

REF Determination Report

Upper Hunter Energy Park 66 kV Overhead Line



The *Review of Environmental Factors (REF) - Upper Hunter Energy Park 66 kV Overhead Line 9 March 2026, V7* has been prepared in accordance with Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), including consideration of factors under clause 171 of the *Environmental Planning and Assessment Regulation 2021* and the guidelines approved under section 170 of the *Environmental Planning and Assessment Regulation*.

In considering the proposed activity, this determination has examined and taken into account all matters affecting or likely to affect the environment by reason of that activity, as addressed in the REF and associated investigations and studies.

As an authorised person on behalf of Ausgrid, who did not prepare the REF, I discharge the duty as a determining authority under section 5.5 of the EP&A Act and conclude that the proposed activity:

- is not an activity prescribed by the EP&A Regulation as designated development
- is not likely to significantly affect the environment (including critical habitat) or threatened species, populations or ecological communities, or their habitats
- will not be carried out on land that is, or is part of a declared area of outstanding biodiversity value

Further, the proposed activity is not likely to have a significant impact on a matter of National Environmental Significance, or a significant impact on the environment where the actions affect, or are taken on, Commonwealth land.

The proposed activity, as described in the REF, is approved on behalf of Ausgrid and may proceed without further assessment subject to compliance with the following conditions:

- Mitigation measures in *REF– Upper Hunter Energy Park 66 kV Overhead Line 9 March 2026, V7* (refer to Attachment 1)
- All relevant statutory requirements, including approvals, licences, notifications, permits and authorisations.

A handwritten signature in blue ink, appearing to read 'Daniel Sartor'.

Daniel Sartor
Head of Major Projects
Ausgrid
Date: 13 April 2026

Attachment 1 Mitigation measures - REF – Upper Hunter Energy Park 66 kV Overhead Line 9 March 2026, V7

Mitigation measures	Implementation of mitigation measures		
	Design	Construction	Operation
The Principal Construction Contractor will consult with potentially affected landholders before and during construction to minimise the potential for impacts on land use.	✓	✓	-
The Principal Construction Contractor will consult with relevant service providers prior to the commencement of construction to develop procedures to be implemented to minimise the potential for service interruptions.	✓	✓	-
Comply with section 7 of NS174C Environmental Handbook.	-	✓	-
The climatic conditions to which the plant and equipment shall be exposed are detailed in: <ul style="list-style-type: none"> AS/NZS 1170 Structural design actions AS 2067 Substations and high voltage installations exceeding 1kV A.C. Bureau of Meteorology Climate maps for the “Annual Rainfall”, “Minimum Temperatures” and “Maximum Temperatures” in New South Wales Engineers Australia “Australian Rainfall and Runoff – A Guide to Flood Estimation” NS185 Major Substations Building Design Standard NS186 Major Substations Civil Works Design Standard 	✓	-	-
Materials are recommended to be sourced from local suppliers where cost-effective and no impact on engineering properties.	✓	✓	-
Recycled materials are recommended to be considered and used where cost-effective and no impact on engineering properties.	✓	✓	-
All plant and equipment are to be turned off when not in use.		✓	✓
All infrastructure associated with the Proposed Activity will be designed, installed and maintained in accordance with relevant industry standards.	✓	✓	-
All relevant procedures in relation to a high voltage installation will be adhered to throughout the life of the Proposed Activity.	✓	✓	✓
All employees, contractors and subcontractors will receive a site induction which explains the Proposed Activity’s specific noise mitigation measures, hours of work, delivery and site opening times, any noise limitations, workers’ parking areas and lay down	✓	✓	-

