects soils from erosion and the generation of dust. Dust impacts would be restricted to the construction component of the project.</td>
<td>Refer to sections 2.1 and 2.2 of Ausgrid's NUS 174C Environmental Handbook. Use water sprays to dampen (but not wet) disturbed surfaces and stockpiles, at material transfer points and during construction and demolition. Visually monitor dust levels during works. If dust is leaving site, causing a safety issue or complaints are received suspend works and consider mitigation options and/or substitute with an alternate process. Restrict traffic movement and vehicle speeds over disturbed areas and unsealed roads. Earth rod drilling must use vacuum systems.</td>
</tr>
</tbody>
</table>
Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Works involve</td>
<td>HIGH (5) Disturbing ground or vegetation &gt; 250 m at</td>
<td>HIGH (5) Affecting schools or hospitals.</td>
</tr>
<tr>
<td>large scale demolition, such</td>
<td>any one time.</td>
<td>MEDIUM (3) Disturbing ground or vegetation 50-250 m² at any one time.</td>
</tr>
<tr>
<td>as zone substations or depots,</td>
<td></td>
<td>LOW (1) Disturbing ground or vegetation &lt;50 m² at any one time.</td>
</tr>
<tr>
<td>or ground disturbing activities,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>such as bulk excavation associated with a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>zone substation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% CHANCE (3) Works involve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>medium scale demolition, such</td>
<td></td>
<td></td>
</tr>
<tr>
<td>as distribution substations, or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ground disturbing activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Works</td>
<td></td>
<td></td>
</tr>
<tr>
<td>involve minor excavation works,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>such as trenching and kiosk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>installations.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2 Is fumes, odours or other air pollution an issue?

Odours can affect not only workers, but also public amenity. Individual's reactions to odour vary. Odours account for the largest source of air pollution complaints to OEH's Environment Line.

When are fumes, odours or other air pollution an issue?

Tick 'yes' and assess further if there are sensitive receivers nearby and works:

- are in ASS areas
- include cable jointing, use of diesel generators, painting
- include installation of SF6 equipment.

Mitigating impacts by design

- Select sites/route that avoids fumes and odours being generated eg avoid excavating or disturbing contaminated soils or ASS.
- Select sites/route that maximise distance to sensitive receivers.
- If appropriate, minimise fumes and odours through design features eg orient substation vent(s) away from receivers.

Example text: consider specific impacts & SMART controls for each project

Description of Impacts and Cause *

Works are likely to expose ASS resulting in a sulfurous smell.
This work involves the use of machinery in close proximity to X sensitive receivers given the nature of the project and the type of machinery required, fumes and odours may be experienced at the receiver for a limited period of time during construction work.

Additional Instructions for Project *

Refer to section 2.2 of Ausgrid's NUS 174C Environmental Handbook.
Ensure ASS are tightly covered and the time exposed to air is minimised.
Position vehicles and equipment where the fumes will lease affect receivers.
Identify and consult sensitive receivers and schedule works accordingly eg work outside school hours when working near a school.
Minimise the running time of generators and / or other fume producing equipment through the staging of works.
### Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Installation of a permanent exhaust, such as a fume extraction unit.</td>
<td>HIGH (5) Works are continuous for greater than 3 days affecting multiple receivers.</td>
<td>HIGH (5) Affecting schools or hospitals.</td>
</tr>
<tr>
<td>50% CHANGE (3) Temporary works that involve diesel generators and paint. Works that will expose &gt; 50 m$^3$ of ASS</td>
<td>MEDIUM (3) Works are continuous for 2-3 days affecting multiple receivers or are greater than 3 days for one receiver.</td>
<td>MEDIUM (3) Affecting residential and commercial receivers.</td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Temporary works that involve normal vehicle exhaust. Works that will expose &lt; 50 m$^3$ ASS</td>
<td>LOW (1) Works are less than 2 days at any one location.</td>
<td>LOW (1) Industrial, commercial or rural area (no residential area).</td>
</tr>
</tbody>
</table>

### 4.3 Is pollution of land or waterways an issue (oil, fuels and chemicals)?

#### When is pollution of land or waterways an issue?

Tick ‘yes’ and assess further if one or more of the following apply:

- installing or removing oil filled equipment
- working in or near (< 40 m) sensitive areas such as waterways, wetlands and stormwater inlets
- siting infrastructure within flood prone land
- siting infrastructure within a drinking water / special catchment area
- siting infrastructure within 1 m above sea level.

Refer the project to Environmental Services if siting oil filled equipment within 40m of a waterway or 5m upstream of a stormwater drain.

#### Mitigating impacts by design

- Avoid siting oil filled equipment in sensitive areas (adjacent to wetlands, waterways, flood prone areas, drinking water / special catchment areas, etc). Refer to EGN 420 Relative Risk Model (Oil Filled Equipment).
- Consider design features to minimise potential oil loss eg use bunded substations (see NS 117).
- Consider design features to maximise distance to sensitive areas (eg additional absorptive capacity of the pathway to water such as a grassy area rather than concrete), installing additional bunds downstream of the substation and diverting the path of the oil along an alternative path.
- Use drop sheets and ensure spill kits are readily available should any leaks or spills occur during work.

#### Example text: consider specific impacts & SMART controls for each project

**Description of Impacts and Cause**

- Handling oil filled equipment has the potential to result in spills and leaks entering the stormwater system or environment.

**Additional Instructions for Project**

- Refer to sections 3.1 and 3.2 of Ausgrid's NUS 174C Environmental Handbook.
- Make employees aware of the nearby sensitive areas (eg adjacent to a wetland, waterway, etc).
This project involves the placement of an XXX oil filled asset in proximity to XXX waterway which triggers the need for further prudent investigation. Ausgrid takes a risk based approach to locating assets in proximity to waterways. A relative risk model run for this project concluded that XXX.

drinking water / special catchment area).
Ensure a spill kit is readily available and workers are familiar with the procedures for using the spill kit.
Seal all conduits, ducts and cable entries to the kiosk in accordance with section 9.6 of NS117.
Prepare and implement an environmental work method statement prior to transferring oil greater than 15,000 L or 5,000 L in a sensitive area.

Assessing the Impacts - risk rating guidance

Use the EGN 420 Relative Risk Model (Oil Filled Equipment) to compare sites or investigate ways to reduce the risk (eg increasing the flow path or changing the surface type).

