

Submissions Report

Supply to Western Sydney Priority Growth Area –
Kemps Creek 330kV Substation

September 2026

Certification

Submissions Report preparer	
I certify that I have prepared the contents of this Submissions Report document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under section 170 of the EP&A Regulation and the information it contains is neither false nor misleading.	
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Date	11 September 2026
Submissions Report reviewer/ endorser	
I certify that I have reviewed and endorsed the contents of this Submissions Report document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under section 170 of the EP&A Regulation and the information it contains is neither false nor misleading.	
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Date	11 September 2026

Executive summary

Transgrid is the proponent and determining authority for the Kemps Creek South (KCS) 330 kilovolt (kV) substation (the proposed activity).

The proposed activity includes:

- Establishment of a new 330 kV KCS substation, located to the south of the existing 500 kV Kemps Creek (KCR) substation
- Minor augmentation of existing electrical infrastructure within KCR substation
- Transmission line connection and augmentation works between KCS and KCR substations
- Upgrade of the existing access road to enable construction and operation of KCS substation
- Ancillary construction activities, including the establishment of a site compound and equipment laydown area(s) between the KCR and KCS substations.

The proposed activity is assessed in the *Supply to Western Sydney Priority Growth Area – Kemps Creek 330 kV Substation Review of Environmental Factors* (REF) (June 2026). The REF was publicly exhibited for 30 calendar days from 11 June 2026 to 10 July 2026 to allow the community and stakeholders to understand the proposed activity and provide feedback. The REF was displayed on Transgrid's website, and two community information sessions were held at Carnes Hill Marketplace on 18 and 25 June 2026 during the display period.

A total of six submissions were received from the public and six submissions from government agencies. This report summarises the issues raised and provides responses to each.

Issues raised

Key issues raised in the submissions included:

- The alternatives considered for the proposed activity, including siting of infrastructure within the impact area
- Noise and vibration impacts to sensitive receivers in Austral during construction and operation
- Adverse visual amenity impacts for sensitive receivers in Austral during operation
- Land use impacts, including the intensification of electricity transmission and substation infrastructure in close proximity to land zoned as residential
- Construction traffic impacts, including damage to local roads
- Impacts on property values and marketability for residential properties in Austral
- Prior and future consultation and engagement with affected residents regarding the proposed activity.

Amendments to the proposed activity

Transgrid is not proposing any design changes to the proposed activity, as described in the REF.

Following review of submissions, Transgrid has amended the mitigation measures described in the REF. Key changes include:

- A revised environmental management and incident response mitigation measure (EM6) to specify that chemicals and other hazardous substances would be stored in accordance with relevant Australian Standards and NSW EPA manual, and that the location of the refuelling zones and bunded enclosure/s shall be documented on site specific plans
- Two additional ecology mitigation measures (EC6, EC7) to manage biosecurity risks during operation of the proposed activity
- A revised noise and vibration mitigation measure (NV3) to reflect the development of a complaints register
- A revised traffic and access mitigation measure (TA2) to reflect that:
 - a Construction Traffic Management Plan (CTMP) would be prepared to document construction traffic mitigation and management strategies, and provided to Transport for NSW for information
 - Construction activities would be planned and scheduled to consider conflicts with any Transport for NSW works on Fifteenth Avenue
 - Vehicles and plant would be managed to minimise the tracking of mud, soil and other materials onto public roads, and any material deposited on public roads as a result of construction activities would be promptly removed.
- An additional traffic and access mitigation measure (TA3) which requires a dilapidation survey to be undertaken before and after bulk earthworks. Any damage to roads and associated infrastructure as a result of the proposed activity would be reinstated to at least its existing condition.

Conclusion

Considering the REF and this Submissions Report, it is concluded that:

- The proposed activity is not likely to significantly affect the environment and therefore the preparation of an Environmental Impact Statement is not required
- The proposed activity is not likely to significantly affect threatened species, ecological communities or their habitats and would not be carried out in a declared area of outstanding biodiversity value, and therefore neither a Species Impact Statement (SIS) or a Biodiversity Development Assessment Report (BDAR) is required.

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1. Introduction

1.1. Proposed activity

Transgrid proposes to construct and operate the Kemps Creek South (KCS) 330 kilovolt (kV) substation, located to the immediate south of Transgrid's existing Kemps Creek (KCR) 500 kV substation (the proposed activity). The proposed activity includes augmentation works at KCR substation, transmission line connection works between KCR and KCS substations, and access road upgrade works. Transgrid is the proponent and determining authority for the proposed activity.

The need for the proposed activity is driven by the requirement to increase the electricity network's capacity and provide a reliable energy supply to the Western Sydney Priority Growth Area and Western Sydney International Airport. The proposed activity is proposed to be operational by 2029/2030. The assessment of the proposed activity is documented in the *Supply to Western Sydney Priority Growth Area – Kemps Creek 330 kV Substation Review of Environmental Factors* (REF) (June 2026).

The scope of the proposed activity, as outlined in Section 3 of the REF, includes:

- Establishment of the new 330 kV KCS substation, located to the south of the existing 500 kV KCR substation
- Minor augmentation of existing electrical infrastructure within the KCR substation
- Transmission line connection and augmentation works between the KCS and KCR substations
- Upgrade of the existing KCR access road to facilitate construction and operation of the KCS substation
- Ancillary construction activities, including the establishment of a temporary site compound and equipment laydown area(s) between the KCR and KCS substations.

1.1. REF exhibition

Transgrid prepared the REF to assess the environmental impacts of the proposed activity. Consultation was undertaken in accordance with relevant legislation and Transgrid's Community and Stakeholder Engagement Plan (CSEP) developed for the proposed activity.

The REF was placed on public exhibition for 30 calendar days from 11 June 2026 to 10 July 2026 on Transgrid's website (<https://www.transgrid.com.au/projects-innovation/supply-to-western-sydney-priority-growth-area/>).

Letters were sent to nearby residents likely to be directly or indirectly impacted, as well as to relevant government agencies, advising them of the exhibition and how to make a submission. A phone number and email address were also provided to allow stakeholders to contact Transgrid for more information.

In addition to the website display and distribution of letters, the following consultation activities were also undertaken:

- Community information sessions were held on the 18 June 2026 and 25 June 2026 at Carnes Hill Marketplace, Kurrajong Road, Carnes Hill

- Targeted social media advertising to people in the local area during the REF exhibition period
- Email notification to stakeholders including Government agencies, State and Commonwealth Ministers, Liverpool City Council, nearby residents, a local school, and known developers.

1.2. Purpose of this report

This Submissions Report relates to the REF prepared for the Kemps Creek 330 kV Substation and should be read in conjunction with that document. It summarises the issues raised in the submissions during public exhibition and provides responses to each issue (Section 3).

This report also describes amendments made to the mitigation measures for the proposed activity since exhibition of the REF.

2. Analysis of submissions

2.1. Overview of responses

Transgrid received submissions from 11 respondents during the public exhibition period ending 10 July 2026. One additional late submission was received from the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 14 July 2026, which was accepted by Transgrid and has been considered in this Submissions Report. Of these submissions:

- Six were from individuals
- Six were from government agencies.

The government agency submissions received raised no objections to the proposed activity, with some providing suggested conditions of approval related to their specific area of responsibility.

All six submissions received from individuals were from residents/landowners (or representatives of owners/developers) located in the suburb of Austral. Five individual submissions commented that they did not object to the proposed activity, however raised concerns about potential environmental impacts, and the implementation of mitigation measures.

2.2. Overview of issues raised

The main issues raised in the submissions related to:

- The alternatives considered for the proposed activity, including the specific siting of infrastructure
- Noise and vibration impacts to sensitive receivers in Austral during construction and operation
- Adverse visual amenity impacts for sensitive receivers in Austral during operation
- Land use impacts, including the intensification of electricity transmission and substation infrastructure in close proximity to land zoned as residential
- Construction traffic impacts, including damage to local roads
- Impacts on property values and marketability for residential properties in Austral
- Prior and future consultation and engagement with affected residents regarding the proposed activity.

Each submission was individually reviewed to identify each issue raised. These issues were extracted, categorised, and consolidated to ensure consistent and efficient responses. Where similar issues were raised across multiple submissions, a single response has been provided.

3. Response to issues

3.1. Submissions from individuals

Issues raised by individual submitters and Transgrid's response are provided in Table 3-1.

Table 3-1: Response to issues raised by individuals

Issue category	Summary of issue	Submitter number	Response
Alternatives considered	Concern that the REF does not adequately consider the alternatives considered to minimise impacts on receivers, including maximising distance between the new substation and residential receivers, and undergrounding of proposed transmission line connections.	2, 5, 6	Section 2.4 of the REF outlines the alternative options considered and assessed for the proposed activity. The preferred option was selected as it was identified as the most technically feasible and cost-effective option. The location of the proposed KCS substation was constrained by the available property size, the presence of existing transmission line infrastructure (TL 37, TL 13, TL 14), the space required to transport and place larger equipment such as the power transformers, and the need to avoid and minimise impacts on the Cumberland Plain Woodland Threatened Ecological Community. Consideration was also given to Endeavour Energy's easement requirements and the construction of their proposed Austral Zone Substation. The design and siting of the proposed activity were further influenced by ground and geotechnical conditions. Alternative approaches do not present the most cost-effective option as they would require more ground disturbance through trenching and/or excavation, and would result in greater impacts to vegetation, soils, and watercourses.