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Mitigation measures	Implementation of mitigation measures		
	Design	Construction	Operation
areas.			
Any associated construction equipment and/or machinery will be maintained (including noise reduction fittings where feasible) and will be turned off when not in use.	✓	✓	-
Provide at least four clear business days' notice to affected receivers prior to starting work unless it is emergency works, or it is discussed with the affected receivers face-to-face. Include the following information in notification letters: <ul style="list-style-type: none"> a description of the works and why they are being undertaken details of the works that will be noisy work hours and expected duration what is being done to minimise the impacts (e.g., respite periods) 24-hour contact number. 	-	✓	-
All construction activities, where feasible, will be carried out in alignment with the standard daytime working hours.	-	✓	-
No high-impact activities outside of standard construction hours unless in an emergency situation.	-	✓	-
Plan the site layout to minimise movements that would activate audible reversing and movement alarms.	-	✓	-
Provide respite periods for affected receivers: <ul style="list-style-type: none"> one hour respite after every three consecutive hours of high-impact activities one day respite after every three consecutive days of high-impact activities. 	-	✓	-
The Standard noise mitigation and management measures described in the <i>Interim Construction Noise Guideline</i> (DECC, 2009) will be implemented for all activities. As well as the principles of 'best practice management' from the EPA's <i>Assessing Vibration technical guideline</i> (DEC, 2006). Specific measures will be detailed in the Construction Environmental Management Plan (CEMP) to be developed prior to construction.	✓	✓	-
Works would be undertaken between 7am and 6pm Monday to Friday and 8am and 1pm on Saturday. Between 7am and 8am on Saturdays, works that are inaudible to the nearest residential premises are allowed. Audible works may be undertaken outside of these hours if: <ul style="list-style-type: none"> the works are emergency works AND the affected residents have been notified as far as reasonably practicable, OR the works fall into one of the following categories 	-	✓	-

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	Design	Construction	Operation
<p>AND the affected residents are provided with a notification letter at least four clear business days prior to the works:</p> <ul style="list-style-type: none"> the delivery of oversized plant or structures that require special approval maintenance and repair of essential public infrastructure that is unable to occur during standard hours public infrastructure works that shorten the length of the work and are supported by the affected community (this would require community consultation). 			
For out-of-hours work, Upper Hunter Shire Council are to be notified.	-	✓	-
Provide information via a free call 1800 number, email address and Ausgrid's website for people wanting more information.	✓	✓	-
Provide signage outside the worksite detailing who is undertaking the works and a 24-hour contact number.	-	✓	-
Have a documented complaints process, including an escalation procedure so that if a complainant is not satisfied, there is a clear path to follow	-	✓	-
Keep a register of any complaints, including details of the complaint such as date, time, person receiving complaint, complainant's contact number, person referred to, description of the complaint, time of verbal response and timeframe for written response where appropriate. Notify Ausgrid Environmental Services of complaints received, and method of response required immediately after action complaint in register.	-	✓	-
Refer operational noise enquiries to Ausgrid Environmental Services.	-	-	✓
All workers are to be made aware of the presence of sensitive receivers in the area and the need to avoid impacts.	-	✓	-
Use water sprays to dampen (but not saturate) disturbed surfaces and stockpiles, at material transfer points during construction.	-	✓	-
Visually monitor dust levels during works. If dust is leaving site, causing a safety issue, or complaints are received, suspend works and consider mitigation options and/or substitute with an alternate process.	-	✓	-
Restrict traffic movement and vehicle speeds over disturbed areas and unsealed roads.	-	✓	-
Use dust collection devices (such as vacuum) on construction and rock-breaking equipment where available.	-	✓	-

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Mitigation measures	Implementation of mitigation measures		
	Design	Construction	Operation
If stockpiles are required for imported fill, they must be located away from roadways, gutters, drains, slopes, concentrated flow paths and channels.	-	✓	-
Position vehicles and equipment where the fumes will least affect receivers, where practicable.	-	✓	✓
Do not leave vehicles or equipment idling when they are not needed.	-	✓	✓
All workers are to be made aware of the presence of sensitive areas and waterfront land and the need to avoid impacts.	-	✓	-
Prepare and comply with a site-specific CEMP, which will include management measures in accordance with Managing Urban Stormwater – Soils and Construction (NSW Landcom, 2004), the 'Blue Book'.	-	✓	-
Maintain sediment controls, especially during periods of rainfall.	-	✓	-
Remove temporary erosion and sediment controls as the site is stabilised or rehabilitation is complete	-	✓	-
If stockpiles are required, they must be located away from roadways, gutters, drains, slopes, concentrated flow paths and channels.	-	✓	-
Stabilise disturbed areas promptly, this may include progressive rehabilitation	-	✓	✓
Non-domestic discharges to sewer must be in accordance with a permit from the relevant water supply authority.	-	✓	✓
The CEMP will outline the location of access routes, compound sites, construction boundaries, and exclusion zones on detailed designs, clearly staked and marked onsite.	-	✓	-
Prior to construction, prepare and implement a riparian corridor re-vegetation plan to be included in the CEMP.	-	✓	-
If dewatering of groundwater is required during construction, works would cease and additional testing would be undertaken to develop a Water Quality Management Plan.	-	✓	-
Ensure a spill kit is readily available and workers and know how to use it.	-	✓	✓
The site-specific CEMP will be prepared in accordance with Managing Urban Stormwater – Soils and Construction (NSW Landcom, 2004), the 'Blue Book'. The CEMP will include measures for erosion and sediment control in accordance with <i>Managing Urban Stormwater – Soils and Construction</i> .	✓	✓	-
The CEMP will include the access track requirements and existing tracks maintenance in accordance with <i>Managing Urban Stormwater Volume 2C Unsealed</i>	✓	-	✓