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
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</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5)</td>
<td>HIGH (5) Oil filled equipment, plant or vehicles containing in excess of 10,000 L.</td>
<td>HIGH (5) Within 40 m upstream of a sensitive receiver such as wetlands, harbours, rivers and drinking water / special catchment areas.</td>
</tr>
<tr>
<td>Construction of an oil storage facility.</td>
<td>MEDIUM (3) Oil filled equipment, plant or vehicles containing between 1,000-10,000 L.</td>
<td>MEDIUM (3) Within 40 m of a waterway or 5 m upstream of a drain NOT leading to a sensitive area.</td>
</tr>
<tr>
<td>50% CHANCE (3) Handling, transporting, storing or siting oil filled equipment.</td>
<td>LOW (1) Oil filled equipment, plant or vehicles containing &lt; 1,000 L.</td>
<td>LOW (1) On a grassed area greater than 40 m from a waterway.</td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Not handling, transporting or storing oils or not siting oil filled equipment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4 Is sedimentation of waterways, wetlands, stormwater drains or groundwater an issue?

Activities that disturb soil can increase soil erosion, surface runoff and the possibility of sediment entering a drain or waterway.

When is sedimentation of waters in an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- excavating
- stockpiling
- trenching
- underboring
- sawcutting
- access track works
- dredging a water body
- working in or near (< 40 m) sensitive areas such as waterways, wetlands and stormwater inlets
Mitigating impacts by design

- Avoid ground disturbing activities in erosion prone areas (e.g., slope ≥ 18°, sandy soils), areas of concentrated water flow (e.g., drainage lines, grates, drains, inlets, and discharges), areas subject to bogging (e.g., low lying areas, floodplains, swampy areas), and areas slow to regenerate (e.g., salt marshes, wetlands).

- Give preference to sites/route with less vegetation clearing requirements (including access to the site).

- Consider construction methods to minimise disturbance and time soils are exposed (e.g., directional drilling, utilising existing conduits, spanning over sensitive areas).

- Require an ESCP or SWMP to be prepared which addresses revegetation/stabilisation where more than 250m² of soil will be disturbed at any one time. A suitably qualified person (i.e., completed an IECA endorsed course or passed the examination for CPESC) must prepare the ESCP or SWMP in accordance with 'Managing Urban Stormwater – Soils and Construction' (Landcom, 2004). the 'Blue Book'.

For all works on land reserved and acquired under the NPW Act:

- Undertake works in accordance with the protocol between the OEH and Ausgrid.

- Restrict maintenance and inspection activities, as defined under the protocol, to periods of dry weather and daylight hours to minimise any damage to access tracks that could increase erosion.


Example text: consider specific impacts & SMART controls for each project

<table>
<thead>
<tr>
<th>Description of Impacts and Cause</th>
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</thead>
<tbody>
<tr>
<td>XXX works has the potential to result in soil erosion, surface runoff and the possibility of sediment entering a drain or waterway. This work site would be occurring on steep erosion prone areas in proximity to both drains and waterways.</td>
<td>Refer to section 2.1 of Ausgrid's NUS 174C Environmental Handbook. Install erosion and sediment controls in accordance with the site specific ESCP / Environmental Handbook. Inspect and maintain sediment controls regularly, especially during periods of rainfall. Remove temporary erosion and sediment controls as the site is stabilised or rehabilitation is complete. No stockpiling on this site. All spoil to be tipped into a truck or skip bin. Stockpiles must be located in area XXX or away from roadways, gutters, drains, slopes, concentrated flow paths and channels. Stabilise disturbed areas promptly, this may include progressive rehabilitation.</td>
</tr>
</tbody>
</table>
Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Dredging of a waterway.</td>
<td>HIGH (5) Stockpiling or disturbing ground surface &gt;250m² at any one time.</td>
<td>HIGH (5) Within 40m upstream of a sensitive receiver such as wetlands, harbours and rivers</td>
</tr>
<tr>
<td>50% CHANCE (3) Undertaking excavation works and ground disturbance on erosion prone land (slope ≥ 18°).</td>
<td>MEDIUM (3) Stockpiling or disturbing ground surface between 50-250m² at any one time.</td>
<td>MEDIUM (3) Within 40m of a waterway or 5m upstream of a drain NOT leading to a sensitive area.</td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Undertaking excavation works and ground disturbance on a relatively flat surface.</td>
<td>LOW (1) Stockpiling or disturbing ground surface &lt; 50m² at any one time.</td>
<td>LOW (1) On a grassed area greater than 40m from a waterway.</td>
</tr>
</tbody>
</table>

### 4.5 Is water discharge an issue?

Only clean rain water is allowed to enter a waterway or drain. Any other liquid or solid is considered a pollutant.

Water accumulated in trenches, pits and substations must be assessed and either treated or tanker to a waste facility. Usually the most effective way of managing accumulated water is to avoid the situation in the first place.

Groundwater extraction can potentially lower or contaminate the local groundwater table. In some areas groundwater is used for domestic purposes such as irrigation.

#### When is discharging water an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- works include trenching or excavating
- groundwater could be encountered
- accumulated water may require treatment/ removal
- discharging to stormwater or sewer
- works involve temporary or long term alteration of groundwater and/or surface water including:
  - extracting water from a waterway
  - extracting groundwater
  - excavations requiring dewatering.

Refer the project to Environmental Services if there will be interference with the groundwater as a permit may be required.

#### Mitigating impacts by design

- Identify groundwater issues as part of trial holes and geotechnical investigations, where undertaken, and where possible avoid works below the watertable or with tidal influence.
- Where possible, avoid working in areas of potential groundwater contamination eg groundwater in areas of ASS is likely to be contaminated.
- If not possible to avoid, use design features to minimise water ingress eg water diversion measures, seal cable ends and avoid basement substations.
Example text: consider specific impacts & SMART controls for each project

Description of Impacts and Cause *

- Excavation works are / are not likely to intercept the ground water table. Extraction may be required if groundwater is encountered. Rainwater may accumulate in pits and trenches and require treatment.

Additional Instructions for Project *

- Water must be discharged onsite in accordance with the requirements outlined in section 2.3 of Ausgrid’s NUS 174C Environmental Handbook. If required, organise a licensed tanker to remove the water. Ausgrid employees can contact Aqueous Waste Services.

Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
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</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Installation of a permanent water discharge facility or pumps.</td>
<td>HIGH (5) Permanently discharging Managing known or potentially contaminated water (eg working in areas of contamination, replacing oil filled cables or ASS).</td>
<td>HIGH (5) Within 40m upstream of a sensitive receiver such as wetlands, harbours and rivers</td>
</tr>
<tr>
<td>50% CHANCE (3) Excavating below groundwater table and using a temporary water discharge device, such as a filter bag.</td>
<td>MEDIUM (3) Only discharging temporarily or during significant wet weather events.</td>
<td>MEDIUM (3) Within 40m of a waterway or 5m upstream of a drain NOT leading to a sensitive area.</td>
</tr>
<tr>
<td>LOW (1) No interception of groundwater table.</td>
<td>LOW (1) A one off discharge.</td>
<td>LOW (1) On a grassed area greater than 40m from a waterway.</td>
</tr>
</tbody>
</table>

4.6 Is construction noise / vibration in exceedance of criteria an issue?

Ausgrid receives more complaints about construction noise than any other construction issue. The impacts of noise and vibration may include reduced productivity, loss of business, adverse health effects or property damage.