Issue category	Summary of issue	Submitter number	Response
			Undergrounding of the transmission line connections between the KCR and KCS substations was considered during concept design development but was not considered feasible as underground high voltage cables generally result in greater environmental impacts and substantially higher costs than equivalent overhead transmission lines. Construction of underground cables requires extensive excavation, resulting in significantly greater ground disturbance and associated impacts to soils, vegetation, watercourses, and other environmental values. Undergrounding would also increase ongoing maintenance requirements and impose longer-term constraints on future land use due to restrictions within the cable easement. Given these environmental, operational, and economic considerations, overhead transmission lines were determined to be the most favourable option for the proposed activity.
Assessment methodology	Comment that the REF provides general conclusions and does not provide a detailed, site-specific description or assessment of the proposed activity for affected landholders.	2	The assessment of impacts detailed within the REF is based on the concept design of the proposed activity, which will be further refined to a detailed design prior to construction. While some assumptions must be made when assessing impacts at this point in the design, this approach allows for feedback received during the preparation and public display of the REF, which will be considered and incorporated into the detailed design and implemented during construction. The REF provides a conservative, worst-case assessment of the proposed activity to ensure all potential impacts have been fully assessed and confirm that those impacts are not significant. For example, the noise and vibration assessment assumes the loudest construction equipment being operated at the closest point within the site to nearby sensitive receivers. This approach, which is typical of REFs prepared for infrastructure projects, prioritises certainty that impacts are not significant for all receivers over the specificity of impact on individual receivers. Mitigation measures proposed in the REF aim to control, minimise or mitigate the potential impacts identified. These measures form part of the approval and provide firm commitments which will be implemented during construction and operation of the proposed activity.

Issue category	Summary of issue	Submitter number	Response
Consultation	Concern regarding the adequacy of consultation for the proposed activity. The submitter commented that they only became aware of the proposed activity whilst attending a community information session for a separate development.	1	Transgrid worked with Endeavour Energy to undertake a Regulatory Investment Test for Transmission (RIT-T) to determine the most prudent and efficient option to ensure consistent and reliable supply to the Western Sydney Priority Growth Area. As part of this process Transgrid, Australian Energy Market Operator, and Department of Planning, Housing and Infrastructure published an opportunity for submissions on the Project Specification Consultation Report (PSCR) from May to July 2024 with the Project Assessment Draft Report (PADR) published on 4 March 2025 and later Project Assessment Conclusions Report (PACR) published on 1 August 2025. Consultation for the proposed activity was undertaken in accordance with the CSEP to inform stakeholders about the proposed activity and to provide opportunities for early participation. Prior to the exhibition of the REF, Transgrid engaged with State and Federal Government Ministers, relevant Government agencies, implemented gate signage, and contacted adjoining landowners to provide information about the project in November 2025. Relevant Government agencies and council were also offered an opportunity to engage in the proposed activity through a briefing held in March 2026. In April 2026, Transgrid contacted known local developers, local Council representatives, and community members who had registered their interest through the Transgrid webpage to provide details about the proposed activity and support early awareness and engagement. Whilst Transgrid considers that the consultation undertaken to date for the proposed activity has been comprehensive, we acknowledge the concerns raised and will work to ensure ongoing consultation throughout construction of the proposed activity.

Issue category	Summary of issue	Submitter number	Response
			During the REF exhibition, engagement activities included consultation with relevant state government agencies, letterbox drops (where available) to nearby residents likely to be directly or indirectly impacted within a 500m radius of the proposed activity, direct engagement with known local developers, and briefing opportunities with State and Federal Ministers. Awareness of the REF exhibition period, and community information sessions at Carnes Hill Marketplace on the 18 June 2026 and 25 June 2026 were also shared via Transgrid's website and social media channels.
	Request that Transgrid meaningfully consider the concerns raised by local residents and demonstrate its commitment to the community through project development.	1	All issues raised during the consultation process have been reviewed, considered and addressed within this Submissions Report. Transgrid commits to undertaking ongoing consultation with the community and stakeholders, including local residents and affected landowners, throughout the development of the project in accordance with the CSEP. Transgrid has also established a website which provides relevant current information to the community, as the proposed activity progresses. This website includes contact details to provide feedback or complaints as appropriate. In accordance with mitigation measure NV4, residents would be notified in advance when noisy works are proposed. This would include their nature, duration, and expected noise levels. In accordance with mitigation measure SE2, feedback and complaints received during construction of the proposed activity would be considered and responded to in a timely manner. Complaints will be acknowledged within two business days and provided resolution within 10 business days in line with Transgrid's Complaints and Enquiries Policy.

Issue category	Summary of issue	Submitter number	Response
	Request for consultation with directly affected landowners before the design is finalised, including affected Gurner Avenue landowners.	2, 5, 6	Transgrid acknowledges the request for ongoing consultation with directly affected landowners prior to finalisation of the design. As outlined above, consultation with affected landowners, the local community, and relevant stakeholders will continue in accordance with the CSEP that has been prepared for the proposed activity. This ongoing engagement will provide an opportunity for affected landowners to raise concerns. In accordance with mitigation measures NV4 and SE2, notifications to sensitive receivers will also be undertaken, and all feedback and complaints received during construction shall be considered and responded to in a timely manner.
	Request for provision of detailed design drawings which indicate heights of structures visible from residential land and schools.	5, 6	Transgrid acknowledges the request for further information regarding the detailed designs of the proposed structures, including their visibility from surrounding residential land and schools. The proposed activity is currently at concept design stage, and the REF adopts a conservative, worst-case assessment approach. This includes assuming maximum potential structure heights for transmission towers in the visual impact assessment and corresponding photomontages to provide an indicative representation of the proposed activity. As detailed in the REF, gantries are anticipated to be approximately 22 m in height, lightning masts for the gantries would be approximately 20-30 m high and the new 330 kV double-circuit transmission line would be approximately 40 m high. Detailed design would focus on refining key elements relating to the proposed activity. Should the proposed activity result in changes not consistent with the REF, further assessment and consultation would be undertaken. A Landscape Character and Visual Amenity Impact Assessment (LCVIA) report was undertaken to support the REF (Appendix G of the REF). The LCVIA concluded that the proposed activity would result in moderate (adverse) visual impacts at sensitive receivers within representative Viewpoint 1, located along the southern boundary of the proposed activity, which represents the view from residents/landowners and the local school. The assessment noted that the school is largely surrounded by

Issue category	Summary of issue	Submitter number	Response
			tall metal fencing which would screen views of the proposed activity from the rear of the property and reduce its visual prominence from this location. Figure 5 of the REF, and Figures 6-4 and 6-5 of the LCVIA, present photomontages showing the proposed activity as viewed from Viewpoint 1. These photomontages provide an indication of the proposed design and the visibility of infrastructure from this viewpoint. In accordance with mitigation measure VA2, operational impacts to visual amenity from exterior lighting would be minimised.
	Request for relevant contact information to facilitate ongoing communication throughout the detailed design process and construction phases of the proposed activity.	6	Transgrid's Community Engagement team will provide communication and direct enquiries to the relevant person in the Transgrid team, depending on the query. Contact details throughout the design and construction of the proposed activity are provided on the project website and are: - Email: network.solutions@transgrid.com.au - Toll-free phone number: 1800 222 537. Ongoing consultation with residents will be undertaken in accordance with the CSEP for the project and mitigation measure SE2.
Related development	Request for clarification regarding whether the REF presents the final footprint of works and whether additional future development of the Kemps Creek Electricity Precinct will occur.	3	Transgrid acknowledges the request for clarification regarding the final footprint of works and potential future developments. The REF has been prepared based on the concept design of the proposed activity. As referenced above, the REF adopts a conservative assessment approach, and further detailed design is not anticipated to result in refinements that would be inconsistent with those assessed in the REF. As detailed in Section 2.3 of the REF, Transgrid notes that Endeavour Energy is proposing to construct and operate the Austral Zone Substation to the south of the proposed activity. This project would be subject to a separate environmental assessment undertaken by Endeavour Energy. Section 6.14 of the REF also acknowledges Transgrid's Kemps Creek Accelerated Synchronous Condenser development located within the proposed impact area, to the west of the existing KCR substation. A Summary Environmental Report (SER) was finalised and

Issue category	Summary of issue	Submitter number	Response
			determined in November 2025 for this activity (https://www.transgrid.com.au/projects-innovation/system-strength-project/). Beyond this, Transgrid is not aware of any additional substations or major electrical infrastructure currently proposed on or adjacent to the site. Noting the strategic importance of the precinct in supporting long-term growth, this does not preclude further development as required. Any future proposals would be subject to separate planning approvals and consultation at the time.
Land use	Concern that the proposed activity would increase the intensity of electricity transmission and substation infrastructure in close proximity to residential properties. The submissions note that the surrounding area has been rezoned for higher-density residential development and therefore considers the proposed activity incompatible with the intended land use.	2, 6	The proposed KCS substation and associated transmission infrastructure would be consistent with the existing zoning of the land (SP2 infrastructure) in which it is proposed. It is also consistent with the nature of the adjacent existing electrical infrastructure, being the KCR substation. The land on which the proposed activity would be constructed would not be rezoned as part of the proposed activity. It is acknowledged that the new substation would be located on land currently comprising open grassland and patches of vegetation. As such, the proposed activity would be perceived as a permanent land use change from a vegetated area to electricity infrastructure. Amenity impacts to residential receivers to the south of the proposed activity have been considered in the REF (see Sections 6.7 and 6.11 relating to noise and vibration, and visual amenity respectively). The REF also considers cumulative impacts which may result in incremental impacts caused by the combination of other reasonably foreseeable future development. This includes other electrical infrastructure, education, and residential developments within the vicinity of the proposed activity. The proposed activity is required to meet increasing electricity demand arising from the significant population and economic growth planned for the Greater Western Sydney area, including development associated with the Western Sydney International (Nancy-Bird Walton) Airport and surrounding residential, commercial, and industrial precincts. The proposed electricity network

Issue category	Summary of issue	Submitter number	Response
			intensification is necessary to support this growth and is consistent with the region's planned urban development.
Noise and vibration	Concern about noise and vibration impacts for residents in Austral during construction, including during the loudest work stage and for future residents along Butcherbird Lane.	1, 4	Transgrid acknowledges the concern regarding potential noise and vibration impacts for residents in Austral and notes that the construction noise predictions presented in the Noise and Vibration Impact Assessment (NVIA) represent a worst-case, conservative scenario for the loudest work stage. The construction work stage that would likely generate the most noise (WS1 – Earthworks) is expected to last for a large portion of the construction works – approximately 10 months. The NVIA concludes no existing residential receivers are predicted to be highly noise affected across any work stage (i.e. would experience noise levels >75 dBA), including WS1. Some minor exceedances of noise management levels (the level at which a noise impact could reasonably be perceived) are anticipated during works out of standard construction hours or at night time (out of hours work; OOHW) and would be managed in accordance with an OOHW protocol and mitigation measure NV3. These impacts would be temporary and short-term in nature and would be further refined during detailed design and further development of the construction methodology. While future residential receivers are anticipated within the suburb of Austral, the timing and construction program for these dwellings was not known at the time of the NVIA. In accordance with mitigation measure NV3, the number, type, and location of all nearby residences would be confirmed prior to construction and potential impacts to these receivers further assessed. Noise contours for the loudest work scenario are provided in Appendix E of the NVIA. Consistent with mitigation measure NV4, the duration and nature of works would be communicated to residents accordingly. Construction noise impacts would be managed through the implementation of NV2 and NV3, including the

