

# REF Determination Report

Hunter-Central Coast REZ Network Infrastructure upgrades

NIG – 11641

WBS – NC-01006



The *Review of Environmental Factors (REF) - Hunter-Central Coast REZ Network Infrastructure upgrades 28 August 2025, V1.0* has been prepared in accordance with Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), clause 228 of the *Environmental Planning and Assessment Regulation 2000* and the *NSW Code of Practice for Authorised Network Operators* (the Code).

In considering the proposed activity, this determination has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the REF and associated investigations and studies including the following the REF Submissions Report (Appendix L)

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– Hunter-Central Coast REZ Network Infrastructure upgrades 28 August 2025, V1.0* (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: 29/08/2025

## Attachment 1 Mitigation measures - REF – Hunter-Central Coast REZ Network Infrastructure upgrades August 2025 V1.0

Impact	No.	Mitigation measures	Design	Construction	Operation
Land use	6.1.1	Consult with affected stakeholders about the proposal.		✓	
	6.1.2	Provide information via a free call 1800 number, email address and Ausgrid's website for people wanting more information.		✓	
Climate Change	6.2.1	Report information on energy production, energy consumption and the amount of greenhouse gas emissions to the Clean Energy Regulator for the facilities on an annual basis by 31 October the following year.			✓
	6.2.2	The climatic conditions to which the plant, equipment and the major switching station shall be exposed are detailed in: <ul style="list-style-type: none"> <li>AS/NZS 1170 Structural design actions</li> <li>AS 2067 Switching stations and high voltage installations exceeding 1kV A.C.</li> <li>Bureau of Meteorology Climate maps for the "Annual Rainfall", "Minimum Temperatures" and "Maximum Temperatures" in New South Wales</li> <li>Engineers Australia "Australian Rainfall and Runoff – A Guide to Flood Estimation"</li> <li>NS185 Major Switching stations Building Design Standard</li> <li>NS186 Major Switching stations Civil Works Design Standard</li> </ul>	✓		
	6.2.3	Materials sourced from local suppliers where cost effective and no impact on engineering properties.	✓	✓	
	6.2.4	Recycled materials considered and used where cost effective and no impact on engineering properties.	✓	✓	
	6.2.5	All plant and equipment would be turned off when not in use.		✓	✓
	6.2.6	Comply with Section 8 of NS174C Environmental Handbook for Construction and Maintenance, July 2025.		✓	
Electric and magnetic fields	6.3.1	Implement optimal phasing of the dual circuit overhead sections to minimise the magnetic field profile.	✓	✓	
	6.3.2	Refer all EMF related enquiries to Ausgrid's Environmental Services on (02) 9394 6659	✓	✓	✓
Noise and vibration	6.4.1	Prepare a Construction Noise and Vibration Management Plan as part of the CEMP		✓	
	6.4.2	All workers to be made aware of the presence of sensitive receivers in the area and the need to avoid impacts		✓	
	6.4.3	Locate mechanical plant and equipment as far as practicable from residences		✓	

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Impact	No.	Mitigation measures	Design	Construction	Operation
	6.4.4	Consider constructing enclosures around items of plant such as generators where extended use for long periods of time is expected		✓	
	6.4.5	Use acoustically treated plant and machinery where practicable and available		✓	
	6.4.6	Periods of respite <ul style="list-style-type: none"> <li>• Provide periods of respite for noisy activities (i.e. concrete/rock breaking/sawing) to only operate for 3 hours at a time</li> <li>• Ensure no more than one high noise emitting item of plant (i.e. rock breaking/sawing, hammer piling, helicopter) is operating simultaneously when working within close proximity to residences (less than 500m)</li> </ul>		✓	
	6.4.7	Work practices - train/induct workers to minimise noise <ul style="list-style-type: none"> <li>• Avoid dropping materials from a height</li> <li>• Avoid talking loudly outdoors</li> <li>• Avoid the use of radios outdoors that can be heard at the boundary of residences (where possible)</li> <li>• Turn off equipment when not in use</li> <li>• Carry out high impact noise work predominantly within normal working hours, where reasonably practicable</li> </ul>		✓	
	6.4.8	Vehicles <ul style="list-style-type: none"> <li>• Keep truck drivers informed of designated vehicle routes parking locations, acceptable delivery hours or other relevant practices (e.g. minimise use of engine brakes and no extended periods of idling)</li> <li>• Locate site vehicle entrances away from residences</li> <li>• Minimise the number of vehicle trips to and from site</li> <li>• Locate staff parking areas as far from residential receivers as practicable</li> <li>• Minimise site access via residential areas prior to 7am</li> </ul>		✓	
	6.4.9	Community relations <ul style="list-style-type: none"> <li>• Appoint a community liaison officer prior to commencement</li> <li>• Community liaison officer to approach all potentially affected residents prior to commencement of any works as an initial introduction to provide contact details</li> <li>• Community liaison officer will explain the project, duration of works, potentially noisy periods as well as determine any particularly sensitive receivers or sensitive time periods and schedule works accordingly as far as reasonably practical</li> <li>• Provide a contact number for any residents to call with complaints or queries</li> </ul>		✓	

