

## Summary Environmental Report Application (SER) guidance notes

### Document control

| Revision | Prepared by                                                                         | Date      |
|----------|-------------------------------------------------------------------------------------|-----------|
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|          |                                                                                     |           |

## **Definitions and Abbreviations**

### **ANO**

An Authorised Network Operator (ANO) is an authorised distributor for a transacted distribution system and/or an authorised transmission operator for a transacted transmission system as prescribed under the Electricity Network Assets (Authorised Transactions) Act 2015.

### **ASP**

An Accredited Service Provider (ASP) is a person with accreditation under Part 3 of the *Electricity Supply (Safety and Network Management) Regulation 2014* categorised into Levels 1, 2 and 3 as defined by the Department of Industry Resources & Energy under the Accredited Service Provider (ASP) Scheme for contestable works. An ASP is allowed to perform work on behalf of an Authorised Network Operator (ANO) where the ANO is the Determining Authority for that work, as prescribed by Section 110(1) of the Environmental Planning and Assessment Act 1979. In the case of an preparing an environmental assessment,

### **EMF**

Electric and magnetic fields (EMF).

### **GIS**

### **MoU**

Memorandum of Understanding

Geographical Information System

### **OEH**

Office of Environment and Heritage

### **RMS**

Roads and Maritime Services

### **ROL**

Road Occupancy Licence

### **SANSW**

Mine Subsidence Advisory NSW

### **SER**

Summary Environmental Report

### **SER Application**

Summary Environmental Report Application – web based platform used to prepare a SER.

## **TEC**

Threatened Ecological Community. An ecological community is a naturally occurring group of native plants, animals and other organisms living in a unique habitat. Those considered in decline are termed Threatened Ecological Communities.

## **The Code**

Code of Practice for Authorised Network Operators.

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## 1.0 Introduction

The Endeavour Energy Summary Environmental Report (SER) has been revised to meet the requirements stipulated within the Code of Practice for Authorised Network Operators (the Code). The Code was prepared by the NSW Department of Planning and Environment to permit Endeavour Energy's determining authority functions under Part 5 of the Environmental Planning and Assessment Act 1979 to continue following the transaction of the network business.

Note – Development Application Approval through the relevant Council (externally designed activities) does not negate the requirement for the completion and identification relevant environmental aspects in the SER Application. The Development Application is assessed under Part 4 of the Environmental Planning and Assessment Act 1979, but must be used together with supporting information (i.e. specialist reports and/or investigations) when completing the SER Application to enable Endeavour Energy to determine the activity.

The SER (formerly FAT 0038 – Summary Environmental Report) has been revised and is now in a web based format and will be referred to as the SER Application.

The following guidance notes provide assistance to personnel when completing the SER Application in accordance with Part 5 of the *Environmental Planning and Assessment Act 1979*. The SER Application must only be completed by personnel that have completed the required competency based training and have received a password to access the SER Application. These appropriately competent personnel are defined "assessors".

The SER Application will determine the environmental impact assessment level for the works being assessed. Referred to as Assessment Level 1, Assessment Level 2 or Assessment Level 3, this is ascertained by the works 'selection area' identified from the SER Application's interaction with GIS, and/or the relevant environmental issues or aspects and potential impacts within or in the vicinity of the works (determined by the scope of works and site inspection). The Assessment Level guides the assessment and mitigation process (refer section 3.2). In this way, the assessor needs to utilise their discretion (through knowledge of the scope of works and site inspection) together with interactions with GIS layers to appropriately make their assessment in the SER Application.

The information buttons in the SER Application will link directly to the relevant section in this guidance notes document.

This guidance document should be read in conjunction with EMS 0001 – Environmental Impact Assessment and Environmental Management Plans and other relevant Endeavour Energy Environmental Management Standards.

## 2.0 Environmental Management Plan

The purpose of an Environmental Management Plan (EMP) is to identify measures that will reduce and/or avoid environmental harm associated with environmental risks or aspects identified in the SER Application.



Following the completion and approval of the SER Application, a standalone EMP (in pdf format) will be automatically generated. The EMP contains mitigation measures triggered by the responses to questions within the SER Application (typically for Assessment Level 2 and Assessment Level 3 environmental aspects). Additionally, the Environmental Guidelines Handbook will need to be available on site for reference by the construction crew as the EMP references aspects contained within this document.

The placement of the EMP at the front of the SER Application is intended to increase its visibility to construction personnel.

The Project Manager, Operations Manager and Site Supervisor (or equivalent) are required to sign-off on the EMP once they have read and understood it. By signing the EMP, they are providing agreement to implement it where they have been assigned responsibility. These signatures must be obtained by the relevant Project Manager (Endeavour Energy employees) and the signed SER Application must subsequently be updated in Content Server.

Assessment Level 3 aspects identified through the SER Application will be highlighted in the EMP to identify targeted inspections in accordance with EMS 0001 – Environmental Impact Assessment and Environmental Management Plans.

### **3.0 Using the SER Application**

#### **3.1 Creating a new activity**

##### **3.1.1 Activity information**

By clicking 'New Activity', the assessor is prompted to answer a series of brief questions relating to Worksite address, Activity (Project) Number, Assessor/Proponent Name (your name), Assessor/Proponent Company Name (your Company Name), Assessor/Proponent Title (your position title), Assessor/Proponent Telephone number (your telephone number) and Assessor/Proponent Company Contact address (your company address). This information is required to create the Content Management System folders to enable retrieval of this information for auditing purposes (to be carried out by iPART and Endeavour Energy).

***Note – the assessor must use a unique activity number. This permits files to be created and the unique identification of each activity within the Content Management System.***

##### **3.1.2 Map – defining the worksite**

The SER Application requires that the assessor of the SER Application defines the work site when creating a new activity. This is termed the selection area (Figure 1). The selection area should include all aspects of the activity including any site compounds, access tracks or routes and any other ancillary site requirement/s. A polygon is the preferred method of making the selection area given the scale and likely extent of the proposed activity and the ability of the SER Application to intersect with relevant GIS layers.

The process of making the selection area is as follows:

1. Navigate to the work site using search functions available in the SER Application;
2. Create the selection area using a polygon or point(s) taking into account access to the work site, any site compounds and all other aspects of the activity.

Select a shape then draw on map to add graphic



Figure 1 The Selection Area within the SER Application

***Note - depending on the extent of the work site, multiple selections may need to be made to capture all aspects of the activity. However, the selection area should not be exaggerated as this will lead to environmental aspects being identified that may not be entirely relevant to the activity. In addition, the selection area should not be limited to avoid environmental aspects as this will lead to a false determination of the SER and potential breaches for Endeavour Energy under the Code.***

The selection area using a polygon is initiated by zooming into the proposed work site, double clicking to start the selection area, clicking once on each vertex of the polygon and then finishing the polygon by double clicking. The polygon will change from clear fill to a green mosaic fill to inform the assessor that it has been completed (Figure 2).

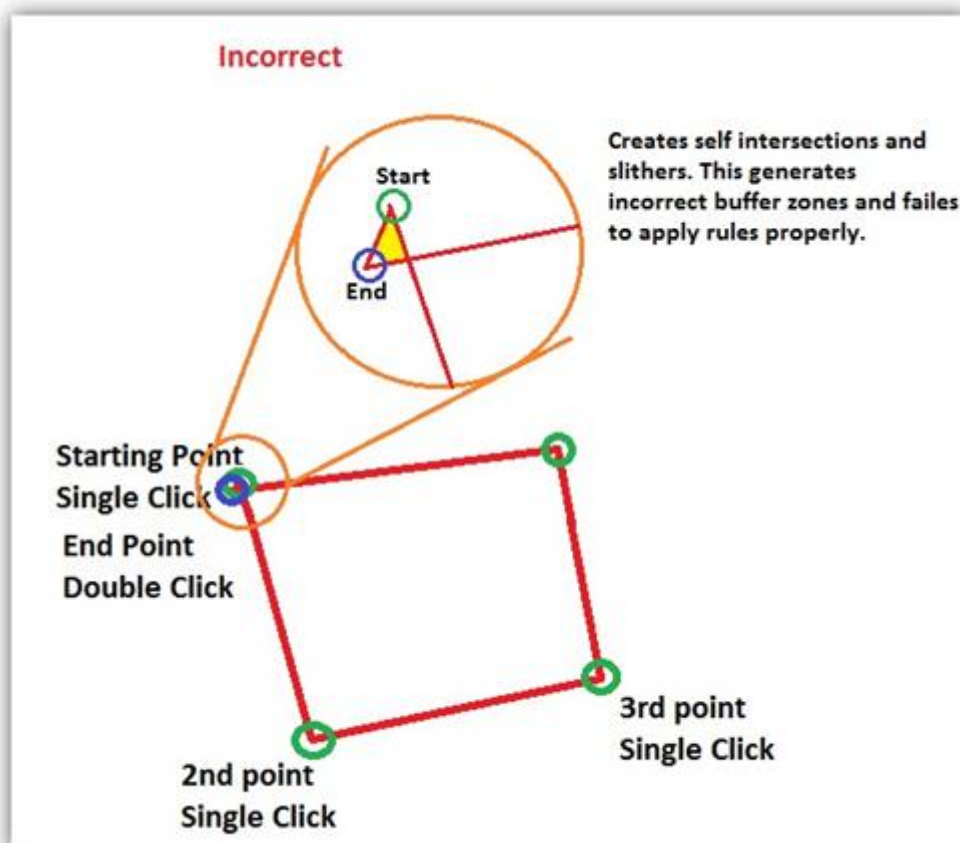
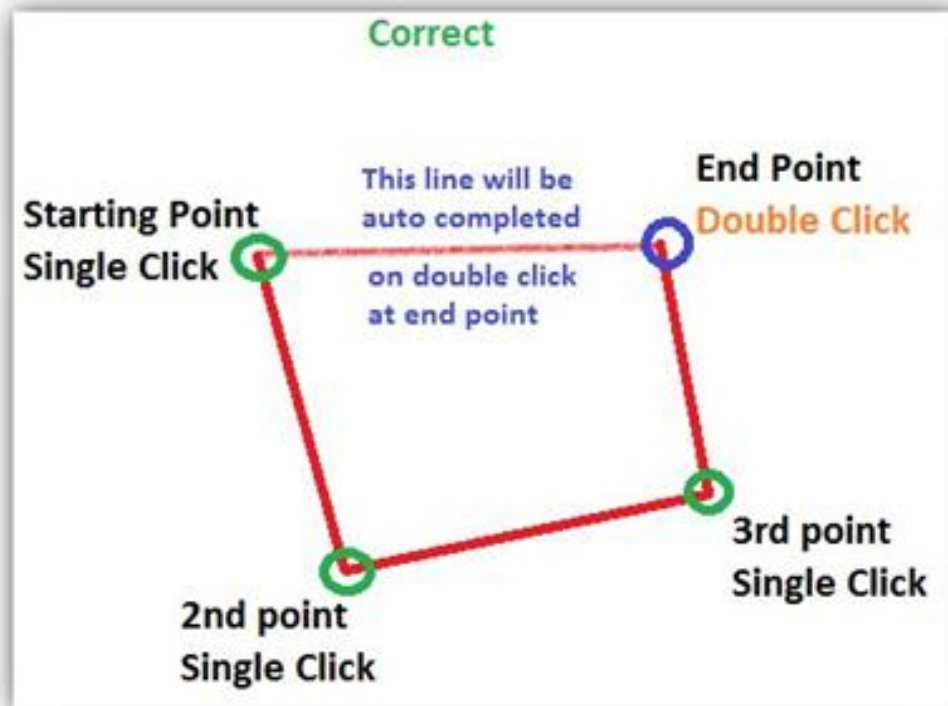


Figure 2 Methodology to create the selection area.

The following search parameters are available in the SER Application to enable the selection area to be applied more precisely:

- Road – use road name + wildcard (%) and suburb separated by a comma (e.g. Huntingwood%, Huntingwood);
- Distribution substation – use the Endeavour Energy asset number for the distribution substation (e.g. 4031).or the structured plant number (DS04031).
- Pole number – use the Endeavour Energy asset number or map number.
- National Park – use the National Park name (e.g. Illawarra Escarpment State Conservation Area).
- Address – use First house no.,street name,suburb.
- Crown parcel – use Lot,Section,DP.
- Feeder – use the Endeavour Energy feeder number (e.g. 7095).
- Zone substation – use the name of the Endeavour Energy zone substation, asset number or structured plant number.
- Transmission substation – use the name of the Endeavour Energy transmission substation, asset number or structured plant number.

The selection area will permit the automation of the environmental aspect score of Assessment Level 1, Assessment Level 2, or Assessment Level 3 where GIS layers are available and directly linked to the question.

In order for the site inspection to be informed, it is crucial that the selection area is undertaken at the earliest possible stage of the assessment. This will allow for environmental aspects identified through GIS interactions with the selection area to be verified during the site inspection.

The SER Application features 'save and continue' functions that enable the assessor to complete sections at a later time. The SER Application for a particular activity can be retrieved from the Activity dashboard.

### **3.2 Progress**

The SER Application provides a progress window on the right hand side of the form (Figure 3). A tick appearing next to the environmental aspect of progress category indicates the successful completion of the questions for the assessor and the provision of approver comments at the approval stage for the approver. The 'Projects Console' link redirects the assessor back to the activity dashboard where the activities under assessment and approval can be retrieved.

LINKS

.....

[Projects Console](#)

PROGRESS

.....

✓ Activity

✓ Description of Activity

✓ Notification Approval

✓ Site Inspection

✓ Traffic Management

✓ Residents and Normal Working Hours

✓ Electromagnetic Fields (Emfs)

✓ Access Tracks to and Within the Worksite

✓ Landscape and Visual

✓ Air Quality

✓ Erosion and Sedimentation

Figure 3 Progress window of the SER Application.

### 3.2.1 Activity

This section of the SER Application prompts the assessor to provide the following information:

- Activity title – this needs to be discernible title to allow retrieval and within the context of the activity that is being assessed.
- Drawing no – provide the drawing number that will accompany the SER Application for design certification and approval.
- Approver/Determining Authority Name – provide the approver name as per the information below.
- Approver/Determining Authority title.
- Approver/Determining Authority Email.

**Note – Approver/Determining Authority Name is requesting the name of the Endeavour Energy approver. Approver/Determining Authority Name and**

**Approver/Determining Authority Email for externally designed activities must be actual Contestable Works Officer/Contestable Works Engineer name and email, not CWTech.**

### **3.2.1.1 Who can approve the SER?**

It is essential in this section that accurate information is incorporated for these questions to enable the Activity to be labelled correctly on the Activity dashboard and to assign the Activity to the nominated approver.

Nominated Endeavour Energy personnel will be provided with additional access within the SER Application to facilitate its approval. These personnel are defined as “approvers” and “Determining Authority” within the SER Application. One step removal is required for approval of the SER. Generally, this implies for Endeavour Energy designed activities the assessor will seek approval through their respective reporting line and for externally designed activities the assessor (i.e. Level 3 ASP) will continue to seek approval through the Contestable Works approval process.). Specifically, approver personnel are delineated within GPE0008 - **Authority for Preparation and Approval of Environmental Assessments as an Authorised Network Operator.**

For Endeavour Energy designed activities, approvers will include:

- Regional Services Managers.
- Design Services Co-ordinators.
- Project Managers.
- Environmental Business Partners (HSE Strategy and System).
- Environmental Specialists (Network Environmental Assessment).
- Vegetation Environmental Specialist.
- Branch Manager (Asset Standards and Design).

For externally designed activities by Level 3 ASPs, approvers will include:

- Contestable Network Manager.
- Contestable Works Officers.
- Contestable Works Engineers.

#### **Note -**

- ***Where Assessment Level 3 aspects are identified, Endeavour Energy Environmental Business Partners and Environmental Specialists will be predominantly utilised for assistance purposes as opposed to performing the approver role. Environmental Business Partners in the first instance will verify that environmental aspects have been appropriately identified and mitigated and appropriate notification carried out where applicable.***
- ***After being reviewed by the relevant Environmental Business Partner, a SER Application prepared by Endeavour Energy’s Regional Services will generally be returned to the assessor of the SER to be approved by a higher reporting level than the assessor in their reporting line. If the Environmental Business Partner deems that additional assessment/approvals/licenses/permits/notification is needed, they will escalate the SER Application to a NEA Environmental Specialist. The NEA Environmental Specialist will carry out the required additional***

***assessments and the SER Application will then be approved through within the Asset Standards and Design Branch reporting structure.***

- ***After Assessment Level 3 aspects are reviewed, a SER Application prepared by an ASP will be returned to the Contestable Works Officer or Engineer who initially referred it for review for approval.***

### **3.2.2 Description of activity**

#### **3.2.2.1 What will the activity involve?**

The entire scope of the activity must be fully detailed for this question. The scope of the activity is critical as it identifies or establishes the likely environmental impacts very early or as soon as possible in the activity design process.