Issue category	Summary of issue	Submitter number	Response
			implementation of a Construction Noise and Vibration Management Plan (CNVMP).
	Request for heavy construction vehicles to access site during weekends where possible, to minimise construction vehicle noise during working hours	1	Construction of the proposed activity will be planned and scheduled to minimise the overall construction duration, where possible. Restricting heavy vehicle movements to weekends only would extend the construction program and may result in greater amenity impacts by concentrating traffic, noise and associated disturbance into shorter weekend periods. Accordingly, heavy vehicle movements are proposed to be undertaken on weekdays, during generally standard working hours. Over size and over mass (OSOM) vehicles are likely to require progressive road closures and therefore would be undertaken at night to limit disruption to the road network. Construction vehicle numbers presented in the REF represent maximum vehicle volumes and therefore a conservative approach to the traffic assessment; however, actual vehicle numbers are expected to be less (see Section 6.8). The predicted construction traffic volumes are considerably less than typical daily volumes on these roads. As such, additional road noise from construction traffic associated with the proposed activity is highly unlikely to exceed the noise thresholds.
	Concern about operational noise impacts from the new substation and requests for the implementation of mitigation measures and acoustic treatments.	1, 2, 4, 5, 6	The potential operational noise impacts associated with the KCS substation have been carefully considered and modelled as part of the REF, with appropriate mitigation measures identified to minimise potential impacts on sensitive receivers. It is noted that with the committed noise mitigations proposed in Appendix C of the REF (including mitigation measure NV5) including installing noise walls on three sides of the power transformers and having maximum sound power levels of 94 dBA, sensitive receivers would not experience noise levels that exceed the Project Noise Trigger Levels (PNTLs). Operational noise levels would be verified to ensure full noise compliance within three months of operations, in accordance with mitigation measure NV7.

Issue category	Summary of issue	Submitter number	Response
	Comment that there was an inconsistency in the description of the location of sensitive receivers that would experience noise exceedances during operation detailed in the REF and NVIA.	5	Transgrid acknowledges the inconsistency in the geographic direction of affected sensitive receiver locations, in the absence of mitigation measures being applied. Transgrid confirms that the NVIA in Appendix F of the REF is correct and that the majority of sensitive receivers identified as being affected (in the absence of mitigation) are located to the south of the proposed activity, rather than the west. The REF confirms that with the implementation of the proposed operational mitigation measures, no exceedances are anticipated for the future residential buildings to the south.
	Concern about sleep disturbance impacts caused by circuit breaker activation, including a request for further assessment and verification of operational noise impacts prior to, or upon first occupation of residents along Gurner Avenue. Requests for mitigations to be provided for maximum noise level events.	5	Transgrid acknowledges the concern regarding sleep disturbance impacts caused by circuit breaker activation, and notes that these impacts have been carefully considered in the REF. The circuit breakers are an essential component to the functionality of the KCS substation and are required to protect assets from potential damage. Transgrid recognises the potential for short-duration noise impacts associated with circuit-breaker activation events. However, these events are expected to be isolated and infrequent and are not anticipated to cause significant sleep disturbance or other ongoing impacts to sensitive receivers. Accordingly, no further assessment or specific mitigation measures are considered warranted. Transgrid acknowledges the request for operational noise verification to occur prior to, or upon first occupation of residents along Gurner Avenue, as a supplementary measure to noise verification being undertaken within three months (as per mitigation measure NV7). However, the additional verification is not considered necessary, as the operational noise assessment has been undertaken using conservative assumptions and predicts compliance with the applicable noise criteria with the application of targeted noise mitigation in accordance with Appendix F of the NVIA. The operational noise verification in mitigation measure NV7 provides an appropriate mechanism to confirm operational performance and address any unforeseen issues if required.

Issue category	Summary of issue	Submitter number	Response
			Operational noise contours (with mitigation applied) are provided for all areas around the proposed substation. These show noise levels to be within the PNTLs for all proposed residential lots to the south Should operational noise levels disturb sensitive receivers, Transgrid's existing operational complaints line (1800 222 537) would remain available for community members to raise concerns. In such a case, Transgrid would seek to better understand the nature and cause of any issues and would work to rectify issues where reasonable and feasible.
	Concern regarding unmitigated operational noise exceedances and requests firm commitments to noise mitigation measures proposed. Requests the implementation of acoustic modelling for sensitive receivers to the south of the proposed activity.	6	Transgrid acknowledges the concern regarding unmitigated operational noise exceedances and confirms that the mitigations committed to in the REF would form part of the detailed design and would be implemented. These mitigations, including the proposed heights of noise walls (minimum 5 m) and the specification of transformers with a maximum transformer sound power level (94 dBA) would form part of the detailed design and be implemented prior to commissioning of the substation to ensure full compliance of the applicable PNTLs, in accordance with mitigation measure NV5. Transgrid acknowledges the request for acoustic modelling for sensitive receivers to the south of the proposed activity and notes that this assessment has been undertaken in NVIA. As discussed above, the noise assessment demonstrates that compliance with the applicable noise criteria would be achieved with the implementation of mitigation measures. Transgrid notes that operational noise levels would also be verified to confirm compliance within three months of operations, in accordance with mitigation measure NV7.

Issue category	Summary of issue	Submitter number	Response
Traffic and access	Concern about road damage occurring due to construction vehicles travelling on unsuitable roads and cumulative traffic impacts, including request that Transgrid upgrade all access roads and any damage is remediated.	1, 4	Transgrid recognises the concern about further road damage due to construction vehicles travelling on potentially unsuitable roads. Transgrid will undertake a dilapidation survey of the traffic routes prior to bulk earthworks for the proposed activity to document the current condition of the roads. Following completion of the bulk earthworks, a dilapidation survey would be completed to determine any road damage. Any damage to roads and associated infrastructure as a result of the proposed activity would be reinstated to at least its existing condition, in a timely manner in accordance with the additional mitigation measure TA3. In accordance with mitigation measure CU1, consultation will be undertaken with other nearby projects to minimise cumulative traffic impacts on nearby residents (including the provision of traffic management and the scheduling of works). In addition, a Construction Traffic Management Plan (CTMP) will be prepared to address nominated haulage routes (developed in consultation with Council and Transport for NSW (TfNSW)) and traffic management and would aim to minimise potential impacts, in accordance with revised mitigation measure TA2. Where practicable, Transgrid will coordinate works with other Transgrid projects as relevant, such as the Kemps Creek Accelerated Synchronous Condenser project, to minimise cumulative impacts on local roads and limit disturbances to nearby residents.
	Comment that there has been insufficient detail provided regarding both the expected construction and operational vehicle volumes, access routes and traffic mitigation measures.	3	Transgrid acknowledges the request for further information regarding construction traffic and access details and notes this has been considered and assessed in Section 6.8.2 of the REF. Assessed traffic volumes represent a conservative worst-case scenario of maximum construction vehicle volumes, with actual vehicle numbers expected to be lower. Access to the proposed activity would occur along the access road to the existing KCR substation, which would be upgraded to provide suitable access for workers and construction vehicles, with other transport to occur via the motorway network. In accordance with mitigation measure TA2, nominated haulage routes would be developed in consultation with Council and TfNSW and documented in the CTMP.

Issue category	Summary of issue	Submitter number	Response
			The REF recognises that construction activities will increase traffic on the local road network. However, with the implementation of mitigation measures TA1 and TA2, traffic and access impacts during construction of the proposed activity are expected to be minor and temporary. Once operational, the KCS substation is expected to have relatively low ongoing activity, with periodic maintenance and inspection visits, and limited day-to-day traffic in comparison to the construction phase. Section 6.8.2 of the REF estimates six personnel would access the KCS substation per day via the access road, as required. Whilst the KCS substation will be operational 24/7, standard maintenance activities would be scheduled between 7 am and 5 pm, Monday to Friday. Whilst regular maintenance would continue at the KCR substation, and maintenance activities associated with the transmission line infrastructure would be undertaken as required, potential traffic and access impacts during operation are expected to be negligible.
Hazards and risks	Concern regarding electric and magnetic fields (EMF) risks to residents and requesting the implementation of mitigation measure HR1.	1	The concern raised regarding risks to residents from EMF exposure is noted, and has been assessed in Section 6.10.2 of the REF. All project elements, including the KCS substation and new double-circuit transmission line, would be designed to ensure that EMF levels comply with the International Commission on Non-Ionizing Radiation Protection (ICNRP) Guidelines for limiting exposure to EMF (APRANSA, 2010), in accordance with mitigation measure HR1. This measure would be incorporated into the detailed design and delivery of the proposed activity. The proposed KCS substation would be adequately enclosed by a security fence, with access to the substation restricted to authorised personnel only. EMF levels outside of the substation fence, where the public could potentially access, would be below the ICNIRP General Public Guideline Reference Levels.