Mitigation measures	Implementation of mitigation measures		
	Design	Construction	Operation
<i>Roads and Erosion and sediment control on unsealed roads – A field guide for erosion and sediment control maintenance practices.</i>			
Undertake testing to determine the waste classification and subsequent storage, transport, tracking, licensing and disposal requirements.	-	✓	-
Provide a secure and bunded area for the storage of fuel, oil or chemicals. This area would be imperviously bunded with a capacity to contain not less than 110% of the volume of the largest container.	-	✓	✓
Temporarily store excavated known or suspected contaminated spoil in a covered, lined/ sealed skip or bulk storage bag or sealed container on-site for classification prior to disposal off-site. Where there are site restrictions for on-site storage, store offsite. If storing more than 5 tonnes of spoil, use a licensed storage facility. There may also be a requirement for having a licence to transport the spoil (there are exemptions for Ausgrid staff).	-	✓	-
Implement an unexpected finds procedure. If potential, is found, stop immediately, restrict access and notify: <ul style="list-style-type: none"> • Site supervisor • Ausgrid's Environmental Services • relevant safety advisor for WHS requirements. 	-	✓	-
Any person handling the waste is trained in handling Scheduled Chemicals and methods of containing Scheduled Chemical spills and wears Personal Protective Equipment (PPE).	✓	✓	✓
All packages / storage containers are clearly labelled and maintained in good order.	✓	✓	✓
Provide a secure, lockable, and floored area for the storage of fuel, oil, or chemicals. This area would be imperviously bunded with a capacity to contain not less than 110% of the volume of the largest container.	-	✓	✓
Prior to construction, nominate and sign-post a plant refuelling area.	-	✓	-
When transporting soil where the concentration of Aldrin or Dieldrin in the soil is 5-mg/kg or greater, or the presence has not been ruled out, the following additional controls apply: <ul style="list-style-type: none"> • The transport vehicle must carry personnel trained in containing spills of OCP-contaminated spoil. • Appropriate PPE, clean-up material and equipment must be carried on the transport vehicle. 	-	✓	✓

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Prior to construction, the CEMP would be prepared to contain a list of expected waste, volume and planned reuse, disposal or recycling.	✓	✓	
Classify waste to determine licensing, waste tracking and disposal requirements.	-	✓	
Segregate and label waste to improve recycling opportunities, avoid cross-contamination and reduce disposal costs.	-	✓	
Where possible, reuse or recycle or return to the supplier wastes including metal components, transformer oil, spoil and packaging.	-	✓	✓
Reuse VENM and ENM where options are available. Ensure that: <ul style="list-style-type: none"> a valid waste classification certificate is available and the reuse meets the conditions of the planning approval for that site. 	-	✓	-
If liquid or hazardous waste will be transported, the transportation must be undertaken by licensed vehicles and/or contractors. The waste oil must be disposed of at a facility licensed to accept Liquid and, or hazardous waste.	-	✓	-
Ensure a spill kit is readily available and workers know how to use it.	-	✓	-
Comply with section 5 Ecology of NS174C Environmental Handbook.	-	✓	-
Ensure removal of vegetation is minimised through detailed design.	✓	-	-
It is recommended to minimise vegetation clearing by utilising pre-existing access tracks and exotic grasslands, as proposed.	✓	-	-
Access for construction is recommended to utilise existing tracks where possible. Trimming or clearing vegetation for access is only permitted within the area identified as the proposed access on Moobi Ridge. Disturbance is recommended to be minimised where required through the use of geotextile fabric and/or ground protection mats.	-	✓	-
Ensure all River red gum (<i>Eucalyptus camaldulensis</i>) are avoided during the detailed design phase for the Proposed Activity.	✓	-	-
It is recommended to minimise vegetation clearing by utilising smaller plant and equipment	-	✓	✓
The removal of hollow-bearing trees may be avoided with minor design changes. However, if it is required it would be performed in the presence of a qualified ecologist to assist in the detection and translocation of potentially displaced fauna and implemented via a	-	✓	-