Changes to scope can potentially cause lengthy delays associated with design certification and approval that may delay construction. In addition, late changes to the scope may require re-assessment of aspects not previously assessed. Scope changes will trigger the need for re-notification to stakeholders, including the community, council and others as required (21 day notification period for Infrastructure SEPP works and 40 day notification period for Electricity Supply Act (1995) works). Changes to scope that result in a significant environmental impact (e.g. moving a pole that requires vegetation clearing/visual change) will require reassessment and the revision or development of a subsequent SER in accordance with the Code.

The description of the scope must include the following:

- Numbers of poles, substations, pillars, street light columns,
- Any and all excavation requirements and the extent and methodology of such.
- Any and all tree trimming and/or removal.
- Changes to views or vistas [and whether there is or is likely to be visual changes or impacts];
- Traffic and pedestrian flows and any likely or potential interruptions.
- Availability and condition of access tracks including construction of new access tracks/whether access tracks are suitable;
- Site/works staging compound location and aspects;
- Potential for contamination to be present or encountered during the works (i.e. industrial area or near a service station).

Scope information/detail shall be obtained from some or all of the following:

- The development project brief.
- Site inspection.
- The project manager.
- Design drawings.
- Development Application documentation or other supporting information (Level 3 ASP designed activities).

It is mandatory to attach the design drawing and/or scoping document to the SER Application in this section to assist in describing the scope of works. It is vital that the assessment of environmental aspects in the SER Application matches the design diagram and/or scoping document.

### **3.2.2.2 Why is the activity required?**

This question is asking for the project justification. Strong reasons for activity need and justification is required before proceeding with the assessment.

Where a project is subject to a Project Definition (PD), the PD will provide adequate justification that can be used.

Common examples include:

- To improve network reliability as there have been multiple outages to the local electricity supply (e.g. augmentation to CCT, ABC);
- To upgrade the electrical network due to aging infrastructure or public safety hazards;
- To resolve a non-compliant component of the network; and
- To extend the network to cater for a new development (e.g. subdivision, road infrastructure). In these cases, the type of development must be detailed together with if Development Approval has been provided or whether it is pending approval from the relevant Council.

Example SER text:

Due to increased demand in the area, this part of the network has become overloaded and needs to be augmented or upgraded. Upgrading this part of the network will ensure provision or maintenance of a safe and reliable power supply to customers.

OR

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.

OR

This span or feeder has been identified as being non-compliant with statutory requirements. Immediate rectification is required to ensure a safe and reliable electricity supply.

OR

The electrical works are required to cater for a new development [enter type of development and whether it has received Development Approval from Council].

### 3.2.2.3 Detailed / specific location of activity of work site

Provide the location details of the activity. This question is requesting the street address or other geographical distinguishing features. If the work site spans multiple streets and properties, provide as many addresses as possible to delineate the bounds and/or extremities of the work site. Also provide addresses for any proposed site compounds. In addition, provide the detailed location of the proposed work site on the street address(es) (e.g. foot path, road reserve etc.).

A map is automatically populated using the SER Application selection area. There is additional space in the SER Application to allow for an annotated map to be inserted to clearly illustrating the full area and scope of works. This can be done by using Snagit or other PrintScreen software from SIX Maps, Google Earth or equivalent followed by inserting the image directly into the SER Application (Figure 4). This is an additional map to the map derived from the selection area.

An example of an annotated map is shown below:



Figure 4 An example annotated site layout map.

### 3.2.2.4 Local government area

The local government area question will inform 'notification requirements' so that Council can be appropriately notified in accordance with the Infrastructure SEPP and/or section 45 of the *Electricity Supply Act 1995*.

Using the Local Environmental Plan GIS layer, the SER Application will automatically populate the answer to this question on the basis of the selection area.

***Note – since the amalgamation of local councils in 2016, certain local councils now no longer exist and have been renamed (e.g. Cumberland Council was formed from Holroyd City Council and parts of the former Auburn and Parramatta City Councils).***

### 3.2.2.5 Owner of land, Private Land ownership, Deposited Plan/Strata Plan

Land ownership or tenure information is required to inform easement acquisition requirements. Under the *Electricity Supply Act 1995*, Endeavour Energy is permitted to carry out work, install and remove electricity works on a public road or public reserve. Conversely, easements, leases and licenses are required in other locations and where the owner is not Endeavour Energy or a public road or reserve.

In summary, title searches are required to inform land ownership for works not located on a public road or public reserve.

Lot and Deposited Plan (DP) information is automatically populated in the SER Application on the basis of the selection area. These are shown as follows:

**Deposited Plan / Strata Plan: Layers Tested: Crown parcel - NSW Spatial Services, Strata Plan - NSW Spatial Services\***

LOT:228, SECTION:, DP:242483, ADDRESS:12 Elm Street Albion Park Rail 2527  
LOT:182, SECTION:, DP:242483, ADDRESS:27 Elm Street Albion Park Rail 2527  
LOT:37, SECTION:, DP:238967, ADDRESS:5 Elm Street Albion Park Rail 2527  
LOT:38, SECTION:, DP:238967, ADDRESS:7 Elm Street Albion Park Rail 2527  
LOT:39, SECTION:, DP:238967, ADDRESS:9 Elm Street Albion Park Rail 2527  
LOT:40, SECTION:, DP:238967, ADDRESS:11 Elm Street Albion Park Rail 2527  
LOT:175, SECTION:, DP:242483, ADDRESS:13 Elm Street Albion Park Rail 2527  
LOT:176, SECTION:, DP:242483, ADDRESS:15 Elm Street Albion Park Rail 2527  
LOT:177, SECTION:, DP:242483, ADDRESS:17 Elm Street Albion Park Rail 2527  
LOT:178, SECTION:, DP:242483, ADDRESS:19 Elm Street Albion Park Rail 2527  
LOT:180, SECTION:, DP:242483, ADDRESS:23 Elm Street Albion Park Rail 2527  
LOT:1, SECTION:, DP:1059985, ADDRESS: Elm Street Albion Park Rail 2527  
LOT:179, SECTION:, DP:242483, ADDRESS:21 Elm Street Albion Park Rail 2527  
LOT:211,

Ownership details can be obtained from NSW Land and Property Information utilising the Lot and DP information. These searches can be undertaken by contacting the Network Easement Assessment Officer or an Environmental Specialist in Network Environmental Assessment (Endeavour Energy designed activities) or Network Property for contestable designed works. Any acquisition or leasing of land or easements requires the involvement of the Network Easement Assessment Officer within Network Environmental Assessment.

Furthermore, if the worksite for an Endeavour Energy designed activity is located within Crown Lands the activity must also be referred to Network Easement Assessment Officer within Network Environmental Assessment. Crown Land may be subject to native title claim. The SER Application will indicate if native title and land rights may apply through the selection area.

Like any other land owner, Crown Lands must be advised of works on their lands.

The exception for any additional approvals for works in Crown Lands is that the activity is not work to maintain, repair or replace an existing asset within an existing developed footprint.

This question provides the following drop down list:

- Endeavour Energy
- Private
- NPWS/Water NSW
- Public Land

If the lands are privately owned, land ownership details need to be provided as detailed above.

If the proposed work site spans both Private and Public Land, the assessor must select Public Land from the Owner of Land drop down list and enter private land details in the Private Land ownership field.

#### **3.2.2.6 Land zoning**

Local Environmental Plans (LEPs) guide planning decisions for local government areas. Councils do this through zoning and development controls, which provide a framework for the way land can be used. LEPs are the main planning tool to shape the future of communities and also ensure local development is carried out appropriately.

In accordance with Clause 41 of the Infrastructure SEPP, Development for the purpose of an electricity transmission or distribution network may be carried out by or on behalf of an electricity supply authority or public authority without consent on any land (exceptions apply to National Parks and Reserves – refer to EMS 0001).

Notwithstanding, the land use zoning and the associated development controls shall be considered in the SER Application to inform whether there are sensitive environmental features within or near the work site, which may become evident when answering other questions in the assessment. Such sensitive environmental features will be associated with land use zonings such as Environmental Protection Zones; E1 National Parks and Nature Reserves, E2 Environmental Conservation, E3 Environmental Management and E4 Environmental Living.

The SER Application will automatically populate the land use zoning of the work site through the use of the LEP GIS layer.

#### **3.2.2.7 Maximum number of workers on site**

Provide the likely maximum number of construction personnel that will work on the activity. Consider the use of Endeavour Energy employees (for Endeavour Energy designed activities), contractors and likely subcontractors and all phases of the project (e.g. pole hole excavation, pole standing etc.).

If the assessor is not sure of the maximum number of workers on site, it would be prudent to provide a finite range of the likely number of construction personnel.

***Note - The site induction must be utilised to ensure all personnel on site are aware of the EMP (generated from the SER) to provide for adequate environmental controls are implemented to minimise/prevent environmental harm.***

#### **3.2.2.8 Duration of works and indicative commencement date**

Provide the number of days, the days of the week, and times that the activity will be constructed, as well as an indicative commencement date. This will inform timing, phasing and schedule of the activity to assess the extent and nature of the impacts.

All works proposed outside of normal or recommended standard working hours must be justified and the impacts fully considered in this SER. Additional stakeholder consultation and noise mitigation will typically be required where out of works are proposed. Additional notification may be required prior to the out of hours works and notification to the NSW Environment Protection Authority (EPA) may also be required. Noise reduction measures such as noise baffling, works scheduling or other relevant mitigation may be required (refer section 3.3).

The additional stakeholder notification and noise reduction measures must be included in the EMP and site induction where appropriate.

Normal or standard (construction) working hours are defined as:

Monday to Friday 7 am – 6 pm

Saturday 8 am – 1 pm.

Any work conducted outside of these times is considered out of standard hours works and additional consultation and noise mitigation requirements apply to meet NSW EPA legislative requirements.

***Note - it is the assessor's responsibility to dictate the working hours associated with activity based on the aspects, impacts and constraints of the works. Accordingly, to avoid scope changes at construction, a detailed investigation is required to inform whether out of standard working hours is necessary and to ensure compliance with the 5-14 day community notification period requirement.***

This investigation must involve a discussion with the relevant Operations Manager and relevant Environmental Business Partner (Endeavour Energy designed activities) and an examination of site constraints that may dictate the working hours. In some cases and on the

basis of environmental aspects identified throughout the SER Application, the assessor must use an educated best assumption on what the hours of work will be. For example, if the assessor has identified that the proposed activity is to occur on a RMS State or Regional road, hours of work may have to occur outside normal working hours and relevant controls will need to be included in the question pertaining to construction noise.

Other site or project constraints may also include need for generators to maintain supply and/or space to undertake the activity within the allotted area that may impact on pedestrian flows or have too much of an impact on commercial premises.

#### **3.2.2.9 Proposed mode of access**

It is important that access is assessed in the SER. In this way, access is to be considered as part of the work site and also the 'selection area' when defined by the assessor. The following questions need to be addressed when considering access:

- Is the existing access to the worksite suitable and safe for the activity?
- Is vegetation restricting or preventing safe and efficient access to or at the work site that will require clearing?
- Is the pavement along the access route suitable for the safe access of plant and machinery to the work site?
- Is an upgrade of the existing access track required or construction of a new access track required to ensure safe and efficient site access?
- Does access need to be restricted in wet weather?

#### **3.2.3 Machinery / Plant required to undertake scoped works**

List all plant, machinery and other equipment that will be used for the construction phase of the activity. Consider all phases or stages of construction when answering this question..

Examples include:

- Line trucks and tipper trucks,
- Elevated Work Platforms,
- Lifter borers/cranes,
- Four wheel drive vehicles,
- Bob-cats with various attachments (e.g. slashers),
- Underboring or horizontal directional drilling rigs,
- Excavators (include tonnage).

#### **3.2.4 Design justification**

Discuss why the route or site was selected and designed for the activity. Sufficient information should be provided for clarification around why a particular route and or site was chosen and what other routes / sites were considered. Judicious or careful route selection and design can be important to avoid environmental aspects and potential impacts that can result in additional costs and delays to obtaining approval.

For routine projects with multiple options, a desktop analysis that can be briefly documented is often sufficient to demonstrate why an option is preferred. Where there are limited or no options, simply stating such may be appropriate.

The route and/or site selection can have significant implications for the type of assessment and beyond this the aspects, impacts and permits and approvals that may be required. Some projects and sites may require site specific specialist studies and/or stakeholder consultation to gain a better understanding of the aspects and impacts. These approvals may take in excess of 12 months to obtain. Note: 'Not Applicable' is not a suitable answer to this question. The approver cannot approve the SER without consideration of other potential design options (e.g. route, site, position, materials)..

Example SER text:

The following options were considered for the activity:

- Duplicate the additional circuit along the existing Feeder route corridor and easement; avoid negotiating a new easement. OR
- Establish new easement for the additional circuit; significant delay associated with easement negotiations. OR.

[Insert other options and delete the above if they are not deemed relevant].

The above options were considered least favourable they would not be cost effective/did not meet electrical safety standard objectives/caused greater impact/s [flora/fauna/archaeology/heritage/visual] on the environment/cause significant disturbance or disruptive to stakeholders/the community.

### **3.2.5 Future maintenance activities and operational requirements**

The Code requires not only an environmental assessment of construction but also an assessment (including environmental and cost implications) of the ongoing operational requirements that will arise from the activity.

This cradle-to-grave approach require a description to be provided of these potential operational aspects, impacts and costs associated with the activity. As such, the description should include all foreseeable future maintenance activities and costs, such as:

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

Example SER text:

The scope of works includes future maintenance, operation, inspection, repair and decommissioning. This may include works undertaken out of normal working hours and vegetation management works. All works would be undertaken in accordance with Environmental Guidelines Handbook and Endeavour Energy Tree Management Plan and/or equivalent Standards and procedures in force at the time. [Insert other relevant information or delete if the above statement adequately covers the operational phases of the activity]

### 3.2.6 Notification Approval

When answering this question, identify notification requirements, and provide evidence of notification and consultation required during the design phase.

***Note – the mandatory notification periods must expire before design certification/approval occurs. As such, it is prudent for the assessor to forward notification letters very early in the design phase of the activity and to seek final comments.***

Template letters for Council/authority/community notifications can be found within the SER Application.

#### 3.2.6.1 Council Notification

Assessments carried out under the provisions of the ES Act (Section 45) requires that at least 40 days notification is given to the relevant local council/ before undertaking electricity works (other than routine repairs or maintenance works). Documentary evidence of council notification must be included in the SER Application to allow design certification and approval. The notification in the SER Application is different from the construction notification.

The Infrastructure SEPP (Division 1, and Clause 42) requires 21 days' notice to be given to the relevant local council/s for notification of electricity substation (of any voltage) development.

These ES Act and Infrastructure SEPP notifications can be served concurrently.

***Note – if the proposed activity involves the installation of a substation of any voltage, notification to the relevant Council should make use of the 21 days under the Infrastructure SEPP and the notification can then include relevant information about ancillary electrical works.***

#### 3.2.6.2 NSW National Parks and Wildlife Service and Water NSW Notification

Special notification and approval requirements typically apply for works within Water NSW Special Areas and National Parks areas. These requirements must be captured by this question.

Under the 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. Specified development” and “specified authorities” in accordance with the Infrastructure SEPP includes Development adjacent to land reserved under the *National Parks and Wildlife Act 1974* (NPW Act) – Office of Environment and Heritage (OEH).

The activity should be referred to the relevant Environmental Business Partner for Endeavour Energy designed activities or otherwise escalated by the Contestable Works Officer for contestable works as the SER may need to be provided to the Office of

Environment and Heritage for activities in National Parks, and Water NSW for activities in Special and Controlled Areas.

Beyond providing the SER to the Office of Environment and Heritage (NSW National Parks and Wildlife Service (NPWS)) and/or Water NSW, it may be necessary to use the NPWS assessment template for works in National Parks. NPWS may also have a co-determining function for on Park activities.

Reference should be made to EMS 0012 – Notification of access to National Parks and Water NSW Special and Controlled Area for the notification paperwork to be issued prior to the commencement of construction.

### 3.2.6.3 Other authority notifications

Other authority notifications include the following:

- Development adjacent to a marine park under the *Marine Parks Act 1997* – Marine Parks Authority.
- Development adjacent to an aquatic reserve declared under the *Fisheries Management Act 1994* (FM Act) – OEH.
- Development comprising a fixed or floating structure in or over navigable waters – RMS.
- Proposed works in Western Sydney Parklands.

The relevant questions within the notification approval section of the SER Application are linked to GIS layers to enable the assessor to decipher if these land tenures and subsequent notification requirements apply to the activity.

The assessor should engage with the relevant Environmental Business Partner and NEA Environmental Specialist (Endeavour Energy designed activities). Contestable Works Officers/Engineers need to make sure these approvals have been sought for externally designed activities, where applicable.