Issue category	Summary of issue	Submitter number	Response
Landscape and visual	Concern regarding the moderate adverse visual impact rating for their residential area during operation, and requests for further mitigation including landscaping and architectural treatments to minimise impacts.	1, 2, 4, 5, 6	Transgrid recognises that residents to the south of the proposed activity located within Viewpoint 1 were assessed as having moderate (adverse) visual impacts during operation of the proposed activity. The moderate (adverse) visual impact rating was attributed to the sensitivity of the viewpoint (attributed to the number of residential receivers in the new development south of the proposed activity), and the magnitude of change associated with permanent infrastructure additions from the proposed activity. However, the new permanent infrastructure is similar in size and character to the existing transmission and KCR substation infrastructure, and there is partial screening from existing vegetation. To further minimise visual impacts, Transgrid will assess the feasibility of painting the palisade fencing surrounding the new substation during further detailed design development, and will ensure proposed treatments align with Transgrid's standards, operational requirements, and maintenance considerations. Regarding the potential to minimise impacts from transmission towers and gantries (which are likely to be the most visible structures for the closest receivers), painting is not preferred. This is because the surface of the transmission towers dulls down over time due to the oxidation and weathering of the galvanised coating, the accumulation of dirt and airborne contaminants, and natural surface roughening. Also, given painting has the potential to impact conductivity of the towers and gantries, this option was not considered favourable. Transgrid is currently engaging with Endeavour Energy to explore options for landscaping south of the proposed substation, having regard to the intended future use of the land and Endeavour Energy's planning and implementation timeframes. Any landscaping measures would be subject to the agreement of the relevant landowners.

Issue category	Summary of issue	Submitter number	Response
	Requests for further information regarding the visual impact assessment, including viewpoint locations, photomontages (including at night-time), and methodology assumptions and lux spill modelling. Some submitters request further assessment be undertaken at nearby residential receivers.	2, 3, 6	Transgrid acknowledges the request for all visual impact assessment material and methodology assumptions. It is noted that Section 6.11 of the REF provides a summary of the LCVIA undertaken for the proposed activity, while Appendix G of the REF provides the detailed LCVIA, including all visual assessment material such as photomontages, methodology and assessment from various viewpoints. Specifically, Section 6 of the LCVIA provides all representative viewpoints considered for the assessment, with Viewpoint 1 considered to represent the closest visual receivers from the future residential area in the south. The photomontage from Viewpoint 1 is included in Figure 5 of the REF, and Figure 6-5 of the LCVIA, with remaining photomontages detailed in Section 6 of the LCVIA. Transgrid acknowledges the request for further visual assessment at nearby residential receivers, and notes that the LCVIA has appropriately considered the closest sensitive receivers' location in Viewpoint 1, south of the proposed activity. The assessment is considered to provide a comprehensive assessment of potential visual impacts at this location and notes that existing vegetation will partially screen the site, particularly from the east and west. Mitigation measure VA2 requires the KCS substation to be designed and installed to minimise light spill beyond the substation boundary fence. As such, lux spill modelling was not considered necessary for the preparation of the REF.

Issue category	Summary of issue	Submitter number	Response
	Concerns regarding the use of lighting masts and associated lighting impacts (including night-time impacts) on future residents and the community.	2, 5, 6	Transgrid acknowledges the typographical error in Section 3.2.1 of the REF and clarifies that the proposed activity includes 'lightning' masts, not 'lighting' masts. Lightning masts (also called shield masts, lightning protection masts, or air terminals) are installed in substations to intercept direct lightning strikes and safely conduct the lightning current to earth before it can hit critical equipment. Lighting at the KCS substation would be designed in accordance with AS/NZS 4282:2023 – <i>Control of the obtrusive effects of outdoor lighting</i>. Lighting would be installed to face inwards and is likely to include sensors. No significant light spill beyond the KCS substation boundary is expected, and it is not anticipated to impact upon residential properties. Exterior lighting for the KCS substation would be installed in a manner that aims to minimise light spill beyond the substation boundary fence in accordance with mitigation measure VA2.
Social and economic	Concerns about impacts on land and/or property values and marketability. One submitter requested that an assessment of the proposed activity's impact on property values be undertaken.	2, 3, 5, 6	Property values are influenced by a range of factors, both positive and negative within a given area. This includes changes in land use, amenity, accessibility, and the availability of infrastructure. In this case, the proposed activity would be located within a predominantly rural-residential environment, where substantial electrical infrastructure is already present. The proposed transmission line works would also occur on Electricity Transmission Ministerial Holding Corporation (ETMHC) owned property, and the proposed substation would also not directly adjoin any individual residential properties. The KCS substation and associated electrical infrastructure have been sited, and designed to minimise potential environmental impacts, ensuring the design is as sensitive as possible to the amenity of the surrounding landscape. The REF assesses the potential environmental and community impacts of the proposed activity that may influence local amenity, including noise and vibration, traffic and access, visual impacts and other community impacts. The REF also identifies mitigation measures to avoid or minimise potential impacts during construction and operation.

Issue category	Summary of issue	Submitter number	Response
			Having regard to the existing electrical infrastructure in the locality, the location and design of the proposed activity and the assessment and mitigation of potential amenity impacts and the proposed activity not directly adjoining any private residences or improved properties, a material change in property values attributable to the proposed activity is not expected. On this basis, a separate assessment of property values is not considered warranted.
	Comment that they reserve all rights concerning any adverse impacts arising from the proposed activity, with one submitter noting they reserve rights to any associated costs resulting from the proposed activity.	2, 5, 6	Transgrid acknowledges the submitter's comment. Potential adverse impacts including environmental, amenity and construction-related impacts of the proposed activity have been assessed in the REF. Appropriate mitigation measures have been identified and updated where required to avoid, minimise or manage those impacts. An updated list of mitigation measures is included in Appendix A.
Cumulative	Concern about cumulative impacts arising from additional transmission line infrastructure.	2	Transgrid acknowledges the concern regarding cumulative impacts arising from additional transmission line infrastructure and notes that Section 6.14.2 of the REF assesses the cumulative impacts of the proposed activity in combination with other projects and developments in the locality. Existing transmission line infrastructure forms part of the existing environment and has therefore been considered as part of the baseline against which the impacts of the proposed activity have been assessed. The REF also considers the interaction of the proposed activity with other relevant projects and developments such as Endeavor Energy's Austral Zone Substation, Transgrid's Kemps Creek Accelerated Synchronous Condenser, the redevelopment and expansion of Al-Faisal College, the residential developments being constructed along Gurner Avenue and other major projects within 10 km of the proposed activity. The REF has considered these projects and developments together with the proposed activity, including the potential for cumulative environmental and amenity impacts. Where relevant, mitigation measures have been identified to minimise adverse cumulative impacts.

Issue category	Summary of issue	Submitter number	Response
	Concern that the construction and/or operation of the proposed activity may conflict with the delivery of residential development.	2, 6	Transgrid recognises the concern regarding the construction and operation of the proposed activity, and its potential conflict with the delivery of the residential development. Roads, services and drainage for the proposed activity are within the impact area assessed in the REF and are not anticipated to interface with the delivery of residential development. It is also noted that the new KCS substation would be set back approximately 180 m from properties to the south. Potential indirect amenity impacts would be managed in accordance with the mitigation measures in Appendix A.
	Requests confirmation that construction works will be appropriately coordinated with adjoining developers.	6	Construction work for the proposed activity is anticipated to commence in July 2027. In accordance with mitigation measure CU1, consultation will be undertaken with all nearby projects that have the potential to overlap with the proposed activity to coordinate construction scheduling, traffic management and community consultation. The Transgrid community engagement team would act as the primary point of contact for enquiries relating to construction coordination in the vicinity of the proposed activity. Ongoing engagement with residents/ landowners would be undertaken in accordance with the CSEP and mitigation measure SE2.
Environmental management	Requests for the incorporation of mitigation commitments into the design itself, including visual screening, landscaping, architectural treatment, lighting control and acoustic modelling, and the early implementation of mitigation measures.	2	The REF has identified a range of mitigation measures to avoid or minimise potential environmental and amenity impacts associated with the proposed activity, including measures relating to operational noise, vibration, visual amenity and lighting. These measures would be incorporated into the detailed design and construction and operation of the proposed activity. Further design development will consider opportunities to incorporate appropriate visual treatments and other mitigation measures into the proposed activity. In particular, Transgrid will assess the feasibility of painting the palisade fencing surrounding the new substation, with any proposed treatments to be consistent with Transgrid's standards, operational requirements, and maintenance considerations.

Issue category	Summary of issue	Submitter number	Response
			The detailed design would incorporate the proposed mitigation measures committed to in Appendix A, including requirements relating to operational noise, lighting and visual amenity and would be implemented on-site during construction. Transgrid is currently engaging with Endeavour Energy to explore options for landscaping south of the proposed substation, having regard to the intended future use of the land and Endeavour Energy's planning and implementation timeframes. Any landscaping measures would be subject to the agreement of the relevant landowners.
Out of scope	Request for clarification regarding remaining service life of existing transmission line infrastructure, and the potential for, and timing of, rationalisation or undergrounding to reduce impacts to residents.	2, 5, 6	The existing transmission line infrastructure in the vicinity does not form part of the proposed activity, and accordingly, its remaining service life, future replacement, rationalisation, or potential undergrounding are outside the scope of the REF. Transgrid's future management and renewal of existing transmission infrastructure would be subject to separate asset management, operational and network planning processes. With respect to the proposed activity, the use of overhead transmission infrastructure was considered the most feasible option having regard to the technical, operational, environmental and cost considerations associated with the available options. Underground high voltage transmission infrastructure presents significant technical and cost considerations, and can result in greater ground disturbance during construction, and ongoing restrictions on land use. Accordingly, undergrounding of the transmission infrastructure is not proposed as part of this activity. The potential future rationalisation or undergrounding of existing transmission infrastructure is not proposed or committed to as part of the proposed activity.

3.2. Submissions from Government agencies

3.2.1. WaterNSW

Comments provided by WaterNSW and Transgrid's response is provided in Table 3-2.

Table 3-2: Response to issues raised by WaterNSW

Issue category	Summary of issue	Response
Land use	The proposal is not located near WaterNSW land, assets or operations. The closest WaterNSW asset is the Upper Canal, approximately 900m east of the proposal location.	Transgrid acknowledges WaterNSW's response and notes that no comments or concerns were raised.

3.2.2. Transport for NSW

Issues raised by Transport for NSW and Transgrid's response is provided in Table 3-3.