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tree felling protocol to protect fauna to be included in the CEMP. The CEMP will include protocols for tree felling, including actions to: <ol style="list-style-type: none"> 1. Identify all hollow-bearing trees in the vicinity of the works with high visibility flag or similar prior to commencement of vegetation clearing. 2. Undertake pre-clearance surveys for fauna immediately prior to clearing. 3. Where fauna is identified in a tree to be felled, the tree must not be cleared until the fauna has relocated itself. 4. Remove understorey vegetation and other trees in the vicinity. 5. Check the tree each morning until the fauna moves into adjacent vegetation (normally the following day). 6. Ensure an ecologist is present during the felling of hollow-bearing trees to relocate fauna or provide care as necessary. 			
Ensure hygiene controls are in place for all plant and people working in the Proposed Activity Area.	-	✓	✓
Ensure machinery will be washed following best practice hygiene protocols prior to being brought to site to prevent the spread of weeds, seeds, pathogens and fungi.	-	✓	✓
To manage the spread of weeds and exotic species, edge effects and erosion, clearing limits and exclusion zones will be established in the construction phase.	-	✓	-
All weed material removed will be disposed of in a suitable waste facility and not mulched on site. This is to avoid the reintroduction and further spread of weeds in the area.	-	✓	-
No storing equipment, parking vehicles or accessing the site through undisturbed areas.	-	✓	-
Suitable erosion controls would be implemented across the site to avoid any additional runoff to leech into the existing drainage lines.	-	✓	✓
Vegetation clearing and pruning to comply with Ausgrid's NEG-OH21 Vegetation Safety Clearances / ISSC3 Guideline for Managing Vegetation Near Powerlines.	✓	✓	✓
During a total fire ban, no open fires or hot works are to be undertaken unless in accordance with an exemption granted by the NSW RFS.	-	✓	✓
Any hot works during a total fire ban must be in accordance with an approved exemption in accordance with DG33. This includes grinding, welding, brazing, oxy-cutting, heat treatment or processes that generate heat or continuous streams	-	✓	✓

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	Design	Construction	Operation
of sparks. The Contractor or ASP must obtain their own exemption.			
Hot work activities to be clear of combustible matter by at least 3 metres. Keep adequate firefighting equipment immediately at hand. Avoid driving a vehicle through long grass or operating motors and equipment in proximity to vegetation.	-	✓	✓
Undertake consultation with the local fire authority prior to commencing hot works to advise of works in bushfire-prone areas and of any access restrictions to fire trails.	✓	-	-
Schedule hot work activities during the more favourable period of the day and week.	-	✓	-
All workers are to be made aware of sensitive areas and the need to avoid impacts.	-	✓	-
<p>The assessment provided in Appendix 3 concludes that within Archaeologically Sensitive Areas 3 and 4 no earthworks should occur for the proposed access track. Access within the Sensitive Areas is only permitted via existing tracks and cleared areas managed through the use of geotextile fabric and/or ground protection matts, where required.</p> <p>Should more substantial ground disturbance works be required for the access track within these areas further assessment may be required. This would take the form of an Aboriginal Cultural Heritage Assessment (ACHA). This ACHA would be required to further investigate the archaeological potential and/or Aboriginal cultural heritage values of the aforementioned areas of sensitivity. Aboriginal cultural heritage investigation works must be undertaken by a suitably qualified heritage consultant in accordance with Requirement 11 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW 2010b) and include the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR), compiled in accordance with Section 3 of the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW. A process of Aboriginal community consultation carried out in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (DECCW, 2010a) must also be demonstrated.</p>	-	✓	-