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Impact	No.	Mitigation measures	Design	Construction	Operation
		<ul style="list-style-type: none"> <li>Community liaison officer to maintain contact with the community throughout the works including face to face, letter box drops and/or notice board at the site office or on construction boundary.</li> </ul>			
	6.4.10	<p>Noise complaints</p> <ul style="list-style-type: none"> <li>Community liaison officer should receive and manage noise complaints</li> <li>All complaints should be treated promptly and with courtesy</li> <li>Where a complaint cannot be resolved noise and/or vibration monitoring should be carried in accordance with the procedures outlined in the Day Design Report and actions taken to reduce noise as far as practicable</li> <li>As part of the CEMP prepare a noise complaints management procedure in accordance with Section 6 of the EPA's Interim Construction Noise Guideline</li> </ul>		✓	
	6.4.11	Do not affect a receiver for more than two nights in a one-week period unless consultation has been undertaken with all potentially affected residents and an outcome agreed.		✓	
	6.4.12	Due to unavoidable work requirements or due to a regulatory licence requirement (e.g. TfNSW) out of hours and/or night works may be required.		✓	
	6.4.13	Where the ROL stipulates out of hours work the works must meet the requirements of NS174C Environmental Handbook for Construction and Maintenance, July 2025, out of hours work criteria or a site-specific noise management plan.		✓	
	6.4.14	<p>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:</p> <ul style="list-style-type: none"> <li>the works are emergency works AND the affected residents have been notified as far as reasonably practicable, OR</li> <li>the works fall into one of the following categories AND the affected residents are provided with a notification letter at least four clear business days prior to the works:</li> <li>the delivery of oversized plant or structures that require special approval</li> <li>maintenance and repair of essential public infrastructure that is unable to occur during standard hours</li> <li>public infrastructure works that shorten the length of the work and are supported by the affected community (this would require community consultation).</li> </ul>		✓	
	6.4.15	Powerline stringing works may occur on Saturdays, Sundays and Public Holidays 7am to 6pm where works are a minimum of 200m		✓	

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Impact	No.	Mitigation measures	Design	Construction	Operation
		from the nearest sensitive receiver and the activities are unlikely to exceed RBL + 5dB			
	6.4.16	For out of hours work, consider notifying local council		✓	
	6.4.17	Provide information via a free call 1800 number, email address and Ausgrid's website for people wanting more information	✓	✓	
	6.4.18	Provide signage outside the worksite detailing who is undertaking the works and a 24-hour contact number		✓	
	6.4.19	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		✓	
	6.4.20	Comply with Section 4.2 of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Air quality	6.5.1	Use water sprays to dampen (but not saturate) disturbed surfaces and stockpiles, at material transfer points and during construction and demolition.		✓	
	6.5.2	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.		✓	
	6.5.3	Restrict traffic movement and vehicle speeds over disturbed areas and unsealed roads.		✓	
	6.5.4	Stabilise long term stockpiles by covering, or with soil binders such as polyvinyl acetate (PVA) or latex sprays.		✓	
	6.5.5	Prepare and comply with a site-specific erosion and sediment control plan (ESCP) when disturbing more than 250m <sup>2</sup> at any one time. The ESCP must be prepared in accordance with Managing Urban Stormwater – Soils and Construction (NSW Landcom, 2004), the 'Blue Book'. The ESCP will form part of the CEMP prepared prior to construction. For the substation/switching station sites the ESCP/soil and water management plan (SWMP) must be prepared by a suitably qualified person (i.e. who has completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) in accordance with Managing Urban Stormwater – Soils and Construction.		✓	
	6.5.6	Position vehicles and equipment where the fumes will least affect receivers, where practicable.		✓	✓
	6.5.7	Do not leave vehicles or equipment idling when not in use.		✓	✓
	6.5.8	Handle SF6 and other gases in accordance with approved work practices.		✓	✓
	6.5.9	Comply with Sections 2.1 Erosion and sediment control and 4.1 Air		✓	