When working on State or Regional Roads, approval through the issue of a road occupancy licence (ROL) is required from RMS. When working on local roads, notification to the relevant Council is required. Details of the road types and notification requirements are captured in the SER Application and are informed by the RMS GIS. Associated mitigation measures need to be included in the EMP.

Example SER text:

Notification date [INSERT DATE]

No responses were received.

OR

Summary of responses: Council/other statutory authority 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 Endeavour Energy's assessment determination decision.

OR

Notification letter has been sent to council/other statutory authority. If submissions are made at the expiration of the relevant mandatory notification period, they will be incorporated as far as reasonably practical which may render re-assessment of the SER prior to design certification/approval.

The mandatory notification correspondence are attached to this assessment.

#### 3.2.6.4 Community

Under the Infrastructure SEPP, 21 days' notice must be provided to the occupiers of adjoining land if the proposed works are for the purpose of a new or existing electricity substation of any voltage.

***Note - The SER Application is to be used to assess the installation/removal of distribution substations only. Environmental assessments involving the installation/removal of zone and transmission substations must involve NEA.***

If an activity is likely to have more than a minimal impact (e.g. blocking access, significantly changing visual amenity, noise impacts), and there is an opportunity for the community to be involved in the route or site selection then additional community consultation during the design phase should be considered. Advice should be sought from an Environmental Business Partner in relation to feeder route options selection and consultation.

Records of all relevant consultation must be readily available and attached to the SER. These records must be kept for a minimum of 5 years.

Please note the design cannot be certified/approved by the approver without evidence within the SER Application of the notification/consultation letters sent to the relevant stakeholder authorities and/or community.

Please refer to *Residents and Working Hours* for additional notification requirements in relation to the potential impacts of the activity if undertaken outside of standard working hours.

Example SER text:

Submissions received made reference to [X]. The submissions made have been considered as part of this assessment and have informed Endeavour Energy's planning decision concerning the location of the new substation.

The notification letter is attached to this assessment.

#### 3.2.6.5 Mine Subsidence District

In accordance with section 15(2A) of the *Mine Subsidence Compensation Act 1961*, approval from the Subsidence Advisory NSW (SANSW) is required to alter or erect improvements within a mine subsidence district or to subdivide land prior to construction. An 'improvement' is defined by the Act as 'any building work or work erected or constructed on land, any formed road, street, path, walk or drive-way and any pipeline, water, sewer, telephone, gas or other service main, whether above or below the surface of the land'.

Approval is not required for minor works, repairs and maintenance and the above or below co-location of cabling on or within existing infrastructure.

Endeavour Energy does not require approval to be obtained for improvements for which a deemed approval has been given. The list of improvements given deemed approval is available on SANSW's website at:

[www.subsidenceadvisory.nsw.gov.au/SiteFiles/minesubnswgovau/Deemed\\_Approvals\\_for\\_Council\\_Staff.pdf](http://www.subsidenceadvisory.nsw.gov.au/SiteFiles/minesubnswgovau/Deemed_Approvals_for_Council_Staff.pdf)

The location of mine subsidence areas will be automatically populated in the SER Application for this question through the definition of the selection area.

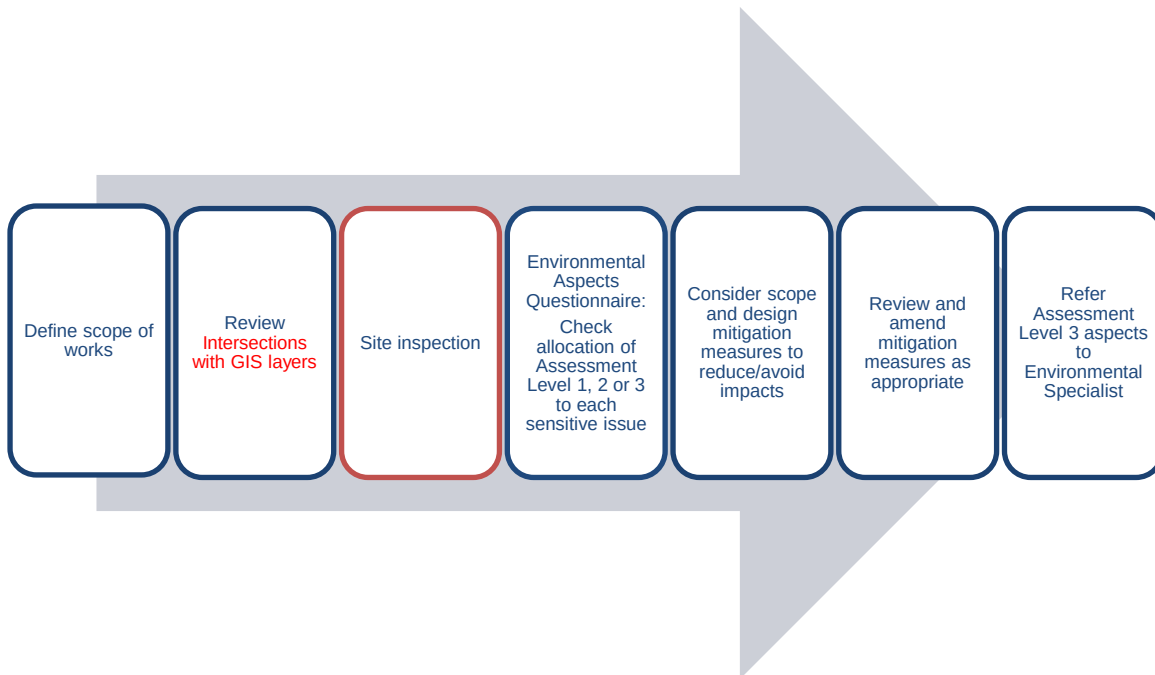
If mine subsidence areas are relevant for this question, contact SANSW or indicate in the SER that SANSW must be contacted prior to construction. Note the exemptions for obtaining approval from the SANSW above.

Example SER text:

The activity is within a Mine Subsidence area. SANSW were notified on [enter text] and approval was received on [enter date/the activity is exempted from obtaining SANSW approval]. The correspondence is attached to this SER (where relevant).

### 3.2.7 Site inspection

An inspection of the worksite must occur before completing the remainder of the SER Application. A site inspection is a critical component of the SER process. The potential aspects and impacts identified in the SER Application will require further examination at the site inspection. The site inspection provides the opportunity to identify, verify and ground truth the environmental aspects and impacts associated with the works, and verify the relevance of the aspects in the from GIS intersections. Accordingly, the selection area should be well defined or understood before undertaking the site inspection.



Describe the environmental characteristics and features of the work site area and surrounds considered relevant to the potential impacts. It is imperative at this stage for externally designed activities to make the site inspection description from a contemporary and future perspective as the proposed work site may have completely different physical characteristics following the commencement of the overall activity (e.g. new subdivision and bulk earth works will remove all or part of the vegetation on the site). Record all observations noted during the inspection of the worksite and include a description of the environment relevant to the potential environmental aspects and impacts on-site and off-site (access and site compounds).

Taking numerous site photographs that provide context and show the area and surrounds are important for inclusion in the SER Application and will also be useful for subsequent review of the relevant aspects and impacts. Include site photographs of the work site's distinguishing features as outlined in the SER Application to support the description of the site.

**Note – the assessor may upload up to 5 files here with a maximum size of 10mb.**

The assistance of an Environmental Business Partner (Endeavour Energy designed activities) may be required during the site inspection to assist with identification of the environmental aspects and impacts relevant to the activity. The provision of assistance by the relevant Environmental Business Partner (Endeavour Energy designed activities) can be gleaned from the intersections of the selection area with GIS layers if there are environmental aspects prevalent in and around the work site and it is encouraged to verify if these environmental aspects can be avoided through judicious route selection at this early stage.

In addition, for Endeavour Energy designed activities it may be critical that the relevant Project or Operations Manager is also involved in the site inspection process to avoid scope changes at construction.

The worksite inspection should take note of the following:

- Aspects flagged by the intersection of GIS layers with the selection area (please refer below);

Is the work site located in bushfire prone lands? Layers Tested: Bush Fire Prone - Rural Fire Service (Nov-16)\*



- Subject land tenure and surrounding land tenure and use, for example;
  - proximity to any potentially sensitive receptors such as residences, schools
  - proximity to drainage systems – including natural waterways/stormwater and other drainage systems.
  - National Parks and Water NSW Special Areas and Controlled Lands,
  - industrial/commercial land use, residential etc);
- Gradient of the work site;
- Subject land size, shape, slope, presence of vegetation (see Flora and Fauna), natural land gradient, presence of potential fill material that is prevalent across the worksite
- Visual and scenic quality;
- Flora and fauna – presence of ecological communities, individual trees, shrubs and other vegetation (and fauna habitat) that may be obstructing access to the worksite or that may be affected by the construction and operation of the activity;
- The potential to encounter weeds and pathogens within and adjacent to the proposed work site;

- Access – are existing access tracks to the worksite suitable for the activity or are new access tracks required?
- Heritage items – potential Aboriginal and non-Aboriginal heritage items within or in the vicinity of the worksite. Heritage items in the vicinity of the worksite can be an indicator of the potential for heritage items to be present on the site.
- Traffic flow and road classifications; i.e. State road (RMS), Regional road (RMS), local road (council).
- Items that may affect working hours (for example potential road occupancy restrictions, high pedestrian flows and other associated public safety hazards etc)
- Population, community services, recreation and tourism; and,
- Potential for land contamination – proximity of the worksite to contamination sources/previous land uses (for example, industrial areas, service stations) and potential for fill to be prevalent across the work site.

***Note - solely relying on Google Street View or equivalent as a substitute for a site visit is not acceptable. A site visit is required to verify the current conditions of the site and surrounds. A SER Application will not be approved by Endeavour Energy without a site visit being carried out. Utilising Google Street View or equivalent may only be acceptable subsequent to carrying out a site visit to confirm or verify the findings of a previous site visit.***

Example SER text:

Environment / landuse: The work site has been defined by coordinates indicated in the selection area in the SER Application. The work site includes all those items potentially affected as a result of the activity. Items likely to be affected are addressed in this assessment.

This area is dominated by [SELECT: residential / commercial / industrial / recreational] land uses. Distinguishing features relating to this activity include a [SELECT: waterway / main road / playground / National Park / trees/likely contamination/farmland/future residential subdivision]. The site is [SELECT: flat/steep/undulating].

The work site has been mapped on within Endeavour Energy's SER Application to include [SELECT: Aboriginal heritage items / acid sulfate soils / contaminated areas / threatened species / Non-Aboriginal heritage items] within the work site.

## 4.0 Environmental Impact Assessment Questionnaire

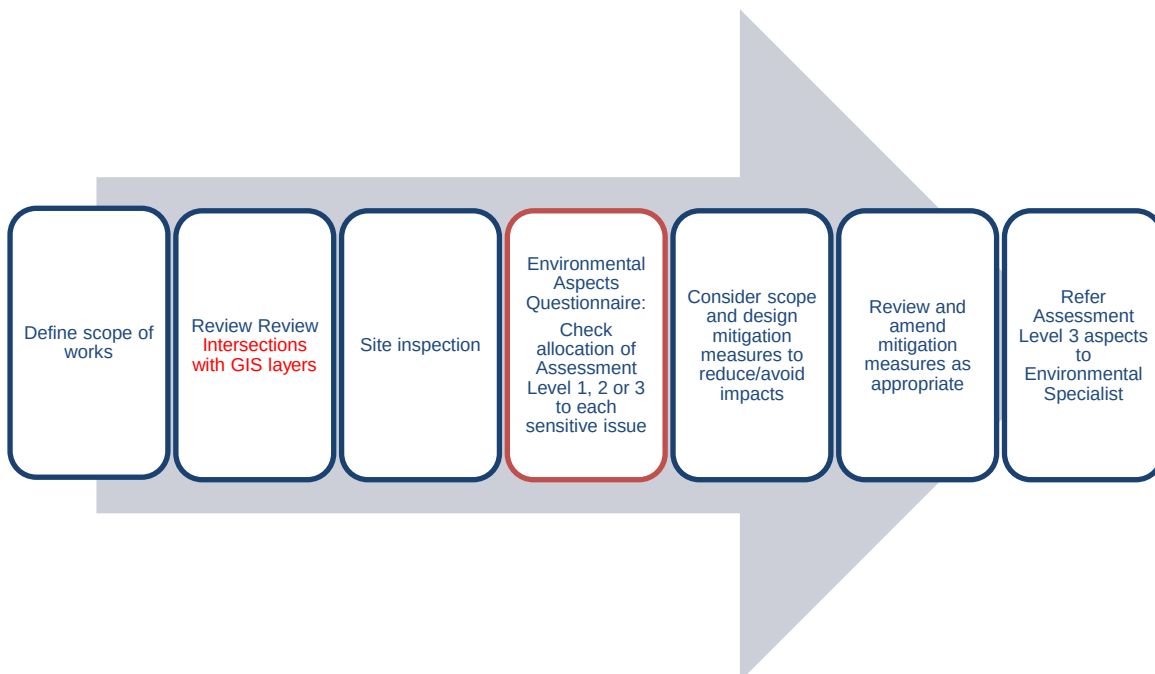
The remaining sections of the SER Application evaluate the environmental aspects and impacts associated with the activity. For the purposes of this SER Application Guidance Notes, environmental aspects have been categorised according to the major factors of the Clause 228 obligations as specified under the Environmental Planning and Assessment Regulation 2000 that Endeavour Energy must consider as a determining authority under Part 5 of the Environmental Planning and Assessment Act 1979.

In evaluating the environmental aspects of the activity and their relative environmental impacts, the assessor needs to rely on the following:

- Accuracy or validity of the worksite definition.
- Information obtained from the site inspection.
- Verification of the GIS intersections with the selection against what was observed during the site inspection and any additional items observed.
- Scope of works definition; and,
- Information and feedback from any preliminary stakeholder consultation.

The environmental aspects questionnaire will inform the specific construction controls that are required to avoid/mitigate environmental impacts associated with the activity and that will be captured or included in the SER Application's EMP.

Undertaking the Environmental Aspects Questionnaire as per the order illustrated below makes certain that the SER Application is appropriately informed.



## ***Environmental Impact Assessment Level***

Defining the works 'selection area' determines the potential environmental impact assessment risk level, i.e. Assessment Level 1, Assessment Level 2 or Assessment Level 3, in the SER Application for environmental aspects (and potential impacts) that have relevant GIS data layer/s.

Where there are no GIS layers for particular environmental aspects (e.g. EMF, noise and waste), the assessor is required to select the appropriate level on the basis of the scope of works and their site inspection information.

The principle for allocating the Assessment Level is generally based on the following.

- **Assessment Level 1 – No potential impacts identified**

- No environmentally sensitive features are located in the selection area, including site compounds and access routes and; generic controls are considered satisfactory to prevent environmental harm.

Where **Assessment Level 1** applies, the default minimum controls will be as detailed in the *Environmental Guidelines Handbook* and as reflected in the SER Application's EMP. All text fields can be modified and additional controls added as required by the assessor to suit specific circumstances.

- **Assessment Level 2 – Impacts avoided through implementation of mitigation measures**

- Environmentally sensitive features are located in the selection area and/or on the periphery/adjacent to the selection area and additional consideration is required by the assessor in the formulation of mitigation measures to prevent environmental harm.

Where **Assessment Level 2** applies, standard minimum controls will appear in the SER Application's EMP, and additional specific mitigation measures may also need to be included in the SER Application's EMP. All text fields can be modified and additional controls added as required by the assessor to suit specific circumstances. •The template remains read only, the assessor should copy the text then modify it as required. This way the original and modified texts are clearly visible and can be compared.

The description of environmental aspects and potential impacts should be sufficient to demonstrate that the environmental risk of potential impacts is low to nil.

- **Assessment Level 3 – Referral to an environmental specialist**

- Environmentally sensitive features are present in the selection area and/or on the periphery/adjacent to the selection area and may be impacted on by the activity despite the implementation of generic mitigation measures.

If the activity is designed by Endeavour Energy, the following SER Application environmental aspects will typically require verification or review by an Environmental Business Partner. From this review, the SER may be referred to a NEA Environmental Specialist for assessment.

Assessment Level 3 environmental aspects and impacts requiring specialist assessment include:

- Vegetation removal;
- If the Activity involves a potential impact on threatened species, populations and threatened ecological communities (TEC);
- Access requirements, i.e. access track maintenance works are required, the access route is not suitable or non-existent such that an access track must be constructed;
- Generation of large quantities of spoil;
- If the worksite is located within, near or includes a contaminated site;
- If the Activity involves a potential impact on local, state or commonwealth listed heritage items (non-Aboriginal heritage);
- If the Activity involves a potential impact on Aboriginal heritage;
- If “out of standard working hours works” are proposed;
- If the worksite is located within a National Park or Water NSW Special Area
- If the Activity is likely to impact on Acid Sulfate Soils.

The relevant Environmental Business Partner will escalate the SER to Network Environmental Assessment where there is a requirement for further detailed assessment (for example flora and fauna impact assessment, due diligence heritage impact assessment) or if specific approvals are required (for works within National Parks or Water NSW Special Catchment Areas).