Proper management and consultation can minimise complaints and avoid costly worksite shut downs and delays. Most complaints can be avoided if people are clear on what is happening and why.

When is construction noise an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- works (including establishment and use of site compounds) are likely to affect a receiver
- audible works are outside standard operating hours:
  - Monday to Friday – 7 am to 6pm
  - Saturday – 8 am to 1 pm
  - no work on Sundays or Public Holidays
  - some exceptions apply - see the NUS 174C Environmental Handbook.
- noise issues were raised in consultation, or noise could disrupt adjacent land uses.

Refer the project to Environmental Services if impacting a receiver for greater than three consecutive weeks.
Mitigating impacts by design

- Choose sites/route which maximise the distance to sensitive receivers. Vibration levels and structural integrity goals are typically within criteria when works are beyond these approximate separation distances:
  - rock hammering ~ 3 – 5 m
  - excavation ~ 2 m
  - ripping trench walls and road base > 5 m
  - compacting > 5 m
  - excavator tracking ~ 3 m.

- Specify the site layout to minimise impacts:
  - Arrange the work site to take advantage of natural barriers (e.g., hills, trees) and structures (e.g., fences, work trucks, stockpiles) to break the line of sight between working equipment and receivers. Consider reflective noise.
  - Site the noisiest equipment furthest away from receivers.
  - Orientate the equipment so that noise is directed away from receivers.
  - Consider installing portable screening around high impact activities so noise is directed into the work site.
  - Install road plates to the RMS specification.
  - Consider the site layout to minimise movements that would activate audible reversing and movement alarms.

- Choose sites/route and schedule works to avoid coinciding with other developments:
  - Keep to standard operating hours, unless the works comply with out of hours work criteria.
  - Avoid noisy work during sensitive time periods (e.g., school class/exam times, restaurant meal times, places of worship services).
  - Provide respite periods for affected receivers:
    - one hour respite every three consecutive hours of high impact activities
    - one day respite after every three consecutive days of high impact activities.
  - Refer to the NUS 174C Environmental Handbook for control measures for work outside of standard operating hours.

- Consider design features to minimise noise (e.g., avoid excavation in rock).
- Specify substitute equipment for noisy works in sensitive areas.
- Highlight controls in the NUS 174C Environmental Handbook that are critical to managing noise impacts.
Example text: consider specific impacts & SMART controls for each project

<table>
<thead>
<tr>
<th>Description of Impacts and Cause</th>
<th>Additional Instructions for Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works may result in offensive noise due to operation of plant and equipment for greater than 3 weeks in one location including saw cutting, vibratory rolling, grinding, rock breaking, jack hammers, underboring/directional drilling, impact piling etc. OR Noisy work associated with this project would not occur at one location for a period of greater than three weeks. Accordingly, qualitative controls have been recommended to ensure construction noise is suitably mitigated.</td>
<td>Refer to sections 2.4 of Ausgrid's NUS 174C Environmental Handbook. Make employees aware of adjacent receivers. Schedule works to occur during school holidays. Schedule approved night works to finish before 11pm. Ensure all affected residents receive four clear business days notification. The notification letter should include: - a description of the works and why they are being undertaken - details of the works that will be noisy - work hours and expected duration - what is being done to minimise the impacts (eg respite periods) - 24 hour contact number. Plan site layout to reduce vehicle movements and reversing.</td>
</tr>
</tbody>
</table>

Assessing the impacts - risk rating guidance

Use the EGN 421 Construction Noise Calculator to compare the predicted noise level against the investigation criteria.

The assessment method that applies to the project depends on the duration of the works. Construction works with a duration:

- of less than three consecutive weeks can be assessed using a qualitative method which focuses on work practices
- longer than three consecutive weeks require a detailed quantitative assessment and may require noise monitoring.

A noise and vibration management plan (NVMP) is required where works may impact a receiver for greater than three consecutive weeks or works will impact a receiver and works cannot meet the minimum requirements in this section of the Handbook. The NVMP must be in accordance with the Interim Construction Noise Guidelines (NSW DECC 2009).
4.7 Is operational noise / vibration in exceedance of criteria an issue?

Transformer noise has come to prominence, mainly because transformers are placed closer to people (in office buildings, apartments, shopping malls etc). It is becoming even more necessary to locate these assets carefully and some planning, preferably ahead of time, is needed.

When is operational noise or vibration an issue?

Tick ‘yes’ and assess further if:

- siting noise generating assets (transformers, customer load control (CLC), fans etc) where noise could be heard from a receiver.

Mitigating impacts by design

Noise at the receiver will depend on the, type of source, distance from source, obstacles and several other factors. Substations emit low frequency noise which is not noticeably reduced by many factors apart from distance and obstacles. For point sources like a substation, the sound pressure level will generally decrease by 6 decibels (dB) per doubling of distance.

Determine prospective site(s) for the substation:

- Select sites located away from sensitive receivers.
- Select sites that make use of any existing barriers.
- Consider future developments (eg construction works, advice received by council etc).
- Prioritise the sites if there is more than one option.
- Use the EGN 422 Transformer Noise Calculator to compare options.
Example text: consider specific impacts & SMART controls for each project

Description of Impacts and Cause

Work requires the installation of a XXX kVA transformer in a built up or residential area zoned XXX approximately XXX m to the nearest permanent sensitive receiver. The predicted noise level at the receiver falls within the acceptable criteria.

Additional Instructions for Project

Ensure the following measures are implemented as per the design:
1. Face ventilation openings away from design.
2. Cover inside surface of kiosk with Wavebar or equivalent including a ventilation louvre face.

Assessing the impacts - risk rating guidance

Use the EGN 422 Transformer Noise Calculator to compare the predicted noise level against the criteria.

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Installation of an outdoor circuit breaker, zone substation transformer or a mobile generator.</td>
<td>HIGH (5) &gt; 50 residences within 20m of proposed infrastructure.</td>
<td>HIGH (5) Affecting residential receivers, schools or hospitals.</td>
</tr>
<tr>
<td>MEDIUM (3) Installation of a kiosk substation.</td>
<td>MEDIUM (3) Between 2 – 50 residences within 20m of proposed infrastructure.</td>
<td>MEDIUM (3) Affecting commercial receivers.</td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Installation of indoor switchgear.</td>
<td>LOW (1) 1 or no residences within 20m of proposed infrastructure.</td>
<td>LOW (1) Affecting industrial receivers.</td>
</tr>
</tbody>
</table>

4.8 Is contaminated land an issue?

Contaminated sites are a risk for workers, Ausgrid’s infrastructure, the public and the environment.

Contaminated sites require a specialist assessment to determine necessary health, safety and environmental controls. Most contaminated sites are not known or recorded.

Some examples of where you may find a contaminated site include fuel storage areas, areas where oil filled equipment are being used or have been used, petrol stations, drycleaners and industrial sites.