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Impact	No.	Mitigation measures	Design	Construction	Operation
		of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.			
Water quality and Hydrology	6.6.1	Prepare and comply with a site-specific erosion and sediment control plan (ESCP) when disturbing more than 250m <sup>2</sup> at any one time. The ESCP must be prepared in accordance with Managing Urban Stormwater – Soils and Construction (NSW Landcom, 2004), the 'Blue Book'. The ESCP will form part of the CEMP prepared prior to construction. For the substation/switching station sites the ESCP/SWMP must be prepared by a suitably qualified person (i.e. who has completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) in accordance with Managing Urban Stormwater – Soils and Construction		✓	
	6.6.2	Maintain sediment controls, especially during periods of rainfall.		✓	
	6.6.3	Remove temporary erosion and sediment controls as the site is stabilised or rehabilitation is complete.		✓	
	6.6.4	Where possible, stockpiles must be located away from roadways, gutters, drains, slopes, concentrated flow paths and channels.		✓	
	6.6.5	Stabilise disturbed areas promptly, this may include progressive rehabilitation.		✓	✓
	6.6.6	Organise a licensed taker to remove the water if the relevant discharge criteria in NS174C cannot be met.		✓	✓
	6.6.7	Prior to construction, outline the location of access routes, compound sites, construction boundaries, and exclusion zones on detailed designs, clearly staked and marked onsite.	✓	✓	
	6.6.8	Comply with the water quality discharge criteria outlined in section 2.2 of NS174C Environmental Handbook for Construction and Maintenance, July 2025. Where dewatering of groundwater is required, a Licence may be required if annual exemption limits (3ML) are exceeded.		✓	
	6.6.9	Include process for safely refuelling onsite plant in the CEMP.		✓	
	6.6.10	Store oil in a bund unless it meets the definition Minor storage in section 2.3 of NS174C Environmental Handbook for Construction and Maintenance, July 2025.		✓	✓
	6.6.11	Ensure appropriate spill kits are readily available and workers and know how to use it.		✓	✓
	6.6.12	No dredging (excavating) or reclamation (including concrete, tyres or rocks) within permanent or ephemeral watercourses without approval from Ausgrid's Environmental Management Representative (EMR).		✓	
	6.6.13	Consult with Muswellbrook Council regarding water supply and usage during supply and operation including potential use of recycled water.	✓	✓	✓

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Impact	No.	Mitigation measures	Design	Construction	Operation
	6.6.14	Comply with Section 2 Pollution Control of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Geology and soil	6.7.1	Prepare and comply with a site-specific erosion and sediment control plan (ESCP) when disturbing more than 250m <sup>2</sup> at any one time. The ESCP must be prepared in accordance with Managing Urban Stormwater – Soils and Construction (NSW Landcom, 2004), the 'Blue Book'. The ESCP will form part of the CEMP prepared prior to construction. The ESCP/SWMP must be prepared by a suitably qualified person (i.e who has completed an International Erosion Control Association (IECA) endorsed course or passed the examination for Certified Professional in Erosion and Sediment Control (CPESC)) in accordance with <i>Managing Urban Stormwater – Soils and Construction</i> .	✓	✓	
	6.7.2	Comply with Section 2.1 Erosion and sediment control of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Contamination	6.8.1	Segregate any suspected contaminated spoil from clean spoil to reduce disposal costs.		✓	
	6.8.2	Undertake testing to determine the waste classification and subsequent storage, transport, tracking, licensing and disposal requirements.		✓	
	6.8.3	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).		✓	
	6.8.4	If a worker thinks they have found contamination, they must stop work immediately, restrict access and notify: <ul style="list-style-type: none"> <li>their supervisor</li> <li>Ausgrid's Environmental Services</li> <li>their local safety advisor for WHS requirements.</li> </ul>		✓	
	6.8.5	All packages/storage containers are clearly labelled and maintained in good order.			
	6.8.6	Engage an Asbestos Hygienist to undertake an EMU pick and provide a clearance prior to commencement of works at Sandy Creek.		✓	
	6.8.7	Prior to construction, nominate and sign post a plant refuelling area.		✓	
	6.8.8	Consider additional subsurface investigation to further assess the extent of the fill and site conditions in proposed areas of construction (at Sandy Creek STSS).	✓	✓	
	6.8.9	Concrete washout to be undertaken in accordance with the TfNSW		✓	