Table 3-3: Response to issues raised by Transport for NSW

Issue category	Summary of issue	Response
Traffic and transport	Transport for NSW appreciates the opportunity to provide comment on the REF and recommends the following conditions in TAB A as part of any Part 5 determination. Construction Pedestrian and Traffic Management Plan. To ensure that construction traffic impacts are suitably managed and mitigated the Transport for NSW recommends that the Applicant develop a Construction Pedestrian and Traffic Management Plan (CPTMP) in consultation with Transport for NSW and Council. Prior to the issue of any construction certificate or any preparatory, demolition or excavation works, whichever is the earlier, the	Transgrid has revised existing mitigation measure TA2 to specifically reference preparation of a Construction Traffic Management Plan and provision of this plan to Transport for NSW. In accordance with revised mitigation measure TA2, traffic, transportation and access mitigation and management strategies would be documented in a Construction Traffic Management Plan and implemented on-site during construction. This shall include: Nominated haulage routes developed in consultation with Council and TfNSW (including OSOM vehicle routes)

Issue category	Summary of issue	Response
	applicant shall prepare a CPTMP in consultation with Transport for NSW. The CPTMP shall include (but not limited) the following: • A description of the development; • Location of any proposed work zone(s) • Details of crane arrangements including location of any crane(s); • Haulage routes; • Construction vehicle access arrangements; • Proposed construction hours; • Predicted number of construction vehicle movements and detail of vehicle types, noting that vehicle movements are to be minimised during peak periods; • Construction program and construction methodology; • Any potential impacts to general traffic, cyclists, pedestrians and light rail and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works; • Cumulative construction impacts of projects and; • Proposed mitigation measures. Should any impacts be identified, the duration of the impacts and measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified and included in the CPTMP. • Submit a copy of the final plan to Transport for NSW for endorsement; and	• Traffic control measures to manage and regulate traffic movement at the Gurner Avenue access point and to reduce the likelihood of queuing on local roads • Measures to maintain safe pedestrian and cyclist access along Gurner Avenue • Prohibiting public on-street parking by construction workers • Consideration of vehicle movements outside of school peak hours. The CTMP would also consider the construction program, vehicle types and movements, access arrangements, work zones, construction methodology, and potential impacts on traffic, pedestrians, cyclists and public transport, including potential cumulative impacts with other projects in the vicinity. Transgrid will consult with TfNSW during preparation of the CTMP and will provide the final CTMP for reference. TfNSW endorsement of the CTMP is not proposed as a prerequisite to commencement of construction. The Transgrid community engagement team will communicate relevant construction traffic information to affected stakeholders and respond to enquiries relating to construction traffic and access, as required. In addition, in accordance with mitigation measure TA1, the transportation and equipment delivery movements on public roads shall be undertaken in line with TfNSW and Council requirements.

Issue category	Summary of issue	Response
	Provide the builder's direct contact number to small businesses adjoining or impacted by the construction work and the Transport Management Centre within Transport for NSW to resolve issues relating to traffic, public transport, freight, servicing and pedestrian access during construction in real time. The applicant is responsible for ensuring the builder's direct contact number is current during any stage of construction.	
Cumulative impacts	The Fifteenth Avenue upgrade REF was provided by Transport for NSW for consideration.	The Fifteenth Avenue Upgrade project involves the upgrade of approximately 6 km of Fifteenth Avenue, between Cowpasture Road and Devonshire Road from a two-lane local road to a four-lane divided road. Construction is anticipated to occur between 2027 and 2031, with the indicative construction program overlapping with the proposed activity for a substantial portion of the works. It is acknowledged that construction of the two projects may result in cumulative construction impacts for sensitive receivers, including potential visual, air quality, noise and vibration, and traffic and access impacts. The REF determined that the proposed activity may result in moderate visual impacts during construction. However, this moderate adverse rating is limited to receivers in the immediate vicinity of the proposed activity, who would be located around 500 m from the Fifteenth Avenue Upgrade. As such, significant cumulative visual amenity impacts between the two projects are not anticipated.

Issue category	Summary of issue	Response
		The residual air quality and traffic impacts associated with the construction of the proposed activity are expected to be predominantly minor, localised and manageable with the implementation of mitigation measures provided in the REF. In accordance with revised mitigation measure TA2, construction activities will be planned and scheduled to consider interface with and prevent conflicts with any Transport for NSW works on Fifteenth Avenue. On this basis, it is considered unlikely that the Fifteenth Avenue Upgrade project would result in significant cumulative impacts with the proposed activity. The noise assessments for the respective projects identify minor exceedances of the applicable Noise Management Levels (NMLs) during the loudest stages of construction for residential receivers in the suburb of Austral. This may result in short-term cumulative noise impacts for these receivers. However, in accordance with mitigation measure CU1, cumulative impacts associated with the construction of both activities would be minimised through consultation regarding the scheduling of works, traffic management and communication with the local community. The likelihood of worst-case noise levels being generated by two different work activities at the same time is considered low, and noise impacts for the proposed activity would be minimised in accordance with the identified mitigation measures identified in Appendix A. Transgrid will continue to consider relevant information arising from its engagement with TfNSW regarding the Fifteenth Avenue Upgrade as the project designs and construction programs are progressed.

3.2.3. NSW Environment Protection Authority

Issues raised by NSW Environment Protection Authority (EPA) and Transgrid's response is provided in Table 3-4.

Table 3-4: Response to issues raised by NSW EPA

Issue category	Summary of issue	Response
Noise and vibration	The information provided indicates that the proposal does not constitute a Scheduled Activity under Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) and therefore will not require an Environment Protection Licence (EPL) under the POEO Act. However, Section 6(2)(c) of the POEO Act states: "A local authority is the appropriate regulatory authority (ARA) for non-scheduled activities in its area, except in relation to: • (c) activities carried on by the State or a public authority, whether at premises occupied by the State or a public authority or otherwise ...". Transgrid, a public authority, is the applicant, therefore, the EPA would be the ARA during construction.	Transgrid acknowledges NSW EPA's comment regarding the proposed activity not requiring an EPL under the POEO Act. Although Transgrid is not a public authority (as identified by the NSW EPA in their submission), it is an authorised network operator, and we acknowledge that the NSW EPA would be an ARA during construction of the proposed activity.
	The EPA recommends the conditions in Attachment A of their submission be included in any consent issued for this development, should the project be approved. Construction Noise • The proponent must implement reasonable and feasible noise management measures, to minimise off-site impacts. • The noise management measures used must seek to achieve the noise management levels in the EPA's <i>Interim Construction Noise Guidelines</i> (DECC, 2009) (ICNG).	Noise and vibration impacts during construction of the proposed activity were assessed in Section 6.7.2 of the REF, and appropriate mitigation measures were identified to minimise impacts on sensitive receivers, including development and implementation of a CNVMP. In accordance with mitigation measure NV1, noise generating activities associated with the construction of the proposed activity would be undertaken in accordance with the <i>Interim Construction Noise Guidelines</i> (DECC, 2009). Work outside of standard hours would be required in certain circumstances (for example delivery of materials, emergency work, work timed to correlate with system

Issue category	Summary of issue	Response
	Construction activities must only be undertaken during the hours identified in Table 1 of the ICNG. Section 2.3 of the ICNG identifies the circumstances in which construction outside of standard hours can be undertaken.	planning outages, and vacuum and oil filling of equipment) and would be undertaken in accordance with Section 2.3 of the ICNG. Other noise generating works required outside of standard construction hours will require the prior formal written consent of the relevant Transgrid Environmental Business Partner, require justification in accordance with the ICNG, and an Out of hours work protocol will be developed to mitigate identified impacts.
Hydrology and water quality	Erosion and sediment controls must be installed and maintained throughout the construction period to prevent water pollution.	Mitigation measures GS1, HW2 and HW3 were identified to mitigate potential erosion and sedimentation impacts to water quality, including installation of appropriate erosion control devices (sediment fence, coir logs, sandbags etc.) during construction, and monitoring and maintenance of these controls.
	All chemicals, fuels and oils must be kept in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and EPA's Storing and Handling Liquids: Environmental Protection – Participant's Manual (DECC, 2007).	Mitigation measure EM6 has been revised to include reference to relevant Australian Standards and the manual referenced by the NSW EPA. Revised mitigation measure EM6 requires that all chemicals or other hazardous substances shall be stored in bunded areas away from drainage lines and pits, in accordance with the requirements of relevant Australian Standards and the <i>Storing and Handling Liquids: Environmental Protection – Participants Manual</i> (DECC, 2007).
Waste	Any waste materials exposed or created in association with construction and proposed to be disposed of to an offsite location, must be classified in accordance with the EPA's waste classification guidelines.	In accordance with mitigation measure WA1, waste mitigation and management measures for the proposed activity would be documented in the CEMP. These measures would be developed in accordance with Transgrid's Waste Management Procedure and associated Work Instructions, which incorporate relevant waste management requirements and guidance, including the EPA's <i>Waste Classification Guidelines</i> (NSW EPA, 2014).

Issue category	Summary of issue	Response
		In addition, mitigation measure GS4 requires that if excavated material is suspected of being contaminated, it would be sampled, analysed and managed in accordance with the EPA's <i>Waste Classification Guidelines</i> (NSW EPA, 2014), the <i>Guidelines on the Duty to Report Contamination</i> (EPA, 2015) and the <i>Contaminated Land Management Act 1997</i> .
Air quality	Construction activities must be carried out in a manner that prevents the emission of dust from the premises. The construction site must be maintained in a manner that minimises the generation of wind-blown dust.	The management of dust emissions and wind-blown dust during construction would be undertaken in accordance with mitigation measure AQ1, which includes the implementation of dust suppression measures and appropriate controls. These measures would be documented in the CEMP and implemented during construction of the proposed activity.
Geology and soils	Any site contamination identified during construction must be assessed and managed in accordance with the <i>Contaminated Lands Management Act 1997</i> .	In accordance with mitigation measure GS4, if excavated material is suspected to be contaminated, it would be sampled, analysed and managed in accordance with the <i>Contaminated Land Management Act 1997</i> .

3.2.4. Civil Aviation Safety Authority

Issues raised by the Civil Aviation Safety Authority (CASA) and Transgrid's response is provided in Table 3-5.