When is contaminated land an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- siting infrastructure or disturbing the ground surface within known or suspected contaminated land
- siting infrastructure or disturbing the ground surface in an area potentially contaminated, such as adjacent to a petrol station
- decommissioning substations that have evidence of contamination
- disturbing acid sulfate soils (ASS).

Refer the project to Environmental Services if working in contaminated land.
Mitigating impacts by design

- Select sites/route that avoid works in areas of contamination, ASS etc.
- If contaminated areas cannot be avoided, contact Environmental Services as soon as possible. Working in contaminated areas can add significant time and cost to a project.

Example text: consider specific impacts & SMART controls for each project

Description of Impacts and Cause

The site is a known/suspected contaminated area as identified via the OEH public register/ Env GIS/ Councils S45 response.

The site is contaminated with XXX due to past XXX activities. This contaminant can affect human health / the environment because XXX.

Additional Instructions for Project

Refer to section 4.3 of Ausgrid's NUS 174C Environmental Handbook.

Toolbox talk is to include a discussion of the potential contamination at the site.

Contaminated soil must be stored separate to other excavated materials in anticipation for waste classification, transport and disposal.

If you think that you have found contamination, you must stop work immediately, restrict access and notify:
- your supervisor
- Ausgrid’s Environmental Services
- your local safety advisor for WHS requirements.

Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Activities disturbing known contamination (eg OEH public register, Env GIS record, Councils S45 response).</td>
<td>HIGH (5) Bulk excavation works.</td>
<td>HIGH (5) Asbestos, PCBs, OCPs, creosote, chlorinated hydrocarbons (CHCs)</td>
</tr>
<tr>
<td>WILL HAPPEN (5) Activities disturbing Class 1 ASS.</td>
<td>MEDIUM (3) Excavation for kiosks or trenching.</td>
<td>MEDIUM (3)</td>
</tr>
<tr>
<td>50% CHANCE (3) Activities disturbing land next to known contamination. (eg OEH public register, En GIS record, Councils s45 response)</td>
<td>LOW (1) Minor excavation for pole holes.</td>
<td>LOW (1) Oil, ASS.</td>
</tr>
<tr>
<td>50% CHANCE (3) Activities disturbing Class 2 or 3 ASS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Activities disturbing land next to a petrol station, gas works dry cleaners or potential contaminated land.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Activities disturbing Class 4 ASS.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.9 Is waste and / or resource use an issue?

Waste is defined as any discarded, rejected, unwanted, surplus or abandoned substance or material – even if it can be processed, recycled, reused, recovered or is intended for sale. Good waste management reduces waste going to landfill, minimises disposal costs, conserves resources and avoids environmental damage.

When is waste and / or resource use an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- generating waste
- works involve handling, storing, transporting or disposing of:
  - hazardous, restricted solid, liquid or special wastes
  - dangerous goods
  - hazardous chemicals or controlled chemicals.

Mitigating impacts by design

- Identify which waste materials will be generated by the project (eg concrete, timber, plasterboard, soil, scrap metal) and determine quantities and reuse opportunities. Avoid, reduce or reuse resources through efficient design, such as:
  - Minimise the amount of materials required (eg minimise numbers of poles, cut and fill design).
  - Avoid using scarce resources (eg avoid imported timber sourced from native or old growth forests; specify materials with recycled content where suitable).
  - Adopt a design that has lower ongoing maintenance requirements.
  - Adopt a design that has lower operating costs (eg incorporate passive ventilation measures).
  - Select routes that require less construction and maintenance resources (eg minimise vegetation clearing and excavation). Refer to EGN 424 Options Analysis Calculator.

Example text: consider specific impacts & SMART controls for each project

<table>
<thead>
<tr>
<th>Description of Impacts and Cause</th>
<th>Additional Instructions for Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastes generated for this project include XXX. Disposal of these items are required as they have reached the end of their serviceable life and are no longer fit for use on the network.</td>
<td>Refer to section 4.2 of Ausgrid's NUS 174C Environmental Handbook. All waste must be classified using the Waste Classification Guidelines (DECCW, 2009) and removed from site by legal means to an approved waste management facility. Ausgrid employees should use EGN 323 Waste Database to identify items that may be pre-classified. Prior to demolition, undertake a destructive hazardous building materials assessment to determine the types of expected waste and their volume. Waste and recycling bins on-site must be in good condition, covered, labelled and secured at all times. Bins must be emptied when they can no longer be suitably covered.</td>
</tr>
</tbody>
</table>
### Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WILL HAPPEN (5)</strong> All waste is</td>
<td><strong>HIGH (5)</strong> Disposing of &gt; 1000 T of waste to landfill.</td>
<td><strong>HIGH (5)</strong> Hazardous or Special waste.</td>
</tr>
<tr>
<td>disposed, reused or recycled</td>
<td><strong>MEDIUM (3)</strong> Disposing of 100-1000 T of waste to landfill.</td>
<td><strong>MEDIUM (3)</strong> Restricted Solid waste or Liquid waste.</td>
</tr>
<tr>
<td>off-site.</td>
<td><strong>LOW (1)</strong> Disposing of &lt; 100 T of waste to landfill.</td>
<td><strong>LOW (1)</strong> General Solid waste.</td>
</tr>
<tr>
<td><strong>50% CHANCE (3)</strong> Some wastes is</td>
<td></td>
<td></td>
</tr>
<tr>
<td>disposed, reused or recycled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>off-site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNLIKELY TO HAPPEN (1)</strong> No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>waste is disposed, reused or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>recycled off-site.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For initiatives applicable to major projects see EG 320 Major Substation Embodied Impacts - Interim Guidelines.

### 4.10 Is traffic and access an issue?

Traffic and access impacts in most cases are a nuisance; however the secondary impacts can be quite significant, from loss of trade to impeding essential services.

#### When is traffic and access an issue?

Tick ‘yes’ and assess further if all or part of the works:

- are located at an Ausgrid site
- are located in RMS road reserve
- could affect traffic on a state or regional classified road, or a local road
- could affect access on a state or regional classified road, or a local road
- are restricting access or mobility for people with disabilities.

#### Mitigating impacts by design

- If located at an Ausgrid site, the site manager or representative in association with Ausgrid’s Property Group shall prepare a Traffic Management Plan (TMP) specific to the site. Ausgrid employees can refer to Be Safe HG 15: Traffic Management.
- Select sites/routes that avoid RMS and busy local roads.
- If designing in RMS and busy local roads, try to keep the worksite away from the road pavement.

#### Example text: consider specific impacts & SMART controls for each project

**Description of Impacts and Cause**

- Works are located within XXX road which is a state/regional/local road managed by XXX. Work would require partial / total lane closures / minor traffic / access disruption. Without proper management the works could result in traffic impacts, access restrictions and inconvenience to residents.