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Impact	No.	Mitigation measures	Design	Construction	Operation
		concrete washout guidelines. Where works are in a sensitive aboriginal area the concrete washout must be of a type that does not involve ground disturbance.			
	6.8.10	Refer to Ausgrid's Asbestos register to identify any existing asbestos and/or lead hazards at Muswellbrook STS, Kurri STS and Rothbury Zone.		✓	
	6.8.11	Prepare and implement an unexpected finds protocol to outline the manage requirements for unexpected finds of contaminated land during construction. If widespread asbestos is identified at Sandy Creek a Remediation Action Plan will be required and consideration should be given to on-site treatment.		✓	
	6.8.12	Obtain approval to install and operate an on-site sewage management system under section 68 of the Local Government Act - On-site Sewage Approvals prior to construction of the system at Antiene STSS.	✓	✓	
	6.8.13	Comply with Section 5.1 Contamination of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Waste	6.9.1	Prior to construction, prepare a Waste Management Plan (WMP) which contains a list of expected wastes, their volume and their planned reuse, disposal or recycling. Consult with Council where necessary	✓	✓	
	6.9.2	Classify wastes to determine licensing, waste tracking and disposal requirements.		✓	
	6.9.3	Segregate and label waste to improve recycling opportunities, avoid cross contamination and reduce disposal costs.		✓	
	6.9.4	Where possible, reuse or recycle or return to the supplier wastes including metal components, transformer oil, spoil and packaging.		✓	✓
	6.9.5	Comply with Section 5.3 Waste management of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Flora and fauna	6.10.1	Obtain consent from the NSW Biodiversity Trust for any new works within BCT mapped areas.	✓	✓	
	6.10.2	All workers to be made aware of the presence of sensitive areas and the need to avoid impacts.		✓	
	6.10.3	Keep to designated roads, pads and access tracks. Restrict vehicle and plant movements to existing cleared areas.		✓	✓
	6.10.4	Trees and native vegetation within the subject land are to be avoided wherever possible within the scope of the proposal.	✓	✓	
	6.10.5	Works should avoid any impact to native vegetation outside the impact area. Clearing limits will be clearly marked on the ground to prevent unnecessary clearing beyond the extent of the proposal.		✓	
	6.10.6	Trees to be removed or trimmed are to be clearly marked to prevent any unintentional impact on trees that are to remain		✓	