Note: works proposed within National Parks and Water NSW Special Catchment Areas, or that feature heritage items or are in areas that feature heritage precincts such as Parramatta, Liverpool, Camden, Windsor and Blue Mountains shall be forwarded to a NEA Environmental Specialist for review.

ASPs are to complete an appropriate level of environmental assessment investigation to mitigate the environmental impacts and provide sufficient evidence of the assessment investigation to permit design certification. This may include reference to other approvals such as a Statement of Environmental Effects prepared as part of the Development Application for Council (e.g. subdivision).

Where Assessment Level 3 environmental aspects are identified by an ASP, the relevant Network Connections Contestable Works Officer is to escalate these SER's to the relevant Environmental Business Partner for review..

The Environmental Business Partner will nominate or provide the specific mitigation measures that are necessary for works identified as having Assessment Level 3 environmental aspect/s and impact/s. Following review by the relevant Environmental

Business Partner, the SER Application will be returned to the Contestable Works Officer/Engineer for their approval through the Networks Connections Branch reporting lines.

Assessment Level 3 aspects will be highlighted in the EMP to permit targeted inspections in accordance with EMS 0001 – Environmental Impact Assessment and Environmental Management Plans.

## 4.1 Community

### 4.1.1 Traffic management

This section of the assessment considers the impact of the activity on traffic and pedestrian flow in and around the work site.

Classified roads fall into two major categories, i.e. RMS State Roads and Local Roads.

RMS State Roads includes freeways, motorways, state highways, main roads, tourist roads and secondary roads. The RMS GIS layer will automatically populate whether the activity is to occur on or in the vicinity of classified roads within the SER Application. Other roads are typically Local Roads administered by local councils.

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. Consider both the construction and operational phase of the activity.

Once 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 MoU between Endeavour Energy and RMS.

An ROL is not required prior to verification of the SER. However, the requirement for a ROL is to be documented in the SER's EMP with associated responsibility assigned (typically Project Manager).

***Note - if work will require out of standard working hours works (i.e. night works), this will need to be addressed under Residents and normal working hours.***

Refer to Appendix 14 of the MoU between Endeavour Energy and RMS for Issues Resolution if out of hours works and associated impacts on the community cannot be appropriately justified by ROL requirements. The relevant Environmental Business Partner can provide this information (Endeavour Energy designed activities).

#### *Making a Decision*

1. Check Endeavour Energy's SER Application for classified roads (by clicking  if applicable).
2. Use information obtained from the site inspection of the work site to assist in applying for an ROL. Assess potential traffic and access impacts taking into account pedestrian access.

#### *Verify Assessment Level*

Assessment Level 1:

The activity would NOT involve any of the following:

- Work occurring on a classified road or significant access corridor.

- Restricting access to shops, businesses, schools, hospitals, childcares, recreational areas.

#### Assessment Level 2:

The activity would NOT involve any of the following:

- Works on a classified road non-compliant with the relevant RMS approval and ROL requirements.
- Works non-compliant with notification requirements for affected residences and businesses.
- Works would not significantly impair pedestrian access to shops, businesses, schools, hospitals, childcares, recreational areas.

#### Assessment Level 2:

Specific construction controls will include as a minimum;

- Where required, approvals and ROLs must be in place to works commencing. ROL conditions need to be complied with.
- Make sure affected residences/businesses are consulted in accordance with Notification requirements - Community.

#### Assessment Level 3:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Select sites/routes that avoid RMS and busier local roads.
- The appropriate roads authority must be consulted for any activity in, on, or over any public road, in conjunction with or as part of the Traffic Management Plan. Any conditions of consent imposed by the RMS (State or Regional Roads) must be complied with.
- Notice must be given to Council (local roads) and/or RMS (State and Regional Roads) and appropriate permits (ROLs) obtained when temporary road closures are required.
- Working hours (including out of hours works) of the activity must be approved by relevant authorities prior to the commencement of the activity.
- Construction traffic should observe the speed limits along adjoining roads at all times.

- Safe pedestrian pathways are to be established and clearly signposted around the work site for the duration of the activity.
- Temporary access arrangements must be negotiated with residents/businesses where access will be affected.
- The subject site shall be sufficiently lit at night to facilitate safe movement around the subject site by the public and within the subject site by construction personnel.
- Should it be necessary to leave any part of the construction trenching or holes uncovered overnight or for any period of time outside of the immediate construction works, the trenches and/or holes are to be plated and fenced with temporary fencing to ensure safety of the subject site.
- Council is to be notified of any damage to any existing Council infrastructure caused by the works including, but not limited to the road, kerb and gutter, road shoulder, footpath and drainage structures.
- Any damage to public roadways or footpaths that prevents normal use of these assets by either pedestrians or traffic will be restored immediately to a level that provides safe and temporary access.

#### 4.1.2 Residents and normal working hours

##### **Construction Noise**

Endeavour Energy receives complaints from the community in relation to construction noise.

Construction noise is heavily regulated by Endeavour Energy's appropriate regulatory authority, the NSW Environment Protection Authority (EPA). The *Protection of the Environment Operations Act 1997* creates offences for causing noise pollution as a result of failing to maintain and operate plant and equipment or deal with materials in a proper and efficient manner.

Where works are proposed to occur outside of standard construction hours [Monday to Friday 7 am to 6 pm, Saturday 8 am to 1 pm and no works on Sundays or public holidays] for Endeavour Energy designed activities, the project manager must ensure appropriate justification prior to seeking approval from the the relevant Environmental Business Partner

The NSW EPA may require notification of the out of hours works. Any such notification must be undertaken by the Manager Safety and Environmental Services through consultation with the relevant Environmental Business Partner .

ASPs are to liaise with the relevant Contestable Works Officer if out of normal work notification is required. The Contestable Works Officer is to verify the correct process to be followed through and the relevant Contractor Inspector will confirm conformance with the relevant requirements. .

The community must be notified five to 14 days prior to commencing works outside the recommended standard hours. In emergency situations where notification is not practicable (only applicable to Endeavour Energy), every effort must be made to limit noise emissions from the emergency works.

Construction and maintenance works that are planned to occur over more than two consecutive nights in any given week must be appropriately justified. The justification must be documented within the SER Application's EMP. Examples of appropriate justification include compliance with ROL requirements, generator use to meet NECF supply maintenance requirements, employee and/or public safety.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works and site inspection to adequately address this question. Consultation should also be carried out with the relevant project manager/operations manager to gauge how the subject works will be carried out. Assistance from an Environmental Business Partner may be sought.

The relevant activities and potential impacts must be described in sufficient detail to enable the Environmental Business Partner/Contestable Works Officer to assess the impacts and confirm assessment/further notification requirements/approval/licensing requirements.

For more information on construction noise refer to *EMS 0016 – Industrial and Construction Noise*.

##### *Making a Decision*

Using information from the site inspection, determine; the location of sensitive noise receptors in the vicinity, i.e. residential properties, businesses such as cafes/restaurants etc, pre-schools/schools, aged care facilities etc, that may be disrupted by noise such that out of hours works is required. The times that such businesses are likely to be most affected is also relevant in addition to other surrounding land uses.

Noisy disturbing activities can include concrete saw cutting, grinding, rock breaking, jack hammering, underboring/directional drilling, impact piling or other noise generating activities such excessive use of plant and equipment hydraulics or pneumatics.

#### *Allocate Assessment Level*

##### Assessment Level 1:

The activity would NOT involve any of the following:

- Audible works in sensitive areas (e.g. near a child care centre, aged care facility, school, hospital etc.).
- Saw cutting, grinding, rock breaking, jack hammers, underboring/directional drilling, impact piling or other noise generating activities (e.g. excessive use of plant and equipment hydraulics or pneumatics).
- Out of hours works.

##### Select Assessment Level 2:

The activity would NOT involve audible works without meeting the notification requirements stipulated in EMS 0016 – Industrial and Construction Noise and noise control measures and respite requirements in accordance with the “Noise and Working Hours” section of the Environmental Guidelines Handbook.

Level 2 construction noise mitigation will include as a minimum:

Noise control measures and respite requirements in accordance with the “*Noise and Working Hours*” section of the *Environmental Guidelines Handbook*.

Out of hours work must meet strict justification, notification and other requirements (refer to EMS 0016 – Industrial and Construction Noise) including no more than two (2) nights in any one week.

##### Select Assessment Level 3:

Assessment Level 1 and Assessment Level 2 do not apply

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Choose sites/route which maximise the distance to sensitive receivers.

- Specify the site layout to minimise impacts:
  - If feasible, arrange the work site to take advantage of natural barriers (e.g. hills) 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.
- Residents likely to be affected by excessive noise (for example, generator noise, excavation machinery, and the like) will be notified prior to work commencing.
- 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 (eg school class/exam times, restaurant meal times, places of worship services).
  - Provide respite periods for affected receivers
- Any works proposed 'out of hours' of the work times specified above will require notification to the local council and all nearby affected residents and sensitive receptors (e.g. hospitals, aged care homes) of the intention to work at these times. This notification shall be at least 5 days but no more than 14 days prior to those works commencing.
- Refer to "Noise and Working Hours" and "Community" section of the Environmental Guidelines Handbook for control measures.
- Consider design features to minimise noise (e.g. avoid excavation in rock).
- Specify substitute equipment for noisy works in sensitive areas.

### ***Operational noise***

The installation of electrical equipment capable of generating noise and associated impacts on the community is becoming an increasingly significant matter due to increased urban density, encroachments and land re-zonings. The placement of these assets and their equipment specifications requires judicious planning at the environmental assessment stage to prevent impacts on the community and future complaints.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works and site inspection to adequately address this question.

### ***Making a decision***

Use information from the site inspection to determine the location of sensitive noise receptor (see previous), times they are likely to be most affected and surrounding land use generally.

### *Allocate Assessment Level*

#### Assessment Level 1:

No transformers, circuit breakers or other noise generating equipment will be installed.

#### Select Assessment Level 2:

The activity would NOT lead to noise generating equipment being installed within close proximity to sensitive noise receivers and where there are no barriers such as walls/buildings to attenuate noise.

Generally, Assessment Level 2 construction controls will include as a minimum:

Refer operational noise enquiries to Environmental Business Partner if the placement of noise generating equipment is near sensitive receptors, as engagement of an acoustic engineering consultant may be required to assess noise impacts for Endeavour Energy designed activities. ASP designed activities should include an assessment of noise levels against operational criteria of the equipment, or include a relevant noise impact assessment report from an appropriately qualified acoustical consultant.

#### Select Assessment Level 3:

Assessment Level 1 and Assessment Level 2 do not apply.

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

### *Design measures to avoid/mitigate impacts:*

Noise at the receiver will depend on the type of source, distance from source, obstacles and several other factors.

Substations (transformers) typically emit a low frequency hum or noise which is not noticeably reduced by many factors apart from distance and appropriate physical barriers. 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 receptors.
- Select sites that make use of any existing barriers, where practicable and will not lead to any other impacts.
- Consider future developments (eg construction works, advice received from council etc).
- Prioritise the sites based on potential noise impacts if there is more than one option.

#### 4.1.3 EMF

EMF emissions are produced wherever electricity or electrical equipment is in use. Powerlines, electrical wiring, household appliances and electrical equipment all produce power frequency EMF.

In accordance with the Energy Networks Association EMF Handbook (January 2016), the EMF Exposure Reference Level for the General Public is 2000 milligauss (mG). The Energy Networks Association acknowledge that electric and magnetic fields from electricity assets will be well below the Reference Levels and specific compliance assessments will not be required. Notwithstanding, EMF creates concern for some members of the community and needs to be considered. As such prudent avoidance must be exercised or implemented where feasible and appropriate, particularly in the vicinity of sensitive receptors.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works to adequately address this question.

##### *Making a decision*

Consider if the activity will result in a capacity change to the network. Use information from the site inspection to assess the proximity to potentially sensitive receptors such as residential properties, schools and childcare centres.

##### *Allocate Assessment Level*

Select Assessment Level 1:

Because minimal change to the existing network is proposed, EMF emission levels will remain within the Reference Level guideline values (<2000 milligauss (mG)) and the community is unlikely to raise concerns.

Select Assessment Level 2 and Level 3 if:

EMF emission levels may exceed Reference Level guideline values (<2000 milligauss (mG)) and/or the community is likely to raise concerns. Note: Electricity distribution assets do not typically exceed 2000mG. Transmission assets do not typically exceed 2000mG, but due to their nature are more likely to cause community reaction to a proposed activity. Hence, adherence to prudent avoidance practices ~~are not implemented~~ is recommended.

##### *Design measures to avoid/mitigate impacts*

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

- Locate the substation away from sensitive receptors or in areas less frequented (e.g. 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).
- Increase the distance between the source and the receiver (e.g. raise conductor height).

## 4.2 Access tracks to and within the worksite

Access to the worksite is an important consideration in the SER Application.

There have been historical environmental incidents pertaining to access not being considered in the environmental assessment. These have led to damage to access tracks in sensitive environmental area and increased sedimentation potential to drinking water, damage to vegetation that included endangered ecological communities, and contravened Water NSW and Office of Environment and Heritage (National Parks and Wildlife Service) access arrangements. These environmental incidents have the potential for Endeavour Energy to be liable to breaches under environmental legislation leading to fines and prosecutions.

The presence of threatened biodiversity, vulnerable lands, proximity to named waterways and sensitive land tenure (i.e. National Park and/or Water NSW Special Area) will be informed by the selection area and automatically populated in the SER Application. These environmental aspects must be addressed for this question and other questions in the SER Application where they apply.

### *Making a decision*

1. Check Endeavour Energy's SER Application  for the presence of;
  - a. Threatened/endangered species, ecological communities,
  - b. Aboriginal and non-Aboriginal heritage items or sites,
  - c. the presence of vulnerable lands, that includes proximity to named waterways associated with the access to the work site.
2. Using information from the site inspection, consider;
  - a. the type and quantity of machinery that will be used for the activity,
  - b. whether access is hindered by vegetation,
  - c. if the track has unsuitable pavement, and
  - d. if there are environmental sensitivities that may be impacted on by accessing the worksite (e.g. if the access track is located in a National Park or Water NSW Catchment Special Area).

### *Verify Assessment Level*

Select Assessment Level 1:

- Access to the worksite is deemed suitable for the plant and machinery required to undertake the activity (i.e. no vegetation trimming/removal is required). No upgrade to existing tracks is required.

The access to the work site is NOT within or traversing vulnerable land/within 20 metres of a waterway/requires any vegetation clearing/ground disturbance within 40 metres of a waterway/within a National Park or Water NSW Special or Controlled Area.

Select Assessment Level 2:

- Access needs to be improved and is limited to:
  - Existing access track maintenance that includes limited grading of a track surface, maintaining existing drainage structures and existing watercourse

crossings, importing small amounts of parent material certified as Virgin Excavated Material and removing vegetation which hinders vehicle access along tracks (except threatened species and/or endangered ecological communities located in National Parks and local government areas listed in EMS 0004), undertaken in accordance with Endeavour Energy Environment Management Standard EMS 0006 (Maintenance and Construction of Access Tracks) and EMS 0012; AND

- access by existing formed roads and tracks by various types of vehicles, including trucks, crane/borers, elevated working platforms and tractor/slasher units that are required for the carrying out of maintenance activities in the transmission or distribution line corridor, or for substations.
- The access to the work site is NOT within or traversing vulnerable land
  - Vulnerable Land includes areas within 20 metres of a waterway/requires any vegetation clearing/ground disturbance within 40 metres of a waterway or is within a National Park and/or Water NSW Catchment Special Area.

Generally, Assessment Level 2 specific construction controls will include:

- All vehicles should keep to any existing access tracks and/or entirely within any designated easement across private lands unless prior agreement with the landowner.
- Care must be taken with both vehicular access and construction works to minimise disturbance to any soils. Vehicles must use existing formed access tracks to minimise disturbance to the ground surface. If access to the work site is not suitable for the proposal, contact the relevant Environmental Business Partner (internal employees).
- No vegetation clearing or importation of materials must be undertaken to facilitate access unless it has been identified in the environmental assessment and appropriate approval has been obtained. This is particularly important where threatened species and/or endangered ecological communities occur on existing access tracks located within National Parks and/or local government areas listed in EMS 0004.
- Following the completion of the activity, access tracks must be restored to the original condition.
- Access tracks located in sensitive environments (for example, National Parks and Water NSW Special Areas/Controlled Lands) must not be utilised following heavy rainfall (10 mm rainfall in a 24 hour period to 9 am), or if the access track is located on private lands, it must not be used if it is likely to cause damage and subsequent sedimentation and erosion. Damage to access tracks in these areas will be reported as an Environmental Incident in Mysafe in accordance with EMS 0008 – Environmental Incident Response and Management.
- Refer to the “Ecology” and “National Parks and Water NSW Areas” section of Environmental Guidelines Handbook.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the

impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Avoid placing new assets in sensitive environments (e.g. National Parks, Water NSW Catchment Special Areas)
- Engage the relevant Environmental Business Partner if the access track is considered to be inadequate for the activity/ within vulnerable land/within 20 metres of a waterway/requires any vegetation clearing/ground disturbance within 40 metres of a waterway or is located in or through a National Park and/or Water NSW Special Area.
- Engage with the relevant stakeholders to ensure that they are conversant with the required access track works.