**Additional Instructions for Project**

- Prepare and implement a Traffic Management Plan in accordance with RMS/Council requirements. All potentially affected residents and businesses are to be provided with 48 hours notice of any access changes to properties. Where residents and businesses are directly affected by the work, for example their access will be restricted, one week notice must be given.
### Assessing the impacts - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WILL HAPPEN (5)</strong></td>
<td><strong>HIGH (5)</strong> Affecting an RMS classified freeway or motorway for greater than 3 consecutive days.</td>
<td></td>
</tr>
<tr>
<td>Activities that will result in a full road closure.</td>
<td><strong>MEDIUM (3)</strong> Affecting a RMS classified state or regional road that is not a freeway or motorway for greater than 3 consecutive days.</td>
<td></td>
</tr>
<tr>
<td><strong>50% CHANCE (3)</strong></td>
<td><strong>MEDIUM (3)</strong> Affecting a RMS classified freeway or motorway for less than 3 days.</td>
<td></td>
</tr>
<tr>
<td>Activities that will result in a partial road closure (eg lane closure).</td>
<td><strong>LOW (1)</strong> Affecting a local road.</td>
<td></td>
</tr>
<tr>
<td><strong>UNLIKELY TO HAPPEN (1)</strong></td>
<td>Activities that are off the road and won’t affect thoroughfares.</td>
<td></td>
</tr>
</tbody>
</table>

#### 4.11 Is flora an issue?

Healthy vegetation has a range of benefits for the environment and the community. It filters air, produces oxygen, controls salinity, stabilises soil, improves aesthetics, and provides habitat, wind breaks and shade.

Noxious weeds and pathogens are among the most serious threats to Australia’s biodiversity as they have the potential to become more widespread and impact agriculture, human health and the environment.

**When is flora an issue?**

Tick ‘yes’ and assess further when one or more of the following apply:

- potentially affecting threatened species, endangered ecological communities or critical habitat
- potentially affecting wetlands of international significance (ie Ramsar wetlands)
- clearing native vegetation (excluding routine maintenance as defined by Ausgrid’s Tree Safety Management Plan and NEG-OH21 Vegetation Safety Clearances)
- working in, storing equipment, parking vehicles or accessing the site through undisturbed areas or a TPZ
- working near marine vegetation (mangroves, seagrass beds etc)
- working within 100 m of a SEPP 14 wetland or SEPP 26 littoral rainforest
- working within states forests, an area subject to a forest agreement
- working within or adjacent to:
  - marine parks
  - aquatic reserves
  - National Park Estate
  - Declared Wilderness Areas
- impacting high value habitat:
  - native forests
  - significant tree registers
- remnant roadside vegetation
- working near noxious weeds.

Refer the project to Environmental Services if affecting any of the above.

Mitigating impacts by design
- Choose routes/sites which avoid removal of ground cover and understorey vegetation.
- Choose routes/sites which use existing access roads where possible.
- Consider design features to avoid any vegetation clearing, pruning, stripping or ground clearing (e.g., alternative routes, underboring, setbacks, covered conductors etc.). Where avoidance is not practical, minimise clearance and disturbance of all vegetation, particularly along watercourses.
- Avoid work within the TPZ (refer to the Environmental Handbook).

Example text: consider specific impacts & SMART controls for each project

<table>
<thead>
<tr>
<th>Description of Impacts and Cause</th>
<th>Additional Instructions for Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trenching works could impact on the roots within the TPZ along XXX Street. XXX m² of native vegetation / vegetation within a National Park / riparian vegetation / heritage tree / bushcare area / park land / reserve will be removed as shown on Plan XXX. XXX threatened species / EEC / hollow bearing trees were identified (see attached Ecological Assessment).</td>
<td>Comply with recommendations in attached Ecological Assessment report. Refer to section 5 of Ausgrid's NUS 174C Environmental Handbook. Hand dig or direction bore (at least 600 mm beneath the ground surface) within the TPZ along XXX Street. Vegetation to be retained must be identified and fenced to prevent damage from workers and machinery and remain in place for the duration of construction work.</td>
</tr>
</tbody>
</table>

Assessing the impacts - risk rating guidance

Use the EGN 425 TPZ and SRZ Calculator to determine where the TPZ and SRZ are located.

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Vegetation removal. 50% CHANCE (3) Pruning or trimming of vegetation. 50% CHANCE (3) Working within the TPZ. UNLIKELY TO HAPPEN (1) No vegetation removal, pruning or trimming.</td>
<td>HIGH (5) Impacting 10 mature trees or 100 m² of established vegetation. MEDIUM (3) Impacting one mature tree, or removing 25m² of established vegetation. LOW (1) Impacting a portion of a tree's canopy while retaining the tree.</td>
<td>HIGH (5) Critical habitat declaration or recommendation. MEDIUM (3) Threatened species, endangered ecological communities, endangered populations. LOW (1) Common street trees or noxious weeds.</td>
</tr>
</tbody>
</table>
4.12 Is fauna an issue?

Key fauna habitat includes wetlands, bushland, hollow bearing trees, bush rock, and roadside and remnant vegetation (predominantly intact vegetation communities).

When is fauna an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- potentially affecting threatened species, endangered ecological communities, critical habitats or aquatic vegetation including seagrass and mangroves
- disturbing bush rock or hollow bearing trees
- working within or adjacent to:
  - bushland and native vegetation
  - national parks, nature reserves or conservation areas
- clearing native vegetation (excluding routine maintenance as defined by Ausgrid’s Tree Safety Management Plan and NEG-OH21 Vegetation Safety Clearances)
- working in, storing equipment, parking vehicles or accessing the site through undisturbed areas
- impacting high value habitat:
  - wildlife corridors or wildlife refuges
  - key fauna habitat
  - key fish habitat
  - wildlife management areas
  - koala habitat (> 1 hectare of bush land).
- working in the Port Botany Fire Ant Control Area

Refer the project to Environmental Services if affecting any of the above.

Mitigating impacts by design

- Use the EGN 425 TPZ and SRZ Calculator to determine where the TPZ and SRZ are located. Design infrastructure to avoid the TPZ and SRZ.
- Choose routes/site which maximise the distance from fauna habitats and vegetated areas.
- Design infrastructure to minimise ongoing trimming requirements (eg aerial bundled conductor).
- Where avoidance is not practical, consider installing alternative forms of habitat (eg nest boxes).
- Schedule works around nesting and breeding seasons.
- Ausgrid employees can refer to EGN 140 Tree Hollow Protection Guidelines.
- When working in the Port Botany Fire Ant Control Area minimise the need to dispose of host material (soil, gravel, mulch, bark, grass, turf) off site.
**Example text: consider specific impacts & SMART controls for each project**

**Description of Impacts and Cause**

Work requires the disturbance of a bushland area. Site inspections reveal the presence of hollow bearing trees, bush rock and a large component of intact vegetation.