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Impact	No.	Mitigation measures	Design	Construction	Operation
		untouched.			
	6.10.7	All material stockpiles, vehicle parking and machinery storage will be located outside areas of native vegetation.		✓	
	6.10.8	Threatened flora species such as <i>Diuris tricolor</i> (Pine Donkey Orchid) and <i>Grevillea parviflora subsp. parvifolia</i> (Small-flowered Grevillea) occurring within the existing easement are to be avoided during the construction of the subtransmission powerlines. The locations of these species should be located and marked as no-go areas, allowing them to be avoided. (refer to Detailed Mapping in Appendix I)		✓	✓
	6.10.9	Temporary erosion and sediment controls (e.g. silt fences) are to be installed, if required to avoid disturbance and degradation of soils and nearby features. These controls should conform to the specifications in Soils and Construction 'Blue Book' (Landcom, 2004) and should be maintained throughout the construction process until soil is successfully stabilised.		✓	
	6.10.10	Stumps of cut trees required to be removed along waterways such as Glennies and Bowmans Creek must be left <i>in-situ</i> to continue to hold the stream bank together.		✓	
	6.10.11	<p>Weeds</p> <ul style="list-style-type: none"> <li>Prepare a Weed and Pathogen management plan as part of the CEMP.</li> <li>All movement is to stay within the impacted area.</li> <li>Use existing routes as identified and agreed with Ausgrid.</li> </ul> <p>Ensure machinery, vehicles clothing and equipment have been cleaned and inspected prior to entering new areas (eg moving between properties) to prevent the spread of new plant propagules (seeds and fragments of plants). Areas to inspect and clean within vehicles include tyres, wheel arches, under carriages, radiator grills, floor mats, load areas, boots, socks or anywhere that seeds and soil can lodge.</p>		✓	✓
	6.10.12	The removal of hollow-bearing trees is to be supervised by a suitably qualified fauna ecologist to reduce the impact on any fauna which may be present. Where possible leave hollows onsite to provide reduce habitat loss. Hollows should be placed at the edge of the easement to prevent issues with future vegetation maintenance.		✓	
	6.10.13	<p>Grey-crowned Babbler</p> <ul style="list-style-type: none"> <li>Pre-clearance searches are to be undertaken for Grey-crowned Babbler nests prior to vegetation removal (refer to Detailed Mapping in Appendix I).</li> <li>Removal of nests is to be avoided where possible within the scope of the proposal.</li> <li>Where the removal is unavoidable, nests are to be assessed for usage. If nests are found to be active, nests are not to be removed until all young have fledged.</li> </ul>		✓	

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Impact	No.	Mitigation measures	Design	Construction	Operation
		<ul style="list-style-type: none"> <li>If immediate removal of a nest is unavoidable then the nest is to be removed by a suitably qualified ecologist and relocated nearby within the site.</li> </ul>			
	6.10.14	Permanent and temporary waterway crossings should be designed and constructed in accordance with Chapters 4.1 and 4.2 of the P&Gs and national guidelines entitled 'Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings' (Fairfull and Witheridge 2003).	✓	✓	
	6.10.15	There is to be no complete blockage of fish passage during the works without approval from DPI NSW.		✓	
	6.10.16	Any material removed from the waterway that is to be temporarily deposited or stockpiled on land is to be located well away from the waterway and to be contained by appropriate erosion and sediment control devices.		✓	
	6.10.17	On completion of any water crossing works all disturbed soil is to be levelled, smoothed and sown with a mixture of sterile/native grass seeds to encourage rapid revegetation and planted out with native endemic riparian vegetation.		✓	
	6.10.18	Machinery is not to enter or work from the waterway.		✓	
	6.10.19	Only clean rock (no fines) is to be used during these works.		✓	
	6.10.20	Prior to use at the site, machinery is to be appropriately cleaned degreased and serviced. Spill kits are to be available on site at all times during the works.		✓	
	6.10.21	Works are to be undertaken during low flows in the waterway.		✓	
	6.10.22	Any rock scour protection at the culvert inlet and outlet must abut the aprons at the same level and the stream bed at the same level to ensure that there is no drop in elevation at the joins. This is to maintain fish passage and minimise impact on the morphology of the creek.		✓	
	6.10.23	"Removal of large woody debris from NSW rivers and streams" is listed as a key threatening process under Part 7A of the FM Act. A snag is considered to be any piece of woody debris that is both greater than 3m in length and 300mm in diameter, or any rock larger than 500mm in two dimensions, that is located within a waterway (either fresh, estuarine or marine) and is, or would be, wholly or partly submerged at a 'bank-full' flow level or highest astronomical tide level. As a general principle for timber snags, lopping should be considered as the first priority for the management of snags. Where lopping will not solve the immediate problem, re-alignment should be considered as the next possibility, followed by relocation. Removal of a snag is the least desirable option and should only be adopted as a last resort. Proposals for snag removal should be accompanied by a 7 part test and/or Species Impact Statement where proposed in areas that are TYPE 1 aquatic habitats (see Table 1 and <b>Error! Reference source not found.</b> 2.6.9 Policy and Guidelines for Fish Habitat Conservation		✓	