### **4.3 Landscape and visual**

While difficult due to the subjective nature, visual amenity impacts should be appropriately considered and assessed in the SER Application. The extent and nature of the activity, line of sight to new or relocated electrical assets and the areas of aesthetic, scenic, natural or recreational value may be relevant.

The aesthetic, scenic, recreational or natural value of areas may be why people choose to reside in a particular area. Stakeholder/s may feel that the installation of electrical assets compromise or impact such values and this must be appropriately considered.

The assessor will predominantly have to use their discretion to determine if the activity is likely to have any impacts on visual amenity. The SEPP 71 – Coastal Protection GIS layer will automatically populate in the SER Application, but this is not the only consideration to address this question and site inspection information must be used in conjunction for it to be adequately addressed.

#### *Making a decision*

1. Check Endeavour Energy's SER Application for presence of SEPP 71 Coastal Protection Lands  to determine if the activity will impact on views associated with public places.
2. Using information collected from the site inspection, assess possible viewing locations, lookouts, areas of high aesthetic, scenic, natural or recreational values, existing screening opportunities and key viewer stakeholders. Also consider if any installed equipment will create an additional level of shading on nearby premises (more likely to occur in relation to buildings or structures associated with zone and transmission substations) or will inhibit or alter views from adjoining properties e.g. pole sub directly in front of a window with a view

#### *Allocate Assessment Level*

Select Assessment Level 1 if:

The activity would NOT involve any of the following:

- impacts to areas featuring obvious or recognised aesthetic, scenic, natural or recreational value such as a recreation park or natural area for example.
- potential negative impacts to areas mapped as *SEPP 71 Coastal Protection* including significant loss of views from public places.

Select Assessment Level 2 if:

The type, bulk, scale and size of the activity are appropriate for the location.

All reasonable measures to further reduce visual impacts have been considered.

The impacts are minor and neither extensive nor complex.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Select sites/routes that avoid prominent or frequented view corridors.
- The distance of the infrastructure from viewers (for example foreground, middle ground, background).
- Utilise existing electrical infrastructure and corridors where possible.
- Selecting materials, textures and colours which blend with the surrounds.
- Bundling overhead conductors to reduce aesthetic impact and reduce tree trimming requirements (where applicable).
- Limiting the need for vegetation clearing.
- Positioning poles between properties or buildings rather than in front of a particular property or view corridor.
- Utilise existing topography and vegetation to shield or screen views of the activity.
- Installing landscape screening between the activity and viewers.
- Refer to the “Community” section of the Environmental Guidelines Handbook.

## **4.4 Pollution**

### **4.4.1 Air quality**

Air quality impacts include dust generation, fumes and odours.

Vegetation and ground cover protects soils from erosion. Exposed soils 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 and amenity implications for workers and residents.

The POEO Act contains offences for causing air pollution as a result of failing to maintain and operate plant and equipment or failing to handle materials in a proper and efficient manner.

Sulfur Hexafluoride (SF<sub>6</sub>) provides exceptional electrical insulation and superior arc quenching capabilities due to being chemically inert, non-toxic, non-flammable and having a high level of chemical stability. However, SF<sub>6</sub> is a greenhouse gas that has 23,900 times the global warming potential as compared to carbon dioxide. Under normal conditions, SF<sub>6</sub> is about five times heavier than air and has a tendency to accumulate in low lying areas.

Some activities include the use of SF<sub>6</sub> gas insulated equipment (typically found in switchgear and circuit breakers) and it needs to be captured in the SER. As a guide, typical SF<sub>6</sub> gas insulated equipment and gas volumes are listed below:

- SF6 filled pole mounted recloser 2.0 kg
- 11kV Ring Main Circuit Breaker 1.2 kg
- 11kV SF6 Ring Main Fuse Switch Unit < 1.0kg
- 36kV Dead Tank Circuit Breaker 3.0 kg
- 72kV Dead Tank Circuit Breaker 14.0 kg
- 145kV Dead Tank Circuit Breaker 27.0 kg

As part of the SER Application, describe the volume of SF6 proposed to be installed in equipment as part of the activity.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on their design information/specifications for the type of equipment being installed pertaining to the scope of works and site inspection to adequately address this question.

### *Making a decision*

Using information obtained from the site inspection and knowledge of the scope of works, and the type of equipment to be installed, determine the location of sensitive receivers and if there is landscape features likely to exacerbate dust generation (large areas of bare earth or exposed soil) and whether SF<sub>6</sub> equipment is to be installed.

### *Allocate Assessment Level*

Select Assessment Level 1 if:

The activity would NOT involve ground disturbance, use of generators, other fume generating equipment/activity or installing a permanent exhaust or SF<sub>6</sub> equipment.

Select Assessment Level 2 if:

The activity would NOT involve dust leaving the worksite or generate offensive odours/fumes  
AND

The activity would NOT involve any of the following:

- ground disturbance greater than 250 m<sup>2</sup> at any one time;
- Installation of >5kg of SF<sub>6</sub> equipment.
- Installing a permanent exhaust system.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

Appropriate dust suppression and other emission reduction techniques will be employed as necessary in accordance with the “Air quality”, “Erosion and Sediment Control” and “Use and handling of Sulphur Hexafluoride” sections of the Environmental Guidelines Handbook.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### **4.4.2 Erosion and sedimentation**

Erosion is the wearing process of sand, soil or rock by water or wind from the landscape. Most erosion is a short term problem caused by the removal of site vegetation (including ground cover, grasses) and the subsequent land shaping that occurs in response to trenching, stockpile establishment and/or general land clearing. The discharge of sediment and other pollutants that result from erosion can cause substantial environmental damage, such as destroying ecosystems in our streams, lakes and harbours and blocking stormwater drains and is also considered water pollution.

It is an offence under the *Protection of the Environment Operations Act 1997* to cause pollution of waters.

*Working within 40 metres of a river, creek, lake or gully (drainage line)*

Under the *Water Management Act 2000*, 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. Endeavour Energy (and those working on behalf of Endeavour Energy including ASPs) is exempt from controlled activity approvals as a public authority.

However, it is noteworthy to consider the impacts of working within 40 metres of a water body in the SER Application.

### *Steeply sloped and vulnerable land*

Erosion prone land (vulnerable land) typically includes land > 1 hectare with a slope > 18 degrees (or 1 in 3), or land within 20 m of a prescribed stream.

A Vulnerable Land GIS Layer is available in the SER Application.

Vulnerable land is especially prone to soil erosion, sedimentation and landslip if appropriate techniques are not used when clearing vegetation. This land is categorised as: Steep or Highly Erodible Land, Protected Riparian Land, Special Category Land.

All clearing of native vegetation on vulnerable land requires approval unless it is excluded clearing or can be cleared under a routine agricultural management activity (RAMA). However, there are restrictions to the RAMAs available for clearing on Protected Riparian Land.

### *Extensive disturbance*

Extensive disturbance to the ground surface may occur in response to trenching, removal of ground cover for access, working on steep land underground excavation for cabling, installation of padmount substations and the like that could increase soil erosion, surface runoff or the possibility of sediment entering a drain or waterway.

Extensive ground disturbance does not include a small number of NDD pole holes, a small trench(es) where they will be backfilled on the same day.

The assessor will predominantly have to use information obtained from the site inspection together with knowledge of the scope of works to determine if the activity is likely to have any impacts on or around the work site in relation to erosion and sedimentation. The vulnerable lands and named waterways GIS layer will assist the assessor in determining the relevance of this question to the activity and automatically populate the SER Application.

### *Making a decision*

1. Check Endeavour Energy's SER Application  for the proximity of waterways to the worksite and the presence of vulnerable lands to determine if the activity will lead to erosion and sedimentation.
2. Using information collected from the site inspection and knowledge of the scope of works, assess the location of drainage lines (noting grates, drains, inlets, dish drains, surface water and channels), erodible areas (steeper than 1 in 3, or greater than 25% bare earth) and low lying areas subject to bogging. Consider what would happen in the event of significant rainfall during construction if extensive disturbance is to occur in response to the activity.

### *Allocate Assessment Level*

Select Assessment Level 1 if:

The activity would NOT involve any of the following:

- ground disturbance at any one time other than a small number of non-destructive pole holes, a small trench where the trenches are opened and filled within one day.
- Access to the worksite across boggy or low lying ground/access not deemed suitable for plant and equipment entry/egress.
- works that could increase soil erosion, surface runoff or the possibility of sediment entering a drain or waterway.
- works including excavating/stockpiling in or within 40 metres of a wetland or waterway.

- dredging or disturbing a wetland or waterway.

Select Assessment Level 2 if:

Assessment Level 1 does not apply and the activity would NOT involve any of the following:

- Ground disturbance greater than a small number of non-destructive pole holes, a small trench where the trenches are opened and filled within one day.
- Ground disturbance and/or vegetation removal on vulnerable land (including access)
- Ground disturbance greater than 25 m<sup>2</sup> at any one time within 40 metres of a waterway (including access).
- Vegetation removal within 20 metres of a waterway (including access).
- Access to the worksite across boggy or low lying ground/access not deemed suitable for plant and equipment entry/egress.
- Dredging or disturbing a waterway

Generally, Assessment Level 2 specific construction controls will include:

- All workers to be made aware of sensitive areas and the need to avoid impacts.
- Manage worksite to prevent sediment leaving the worksite. Refer to “Erosion and Sediment Control” section of the Environmental Guidelines Handbook for methods to achieve this outcome.
- No vegetation clearing within 20 metres of a waterway.
- No vegetation removal or ground disturbance on vulnerable land.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[Describe the relevant activities and potential impacts sufficiently to enable the Environmental Business Partner/Contestable Works Officer to assess the impacts and confirm assessment/further notification requirements/approval/licensing requirements.]

*Design measures to avoid/mitigate impacts*

- Avoid ground disturbing activities in erosion prone areas (e.g. slope  $\geq 1$  in 3 or 18 degrees, sandy soils), areas of concentrated water flow (e.g. drainage lines, grates, drains, inlets and dish drains), 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 feeders over sensitive areas).

#### **4.4.3 Incidence of flooding**

Altering ground levels and the obstruction of “natural water flows” in response to the construction of the activity can increase the risk of flooding to adjacent lands. This can lead to the mobilisation of pollutants offsite and damage to third party owned properties.

The incidence of flooding in response to an activity is intuitively related to if the worksite is located within a designated flood prone area

The presence of flood prone lands will be informed by the Flood prone lands GIS layer (subject to their provision by Councils) and definition of the selection area and automatically populate SER Application.

#### *Making a decision*

1. Check Endeavour Energy's SER Application  for the location of flood prone areas in relation to the work site.
2. Using information collected from the site inspection, assess the location of worksite and current ground levels and the location of water flows and whether the activity will impede or alter these conditions. Assess for indicators of flood prone land (e.g. flood signage, low lying areas)

#### *Assessment Level 1 if:*

- The activity will NOT
  - alter ground levels or impede “natural flows” of water from within and out of the work site.
  - involve placing infrastructure within 1 metre above sea level or placing infrastructure within flood prone land.

#### *Assessment Level 2 if:*

- The activity will alter ground levels but through the implementation of mitigation measures it will NOT cause flooding to adjacent properties.
- The activity will NOT impede “natural flows” of water from within and out of the work site.
- The activity complied with relevant network design standards to effectively consider placing equipment in areas that may be affected by sea level rise and flood prone land.

#### *Assessment Level 3 if:*

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Avoid designing an activity in a location that will concentrate and/or impede water flow or alter ground levels.
- Assess existing contours and ground levels in designing the location of assets if ground levels need to be altered to meet flood prone land requirements.
- Consult with a hydraulic engineer if ground levels need to be altered to determine additional mitigation and drainage requirements.

#### **4.4.4 Management of accumulated stormwater/dewatering**

Only clean rain water is permitted to enter a waterway or drain. It is an offence under the POEO Act to cause pollution of waters.

Dewatering of accumulated stormwater/groundwater ingress in trenches and pits (including pre-dug/NDD pole holes) must be managed in accordance with EMS 0014 – Dewatering worksites.

The dewatering of stormwater from bunded areas must be completed in accordance with SDI – 540 Transformer oil containment, and involves the implementation of controls to prevent the migration of oil from these areas.

In summary, the requirements of EMS 0014 for the removal of accumulated stormwater in trenches and pits are:

- Contaminated water (i.e. oily water generated through the mixing of contaminated soil and stormwater) must be removed by an EPA licensed liquid waste contractor following reporting the incidence of this material to Endeavour Energy's Environmental Business Partner.
- Greater than 1000 litres – contact Environmental Business Partner or arrange for an EPA licensed waste contractor to lawfully remove and dispose.
- Less than 1000 litres – follow the controls in the “Dewatering” section of the Environmental Guidelines Handbook.

The activity may also involve the generation of liquid waste including drill mud from Horizontal Directional Drilling and non-destructive digging (NDD). This section of the SER Application also captures the generation and management of such material.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works and site inspection to adequately address this question.

#### *Making a decision*

Using information collected from the site inspection together with knowledge of the scope of works, assess the location of drainage lines and receiving waterways and suitable grassed areas for controlled discharges following the requirements in the “Dewatering” section of the Environmental Guidelines Handbook

#### *Allocate Assessment Level*

Select Assessment Level 1 if:

The activity would NOT involve discharging accumulated stormwater from pits/trenches.

Select Assessment Level 2 if:

The activity may involve discharges of accumulated stormwater from pits/trenches, but it will be conducted in accordance EMS 0014 – Dewatering of worksites and “Dewatering” section of the Environmental Guidelines Handbook. There will be no risk of contaminated water entering drains and/or waterways.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

- All workers to be made aware of sensitive areas and the need to avoid impacts.
- All discharges of accumulated stormwater are to comply with controls stipulated in “Dewatering” section of the Environmental Guidelines Handbook.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

*Design measures to avoid/mitigate impacts*

- Where possible, avoid working in areas of potential groundwater contamination e.g. Acid Sulfate Soil.
- Where possible, identify ground water aspects as part of trial holes to determine if water ingress to any pits or trenches will be likely.
- If the generation of accumulated stormwater cannot be avoided, use design features to minimize water ingress e.g. upstream water diversion measures, seal cable ends and avoid basement substations if possible .

#### **4.4.5 Storage and transport of oils and fuels**

The activity may involve placing oil filled equipment and/or the removal of decommissioned assets and the safe transport of these assets to the nearest Endeavour Energy Field Service Centre. If refuelling plant is also a component of the activity, it will need to be considered in this section of the SER Application.

The potential for soil and groundwater contamination needs to be considered in the assessment of the impacts associated with the storage and transport of oil, fuels and oil filled equipment.

There are specific requirements in relation to this environmental aspect that are captured in EMS0017 Oil Management. Licensed liquid waste contractors will need to be engaged to manage the transport of oil where compliance with these requirements cannot be achieved.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works and site inspection to adequately address this question.

*Making a decision*

Using information collected from the site inspection together with knowledge of the scope of works, determine the location of drainage lines (noting grates, drains, inlets, dish drains, surface water, channels etc.) and receiving waters. Consider what would happen in the event of a spill and if it could be effectively contained before entering drainage lines etc. Also consider what type of liquids will be generated by the activity.

*Allocate Assessment Level*

Select Assessment Level 1 if:

The activity would NOT involve handling, storing, transporting or disposing of oils, fuels, chemicals or dangerous goods, including oil filled equipment.

Select Assessment Level 2 if:

The activity would NOT involve any of the following:

- Handling oils, fuels, chemicals or dangerous goods in volumes greater than 15,000 L.
- Handling oils, fuels, chemicals or dangerous goods in volumes greater than 5,000 L within 40 metres of a wetland, waterway or sensitive area.

- Siting oil filled equipment within 40 metres of a sensitive area or within 5 metres of a drain or other stormwater receptor.
- Transporting more than 200 litres of Polychlorinated Biphenyl (PCB) containing oil (excluding that contained within electrical equipment).
- Storing in excess of 1,000 litres of scheduled PCB (>50 ppm) (excluding operational oil filled equipment).
- Storing in excess of 5,000 litres of non-scheduled PCB (2 – 50 ppm) excluding operational oil filled equipment.