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	Design	Construction	Operation
The assessment provided in Appendix 3 concludes that the works proposed to occur within the extent of Archaeologically Sensitive Area 1, 2 and 4 (being a single transmission line pole) are unlikely to impact subsurface Aboriginal objects, or sites, should they be present. This is due to the minor and isolated nature (a singular inclusion of a pole for the overhead line) of the works. Should more substantial ground disturbance works be required, outside of the bounds of the discussed pole installation, further assessment will be required.	-	✓	-
If additional archaeological assessment is required as Aboriginal objects and/or sites are identified during the archaeological investigation, and Aboriginal sites/objects cannot be avoided by the Proposed Activity, the Proposed Activity would an application for an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the <i>National Parks and Wildlife Act 1974</i> . The recommended approach for an ACHAR identified above would be used to support the application.	-	✓	✓
All relevant contractors and personnel should be made aware of the nature and location of previously recorded Aboriginal sites that lie within and near the Proposed Activity Area. All relevant contractors and personnel should also be made aware of their legal responsibilities under the NP&W Act and the need to avoid impacts to Aboriginal sites.	-	✓	✓
If, in the unlikely event that Aboriginal objects/sites are identified during the Proposed Activity, all works in the area must cease immediately and the Unexpected Heritage Finds Procedure presented in Appendix 3 must be implemented.	-	✓	✓
In the event that the proposed design and/or location of the proposed works is altered for any reason, impacting areas or land that have not been assessed in this report, further Aboriginal heritage assessment will be required. Any proposed alteration must be evaluated by a qualified heritage consultant to determine if the location represents a risk to Aboriginal cultural heritage.	-	✓	✓
All workers are to be made aware of sensitive historic heritage-listed areas and the need to avoid impacts.	-	✓	-
Construction activities within the curtilage of the 'Invermein' (I24) local heritage item should be avoided as far as practicable. Where pole installation is required within the mapped curtilage of the item, reasonable measures should be taken to reduce disturbance as far as reasonably practicable. We note that there is currently no construction activity proposed to take place within Lot 912 DP1152423 associated with the 'Invermein' property.	-	✓	-

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	Design	Construction	Operation
All on-site personnel are to be made aware of their obligations under <i>Heritage Act 1977</i> (NSW).	-	✓	-
In the unlikely event that unexpected historical archaeological material is discovered during works, work must cease, and an appropriately qualified archaeologist must be consulted. If appropriate, the Heritage Council should be notified in accordance with Section 146 of the <i>Heritage Act 1977</i> .	-	✓	-
Consult with affected stakeholders about the Proposed Activity and the timing of construction commencement and duration.	✓	✓	-
Clear the minimum amount of vegetation necessary and undertake replacement planting in consultation with the Council.	-	✓	-
Maximise pole separation distances.	✓	-	-
Use coloured poles conducive to the rural landscape to reduce visual impact by allowing integration with existing vegetation.	✓	✓	✓
Where works are proposed on a classified road, consent is required under section 138(1) of the <i>Roads Act 1993</i> . To apply for a section 138 consent, write to TfNSW 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.	-	✓	-
EMF, noise, visual and traffic mitigation measures (Sections 5.3.3, 5.4.3, 5.14.3 and 5.15.3) would reduce potential impacts on the surrounding community.	✓	✓	✓

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	Design	Construction	Operation
<p>A Traffic Management Plan will be prepared in consultation with Council and TfNSW and implemented as part of the CEMP to comply with TfNSW and Council requirements. The Traffic Management Plan will be prepared in accordance with the Traffic Control at Worksites (TfNSW, 2022) and AS1743.3 Traffic Control Devices for Projects on Road (2019). The Traffic Management Plan will include the following:</p> <ul style="list-style-type: none"> • Confirmation of haulage routes • Site-specific traffic control measures (including signage) to manage and regulate traffic movement, including pedestrians and cyclists Construction contractor Timing Pre-construction and construction • Requirements and methods to consult and inform the local community of impacts on the local road network • A response plan for any construction traffic incident • Measures to minimise potential cumulative impacts on traffic and access. • Any cumulative impact of construction traffic movements from other Ausgrid and non-Ausgrid works • Communication plan – all potentially affected residents and businesses are to be provided with 48- hours' notice of any access changes to properties. Where residents and businesses are directly affected by the work (e.g. their access will be restricted), one week's notice must be given. 	-	✓	-
A CEMP will be prepared which will include safeguards and management measures included in this REF to reduce potential impacts on the surrounding community. The CEMP will include the required workforce and considerations for where this workforce would be sourced.	✓	✓	-
The local community would be notified when construction work is to begin. The notifications will provide indicative timing for planned construction works to allow the local community to plan and organise around the Proposed Activity's impacts on the local road network where possible.	✓	✓	-
Keep a register of any complaints, including details of the complaint such as date, time, person receiving complaint, complainant's contact number, person referred to, description of the complaint, time of verbal response and timeframe for written response where appropriate. Notify Ausgrid Environmental Services of complaints received and method of response required immediately after action complaint in register.	-	✓	-

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