A tree hollow has been identified in the XXX vicinity of the works.

XXX m² of native bushland will be disturbed as shown on Plan XXX. Nil / XXX threatened species / EEC / hollow bearing trees were identified (see attached Ecological Assessment).

Work requires disposal of host material (soil, gravel, mulch, bark, grass, turf) from within the Port Botany Fire Ant Control Area.

**Additional Instructions for Project**

Comply with recommendations in attached Ecological Assessment report.

Refer to section 5.2 of Ausgrid's NUS 174C Environmental Handbook.

Keep vegetation clearance to the minimum required for the works.

Contact local wildlife rescue organisations for the rescue or care of native wildlife (refer to section 10 of Ausgrid’s NUS 174C Environmental Handbook).

When working in the Port Botany Fire Ant Control Area minimise the need to dispose of host material (soil, gravel, mulch, bark, grass, turf) off site.

Waste host material from within the Port Botany Fire Ant Control Area can only be moved outside the Control Area in accordance with a permit issued by the DPI.

All machinery working within the Port Botany Fire Ant Control Area must be cleaned down and free of host material (soil, gravel, mulch, bark, grass, turf) before being moved outside the Control Area.

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
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</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Removal of potential habitat such as bush rock, tree hollows, wetlands, mangroves, nests, aquatic habitat, etc.</td>
<td>HIGH (5) Removing 100 m² of established vegetation or potential habitat.</td>
<td>MEDIUM (3) Hollow bearing trees, threatened species, endangered ecological communities, endangered populations,</td>
</tr>
<tr>
<td>50% CHANCE (3) Pruning or trimming of vegetation.</td>
<td>MEDIUM (3) Removing one mature tree.</td>
<td>LOW (1) No evidence of fauna habitation such as bush rock, tree hollows, wetlands, mangroves, nests, aquatic habitat, etc.</td>
</tr>
<tr>
<td>50% CHANCE (3) Disturbance of potential habitat such as bush rock, tree hollows, wetlands, mangroves, nests, aquatic habitat, etc.</td>
<td>MEDIUM (3) Removing 25 m² of established vegetation or potential habitat.</td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) No vegetation removal, pruning or trimming.</td>
<td>LOW (1) Removing a portion of a tree’s canopy while retaining the tree.</td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) No habitat disturbance.</td>
<td>LOW (1) Removing potential habitat.</td>
<td></td>
</tr>
</tbody>
</table>
4.13 Is bushfire an issue?

Ausgrid has an obligation to manage bushfire risks relating to our network. We do this by ensuring our assets and our customers' private power lines are safe and are properly designed, constructed and maintained.

When is bushfire an issue?

Tick 'yes' and assess further if works are located within bushfire prone land:
- Bush Fire Vegetation Category 1 refers to high risk vegetation (for example, forest, woodlands, national parks) with an area greater than 1 hectare
- Bush Fire Vegetation Category 2 refers to low risk vegetation (for example, rainforests, grasslands) greater than 1 hectare or high risk vegetation less than 1 hectare or within 100 m of Category 1 or within 30 m of Category 2
- Vegetation Buffer refers to land within 100 m of Category 1 or 30 m of Category 2 lands.

Mitigating impacts by design

- Consider site / route / access (for both construction and maintenance) that avoid bushfire prone land.
- Consider the use of covered or underground conductors instead of bare overhead conductors.
- Consider fitting low voltage (LV) spreaders on bare overhead conductors.
- Where possible locate switches and drop out fuses away from bush fire prone land or vegetated areas.
- Ensure the design adopts Ausgrid's minimum safety clearances (NEG-OH21 Vegetation Safety Clearances).
- Ausgrid employees can find further guidance in DG 33 Hot Works and Total Fire Bans.

Example text: consider specific impacts & SMART controls for each project

Description of Impacts and Cause

A review of the Bushfire Prone Land Map indicates that work between pole no. XXX and pole no. XXX is located within bushfire prone land vegetation category 1 / 2. Hot work would be required during construction.

Refer to section 5.3 of Ausgrid's NUS 174C Environmental Handbook.
Conductors between pole no. XXX and XXX are to be covered conductor as per the attached design drawing.
Works to be scheduled outside the bushfire danger period or low fire danger periods during the year.
Any hot works during a total fire ban must be in accordance with an approved exemption. This includes grinding, welding, brazing, oxy-cutting, heat treatment or processes that generate heat or continuous streams of sparks. The ASP1 must obtain their own exemption.
Undertake consultation with the local fire authority prior to commencing works to advise of works in bushfire prone areas and of any access restrictions to fire trails.
Hot work must be at least 3 metres from combustible matter. Keep adequate fire fighting equipment immediately at hand. Avoid driving a vehicle through long grass or operating motors and equipment in proximity to vegetation.
**Assessing the impacts - risk rating guidance**

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>WILL HAPPEN (5)</strong></td>
<td>HIGH (5) Undertaking hot works over multiple consecutive days.</td>
<td>HIGH (5) Category 1 Bushfire prone land.</td>
</tr>
<tr>
<td>Undertaking hot works during bushfire season within 3 m of vegetation.</td>
<td>MEDIUM (3) Undertaking hot works over the duration of one day.</td>
<td>MEDIUM (3) Category 2 Bushfire prone land.</td>
</tr>
<tr>
<td>50% CHANCE (3)</td>
<td>LOW (1) No hot works.</td>
<td>LOW (1) Bushfire prone land vegetation buffer.</td>
</tr>
<tr>
<td>Undertaking hot works during bushfire season outside of 3 m of vegetation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undertaking hot works outside bushfire season and outside of 3 m of vegetation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No hot works.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.14 Is Electric and Magnetic Fields (EMF) an issue?

The current Australian guidelines for EMF produced by the National Health and Medical Research Council, and now administered by ARPANSA, stipulate a magnetic field limit of 1000 milligauss (mG) for the general public. Ausgrid’s policy involves designing and operating our network prudently within the Australian guidelines. Prudent avoidance means designing new electrical infrastructure to minimise EMF exposure where this is both practicable and low cost (undergrounding or arbitrary setbacks fall outside this definition).

**When is EMF an issue?**

Scientific evidence does not firmly establish that exposure to 50 Hz EMF is a hazard to human health; therefore this section doesn't focus on health risks but prudent avoidance and managing public perceptions.

Tick 'yes' and assess if:

- sensitive receivers (eg schools, childcare centres, other places where children congregate, residential areas, hospitals, populated areas etc) may be exposed to EMF above typical background levels (2 mG).