Generally, Assessment Level 2 specific construction controls will include as a minimum

- All workers to be made aware of sensitive areas and the need to avoid impacts.
- Seek advice from the relevant Environmental Business Partner in relation to Dangerous Goods.
- Manage worksite to prevent oils, fuels and chemicals entering a waterway, drain, groundwater, stormwater drain or ground using the controls stipulated in the “Oil Management” section of the Environmental Guidelines Handbook.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Avoid citing oil filled equipment in sensitive areas (adjacent to wetlands, waterways, drinking water catchments, flood prone areas)
- Avoid citing oil filled equipment where it may be struck by vehicular movements in high trafficable areas.
- Consider design features to minimise potential oil loss and to increase the recovery of oil in the event of a spill (i.e. maximising distance between oil filled equipment and sensitive areas).

#### **4.4.6 Sydney Drinking Water Catchment SEPP**

[State Environmental Planning Policy \(Sydney Drinking Water Catchment\) 2011](#) (the Drinking Water SEPP) has three main aims:

1. To support healthy water catchments that deliver high quality water and permit development that supports that goal
2. To ensure that consent authorities such as Endeavour Energy only allow proposed developments that have a neutral or beneficial effect on water quality (NORBE)
3. To support water quality objectives in the drinking water catchment.

Under the Drinking Water SEPP, assessor associated with activities to which it applies need to undertake a simple assessment to identify potential risks to water quality (e.g. sediment from construction) and ways to avoid any adverse impacts from those risks (e.g. by applying current recommended practices and standards).

NORBE on water quality is satisfied if the activity:

- (a) has no identifiable potential impact on water quality, or
- (b) will contain any water quality impact on the worksite and prevent it from reaching any watercourse, waterbody or drainage depression on the site, or

(c) will transfer any water quality impact outside the site where it is treated and disposed of to standards approved by the consent authority.

When undertaking activities in the Sydney drinking water catchment, Endeavour Energy must consider whether the activity will have a neutral or beneficial effect on water quality. This determination is made through the preparation of the SER.

It is safe to assume that the activity will have no identifiable potential impact on water quality if the activity is unlikely to result in:

- a concentration of flow of water
- the impedance of flow of water
- discharge of effluent, dust pollutants or stormwater, and
- other matters considered to result in a water quality impact, such as the potential for contamination.

In this case, the neutral or beneficial effect is satisfied and the determination of the SER can be issued with respect to water quality, without further detailed assessment regardless of the activity.

The presence of Drinking Water SEPP area will be informed by the Drinking Water SEPP GIS layer and definition of the selection area and automatically populate SER Application.

#### *Making a decision*

1. Check Endeavour Energy's SER Application  for the location of areas delineated as Drinking Water SEPP.
2. If the worksite is within an area delineated as Drinking Water SEPP, use answers to other questions in this section of the SER Application to prove NORBE on drinking water.
3. Using information collected from the site inspection, assess the location of drainage lines (noting grates, drains, inlets, dish drains, surface water and channels), erodible areas (steeper than 1 in 3, or greater than 25% bare earth) and low lying areas subject to bogging. Consider what would happen in the event of significant rainfall during construction.

#### *Allocate Assessment Level*

Assessment Select Level 1 if:

- The work site is NOT located within an area delineated as Drinking Water SEPP.

Select Assessment Level 2 if:

- The work site is located within an area delineated as Drinking Water SEPP and NORBE on drinking water can be demonstrated.

Generally, Assessment Level 2 specific construction controls will include:

- All workers to be made aware of sensitive areas and the need to avoid impacts.
- Manage worksite to prevent sediment leaving the worksite. Refer to "Erosion and Sediment Control" section of the Environmental Guidelines Handbook for methods to achieve this outcome.

- Manage the storage and transport of oil and oil filled equipment to prevent the mobilization of oil into the environment. Refer to “Oil Management” section of the Environmental Guidelines Handbook for methods to achieve this outcome.
- Manage the use of pesticides. Refer to “Pesticides” section of the Environmental Guidelines Handbook.

Select Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Avoid designing an activity in a location that will concentrate and/or impede water flow, generate sediment and/or mobilise contaminants that cannot be contained on the worksite.
- Refer to design measures to avoid/mitigate impacts identified for all questions within the Pollution section of the SER Application.

## **4.5 Matters of National Environmental Significance and Biodiversity**

### **4.5.1 Matters of National Environmental Significance (MNES) – Commonwealth considerations**

MNES relevant to the Endeavour Energy network area include:

1. wetlands of international significance (i.e. Ramsar wetlands) and marine key features
2. Commonwealth listed threatened species or ecological communities
3. Commonwealth listed migratory species
4. World heritage properties (addressed in non-Aboriginal heritage)
5. National heritage places (addressed in non-Aboriginal heritage)

World Heritage properties and national heritage places are covered in the Heritage section of this SER Application. This particular section deals with the assessment of potential impacts on ecological values that are MNES.

MNES are protected under the Commonwealth Environment Protection Biodiversity Conservation Act 1999 (EPBC Act). Referral is required for any action that could have a significant impact on matters of NES or Commonwealth land.

As such, impacts on MNES should be avoided as the first preference. This can be achieved through judicious planning and route selection in the design phase of the activity. Where

impacts are unavoidable specialist assessments and/or approvals will be required to ensure impacts are minimised to as low as reasonably practical.

The presence of MNES will be informed by the MNES GIS layer and definition of the selection area and automatically populate SER Application.

#### *Making a decision*

1. Check Endeavour Energy's SER Application  for the location of MNES (excluding world heritage and national heritage places) in and around the work site.

Please note: Records of MNES are indicative only and represent areas that may contain records and/habitat. As such, the MNES dataset should be used as guide to where particular items may be present and further investigation may be required. Impacts on MNES are only likely to eventuate if vegetation removal is likely to occur or creeks/rivers and other important habitat is likely to be disturbed in response to the activity. The assessor will need to toggle through all records of MNES relevant to this question of the SER Application to note the species that may be impacted on by the activity.

Map data associated with Are there any ecological MNES present or considered likely to be present within the worksite that the activity may impact on? Layers Tested: Collaborative Australian Protected Areas Database (Jun-16), Directory of Important Wetlands - Department of the Environment and Energy, Marine Key Ecological Features, Threatened Species EPBC Act - Department of the Environment and Energy (Nov-16)



2. Using information collected from the site inspection together with knowledge of the scope of works, determine if there is likely to be any disturbance to wetlands, native vegetation, natural bushland or previously undisturbed areas that may be impacted by the Activity.
3. Commonwealth land tenure can be determined from title searches. Title searches are required to ascertain land ownership where the worksite is not located on a public road or reserve (refer the land ownership section of the SER).

*Allocate Assessment Level*  
Assessment Level 1 if:

- The work site is NOT within areas likely to contain MNES (as identified from Endeavour Energy's SER Application).
- The activity is NOT located on Commonwealth land.

Assessment Level 2 if:

MNES are located in and immediately around the work site, however, they would NOT be impacted on by the activity AND it will NOT involve any of the following:

- disturbance to vegetation including trimming, pruning or removing vegetation (comprising tree root damage).
- Disturbance of bush rock, tree hollows, wetlands, mangroves, nests and wetlands or other sensitive environments/habitats
- Disturbance to marine key ecological features.
- work in undisturbed areas (including storing equipment in, parking vehicles in or accessing the work site).

Generally, Assessment Level 2 specific construction controls will include as a minimum:

- All workers to be made aware of sensitive areas and the need to avoid impacts.
- No disturbance of vegetation.
- No disturbance of bush rock, tree hollows, wetlands, mangroves, nests, aquatic or other sensitive habitats.
- No works in undisturbed areas (including storing equipment in, parking vehicles in or accessing the site).
- No importing mulch from other sites.
- Refer to the controls within the “Ecology” and “Vegetation Management” sections of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Select routes/sites that avoid MNES
- Select routes/sites which avoid removal of ground cover and understorey vegetation.
- Select routes/sites that take advantage of pre-existing disturbed areas (i.e. by using existing access roads where possible).
- Design infrastructure to minimise ongoing vegetation management requirements (e.g. using cleared areas or by using engineering alternatives – aerial bundled cable).
- Avoid works in the tree protection zone.
- Refer to the controls within the “Ecology” and “Vegetation Management” sections of the Environmental Guidelines Handbook.

#### **4.5.2 Threatened species, Endangered Populations, Threatened Ecological Communities and Critical Habitat (NSW)**

Threatened species, endangered populations and threatened ecological communities are also listed under the *Threatened Species Conservation Act 1995* (NSW). Some of these

species, populations and communities have a dual listing under the EPBC Act 1999 as MNES. A species, population or community is considered threatened if:

- There is a reduction in population size
- It has a restricted geographical range, or
- There are few mature individuals.

Collectively, populations of species and ecological communities can also be listed as threatened for the reasons stated above. Habitat essential to the survival of endangered or critically endangered species, populations or ecological communities, can be declared as [critical habitat](#).

***Note – at the time of writing this document, there is only one critical habitat in the Endeavour Energy network area (Wollemi Pine in Wollemi National Park). However, there are others pending finalisation by the Office of Environment and Heritage that are present within the Endeavour Energy network area.***

As per MNES, all attempts need to be made to minimise/avoid impacts on threatened species, endangered populations and endangered ecological communities. Where impacts are unavoidable, specialist assessments and/or approvals will be required to define mitigation measures and facilitate the required approval processes.

Under Section 5A of the EP&A Act a specialist ecological investigation and possible Species Impact Statement (SIS) will be required if the activity is considered likely to impact on threatened species, endangered populations, endangered ecological communities or critical habitat.

The presence of threatened biodiversity will be informed by the OEH Atlas of Wildlife, Endangered Ecological Communities and Critical Habitat GIS layers and definition of the selection area and automatically populate SER Application.

#### *Making a decision*

1. Check Endeavour Energy's SER Application  for the location of threatened species, endangered populations and ecological communities and critical habitat in and around the work site.

Please note: Records of threatened species, endangered populations and ecological communities are indicative only and represent areas that have been previously surveyed by specialist environmental consultants/interest groups. The dataset is known and recorded items only (which differs from the MNES dataset, which provides predictions only). As such, a record should be used as guide to where particular items may be present and further investigation may be required.

2. Using information collected from the site inspection together with knowledge of the scope of works, determine if there is likely to be any disturbance to any native vegetation, waterways, natural bushland or undisturbed areas.

#### *Allocate Assessment Level*

Assessment Level 1 if:

The work site is NOT within known areas of threatened species, endangered populations, endangered ecological communities or critical habitat (as per SER Application).

Assessment Level 2 if:

Threatened species, endangered populations, endangered ecological communities or critical habitat are in and around the work site, however on the basis of the scope of works, they would NOT be impacted AND

The activity would NOT involve any of the following:

- disturbance of vegetation.
- disturbance of bush rock, tree hollows, wetlands, mangroves, coastal saltmarsh, nests or other sensitive environments/habitats.
- works in undisturbed areas (including storing equipment in, parking vehicles in or accessing the site).
- works in critical habitat.

Generally, Assessment Level 2 construction controls will include as a minimum:

- All workers to be made aware of sensitive areas and the need to avoid impacts.
- No disturbance of vegetation.
- No disturbance of bush rock, tree hollows, wetlands, mangroves, nests, aquatic or other sensitive habitats.
- No works in undisturbed areas (including storing equipment in, parking vehicles in or accessing the site).
- No importing mulch from other sites.
- Refer to the controls within the “Ecology” and “Vegetation Management” sections of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

*Design measures to avoid/mitigate impacts*

- Select routes/sites that avoid threatened biodiversity
- Select routes/sites which avoid removal of ground cover and understorey vegetation.
- Select routes/sites that take advantage of pre-existing disturbed areas (i.e. by using existing access roads where possible).
- Design infrastructure to minimise ongoing vegetation management requirements (e.g. using cleared areas or by using engineering alternatives – aerial bundled cable).
- Avoid works in the tree protection zone.

- Refer to the controls within the “Ecology” and “Vegetation Management” sections of the Environmental Guidelines Handbook.

#### 4.5.3 **SEPP 14 – Coastal Wetlands and SEPP 26 – Littoral Rainforest**

State Environmental Planning Policy (SEPP) 14 – Coastal Wetlands aims to preserve and protect coastal wetlands. SEPP 14 places planning and development controls under the Environmental Planning and Assessment Act 1979 over the wetlands.

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.

SEPP 26 – Littoral Rainforests provides a mechanism for the consideration of applications for development that is likely to damage or destroy littoral rainforest areas with a view to the preservation of those areas in their natural state.

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).

The presence of SEPP14 and SEPP 26 will be informed by the SEPP 14 and SEPP 26 GIS layers and definition of the selection area and automatically populate SER Application.

#### *Making a decision*

1. Check Endeavour Energy’s SER Application  for the location of SEPP 14 – Coastal Wetlands and SEPP 26 – Littoral Rainforests.
2. Using information collected from the site inspection together with knowledge of the scope of works, determine if there is likely to be any disturbance to area commensurate to wetlands and rainforest.

#### *Allocate Assessment Level*

Assessment Level 1 if:

The work site is NOT within SEPP 14 – Coastal Wetlands or SEPP 26 – Littoral Rainforest.

Assessment Level 2 if:

The activity would NOT involve any of the following:

- Works in or adjacent to SEPP 14 – Coastal Wetlands or SEPP 26 – Littoral Rainforests.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements].

#### *Design measures to avoid/mitigate impacts*

Select routes/sites that avoid SEPP 14 – Coastal Wetlands and SEPP 26 – Littoral Rainforest.

#### **4.5.4 Marine vegetation**

Marine vegetation includes saltmarsh, mangroves, seagrasses and macroalgae (seaweeds). These provide important habitat for fish and wetland birds. They also stabilise sediments and shorelines, and protects water quality in estuaries for recreational users. Accordingly, impacts on marine vegetation should be avoided, wherever possible.

A permit is required under the Fisheries Management Act 1994 for the following activities:

- Activities involving dredging and reclamation works to install cables;
- Activities temporarily or permanently obstructing fish passage
- Harming marine vegetation.

Endeavour Energy currently holds a permit, which provides for employees and contractors to undertake mangrove clearing works for maintaining the visibility of warning signs, maintenance of access tracks and maintaining clearances to powerlines. This permit does NOT cover new works.

If Endeavour Energy is proposing to undertake an activity requiring a permit, 28 days written notice must be provided to the NSW Department of Primary Industries.

The presence of marine vegetation will be informed by the marine vegetation GIS layer and definition of the selection area and automatically populate SER Application.

#### *Making a decision*

1. Check Endeavour Energy's SER Application  for the location of marine vegetation.
2. Using information gathered from the site inspection together with knowledge of the scope of works, determine if there is likely to be any disturbance to marine vegetation.

#### *Allocate an Assessment Level*

Assessment Level 1 if:

The activity is NOT within 100 metres of marine vegetation (seagrasses or mangroves) or within 20 metres of a waterway (as identified from SER Application and site inspection).

Assessment Level 2 if:

Marine vegetation is within 100 metres or waterways are within 20 metres of the work site, however they would NOT be impacted; AND

The activity would NOT involve dredging or disturbing a creek or waterway.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

- All workers to be made aware of sea grass, mangroves and waterways in work site and the need to avoid impacts.
- No disturbance of mangroves, sea grass, saltmarsh, creeks or waterways.
- No disturbance of creeks or waterways.
- No works in undisturbed areas (including storing equipment in, parking vehicles in or accessing the site).
- No importing mulch from other sites.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Select routes/sites that avoid marine vegetation and works in close proximity to waterways.
- Select routes/sites which can be accessed by existing access tracks where possible.
- Design infrastructure to minimise ongoing trimming requirements (e.g. aerial bundled conductor).
- Refer to “Ecology” and “National Parks and Water NSW Areas” in the Environmental Guidelines Handbook.

#### **4.5.5 Other ecological aspects**

Other ecological aspects that need to be considered in the SER include:

- National Parks estate
- Declared wilderness area
- Hollow bearing trees
- Wildlife corridors or wildlife refuges

- Significant tree registers
- Koala habitat (> 1 hectare of bush land)
- Noxious weeds, pests and diseases
- Biobank sites.

### **National Park estate, declared wilderness**

National Park estate includes Nature Reserves, Historic Sites, Aboriginal areas, State Game Reserves, State Recreation Areas, State Conservation Areas, Regional Parks and Karst Conservation Reserves and all other lands reserved and acquired under the *National Parks and Wildlife Act 1974*.

Works in National Parks estate and wilderness areas may require the preparation of National Parks and Wildlife Service (NPWS) Review of Environmental Factors.

Endeavour Energy holds an access consent for inspection, maintenance and emergency works on electrical assets in National Parks estate. Notification protocols are captured within EMS 0012 – Notification of access to National Parks and Water NSW Special and Controlled Areas. Refer to definitions of emergency, inspection and maintenance in this standard prior to proceeding with the notification process.

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.

Wilderness is a term used to describe large, contiguous natural areas of land that provide habitat for flora and fauna and their communities in a relatively unchanged form (i.e. free of human activity). Wilderness areas also contain great cultural significance. Wilderness areas are protected under the *Wilderness Act 1987* to afford the highest level of protection to maintain wilderness values and pristine conditions by limiting activities that have the potential to scrutinise these outcomes.