Table 3-5: Response to issues raised by CASA

Issue category	Summary of issue	Response
Hazards and safety	The site is approximately 4.4 km offset to the extended centreline of the future 'second' runway at Western Sydney International Airport (WSIA) and not near approach or take off zones and nowhere near a hospital helipad. The only 'high' infrastructure would be an overhead transmission line. The snip below shows an existing transmission line, closer to the Airport.	Transgrid acknowledges that CASA have no objection or specific recommendations for the proposed activity. As CASA has stated, the new double circuit transmission line towers proposed would be up to approximately 40 m high within the impact area which is approximately 75 m AHD. Therefore, it is

Issue category	Summary of issue	Response
	It appears that the substation site will be under the Outer Horizontal Surface Obstacle Limitation Surface for WSIA which is in the order of 231m Above Australian Height Datum (AHD)/ Reduced Level (RL). The ground height at the site is approximately 75 m. It is very unlikely that there will be Obstacle Limitation Surface infringements. In terms of Regulations, the Civil Aviation Safety Regulations require CASA to make determinations on structures that infringe an Obstacle Limitation Surface at a Certified Aerodrome or is 100m+ above ground level. It is unlikely that your transmission towers will be 100m Above Ground Level (AGL). Tall transmission towers, if any, should be referred to WSIA. WSIA is the primary stakeholder for Planning issues near the Aerodrome and the keeper of the authoritative Obstacle Limitation Surface data. CASA doesn't get involved in which, if any, power lines or towers need marking (eg. marker balls). The aerodrome or local aviation operators would be the primary stakeholders. CASA's normal process for the provision of comments is to receive the EIS from the Planning Authority (DPHI probably) and provide comments to the Planning Authority. Such was the process for the Humelink Transmission Line and the Hunter Transmission Project. CASA does not have the resources for pre-EIS consultation. CASA has no objections to the proposal and no specific recommendations. The project is low risk in terms of aviation safety.	unlikely that there will be infringements into the 231 m Obstacle Limitation Surface for Western Sydney International Airport.

3.2.5. Bradfield Development Authority

No issues raised by the Bradfield Development Authority. Transgrid's response is provided in Table 3-6.

Table 3-6: Response to issues raised by Bradfield Development Authority

Issue category	Summary of issue	Response
No objection	The Bradfield Development Authority has no specific comments at this stage.	Transgrid acknowledges Bradfield Development Authority's response and notes that no comments or concerns were raised.

3.2.6. NSW Department of Climate Change, Energy, the Environment and Water

Issues raised by NSW Department of DCCEEW and Transgrid's response is provided in Table 3-7.

Table 3-7: Response to issues raised by NSW DCCEEW

Issue category	Summary of issue	Response
Ecology (Certified, non-certified and red-hatched lands)	The project footprint and study area in the Biodiversity Assessment Report (BAR) (Figure 1.1) is subject to the <i>Threatened Species Conservation Act 1995</i> Order extending biodiversity certification of the Growth Centres EPIs (the Order) conferred on 24 June 2026 (see NSW Government Gazette No 248 of 26 June 2026). There are no savings or transition provisions for the Order. The certification of the growth centres and the benefits that flow from the certification to the development of the growth centres depends on compliance with the Relevant Biodiversity Measures (RBMs) in the Order including the protection of 2,000 hectares of existing native vegetation (ENV) and retention of ENV in red-hatched lands. Certified, non-certified and red-hatched lands: The BAR (Figure 1.1) shows the project footprint located within certified land, while the study area includes certified and non-certified land. It should be	The red-hatched lands raised by DCCEEW relate to mapped existing native vegetation (ENV) under the Growth Centres Biocertification Order for Austral and Leppington Precincts, which has been considered and assessed in the BAR and REF. As outlined in Section 3.2.2.4 of the BAR, the Order to confer biodiversity certification notes that with regard to ground-truthing of existing native vegetation, "<i>if new information becomes available after the biodiversity certification order took effect that demonstrates that the vegetation within an area does not otherwise meet the definition of existing native vegetation, then for the purposes of conditions 7 to 8 and conditions 11 to 12 only the area of confirmed existing native vegetation shall be considered</i>". Spatial data showing areas mapped as ENV was overlaid on aerial photographs of the study area and ground-truthed during the field survey. Areas that did not meet the definition for ENV (including hardstand areas within the existing KCR substation) were

Issue category	Summary of issue	Response
	noted that the project footprint and study area are also subject to RBM 13 under the Order which states: Retention of existing native vegetation shown in areas marked with red hatching: 13. Notwithstanding any other conditions of biodiversity certification, in the lands marked by a red hatching on the biodiversity certification maps existing native vegetation must not be cleared unless it is in accordance with a plan of management or unless such clearance has been agreed to by the Environment Agency Head' The REF and BAR must be updated to clearly depict the location of RBM 13 red-hatched lands. Direct impacts The BAR indicates that as the project footprint is entirely within biocertified lands, no direct impacts to non-certified land or ENV are anticipated. However, the REF and BAR need to be revised to demonstrate that the proposed activity avoids impacts to ENV as defined in the Order, in the RBM 13 red-hatched lands. To minimise impacts, mitigation measures (including EC1-EC5) in Appendix C of the REF are proposed to be implemented. DCCEEW notes that the mitigation measures in Appendix C of the REF do not include all the environmental safeguards in Table 7.1 of the BAR. It is recommended that Appendix C of the REF be updated to include all of the safeguards in Table 7.1 of the BAR.	excluded from a new layer that was provided, named 'refined ENV', which is mapped in Figure 4.1A-D of the BAR. Section 4.2.2 of the BAR confirms that no direct impacts to refined ENV are anticipated as a result of the proposed activity. Transgrid acknowledges that there may be discrepancies between the proposed mitigation measures presented in the BAR, and those included in Appendix C of the REF. As outlined in Chapter 8 of the REF, 'where mitigation measures in the technical reports differ from those listed in Appendix C of the REF, the mitigation measures contained in Appendix C take precedence.' The mitigation measures included in Appendix C of the REF were consolidated from the BAR and refined to avoid repetition, and to ensure all proposed measures were targeted, specific and measurable. The consolidated list of mitigation measures is considered to improve the overall deliverability of the proposed activity, while still ensuring all potential ecological impact categories are adequately addressed.
Ecology (Fauna and habitat)	The BAR also indicates that within the project footprint contains an abandoned man-made structure, adjacent to the KCR the east (sic), that has the potential to provide roosting habitat to microbat species. The building was not accessible at the time of the survey but may contain access points for microbats to enter this structure. This abandoned structure, the hollow-bearing trees and stag trees	Transgrid notes DCCEEW's comments on the abandoned man-made structure potentially providing roosting habitat to microbat species. The location of this structure is shown in Figure 4.1A of the BAR (Figure A-7 of the REF), where it occurs along the eastern boundary of the KCR substation, within the eastern extent of project footprint (impact area).

Issue category	Summary of issue	Response
	recorded on site are potential roosting habitat for a number of microbat species. It is unclear if impacts to this structure are proposed. It is recommended that the REF and BAR be updated in regard to this issue. Furthermore, if this structure is to be impacted, appropriate mitigation measures must be specified including a pre-clearance check of the building by a suitably qualified ecologist to ensure any resident microbats can be rescued and relocated or released prior to any impacts. It is recommended that when Appendix C of the REF is updated to include the mitigation measures in Table 7.1 of the BAR, that the mitigation measures that relate to vegetation clearance and habitat loss, and fauna management, are updated to include mitigation of the impacts from removal of structures.	As described in Chapter 3.2.2 and shown in Figure A-2 of the REF, augmentation works to the KCR substation as part of the proposed activity are confined to the southern extent of the KCR substation, along with other project activities. Therefore, whilst the structure is within the impact area, no direct impacts are anticipated, and any microbats utilising the man-made structure would likely be tolerant of existing disturbance associated with the operational environment of the KCR substation. DCCEE's comment regarding inclusion of all measures from the BAR into Appendix C of the REF has been addressed above. In accordance with mitigation measure EC4, pre-clearance surveys will be undertaken by a qualified ecologist, including a procedure for clearing potential habitat, including hollow bearing trees and stags.
Ecology (Indirect impacts)	The project footprint is adjacent to non-certified areas and RBM 13 red-hatched lands with high biodiversity value that have the potential to be indirectly impacted. To mitigate potential impacts on biodiversity values on adjoining protected and non-certified lands, environmental safeguards are described in Table 7.1 of the BAR. As recommended above: - Appendix C of the REF should be updated to include all the environmental safeguards in Table 7.1 of the BAR. - The REF and BAR need to be revised to demonstrate that the proposed activity avoids impacts to ENV, as defined in the Order, in the RBM 13 red-hatched lands.	DCCEE's comment regarding the discrepancy between mitigation measures detailed in the BAR and Appendix C of the REF has been addressed above. As discussed above, the red-hatched lands raised by DCCEE relate to the ENV, which has been considered and assessed in the BAR. Section 4.2.2 of the BAR states that the project will not result in direct impacts to vegetation mapped as refined ENV as part of the assessment.