**Mitigating impacts by design**

Consider “no” or “low cost” options for reducing EMF exposure for the project such as:

- Locate the substation away from receivers or in areas less frequented (eg adjacent to car parks, walkways, store rooms, switch rooms, amenity areas or fire stairs).
- Plan the substation layout with the low voltage (LV) side further away from receivers than the high voltage (HV) side. The HV side has a substantially smaller current than the LV side and therefore has lower associated EMF.
- Locate the incoming and outgoing cables associated with a substation in areas away from receivers.
- Choose a conductor configuration which will reduce fields (eg triangular arrangements, compact construction, bundled cabling, multicore cables).
- Arrange the phases to minimise the magnetic field (eg balance load on phases RWB/BWR).
- Increase the distance between the source and the receiver (eg raise conductor height).
- Make use of existing access restrictions (eg property line, fencing, landscaping).
- Choose a layout for adjacent apartments which minimises EMF exposure (eg locate bedrooms and lounge rooms away from the substation, locate bathrooms, laundry, storage rooms and entrances close to the substation).

Ausgrid employees can find further guidance in NEG SE01 Power Frequency EMF – Prudent Avoidance.

**Example text: consider specific impacts & SMART controls for each project**

<table>
<thead>
<tr>
<th>Description of Impacts and Cause</th>
<th>Additional Instructions for Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMF for all receivers will be well within Australian guidelines.</td>
<td>Refer all EMF enquiries to Environmental Services 9394 6659.</td>
</tr>
<tr>
<td>The south side of XXX Street was chosen as this represented a no/low cost way of reducing overall exposure without compromising other technical and environmental issues.</td>
<td>All single core cables are to be installed in trefoil where possible.</td>
</tr>
<tr>
<td>Kiosk substations are compact in their arrangement which further aids in decreasing EMF over distance. Within a matter of metres, background levels are commonly experienced.</td>
<td></td>
</tr>
</tbody>
</table>

Assess the impacts - risk rating guidance

Use the [EGN 423 EMF Calculator](#) to model the indicative magnetic field from a power line for a given load.

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WILL HAPPEN (5)</strong> New transmission infrastructure or kiosk substation.</td>
<td><strong>HIGH (5)</strong> &gt; 50 residences within 20m of proposed infrastructure.</td>
<td><strong>HIGH (5)</strong> Schools, childcare centres or places where children congregate.</td>
</tr>
<tr>
<td><strong>50% CHANCE (3)</strong> New distribution overhead power lines or pole top transformers.</td>
<td><strong>HIGH (5)</strong> School classrooms or childcare centres within 20 m of proposed infrastructure.</td>
<td><strong>MEDIUM (3)</strong> Residential areas.</td>
</tr>
<tr>
<td><strong>UNLIKELY TO HAPPEN (1)</strong> New distribution underground power lines, switches, etc.</td>
<td><strong>MEDIUM (3)</strong> 2 – 50 residences within 20m of proposed infrastructure.</td>
<td><strong>LOW (1)</strong> Industrial, commercial or rural areas.</td>
</tr>
<tr>
<td></td>
<td><strong>LOW (1)</strong> 1 or no residences within 20m of proposed infrastructure.</td>
<td></td>
</tr>
</tbody>
</table>
4.15 Is Non-Aboriginal heritage an issue?

Non-Aboriginal heritage items include places such as buildings, places and trees that are of historical, cultural, social, architectural, natural or aesthetic value.

When is Non-Aboriginal heritage an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- potentially affecting world heritage properties or national heritage places
- potentially affecting state heritage items, local heritage items, s 170 listed heritage items or an archaeological area
- decommissioning or altering an item of movable heritage.

Refer the project to Environmental Services if affecting any of the above.

Mitigating impacts by design

- Select sites/route that avoid works near known heritage listings.
- Consider the visibility of pillars, kiosks, underground to overhead connections (UGOH) and any subsequent connections to houses.

Example text: consider specific impacts & SMART controls for each project

<table>
<thead>
<tr>
<th>Description of Impacts and Cause *</th>
<th>Additional Instructions for Project *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Works are located in close proximity to XXX local / regional / state heritage listed item / conservation area. Refer to the Heritage Assessment (date) completed by XXX.</td>
<td>IMPORTANT: THERE ARE KNOWN HERITAGE OBJECT(S) IN THE AREA. If you think you have discovered a heritage item you must stop work immediately, restrict access and notify your Supervisor to ensure the regulator is contacted. Ausgrid employees should contact Ausgrid's Environmental Services. In these cases Ausgrid's Environmental Services will contact the regulator. Comply with recommendations in attached Heritage Assessment report. Refer to section 6.2 of Ausgrid's NUS 174C Environmental Handbook. Barricades or equivalent to be used to prevent damage to the heritage item and the location of the item should be highlighted to all construction personnel as part of the site induction. Undertake a dilapidation survey of the heritage listed building prior to the commencement of works.</td>
</tr>
</tbody>
</table>
Assessing the impact - risk rating guidance

<table>
<thead>
<tr>
<th>LIKELIHOOD</th>
<th>EXTENT</th>
<th>SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Works which will impact on non-Aboriginal Heritage.</td>
<td>HIGH (5) Altering the heritage values of a non-Aboriginal Heritage item.</td>
<td>HIGH (5) State significance non-Aboriginal Heritage.</td>
</tr>
<tr>
<td>50% CHANCE (3) Works which could impact on non-Aboriginal heritage (adjacent to non-Aboriginal Heritage).</td>
<td>LOW (1) Not altering the heritage values of a non-Aboriginal Heritage item.</td>
<td>MEDIUM (3) Local significance non-Aboriginal Heritage.</td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Non-Aboriginal heritage is in the local area but will not be impacted.</td>
<td></td>
<td>LOW (1) No known non-Aboriginal Heritage.</td>
</tr>
</tbody>
</table>

4.16 Is Aboriginal heritage an issue?

Aboriginal heritage includes objects and places with evidence of Aboriginal occupation or with special cultural significance. These can include artefacts, middens, axe-grinding or tool sharpening grooves, scarred or carved trees, paintings, rock engravings and burial sites.

When is Aboriginal heritage an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- within the buffer of an Aboriginal heritage object on the Env GIS, or
- disturbing ground surface or clearing vegetation on undisturbed land with any of the following landscape features:
  - within 200 m of waters, or
  - within a sand dune system, or
  - on a ridge top, ridge line or headland, or
  - within 200 m below or above a cliff face, or
  - within 20 m of or in a cave, rock shelter, or cave mouth.

Refer the project to Environmental Services if affecting any of the above.

Mitigating impacts by design

- Select sites/route that avoid works near known Aboriginal heritage objects or undisturbed land.

Example text: consider specific impacts & SMART controls for each project

**Description of Impacts and Cause**

Some of the work falls within an Aboriginal heritage buffer zone as identified on Ausgrid’s Env GIS/ is located on undisturbed land. Works will not impact on known Aboriginal heritage in the area. There is no clearing of vegetation or ground disturbance. The site card obtained from the Aboriginal Heritage Information

**Additional Instructions for Project**

**IMPORTANT:** THERE ARE KNOWN ABORIGINAL OBJECT(S) IN THE AREA. If you think you have discovered an Aboriginal heritage object or evidence of Aboriginal occupation you must stop work immediately, restrict access and notify your Supervisor to ensure the regulator is contacted. Ausgrid employees should contact Ausgrid’s Environmental Services. In these cases Ausgrid’s Environmental Services will contact
Management System indicates that the XXX site is / not in proximity to the proposed work area. An Aboriginal due diligence process was completed and XXX.