### **Hollow bearing trees or other high value fauna habitat**

All alternative and feasible options must be considered before the activity can impact on hollow bearing trees or other high value fauna habitat (e.g. undisturbed bushland, bush rock etc.). Other options need to be assessed in the design justification section of the SER Application and implemented through judicious route selection. If there are no alternative options available to achieve this outcome, a specialist ecological assessment may need to be conducted when hollow bearing trees or high value habitat is likely to be impacted on by the works.

### **Native vegetation**

All reasonable and feasible alternatives need to be considered before the activity can impact on native vegetation. Remnant native vegetation (i.e. not planted) can provide contiguous fauna habitat or wildlife corridors. Aerial photographs in and around the work site can

indicate the extent of vegetation cover and whether it is continuous. Activities that will involve the clearing of native vegetation may break this continuity leading to edge effects and the loss of flora and fauna communities.

Vegetation removal (inclusive of impacts on the Tree Protection Zone through excavation activities) and trimming works may be performed in accordance with Section 5, (3) (f) of *State Environmental Planning Policy (Infrastructure) 2007*. This infers that consent from the relevant council may not necessarily be required, but notification and assessments will still be required. In addition, clearing native vegetation (i.e. endemic and not landscaping) may also require the preparation of an ecological report as it may have impacts on flora and fauna habitat.

***Note: Native vegetation may be commensurate to threatened biodiversity and appropriate assessments under the relevant section of the SER Application must be undertaken in these cases. Consult with EMS 0004 - Managing Vegetation Near Electrical Infrastructure and Pest, Weed and Disease Mitigation for additional approval requirements in relation to clearing native vegetation.***

## **Street trees**

Street trees provide visual amenity benefits to the community. If there are no alternative options to clearing street trees, consider the impacts in relation to visual amenity (refer section 3.4) and heritage for significant trees (refer section 3.7.1). In addition, all reasonable and feasible alternatives need to be considered before the activity can impact on street trees.

Vegetation removal (inclusive of impacts on the Tree Protection Zone through excavation activities) and trimming works may be performed in accordance with Section 5, (3) (f) of *State Environmental Planning Policy (Infrastructure) 2007*. This infers that consent from the relevant council may not necessarily be required, but notification and assessments will still be required. Advice should be sought from the relevant Environmental Business Partner in these circumstances.

## **Noxious weeds, pests and diseases**

The management of noxious weeds, pests and diseases is captured within EMS 0004 - Managing Vegetation Near Electrical Infrastructure and Pest, Weed and Disease Mitigation. These have the ability to destroy flora and fauna communities and compromise the agricultural productivity of pastoral lands.

Endeavour Energy has a responsibility to manage noxious weeds on company owned land and to also make sure that the spread of noxious weeds, pests and diseases is avoided through the implementation of measures through maintenance and construction activities. The inclusion of these mitigation measures in the activity's EMP is a vital mechanism for construction works, where relevant. These measures are summarised in the "Pests, weeds and diseases" section of the Environmental Guidelines Handbook.

## Biobank sites

The NSW Government has introduced Biobanking to assist in the loss of biodiversity values, including threatened species, endangered populations and endangered ecological communities, as a result of habitat degradation and loss.

Biobanking agreements are created by landowners and developers who commit to enhance and protect biodiversity values on their land. Biodiversity credits are generated that can be used to offset the impacts on biodiversity values that are likely to occur due to development.

Endeavour Energy needs to consider the impacts on declared biobanking sites in the SER as the activity may compromise biodiversity credits.

The impacts on other ecological aspects will be partly assessed using available GIS layers. However, a majority require information obtained from the site inspection and knowledge of the scope of works, together with consultation with relevant stakeholders.

### *Making a decision*

1. Check Endeavour Energy's SER Application  for the presence of National Parks estate, declared wilderness areas and biobank sites as well as contemporary aerial photographs to determine the extent of native vegetation cover.
2. Using information collected from the site inspection together with knowledge of the scope of works to determine if there is any key fauna habitat (i.e. hollow bearing trees, bush rock, native vegetation, undisturbed areas, noxious weeds or street trees that may be impacted on by the activity).
3. Refer to s45 ES Act/Infrastructure SEPP responses and notification to National Parks and Wildlife Service/Water NSW (refer EMS 0012) that may provide information relevant to any ecological aspects that are not captured within available GIS layers (e.g. noxious weeds, pests and diseases).
4. For noxious weed information refer to local council websites and here: [www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles](http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles)
5. Biobank information [www.environment.nsw.gov.au/bimsprapp/biobankingpr.aspx](http://www.environment.nsw.gov.au/bimsprapp/biobankingpr.aspx)

### *Allocate an Assessment Level*

Assessment Level 1 if:

The activity is NOT within known areas of native vegetation, National Parks estate or declared wilderness areas, biobank sites, high value fauna habitat, areas containing noxious weeds, pests and diseases, street trees or within a tree protection zone.

Assessment Level 2 if:

Sensitive ecological aspects or areas are in and around the work site, however, it would NOT be impacted AND

The activity would NOT involve any of the following:

- disturbance of native vegetation or noxious weeds, pests and diseases.
- disturbance of bush rock, tree hollows, nests or other sensitive habitats.
- disturbance to potential wildlife corridors through the removal of vegetation that may disrupt the continuity of extant vegetation cover.
- works in a National Park, declared wilderness area, biobank site.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

All workers to be made aware of the presence of sensitive ecology in and around the work site and the need to avoid impacts.

No disturbance of native vegetation or noxious weeds, pests and diseases.

No disturbance of bush rock, tree hollows, wetlands, mangroves, rainforests, nests, aquatic or other sensitive habitats.

No works in national parks, biobank sites or declared wilderness areas.

No importing mulch from other sites.

Refer to “Ecology”, “National Parks and Water NSW Areas”, “Pests, weeds and diseases” and “Vegetation Management” sections of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do NOT apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

#### *Design measures to avoid/mitigate impacts*

- Select routes/sites that avoid and/or minimise impacts on native vegetation (including key fauna habitat), street trees and areas infested with noxious weeds, pests and diseases.
- Select routes/sites which can be accessed by existing access tracks where possible.
- Design infrastructure to minimise ongoing trimming requirements (e.g. aerial bundled conductor).
- Avoid work in the tree protection zone of trees within and around the work site.
- Choose routes/site which maximises the distance from fauna habitats and vegetated areas.
- Refer to “Ecology” and “National Parks and Water NSW Areas” in the Environmental Guidelines Handbook.

## **4.6 Heritage**

### **4.6.1 Non-aboriginal heritage**

Non-aboriginal heritage refers to heritage values that are important due to their significance post-European settlement. They comprise sites or items such as properties, buildings, gardens or trees that are of historical, cultural, social, architectural, natural or aesthetic value. These include:

- world heritage properties
- national heritage places
- state heritage items
- local heritage items (including significant trees)
- s170 listed heritage items (Endeavour Energy heritage items/sites)
- historical archaeological area,
- heritage conservation areas.

#### ***State significance***

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

#### ***Local significance***

Local heritage items are managed by the relevant council. Endeavour Energy is generally exempt from approval for works on local heritage items under the Infrastructure SEPP. However, assessment and notification requirements apply.

The relevant local council may also have a register of significant trees. Significant tree registers identify and recognise the importance of significant trees in the landscape, to guide their management and protect them for future generations. Heritage values of certain trees have been deemed significant by the relevant council due to their historic and/or natural value, botanic/scientific value, social, cultural and commemorative value and also visual and aesthetic value. In absence of a register, significant trees may be included as heritage items on Schedule 5 of the Local Environmental Plan and may be captured in the curtilage of a heritage property.

#### ***Notification for work on local heritage items***

For works affecting local heritage items, the Infrastructure SEPP requires that Endeavour Energy has:

- completed an assessment of the impact prepared, and
- given written notice of the intention to carry out the development, with a copy of the assessment, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and

- taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.

### **S170 Register**

Endeavour Energy has a responsibility under Section 170 of the Heritage Act 1977. This section of the Act requires the identification, conservation and management of heritage assets owned, occupied or managed by Endeavour Energy.

Endeavour Energy has collated these assets into a Heritage and Conservation Register. This register can be requested from the relevant Environmental Business Partner.

### **Archaeological areas**

Under the Heritage Act 1977, an excavation permit is required in order to maintain that archaeological sites are excavated under proper supervision and that significant evidence of our past is not unnecessarily lost.

The Heritage Act also requires that a person who has discovered a relic must notify the Heritage Council of the discovery within a reasonable time.

The presence of non-aboriginal heritage items will be informed by the non-aboriginal GIS layer and definition of the selection area and automatically populate SER Application.

#### *Making a decision:*

1. Check Endeavour Energy's SER Application  for the presence of non-aboriginal heritage – local, state, national or world status, heritage conservation areas, significant trees, or other archaeological sites.
2. Using information collected from the site inspection together with knowledge of the scope of works to determine if there are actual or potential heritage items (e.g. sandstone gutters, sandstone walls, rock walls built by hand) in and around the work site. Also consider the visual amenity impacts of the activity on any nearby heritage items.
3. Refer to s45 ES Act/Infrastructure SEPP responses and any other consultation responses (e.g. community may provide advice of heritage items).
4. Any uncertainty surrounding the assessment of works at or in the vicinity heritage items/sites should be clarified through an NEA/Environmental Business Partner/Contestable Works Officer.

#### *Allocate Assessment Level:*

Assessment Level 1 if:

There are NO non-aboriginal heritage items (local, state, national, world, s170 items) in and around the work site.

Assessment Level 2 if:

Non-aboriginal heritage is present in and around the work site, however, would NOT be impacted AND

The activity would NOT involve any of the following:

- Physical alterations to heritage items including Endeavour Energy's s170 items.
- Work within the property boundary of a state heritage item.
- More than minor and inconsequential impacts to local heritage items or potential heritage items (e.g. sandstone gutters, sandstone walls, rock walls built by hand).
- Excavations within an archaeological area.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

- All workers to be made aware of the presence of non-Aboriginal heritage in and around the work site and the need to avoid impacts.
- No physical alterations to heritage items.
- No works within the property boundary of state heritage items.
- No more than minor or inconsequential impacts to local heritage items or potential heritage items (e.g. sandstone gutters, sandstone walls, rock walls built by hand).
- No excavations within an archaeological area.
- Refer to "Heritage items" section of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do NOT apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

Design measures to avoid/mitigate impacts

- Choose routes/site that avoids works near known or potential heritage items.

#### 4.6.2 **Aboriginal heritage**

Aboriginal sites are very important linkages to Australia's cultural heritage. Aboriginal heritage can either comprise Aboriginal objects or places:

- Aboriginal objects: physical evidence of the utilisation of an area by Aboriginal people. These include physical objects, such as stone tools, Aboriginal-built fences and stockyards, scarred trees and the remains of fringe camps, material deposited on land such as middens and/or the ancestral remains of Aboriginal people.
- Aboriginal places: these areas have recognised values of significance to Aboriginal people that may or may not contain Aboriginal objects. Such an area can have spiritual, natural resource usage, historical, social, educational or other type of significance.

These are protected under the *National Parks and Wildlife Act 1974* and the Office of Environment and Heritage is responsible for the protection and preservation of all Aboriginal

objects and places. It is an offence to harm (destroy, deface or damage) an Aboriginal object or Aboriginal place, or to move an object from the land on which it was situated.

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (OEHS, 2010) sets out the steps to be followed to decide whether Aboriginal objects are likely to be present and whether further approvals are necessary. For Assessment Level 2 or 3 works, an Aboriginal Heritage Due Diligence Assessment may be required.

Aboriginal objects and places are recorded on the Office of Environment and Heritage's Aboriginal Heritage Information Management System (AHIMS). This data is present within the SER Application, but in a denatured format and caution must be used when it is interrogated. If an Aboriginal object or place is identified through SER Application, the Extensive Search of the AHIMS database may be required to identify the location and details of the Aboriginal objects or places.

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](http://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.

Specialist advice should be sought if aboriginal sites are in or near the proposed work site. ASPs must refer to the relevant Aboriginal Heritage Impact Permit (AHIP) sourced from their client to determine the locations of salvage or reburial. Reference to the AHIP should be made in the EMP so that construction crews will comply with the mandatory requirements.

The presence of aboriginal heritage items will be informed by the aboriginal GIS layer and definition of the selection area and automatically populate SER Application. Extensive searches of the AHIMS register may be required if there are aboriginal heritage items in or around the work site.

### *Making a decision*

1. Check Endeavour Energy's SER Application  for the presence of Aboriginal heritage.

Note: The data presented in SER Application is denatured due to the sensitive nature of having this in the public domain. This data also only contains known and recorded items. As such, a record should be used as a guide to indicate there may be particular items present and further investigation will be warranted. Surveys for Aboriginal objects and places have not been done in many parts of NSW and typically only pertain to areas that have been developed. Accordingly, Aboriginal objects and places may occur within and around the work site even if they have not been recorded.

2. Using information collected from the site inspection together with knowledge of the scope of works determine if there any landscape features (e.g. exposed sandstone) that may indicate the presence of Aboriginal objects and places and whether the work site includes undisturbed land.

3. Refer to s45 ES Act/Infrastructure SEPP responses and notification to National Parks and Wildlife Service/Water NSW (refer EMS 0012) that may provide information relevant to any Aboriginal objects and places.

*Allocate Assessment Level:*

Assessment Level 1 if:

There is NO known Aboriginal heritage in and around the work site AND

The activity does NOT involving disturbance to rocky outcrops/exposed sandstone; AND

The work site is NOT in an undisturbed area with the following features (typical of areas that were previously occupied by Aboriginal people):

- Within 200 metres of waters, or
- Within a sand dune system, or
- On a ridge top, ridge line or headland, or
- Within 200 metres below or above a cliff face, or
- Within 20 metres of or in a cave, rock shelter, or cave mouth.

Assessment Level 2 if:

Aboriginal heritage is potentially located within and around the work site, however would NOT be impacted with controls designated by this assessment; AND

The activity would NOT involve any of the following:

- Disturbance of the ground surface including rocky outcrops, exposed sandstone and ground cover.
- Vehicle and plant movements off existing roadways or access tracks.
- Plant or equipment with non-rubber tyres.
- Disturbance of native vegetation.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

- IMPORTANT: There are known Aboriginal object (s) in the area. All workers to be made aware of the presence of Aboriginal heritage in the assessment area and the need to avoid impacts.
- No disturbance of the ground surface including rock outcrops and ground cover.
- Restrict vehicle and plant movements to existing roadways or access tracks.
- Use plant and equipment that have only rubber tyres.
- No impacts to native vegetation.
- Refer to "Heritage items" section of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do NOT apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

*Design measures to avoid/mitigate impacts*

Choose routes/site that avoids works and access through areas with known Aboriginal objects and places or undisturbed land (high propensity to contain aboriginal heritage).

## 4.7 Spoil management and waste

### 4.7.1 Spoil management

Spoil is material that is generated from an excavation. It can comprise soil, sand, clay and/or rock. Considerations regarding the excavation of spoil include the management of contamination and potential acid sulfate soils and the re-use, disposal and storage of spoil.

If the activity does not involve the generation of spoil (including that from minor excavation), proceed to the next question.

There are strict legislative requirements governing the re-use, disposal and storage of spoil under the *Protection of the Environment Operations Act 1997* and other subordinate legislation.

These requirements generally relate to analytical testing of the spoil prior to re-use and disposal, in addition to storage limits and associated consultation requirements of stockpiling on third party owned land. These requirements are documented in EMS 0013 – Spoil Management.

Testing requirements are summarised in the following table.

|                                | Contaminated Spoil | ENM*                | VENM* |
|--------------------------------|--------------------|---------------------|-------|
| Re-use on worksite             | ✗                  | ✓                   | ✓     |
| Re-use on other worksite       | ✗                  | ✓<br>(with testing) | ✓     |
| Re-use on a third party site # | ✗                  | ✓<br>(with testing) | ✓     |

\* Refer to the Definitions section

The volume of spoil being stored should not exceed 1000 m<sup>3</sup> or 1000 tonnes, whichever is less.

### Contamination

Contamination of land means the presence of a substance at a concentration above the concentration at which the substance is normally present within or on land in the same locality. The presence of contaminated lands presents a risk of harm to human health or any other aspect of the environment.

When completing the SER, the assessor should consider the potential for the worksite to be contaminated. In particular, the following should be considered:

- previous land uses that may have had the potential to cause contamination;
- current onsite and surrounding land uses, for example, industrial land use, adjacent to a service station; and/or

- the proximity of the worksite to any registered contaminated sites.

All spoil excavated from a substation or FSC must be chemically tested by a NATA accredited laboratory prior to disposal at an appropriately licensed facility. This can be organised by the relevant Environmental Business Partner (internal employees) or a suitably qualified environmental consultant (ASPs) prior to the commencement of works.