Issue category	Summary of issue	Response
	Indirect fauna impacts Kemps Creek Nature Reserve forms part of the Western Sydney parklands, supporting a range of native animals and provides one of the best remaining examples of woodland bird communities in Western Sydney. NPWS acknowledges that indirect fauna impacts are considered in the project REF. More recently, NPWS has been made aware of the impacts that artificial light can have on wildlife and advises that the Australian Standard Control of the obtrusive effects of outdoor lighting (AS/NZS 4282:2023) now incorporates the National Light Pollution Guidelines for Wildlife. NPWS recommends the design and siting of lighting (through construction and operational phases) accord to AS/NZS 4282:2023.	Transgrid acknowledges DCCEEW's comment regarding the design and siting of lighting during construction and operation of the proposed activity. Lighting at the KCS substation would be designed in accordance with AS/NZS 4282:2023 – <i>Control of the obtrusive effects of outdoor lighting</i>. Exterior lighting for the KCS substation would be installed in a manner that aims to minimise light spill beyond the substation boundary fence in accordance with mitigation measure VA2. As such, no amendments to the proposed mitigation measures are considered necessary.
Ecology (vegetation and habitat removal and replacement)	Recommended additional mitigation measures Reuse of removed trees Any native trees that are to be removed as part of the activity, including tree hollows, tree trunks (greater than 25-30 centimetres in diameter and 2-3 metres in length), and root balls should be reused to enhance habitat. If removed native trees are not able to be entirely re-used by the project, consultation must be undertaken with NPWS, local community restoration/rehabilitation groups, Landcare groups, and relevant public authorities, local councils and Greater Sydney Local Land Services prior to removing any native trees to determine if they can be reused in habitat enhancement and rehabilitation work elsewhere. This detail including consultation with the community groups and their responses must be documented. Site Landscaping Any landscaping associated with the activity must use local native provenance species from the relevant native vegetation	Clearing of mature and hollow-bearing trees shall be avoided where possible, and opportunities to retain any hollow-bearing trees during pre-clearing surveys or prior to construction would be sought. If unavoidable, hollows would be salvaged and relocated into adjacent vegetation where practical in accordance with mitigation measure EC3. The reuse of removed trees, root balls, hollows and trunks off-site in areas not already impacted by <i>Phytophthora cinnamomi</i> is not considered feasible due to potential biosecurity risks. Phytophthora is a soil-borne pathogen; therefore, the primary risk of spread is through the movement of infected soil or root material (such as root balls) off-site. Above-ground vegetation material (including logs and trees) may also present a risk if it retains attached soil, stumps or other lower root material. The best way to avoid the spread of Phytophthora into uninfected areas is to retain any reused organic material on site (or in already infested areas of Kemps Creek Nature Reserve, as agreed with

Issue category	Summary of issue	Response
	communities that occur or once occurred on the site. In this regard, the following is recommended: - Any planting/ landscaping associated uses a diversity of local provenance native trees, shrubs and groundcover species from the relevant native vegetation community (or communities) that occur or once occurred on the site (rather than use exotic species or non-local native species). - The planting schedule in the Landscape Plan demonstrates the plant species are from the relevant local native vegetation communities. - Tree planting uses advanced local native trees for species which are commercially available. Other local native tree species which are not commercially available may be sourced as juvenile sized trees or pre-grown from provenance seed. - A Landscape Plan be prepared and implemented by an appropriately qualified bush regenerator and include details on: - The native vegetation community (or communities) that occur or once occurred on the site and the plan demonstrates that the proposed plant species are from the relevant vegetation community - Seed collection – the location of all native seed sources be identified - The species, quantity and location of trees, shrubs and groundcover plantings - Local provenance tree, shrub and groundcover species is to be used - The pot size of the trees to be planted	NPWS). Where potentially infested material must be removed from the site, it would be appropriately contained, treated and disposed of to minimise the risk of pathogen spread. Any material potentially affected by Phytophthora that is transferred off-site must comply with the NSW Resource Recovery Orders and Exemptions. These exemptions include the statement: <i>'The EPA considers pasteurisation (i.e. turning the material at high temperature for 15 days or longer) the minimum treatment to significantly reduce the numbers of plant and animal pathogens and plant propagules. However, the EPA recommends full composting of mulch and/or garden organics to achieve maximum biological transformation.'</i> Therefore, if Transgrid did proceed with pasteurisation or mulching, this would negate the ability to use this material for habitat enhancement elsewhere. Transgrid is currently engaging with Endeavour Energy to explore options for landscaping south of the proposed substation, having regard to the intended future use of the land south of the new KCS substation and Endeavour Energy's planning and implementation timeframes. Transgrid note DCCEE's recommendation for native seed collection to be used for site plantings. Should landscaping be confirmed as feasible, opportunities to incorporate native seeds collected on site into revegetation and landscaping works would be considered in the context of project delivery timing, given that the successful collection, propagation and establishment of native species may be constrained by seasonal conditions and seed availability.

Issue category	Summary of issue	Response
	- The area/space required to allow the planted trees to grow to maturity - Plant maintenance regime. The planted vegetation must be regularly maintained and watered for 12 months following planting. Should any plant loss occur during the maintenance period the plants should be replaced by the same plant species. Seed collection from local native plants to be removed Prior to the removal of any local native vegetation from the site seed from native trees, shrubs, groundcover approved for removal is collected and it is propagated by a suitably qualified bush regenerator and used in the site plantings.	
Ecology (Phytophthora)	NPWS estate - Kemps Creek Nature Reserve NPWS has general guidelines aimed at consent authorities and proponents regarding developments adjacent to park (DPIE, 2020). These guidelines identify numerous matters that risk impacting the conservation and social values of NPWS parks and are the preferred position in ensuring future developments avoid these impacts. In addition to the information outlined in the guidelines, further comments are provided below regarding the subject REF. Phytophthora NPWS notes that the REF acknowledges the risks associated with the existing Phytophthora contamination of Kemps Creek Nature Reserve which has unfortunately occurred as part of neighbouring development in the past decade. It is understood that construction would involve disturbance, excavation, handling and temporary stockpiling of soils, which would not only increase the risk of erosion, but also the potential for Phytophthora spreading. As such, NPWS	The REF has been prepared with consideration of the <i>Development Adjacent to National Parks and Wildlife Service Lands: Guidelines for Consent and Planning Authorities</i> (DPIE, 2020), including an assessment of relevant issues to be considered when assessing proposals adjacent to NPWS lands, such as: • Erosion and sedimentation (Section 6.2 of the REF) • Stormwater runoff and wastewater (Section 6.3 of the REF) • Pests, weeds, edge effects and ecological connectivity (Section 6.4 of the REF) • Bushfire risks and the location of asset protection zones (Section 6.10 of the REF) • Indirect amenity impacts, including visual impacts, air quality, noise and vibration (Sections 6.11, 6.9 and 6.7 of the REF, respectively).

Issue category	Summary of issue	Response
	supports the implementation of biosecurity mitigation measures to be implemented during construction contained an Appendix C (Ecology EC2) and Table 7.1. The REF however fails to provide mitigation measures for post construction and operational maintenance. NPWS recommends implementing operational or post completion Phytophthora hygiene control measures to minimise biosecurity risks associated with access to and from the facility.	Mitigation measures have been identified, where required, to avoid or minimise impacts identified in the REF (refer to Appendix A). As a result, no significant impacts to the adjacent Kems Creek Nature Reserve are expected. Section 6.4.2 of the REF identified the risk of further spreading of Phytophthora due to its known presence within the adjoining Kems Creek Nature Reserve. During operation, potential biosecurity risks would be limited through the ongoing implementation of existing hygiene protocols at the substation entry, which would continue to be applied during operation of the new KCS substation. Minimum controls to address biosecurity risks, including mandatory hygiene protocols, wash-down procedures and risks are to be detailed within an Environmental Guidance Note and distributed to relevant personnel accessing the site. Two new mitigation measures have been included (EC6 and EC7) to specifically address biosecurity protocols during operation of the proposed activity. In accordance with new mitigation measure EC6, a Site Management Plan (SMP) will be prepared and implemented for operation of the proposed activity in accordance with Transgrid's <i>Site Management Plan Procedure</i>. The SMP shall identify known environmental aspects/ sensitivities including biosecurity risks and stipulate environmental control measures that must be implemented. In accordance with the Procedure, external personnel undertaking routine maintenance or repair activities under the SMP shall be inducted by an authorised E3 representative regarding biosecurity risks, mitigation measures and ongoing management.

Issue category	Summary of issue	Response
		In accordance with mitigation measure EC7, where operational activities are required outside of the KCS substation palisade fence, an additional environmental constraints report is required to be extracted from Transgrid's spatial system to identify biosecurity restrictions on relevant property holdings, including ETMHC-owned lands. Minimum controls to address biosecurity risks, including mandatory hygiene protocols, wash-down procedures and biosecurity risks during operational activities shall be undertaken in accordance with the Environmental Guidance Note: Biosecurity.
Kemps Creek Nature Reserve	Future works NPWS recognises that all works proposed are contained within the existing substation site, and no works are proposed within Kemps Creek Nature Reserve. It is understood there are two TransGrid overhead lines that feed the existing 500 kV substation (Asset 5A1 and 5A2). NPWS highlights that if there is future works proposed to these lines, or additional lines required through park, these works will be subject to assessment and authorisation under <i>the National Parks and Wildlife Act 1974</i> (NPW Act).	Transgrid acknowledges DCCEE's response regarding potential future works to assets 5A1 and 5A2 requiring further assessment and authorisation under the NPW Act. Notwithstanding this, lines 5A1 and 5A2 do not form part of the proposed activity. Should future works be required, Transgrid will undertake consultation with NPWS.
	Asset protection NPWS notes that bushfire risk has been addressed through an Asset Protection Zone (APZ) being contained entirely on site (20 metres) and the two power transformers constructed with firewalls, to contain fire in the event of equipment failure. NPWS reiterates that all APZs are to be installed and maintained on the proponent's land and are not to encroach on Kemps Creek Nature Reserve.	Transgrid confirms that the APZ forms part of the design of the proposed activity and would be implemented and maintained during operation. The proposed activity, inclusive of the APZ for the new KCS substation, would not encroach upon Kemps Creek Nature Reserve.

Issue category	Summary of issue	Response
	Sediment and erosion NPWS also notes that the proposed construction compound is centered within the substation site and does not share a boundary with Kemps Creek Nature Reserve. This will reduce potential for sediment and erosion transport over the park boundary.	DCCEEW's comment regarding the separation between the site laydown areas and Kemps Creek Nature Reserve resulting in reduced potential for indirect impacts is noted.

4. Updated mitigation measures

4.1. Updated mitigation measures

Changes to the mitigation measures are required and shown in Table 4-1. Text underlined indicates an amended or a new mitigation measure. Text with a strike-through indicates whole or part of a mitigation measure has been removed.

A revised list of mitigation measures is included in Appendix A.