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Impact	No.	Mitigation measures	Design	Construction	Operation
		and Management (2013).).			
	6.10.24	Any dewatering should not involve pumping the water directly downstream without adequate treatment to remove suspended solids. Dewatering must not result in a visible turbid plume or additional sedimentation into the adjacent environment. Dewatering should incorporate the following: <ul style="list-style-type: none"> <li>dewatering at the worksite is to be undertaken consistent with accepted Best Management Practice (i.e. Landcom [2004], Managing Urban Stormwater: Soils and Construction [4th Edition]). In addition, mitigation controls such as a sediment fence between the sump water release outlet and the waterway are to be employed to ensure that downstream water quality is not adversely affected.</li> <li>dewatering at the worksite is to be undertaken with a screen around the pump inlet possessing mesh no greater than 6mm. Netting and removal of fish should be undertaken at late stages of dewatering regardless of any positive identification of fish. Any fish captured via netting should be released unharmed into adjacent waters downstream of the worksite.</li> <li>a visual inspection of the waterway is to be conducted at all times during dewatering operations to ensure that no visible plumes are generated within the waterway from dewatering operations.</li> </ul>		✓	
	6.10.25	DPIRD Fisheries (1800 043 536) and the Environment Protection Authority (EPA) (131 555) are to be notified immediately if any fish kills occur in the vicinity of the works. In this situation, all works other than emergency response procedures are to cease until the issue is rectified and approval is given by DPIRD Fisheries and/or the EPA for the works to proceed.		✓	
	6.10.26	Consult with Council, landowner and other stakeholders re any proposed tree planting works.		✓	
	6.10.27	Comply with section 6 Ecology of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Bush fire	6.11.1	Design the switching station to address both passive and active fire protection systems, including: <ul style="list-style-type: none"> <li>specification of fire ratings in the building design</li> <li>application of active fire protection controls as required by the BCA</li> </ul> provision for access and emergency egress in accordance with the relevant statutory regulations.	✓		
	6.11.2	Implement and maintain the APZ to provide access for fire fighters to manage a bushfire in line with <b>Error! Reference source not found.</b> above and the reports in Appendix J.	✓	✓	✓
	6.11.3	Vegetation clearing and pruning to comply with Ausgrid's Tree	✓	✓	✓

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Impact	No.	Mitigation measures	Design	Construction	Operation
		Safety Management Plan and ISSC3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets.			
	6.11.4	Any hot works during a total fire ban must be in accordance with an approved exemption Ausgrid employees to work in accordance with TG107. This includes grinding, welding, brazing, oxy-cutting, heat treatment or processes that generate heat or continuous streams of sparks.		✓	✓
	6.11.5	Keep hot work activities 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.		✓	✓
	6.11.6	Where possible, schedule hot works activities during the more favourable period of the day and week.		✓	
	6.11.7	Comply with section 6.4 Total fire bans of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Aboriginal heritage	6.12.1	Known Aboriginal objects and places, if in close proximity to the worksite, must be identified on the day and barricaded to restrict access. Where it is not practical to isolate the known item, it must be constantly supervised during work to ensure no inadvertent damage occurs.		✓	✓
	6.12.2	An Aboriginal Heritage Impact Permit must be obtained for the project from the Office of Environment and Heritage. The permit will cover the salvage/collection of artefacts that cannot be avoided, protection of sites that can be avoided and detail the process for unexpected finds during construction. Ausgrid and its contractors must comply with the conditions of the project AHIP. Contractors must prepare a plan as part of the CEMP demonstrating how they will implement conditions of the AHIP/ACHAR and this REF. No works are to start in the vicinity of known sites until the AHIP is approved and conditions met.	✓	✓	✓
	6.12.3	Consultation with the RAPs in accordance with the ACHCRs regarding the project should continue, in order to keep the RAPs informed about the management of Aboriginal cultural heritage within the study area.  Consultation undertaken for this project must be maintained at least every six months in order to maintain validity. It is the Proponent's responsibility to ensure consultation remains valid. In the event a gap of more than six months occurs between consultation events, it may be necessary to restart the consultation process to support any AHIP applications that are necessary.	✓	✓	
	6.12.4	Prepare and implement an Aboriginal Cultural Heritage Management Plan in consultation with all registered aboriginal parties to guide the management of Aboriginal sites before, during and after upgrade works have been undertaken. This includes guidance around salvage excavations, management of recovered artefacts, and management of unexpected finds during on-going	✓	✓	✓