Comply with recommendations in attached Due Diligence Assessment. Refer to section 6.1 of Ausgrid's NUS 174C Environmental Handbook. Known Aboriginal objects and places, if in close proximity to the worksite, must be identified on the day and barricaded to restrict access. Where it is not practical to isolate the known item, it must be constantly supervised during work to ensure no inadvertent damage occurs.

Assessing the impacts - risk rating guidance

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</thead>
<tbody>
<tr>
<td>WILL HAPPEN (5) Works which will impact on known Aboriginal Heritage.</td>
<td>HIGH (5) Any impact on Aboriginal Heritage.</td>
<td>HIGH (5) All Aboriginal Heritage, where an Aboriginal Heritage Impact Permit (AHIP) has not been obtained.</td>
</tr>
<tr>
<td>50% CHANCE (3) Works are adjacent to known Aboriginal Heritage.</td>
<td>LOW (1) Not impacting Aboriginal Heritage.</td>
<td>MEDIUM (3) An AHIP has been obtained which allows impact to an Aboriginal Heritage item. Works are within the scope of the AHIP.</td>
</tr>
<tr>
<td>UNLIKELY TO HAPPEN (1) Aboriginal Heritage is in the local area but will not be impacted.</td>
<td></td>
<td>LOW (1) No known Aboriginal Heritage.</td>
</tr>
</tbody>
</table>

4.17 Is amenity and aesthetics an issue?

Amenity and aesthetics influence the ‘liveability’ of a place that makes it pleasant and agreeable to be in for individuals and the community.

When is amenity and aesthetics an issue?

Tick ‘yes’ and assess further when one or more of the following apply:

- area is of high aesthetic, scenic or recreational value
- project could affect the visual appeal or public amenity (above ground projects)
- works are likely to affect shops, businesses, schools, hospitals, childcares, playgrounds or bush regeneration areas
- siting infrastructure > 13 m within an area mapped as SEPP 71 land.

Mitigating Impacts by design

- Select sites/routes that avoid view corridors of high visual appeal and high number of viewers.
- Consider the distance of the infrastructure from viewers (eg foreground, middle ground, background).
- Utilise existing electrical infrastructure and corridors where possible.
- Select materials, textures and colours which blend with the surroundings.
- Bundle overhead cables to reduce aesthetic impact and minimise tree pruning (where applicable)
- Limit the need for vegetation clearing.
- Position poles between property buildings rather than in front of a particular property.
- Utilise the existing topography and vegetation to shield views of the development.
- Install landscape screening between the development and viewers.
- Where amenity is a dominant issue for the project, develop site / route options, risk rate these in terms of environment, cost, community and the existing network configuration. Use this option study to demonstrate a transparent decision making process in your EIA. Attach the options study.

Example text: consider specific impacts & SMART controls for each project

Description of Impacts and Cause *

Work would involve the installation of XXX permanent above ground components. The visual catchment area consists of residential / commercial / industrial premises. The main demography affected would be transitory viewers such as motorists.

Consultation has been undertaken and the site location has been chosen to take advantage of the existing screening such as locating near trees, away from other major viewing areas, abutting a building, below the viewing horizon.

There may be some negative community reaction during the construction phase, as a result of temporary disruption to property access, traffic, amenity of the streetscape during trenching activities and until final reinstatement. This impact would be temporary and, with consideration of the safeguards in place, is likely to be limited.

Assessing the impacts - risk rating guidance

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<tbody>
<tr>
<td><strong>WILL HAPPEN</strong> (5) Installation of a new transmission line or zone substation.</td>
<td>HIGH (5) Permanent visual change for multiple receivers (&gt; 50 residents).</td>
<td>HIGH (5) Coastal zone, tourist area, environmental protection area or areas with a number of viewers.</td>
</tr>
<tr>
<td><strong>50% CHANCE</strong> (3) Installation of distribution infrastructure which will involve a newly cleared corridor.</td>
<td>MEDIUM (3) Permanent visual change for a moderate number of receivers (2 – 50 residents).</td>
<td>MEDIUM (3) Residential or rural areas.</td>
</tr>
<tr>
<td><strong>UNLIKELY TO HAPPEN</strong> (1) Installation of distribution infrastructure, a new service line or pillar.</td>
<td>LOW (1) Permanent visual change for 1 or no receivers.</td>
<td>LOW (1) Industrial area or areas with no viewers.</td>
</tr>
<tr>
<td><strong>UNLIKELY TO HAPPEN</strong> (1) Replacement or upgrade works on an existing infrastructure corridor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNLIKELY TO HAPPEN</strong> (1) Construction impacts.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ensure XXX measures are implemented as per the design.
Ensure vegetation and trenching reinstatement is undertaken as early as possible to minimise visual impacts.
4.18 **Is cumulative impact an issue?**

Cumulative impact is the combined effect of multiple projects on the environment. The other projects may be past, present or future and may be carried out by Ausgrid or others.

**When is cumulative impact an issue?**

Tick ‘yes’ if the impacts of other projects could add to the impacts of this project.

**Mitigating Impacts by design**

- Consult with other internal and external Project / Design managers.
- Arrange agreements and methodologies concerning the management activities prior to undertaking work in the area where cumulative impacts are likely.
- Community consultation must be streamlined to ensure an affective professional feedback mechanism. Ausgrid employees can consult with Ausgrid’s designated community liaison officer.

**Assessing the impacts - risk rating guidance**

1. Identify impacts from existing or proposed developments that could add to the impacts of this project (sources of information include consultation responses, site inspections, associated developments eg new subdivision)

2. Assess each of the impacts identified from Step 1 in combination with the impacts already assessed in Table 4 for this project.

3. Identify measures to mitigate the combined impacts.

4. Complete the Cumulative Impact risk rating using the information collected from Steps 1-3 and using the help text for the relevant issues in Table 4.

**Example 1:** 11 kV feeder works are associated with a new zone substation which has been assessed separately. If works are likely to occur at the same time, the combined noise and amenity impacts should be assessed. Reference should also be made to the substation assessment to determine if commitments were made to the community about hours of operation, etc.

**Example 2:** A kiosk installation will require restricting access to the footpath. There is a major construction site on the opposite side of the road to the kiosk site. The combined traffic and access impacts should be assessed. Consultation should occur with the construction site to identify any specific Development Assessment (DA) conditions in order to ensure that impacts are adequately managed.

The risk assessment should be performed on the total cumulative impact. The overall impact should not be less than any individual cumulative impact.