In addition, spoil shall be monitored during excavation works for signs of contamination including:

- odours;
- discolouration or staining;
- asbestos, for example, conduits, fibrous fragments/ sheeting;
- buried material, for example drums, underground storage tanks; and/or
- presence of ash or slag.

The management of contaminated spoil is captured in EMS 0013 – Spoil Management.

### ***Acid Sulfate Soil***

Acid sulfate soils are a type of soil naturally found in both coastal (tidal) and inland or upland (freshwater) environments. Typically, these areas are less than 5 metres above sea level and include swamps, marshes, estuarine floodplains and mangroves.

Acid sulfate soil can have environmental impacts including:

- Increases soil acidity;
- Strips nutrients from the soil;
- Dissolves heavy metals causing the soil to become toxic to plants and animals;
- Potential to contaminate groundwater;
- Potential to corrode infrastructure; and
- Acidic runoff can affect aquatic ecosystems and can kill aquatic life, including fish and crustaceans, and plants.

If disturbing <50 cubic metres of acid sulfate soils at any one time, refer to the 'Acid Sulfate Soils' section of the Environmental Guidelines Handbook and generic Acid Sulfate Soils Management plan within EMS 0013 – Spoil Management.

If disturbing >50 cubic metres of acid sulfate soils any one time, a site specific Acid Sulfate Soils management plan will need to be developed. The relevant Environmental Business Partner can assist in the preparation of the document (Endeavour Energy employees).

Please note that 50 cubic metres of soil is equivalent to approximately 150 metre of trenching, or the excavation required for 12-16 wooden poles.

Indicators of acid sulfate soil include:

- Presence of mangroves, reeds, rushes, salt marsh or swamp vegetation etc

- Sulfurous (rotten egg gas) smell after rain, following a dry spell or when the soils are disturbed
- Marine or estuarine sediments
- Soils can be described as unripe muds/sediments (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 5m AHD elevation.
- Corrosion of concrete and/or steel structures
- Surface or ground water on or draining from the site with a pH < 5.5, or of an unusually clear or milky green

The impacts on the environmental values within and around the work site associated with spoil management will be partly assessed using the Contamination and Acid Sulfate Soil GIS layers. However, other components of the question require information obtained from the site inspection and knowledge of the scope of works, together with consultation with relevant stakeholders.

Acid sulfate soils have been classified based on the likelihood of the acid sulfate soils being present in particular areas and at certain depths. There are five classifications:

#### Class 1

Acid sulfate soils in a class 1 area are likely to be found on and below the natural ground surface. Any works will trigger the requirement for assessment and may require management.

#### Class 2

Acid sulfate soils in a class 2 area are likely to be found below the natural ground surface. Any works beneath the natural ground surface, or works which are likely to lower the water table, will trigger the requirement for assessment and may require management.

#### Class 3

Acid sulfate soils in a class 3 area are likely to be found beyond 1 metre below the natural ground surface. Any works that extend beyond 1 metre below the natural ground surface, or works which are likely to lower water table beyond 1 metre below the natural ground surface, will trigger the requirement for assessment and may require management.

#### Class 4

Acid sulfate soils in a class 4 area are likely to be found beyond 2 metres below the natural ground surface. Any works that extend beyond 2 metres below the natural ground surface, or works which are likely to lower the water table beyond 2 metres below the natural ground surface, will trigger the requirement for assessment and may require management.

## Class 5

Acid sulfate soils are not typically found in Class 5 areas. Areas classified as Class 5 are located within 500 metres on adjacent class 1, 2, 3 or 4 lands. Works in a class 5 area that are likely to lower the water table below 1 metre AHD on adjacent class 1, 2, 3 or 4 land will trigger the requirement for assessment and may require management.

Figure 5 illustrates an area that has been mapped as containing Class 5 acid sulfate soils.

Map data associated with Does the activity involve the generation of spoil? If so, is the spoil likely to be re-used, disposed or stored for the duration of the activity and/or likely to be contaminated and/or contain Acid Sulfate Soils? Layers Tested: Acid Sulfate Soil - Department of Planning & Environment, Acid Sulfate Soil - Office of Environment and Heritage, Contaminated Sites - NSW Environmental Protection Authority (Nov-16)

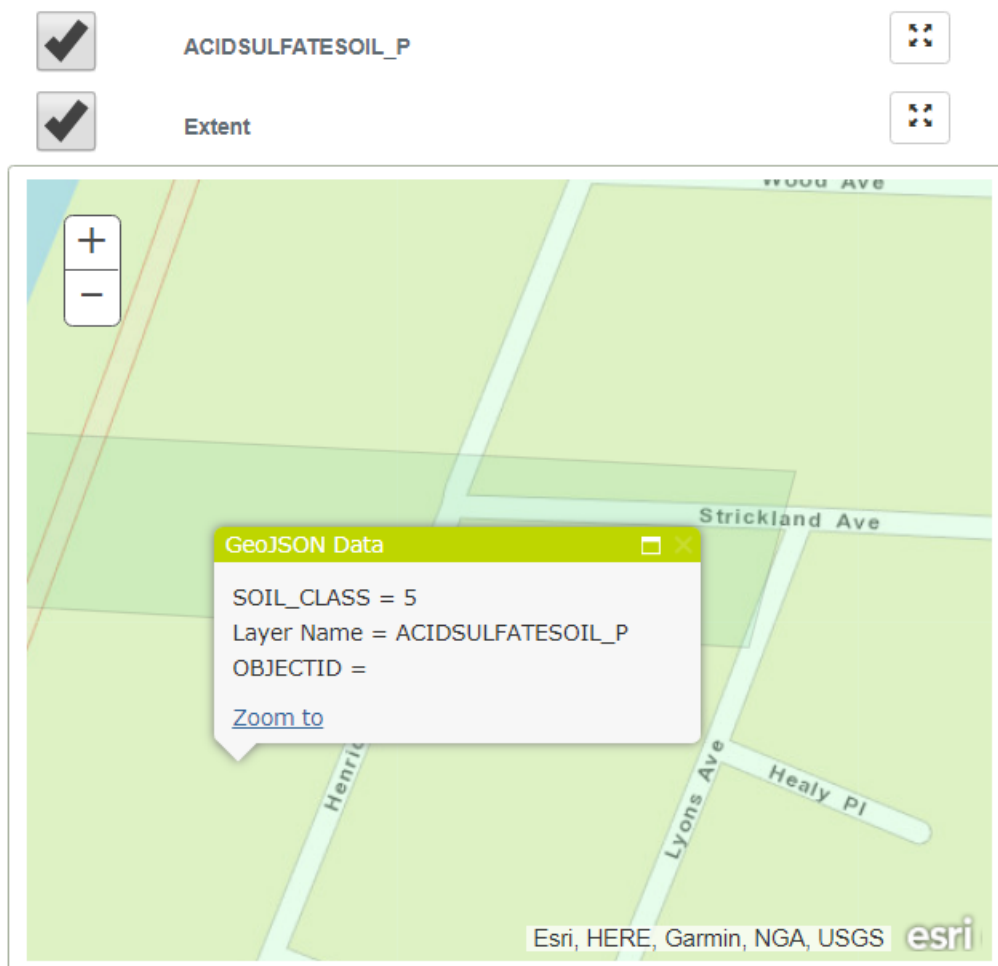


Figure 5 Acid Sulfate Soil presentation in the SER Application

*Making a decision*

1. Check Endeavour Energy's SER Application  for EPA regulated contaminated sites and for the presence of acid sulfate soils.

The contaminated sites record relates only to contaminated sites where the contamination is significant enough to warrant regulation and the EPA has issued a [notice](#) under the CLM Act. Other contaminated sites may be addressed by local councils through the planning process in accordance with [State Environmental Planning Policy 55 \(SEPP 55\)](#) under the Environmental Planning and Assessment Act 1979. The contamination may also be the subject of regulatory action under the POEO Act. Generally, these sites are listed as sites notified to the EPA and a search of the <http://www.epa.nsw.gov.au/clm/publiclist.htm> must also be undertaken.

2. Using information collected from the site inspection together with knowledge of the scope of works, assess whether the land use within the work site and immediate surrounds may influence the potential for contamination to be encountered during the activity. Indicators of contaminated land odorous material (eg fuels, solvents, rotten egg gas), oil staining, oil sheen on groundwater, previous termiticide applications, underground storage tanks (UST), buried waste (eg asbestos, construction waste, containers), evidence of capped bore holes or test pits, 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.
3. Determine if spoil is to be re-used, disposed or stockpiled
4. Refer to s45 of ES Act/Infrastructure SEPP responses and any other consultation responses.

#### *Allocate Assessment Level*

Assessment Level 1 if:

The activity would NOT involve any of the following:

- The re-use, disposal or stockpiling of spoil (i.e. other than one or two pole holes and/or small section of trenching that will backfilled in the same day).
- 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, workshops or industrial areas.
- Siting infrastructure or disturbing the ground surface in a FSC or within a zone and transmission substation.
- Disturbance to acid sulfate soils.

Assessment Level 2 if:

The activity would NOT involve any of the following:

- Storage of spoil greater than 100 tonne at any one time;

- The use of third party sites for the storage of spoil (i.e. other than one or two pole holes and/or small section of trenching that will backfilled in the same day).
- The disposal of spoil to a licensed resource recovery facility or reuse on a third party site or another worksite.
- The use of imported fill that is NOT VENM or ENM.
- Ground disturbance works within an area of known/suspected contamination.
- Ground disturbance works within in a FSC or within a zone and transmission substation.
- The disturbance of acid sulfate soil greater than 50 cubic metres.
- Lowering the water table or discharging water in acid sulfate soil areas.

Generally, Assessment Level 2 construction controls will include as a minimum:

- Disposal of overburden spoil must occur to an appropriately licensed facility.
- All workers to be made aware of the presence of known and suspected contaminated land.
- No ground disturbance in areas known or suspected to contain contamination.
- Appropriate sediment and erosion control must be implemented.
- No excavations greater than 50 cubic metres and/or water discharge in acid sulfate soil areas
- Refer to 'Contaminated Land', 'Spoil Management', 'Sediment and Erosion Control' and 'Acid Sulfate Soil' sections of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

Design measures to avoid/mitigate impacts:

- Consider staging works to reduce the requirement to stockpile spoil.
- If stockpiling, spoil storage sites must be selected in the following order of priority to reduce the impact of the activity on the community:
  - Endeavour Energy owned property (internal employees only)
  - Council reserves following consultation with the relevant council
  - Private land following written approval from the land owner.
- If stockpiling, consider if the activity will be undertaken out of hours and the proximity of the stockpile location to sensitive receptors.
- Consider the utilisation of resource recovery sites in consultation with the relevant Environmental Business Partner (internal employees) where greater than 100 tonnes of spoil is likely to generated.
- Choose sites/routes that avoid/minimise works in areas of contamination and acid sulfate areas.

- soil disturbance should be minimised and occur as shallow as possible in acid sulfate soil areas;
- the use of heavy machinery in acid sulfate soil areas should be minimised;
- disturbance of the water table in acid sulfate soil areas should be avoided; and/or
- the addition of clean fill to build up the surface ground level in areas requiring excavation so that works do not intersect the acid sulfate soil layer.
- If contaminated areas cannot be avoided through appropriate judicious planning, contact Environmental Business Partner without delay. Working in contaminated areas can add significant time and cost to a project.

#### 4.7.2 Waste

Endeavour Energy's waste management principles and legislative requirements are defined within EMS 0007 – Waste Management.

Licenses 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). Such activities above these thresholds necessitates the use of licensed contractors as consignment approval and completion of waste tracking documentation prior to transporting will need to be undertaken.

Hazardous, restricted solid, liquid or special wastes include:

- Asbestos and asbestos containing materials (ACM)
- 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).

Dangerous goods 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)

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works and site inspection to adequately address this question.

#### *Making a decision*

1. Contact an Environmental Business Partner (Endeavour Energy employees) for information pertaining to licensing or consult EMS 0007 – Waste Management for the particular waste type that is likely to be generated.

#### *Allocate Assessment Level*

Assessment Level 1 if:

The activity would NOT involve the generation of hazardous, restricted solid, liquid, special (e.g. asbestos), or more than 1,000 tonnes of general solid waste. All wastes generated by

the activity will be returned to the nearest Field Service Centre (Endeavour Energy employees only).

Assessment Level 1 specific construction controls include:

- Manage all wastes in accordance with “Asbestos in soil”, “Dewatering”, “Oil management”, “Spoil Management” and “Waste management and recycling” sections of the Environmental Guidelines Handbook.

Assessment Level 2 if:

Waste generated by the activity would be classified, handled, transported, tracked and disposed in accordance with relevant guidelines and procedures.

Assessment Level 2 specific construction controls include:

- Manage all wastes in accordance with “Asbestos in soil”, “Dewatering”, “Oil management”, “Spoil Management” and “Waste management and recycling” sections of the Environmental Guidelines Handbook.

Assessment Level 3 if:

Assessment Level 1 and Assessment Level 2 do not apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

## 4.8 Bushfire prone lands

The Rural Fires Act 1997 stipulates that public authorities and owners/occupiers of land must 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.

The presence of bushfire prone lands will be informed by the bushfire prone lands GIS layer and definition of the selection area, which will automatically populate the SER Application.

### *Making a decision*

1. Check Endeavour Energy's SER Application  for the identification of bushfire prone land maps.
2. Using information from the site inspection together with knowledge of the scope of works assess the proximity of the work site to bushland and for the potential bushfire risk associated with the construction and operation of the activity.
3. Refer to s45 of Electricity Supply Act 1995 and Infrastructure SEPP responses and any other consultation responses.

### *Allocate Assessment Level*

Assessment Level 1 if:

The activity is NOT within bushfire prone land (as identified from Endeavour Energy's SER Application).

Assessment Level 2 if:

The activity is within bushfire prone lands and would comply with:

- relevant Endeavour Energy design standards (Company Policy 9.2.5 – Network Asset Design); and,
- hot work requirements as stipulated in Company Procedure GSY 0013 – Hot Work Permit.

Assessment Level 3 if:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

Design measures to avoid/mitigate impacts

- Select site/route/access (for both construction and maintenance) that avoid bushfire prone land.
- Consider the use of engineering options (CCT, ABC etc) in bushfire prone lands.
- Endeavour Energy employees are to adhere to the hot work requirements in Company Procedure GSY 0013 – Hot Work Permit.

## 4.9 Cumulative impact

Cumulative impact is the combined impact of multiple projects on the environment. These projects may be contemporary or may even be in the past or future carried out by Endeavour Energy or others.

There are no GIS layers that are available to inform the answer to this question for the SER Application. As such, the assessor must rely on information pertaining to the scope of works and site inspection to adequately address this question.

### *Making a decision*

1. Undertake a site inspection to assess for other activities and projects that have impacts on the environment and that could interact with this activity.
2. Refer to s45 of the Electricity Supply Act 1995/Infrastructure SEPP responses and any other consultation responses.

### *Allocate Assessment Level*

#### Assessment Level 1:

There are no other projects/activities that have impacts on the environment and that could interact with this activity.

#### Assessment Level 2:

Cumulative impacts from other projects/activities are likely, however impacts would be minor and can be effectively managed/avoided.

Generally, Assessment Level 2 specific construction controls will include as a minimum:

- Refer to the Environmental Guidelines Handbook.

#### Assessment Level 3:

Assessment Level 1 and Assessment Level 2 do NOT apply:

[This text must be deleted and relevant information inserted to describe the relevant activities and potential impacts in sufficient detail to enable the Environmental Business Partner / Environmental Specialist / Contestable Works Officer/Engineer to assess the impacts and confirm further assessment / notification requirements and/or further approval / licensing requirements]

## 5.0 Decision statement

This section of the SER Application requires the assessor to declare that they are competent and have completed the SER using all information that is available to make an assessment of the environmental aspects and their mitigation. In summary, the assessor has used appropriate due diligence, that is, they have used all reasonable foresight and care in the assessment of environmental aspects to prevent environmental harm.

The Decision Statement requires the assessor to make a recommendation that either there is no adverse impact or there will be an adverse impact. This recommendation is made to the authorised person who then will approve through thorough consideration of the SER, the authorised person may decide on behalf of the ANO:

- 1) That no EIS or SIS is required. If this is conditional, the conditions must be included in the Decision Statement.
- 2) That either an EIS or a SIS or both is or are required;
- 3) That there is insufficient information contained in the SER and either of the following will need to occur to enable the generation of a decision statement:
  - a) A supplement SER will need to be prepared; or

A REF will need to be prepared.

## **6.0 Modifications**

If a modification of the Activity, likely to increase environmental impacts, is identified after the decision statement has been made, the determination can be made following the re-assessment of the SER and the authorised person issuing a further decision statement. The decision statement modifying a determination must provide a rationale for the modification.

Notably, this can be carried out if additional environmental aspects are identified during construction and a subsequent SER Application completed to maintain no net increase in environmental harm that what has already been assessed.