## Hunter-Central Coast REZ Network Infrastructure upgrades

Impact	No.	Mitigation measures	Design	Construction	Operation
		maintenance works.			
	6.12.5	<p>Should unanticipated Aboriginal archaeological material be encountered during site works, all work must cease in the vicinity of the find and an archaeologist contacted to make an assessment of the find and to advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.</p> <p>In the unlikely event that suspected human remains are identified during construction works, all activity in the vicinity of the find must cease immediately and the find protected from harm or damage. The NSW Police and the Coroner's Office must be notified immediately. If the finds are confirmed to be human and of Aboriginal origin, further assessment by an archaeologist experienced in the assessment of human remains and consultation with both Heritage NSW and the RAPs for the project would be required.</p> <p>This recommendation should be included in any Construction Environmental Management Plan (CEMP) developed for the site.</p>	✓	✓	✓
	6.12.6	The proposed development works must be contained within the assessed boundaries for this project. If there is any alteration to the boundaries of the proposed development to include areas not assessed as part of this archaeological investigation, further investigation of those areas may be necessary to assist in appropriately managing Aboriginal objects and places which may be present.		✓	
	6.12.7	<p>One digital copy of this report should be forwarded to Heritage NSW to support the required AHIP application for the project, along with required supporting documentation.</p> <p>One digital copy of this report should be forwarded to Heritage NSW for inclusion on the Aboriginal Heritage Information Management System (AHIMS).</p> <p>One copy of this report should be forwarded to each of the registered Aboriginal stakeholders for the project.</p>	✓		
	6.12.8	Detailed design must where reasonable and feasible avoid impact to identified aboriginal sites and areas of sensitivity.	✓		
	6.12.9	Final locations of ALL proposed ground disturbance (e.g. excavations for access tracks, construction pads, poles, benching etc) within the identified Aboriginal Sensitive Areas must be approved by the Ausgrid Environmental Management Representative prior to commencement.		✓	
	6.12.10	Comply with section 7.1 Aboriginal heritage of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Non-Aboriginal	6.12.11	All works to cease if potential heritage is discovered. Access should be restricted and Supervisor notified to ensure regulator is		✓	

## Hunter-Central Coast REZ Network Infrastructure upgrades

Impact	No.	Mitigation measures	Design	Construction	Operation
heritage		contacted. Ausgrid employees should contact Ausgrid Environmental Services on (02)9394 6659.			
	6.12.12	The location of heritage items should be highlighted to all construction personnel as part of the site induction.		✓	
	6.12.13	Comply with section 7.2 Environmental heritage of NS174C Environmental Handbook for Construction and Maintenance, July 2025 where not inconsistent with the above controls.		✓	
Visual and aesthetics	6.14.1	Consult with affected stakeholders about the proposal.	✓	✓	
	6.14.2	Clear the minimum amount of vegetation necessary.		✓	
	6.14.3	Reinstate the worksites post works to a suitable condition.			
	6.14.4	Viewpoint 2 (De Iuliis Vineyard/Lovedale Wedding Chapel and Reception) <ul style="list-style-type: none"> <li>Where possible, use pole colours or materials poles that are consistent with existing poles located along Lovedale Road near Lovedale Road overpass.</li> <li>Maximise pole spacing to reduce number of new poles.</li> <li>Consult with customers.</li> </ul>	✓	✓	
	6.14.5	Clear the minimum amount of vegetation necessary.		✓	
	6.14.6	Viewpoint 4 (Sandalwood Vine Resort) – Consultation with customer.		✓	
	6.14.7	Viewpoint 9 (Antiene STSS) – <ul style="list-style-type: none"> <li>Establish vegetation protection measures during construction and monitoring to protect vegetation along lake foreshore.</li> <li>Consult with Lake Liddell Recreation Area Manager.</li> </ul>		✓	
Traffic and access	6.15.1	Where works are proposed on a classified road, consent is required from the Roads Authority under section 138(1) of the Roads Act 1993.	✓		
	6.15.2	Where traffic on public roads will be impacted, prior to construction, prepare a TCP in accordance with the Australian Standard 1742.3.		✓	
	6.15.3	An ROL must be obtained from the Roads Authority where traffic will be impacted during the works on State and Regional Classified and Local Roads.		✓	
	6.15.4	The relevant contractor must prepare and implement a Traffic Management Plan/ Vehicle Movement Plan in accordance with TfNSW/Council requirements for each construction site where public roads/traffic is impacted.		✓	
	6.15.5	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 (i.e. their access will be restricted), one week's notice must be given.		✓	
	6.15.6	Prepare dilapidation surveys for public roads/access points prior to			

## Hunter-Central Coast REZ Network Infrastructure upgrades

Impact	No.	Mitigation measures	Design	Construction	Operation
		works (eg Hebden Road/Sandy Creek Road).			
	6.15.7	Reinstate roads and public land post works in consultation with council/TfNSW.		✓	
	6.15.8	Where construction overlaps with other projects (e.g. the Hunter Transmission Project or Muswellbrook BESS), liaise with the relevant parties to determine a clear and equitable approach to dilapidation responsibilities.		✓	
	6.15.9	Consider risks identified in the Aecom Road Safety Audit in Traffic Management Plans for works that use Hebden Road.		✓	
	6.15.10	Where possible construction activities should avoid the peak hour to minimise impacts on the New England Highway/Hebden Road and New England Highway/Sandy Creek Road intersections.		✓	
	6.15.11	Consider reducing the speed limit on Hebden Road between the New England Highway and the site access during peak construction activities.		✓	
	6.15.12	Truck movements on Sandy Creek Road must comply with the NHVR limitations. ie B-doubles are not permitted on this route between 7:30am – 8:30am and 3:45pm – 4:45pm on school days.		✓	
	6.15.13	Comply with all NHVR requirements for all OSOM trips.		✓	
Social and economic	6.16.1	Continue to manage and deliver community and stakeholder engagement in the lead up to construction of the project.	✓		
	6.16.2	Develop and implement a project-specific communication management plan in accordance with the Community and Stakeholder Engagement Strategy. The plan would include approaches and protocols to: <ul style="list-style-type: none"> <li>communicating and notifying potentially affected residents and stakeholders about work activities and potential for impacts</li> <li>communicating accurate project information.</li> <li>requirements for the complaints management system to be implemented throughout the duration of the project, including phone line, postal and email address for written enquiries, and publication of contact details.</li> </ul>		✓	
	6.16.3	Develop and implement an industry and Aboriginal participation plan. This will include: <ul style="list-style-type: none"> <li>investigating opportunities for the delivery of training and upskilling programs for local labour force</li> <li>strategies for maximising local training and employment opportunities for residents, especially for First Nations people</li> <li>initiatives to promote local employment, such as early engagement with local employment agencies and council, communication of employment opportunity via relevant local mediums of information, contract workers through</li> </ul>	✓	✓	



## Hunter-Central Coast REZ Network Infrastructure upgrades

Impact	No.	Mitigation measures	Design	Construction	Operation
		existing local businesses, etc.			
	6.16.4	Develop and implement a Landowner Engagement Strategy for the project which will include: <ul style="list-style-type: none"> <li>• appointment of a dedicated Land Acquisition Manager to oversee the implementation of the strategy</li> <li>• ensure personnel appointed to engage with landowners have been suitably trained to undertake engagement with vulnerable people and those potentially affected by mental health issues.</li> </ul>	✓	✓	
	6.16.5	Allocate a project specific First Nations Officer to focus on identifying and implementing strategies to enhance and maximise opportunities for employment, procurement, education and other potential project related benefits.	✓	✓	
	6.16.6	Maintain s complaints management system throughout the construction period. The complaints management system will include the following (at a minimum): <ul style="list-style-type: none"> <li>• contact details for a response phone line and email address for ongoing stakeholder contact throughout the project</li> <li>• details of all complaints received will be recorded</li> <li>• verbal and written responses describing what action will be taken will be provided to the complainant (or as otherwise agreed by the complainant).</li> </ul>	✓	✓	
Cumulative impact	5.17.1	Attend EnergyCo coordination meetings	✓		
	5.17.2	Consult with HTP to minimise cumulative impacts particularly at Mt Thorley and Hebden Road.		✓	
	5.17.3	Consult with Firm Power to minimise cumulative impacts particularly on Sandy Creek Road.		✓	
	5.17.4	Consult with other projects outlined in Table 6.33 or that are identified during the design and/or construction phase to minimise potential cumulative impacts identified.		✓	
	5.17.5	Undertake regular consultation with TfNSW, Cessnock Council, Singleton Council and Muswellbrook Council during design development and construction phases to minimise cumulative impact on community and other projects		✓	