Table 4-1: Revised mitigation measures

Mitigation measures	
Environmental management and incident response	
EM5	All refuelling activities shall be within designated refuelling zones that are bunded and impervious. The location of the refuelling zones shall be shown on the site <u>specific</u> plans. Environmental spill kits containing spill response materials suitable for the works being undertaken shall be kept on site at all times and be used in the event of a spill. Any spills shall be contained, cleaned up promptly and immediately reported to the Transgrid site representative.
EM6	All chemicals or other hazardous substances shall be stored in a bunded area and away from any drainage lines/pits, <u>in accordance with the requirements of relevant Australian Standards and the <i>Storing and Handling Liquids: Environmental Protection – Participants Manual</i> (DECC, 2007).</u> The capacity of the bunded area would be at least 130% of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s shall be documented and shown on the site specific plans.
Ecology	
EC2	To manage the introduction and spread of Phytophthora and any other potential biosecurity risks during construction, the following shall be implemented: • Delineation/fencing of the construction footprint and wash down of machinery following completion of the required clearing activities undertaken during site establishment. All vegetation outside this fence line shall be clearly marked as an exclusion zone (inclusive of signage) to avoid transfer of weeds or pathogens • Wash down procedures to reduce the spread of weeds via vehicles and machinery. This includes a vehicle washdown area to utilise at the entrance of the impact area, on-hard stand areas and egress points to disinfect and prevent contaminated runoff. This shall be detailed within the site-<u>specific</u> map and provided to all staff (and contractors) prior to any works commencing. Inspections shall be completed after washdown to verify that all soil and organic material has been removed • Undertaking <u>and documenting</u> a vehicle hygiene inspection checklist. This shall include cleaning of vehicle tyres, undersides, and radiator grills before leaving the property. Vehicle hygiene checklists shall be incorporated into site procedures • Cleaning of footwear and minimising soil movement between locations shall be implemented across the project site • Importing weed-free material

Mitigation measures	
	- Working from clean areas towards weedy/pathogen effected areas to reduce the spread of weeds/soil pathogens - Selecting and using pesticides in accordance with Transgrid's Use of Pesticides and Schedule of Approved Pesticides. All herbicide selection and use shall be in accordance with Transgrid requirements - Maintaining communication records with landowners regarding biosecurity requirements - Appropriate signage shall be installed to communicate hygiene requirements and biosecurity protocols - The site induction package shall include detailed information on Phytophthora risk and associated control measures, including how Phytophthora spreads, the sensitivity of nearby natural areas, and responsibilities under Transgrid's biosecurity protocol - Ongoing monitoring shall include weekly verification that hygiene stations are operating correctly, routine inspections of vehicle washdown records, and immediate rectification of any identified non-compliance - Spoil shall be appropriately classified, tested, and disposed of at a licenced facility to avoid stockpiling of potentially contaminated material on the ground. Temporary stockpiles shall be located on impermeable surfaces and bunded to prevent runoff into adjacent, uninfested natural areas.
EC6	<u>A Site Management Plan (SMP) shall be prepared and implemented for operation of the Kemps Creek 330kV substation in accordance with Transgrid's Site Management Plan Procedure. The SMP shall identify known environmental aspects/sensitivities including biosecurity risks, and stipulate environmental control measures that must be implemented.</u>
EC7	<u>Where operational activities are required outside of the KCS substation palisade fence, an additional environmental constraints report shall be extracted from Transgrid's spatial system to identify biosecurity restrictions on relevant property holdings, including ETMHC-owned lands. Minimum controls to address biosecurity risks, including mandatory hygiene protocols, wash-down procedures and risks during operational activities shall be undertaken in accordance with the Environmental Guidance Note: Biosecurity.</u>
Noise and vibration	
NV3	A Construction Noise and Vibration Management Plan (CNVMP) shall be developed and implemented for the proposed activity. The CNVMP shall include, as a minimum, the following: - Confirmation of the number, type, and location of nearby residences and other sensitive land uses, particularly where these have changed since the environmental assessment - Assess the potential impacts from the proposed construction methods and staging, including road traffic noise based on final construction methods and current receivers - Where noise management levels would be exceeded, examine consider additional feasible and reasonable noise mitigations and develop associated noise and vibration monitoring programs, as required - Develop reactive and proactive strategies for dealing with noise and vibration complaints, <u>including a complaints register</u> - Assign roles and responsibilities for the management of noise and vibration complaints

Mitigation measures	
	• Machinery shall be operated appropriately to reduce maximum noise level events (such as dropping materials into trucks from height, shaking excavator buckets) and construction plant and equipment would be turned off when not in use. • Environmental awareness training and inductions for site personnel shall include noise mitigation techniques and measures to be implemented during construction • Plant and equipment shall be selected based on noise emission levels • Noise-intensive works shall be limited to less sensitive construction hours (i.e. away from early morning and late afternoon periods) as far as practicable, when working in the vicinity of sensitive receivers • Plant and equipment shall be well maintained to ensure that excessive noise is not generated • Should vibratory construction equipment required for the construction of the proposed activity change, further assessment of construction vibration shall be undertaken within the CNVMP. Any works undertaken outside standard working hours will be further assessed in accordance with the ICNG and the CNVG-R during detailed design and an Out of hours works protocol will be developed to mitigate any identified impacts.
Traffic and access	
TA2	Traffic, transportation and access mitigation and management strategies shall be documented in <u>a Construction Traffic Management Plan (CTMP)</u> the CEMP and implemented on-site. These shall include: • Nominated haulage routes developed in consultation with Council and TfNSW (including OSOM vehicle routes) • Traffic control measures to manage and regulate traffic movement at <u>the</u> Gurner Avenue access point and avoid <u>reduce the likelihood of</u> queuing on local roads • Measures to maintain safe pedestrian and cyclist access along Gurner Avenue • Prohibiting public on-street parking by construction workers • Consideration of vehicle movements outside of school peak hours. • <u>Plan and schedule construction activities to consider conflicts with any TfNSW works on Fifteenth Avenue.</u> • <u>Manage vehicles and plant leaving the site to minimise the tracking of mud, soil and other materials onto public roads. Any material deposited on public roads as a result of construction activities would be promptly removed.</u> <u>Transgrid will consult with TfNSW during preparation of the CTMP and will provide the final CTMP for reference. The TMP would be provided to Transport for NSW for reference.</u>
TA3	<u>A dilapidation survey of the traffic routes would be undertaken prior to bulk earthworks to document the current condition of the roads. Following completion of bulk earthworks, a dilapidation survey would be completed to determine any road damage. Any damage to roads and associated infrastructure as a result of the proposed activity would be reinstated to at least its existing condition, in a timely manner.</u>

5. Conclusion and next steps

The Kemps Creek 330 kV Substation has been assessed under Part 5, Division 5.1 of the EP&A Act. The REF and this Submissions Report has examined and taken into account matters affecting or likely to affect the environment by reason of the proposed activity, including consideration of other NSW and Commonwealth legislation. The REF and this Submissions Report has considered and assessed environmental impacts in accordance with Section 171 of the EP&A Regulation.

All submissions received have been addressed in this report and mitigation measures to avoid, minimise or manage potential environmental impacts are outlined in Appendix A.

Based on the assessment in the REF and this Submissions Report, it is concluded that:

- The proposed activity is not likely to significantly affect the environment and therefore an Environmental Impact Statement is not required.
- The proposed activity is not likely to significantly affect threatened species, ecological communities or their habitats and would not be carried out in a declared area of outstanding biodiversity value, therefore a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR) is not required.

Once Transgrid completes its assessment of the REF and this Submissions Report, a Decision Statement will be prepared. The Decision Statement, Submissions Report and the REF will be published on Transgrid's website following determination.

Appendix A Revised mitigation measures

Mitigation measures	
Environmental management and incident response	
EM1	A Construction Environmental Management Plan (CEMP) shall be prepared and submitted to Environment Business Partner/Delivery (Transgrid Environment Business Partner) for review and endorsement four weeks prior to the commencement of works, including site establishment. The CEMP shall be prepared in accordance with Transgrid's <i>Preparation and Approval of Environmental Management Plans Procedure</i> and include all environmentally sensitive areas identified in Appendix B of the REF. Where works are near identified sensitive areas, a specific site plan shall be prepared.
EM2	All workers shall be inducted onto the CEMP, including the environmental mitigation measures and sensitive areas identified in this REF. Training shall be given to workers, as appropriate. Records shall be kept of this induction and training.
EM3	An Environmental Supervisor shall be included as part of the construction staff to oversee implementation of the CEMP and to ensure that all mitigation measures are being effectively applied. In addition to the Environmental Supervisor, Transgrid shall appoint an Environment Business Partner to ensure that the work is being carried out in accordance with all environmental approval and legislative conditions.
EM4	All environmental incidents and near misses shall be reported to Transgrid. All pollution incidents that threaten or harm the environment must be reported immediately to relevant authorities, in accordance with the <i>Protection of the Environment Operations Act 1997</i> (POEO Act).
EM5	All refuelling activities shall be within designated refuelling zones that are bunded and impervious. The location of the refuelling zones shall be shown on the site specific plans. Environmental spill kits containing spill response materials suitable for the works being undertaken shall be kept on site at all times and be used in the event of a spill. Any spills shall be contained, cleaned up promptly and immediately reported to the Transgrid site representative.
EM6	All chemicals or other hazardous substances shall be stored in a bunded area and away from any drainage lines/pits, in accordance with the requirements of relevant Australian Standards and the <i>Storing and Handling Liquids: Environmental Protection – Participants Manual</i> (DECC, 2007). The capacity of the bunded area would be at least 130% of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s shall be documented and shown on the site specific plans.
Land use	
LU1	An access and construction licence shall be obtained prior to commencing access road upgrade works on Planning Ministerial Corporation (PMC) land. Works shall be undertaken in accordance with licence conditions.
LU2	On completion of the work, disturbed areas shall be stabilised and returned to as close to original condition or as otherwise agreed with the landowner.

Mitigation measures	
Geology and soils	
GS1	A Soil and Water Management Plan (SWMP) shall be prepared by a suitably qualified and experienced person and implemented and maintained in accordance with relevant sections of <i>Managing Urban Stormwater: Soil and Construction Volume 1</i> (Landcom, 2004) ('the Blue Book') (particularly Section 2.2) and <i>Managing Urban Stormwater: Soil and Construction Volume 2A – Installation of Services</i> (DECC, 2008a) and submitted to the Transgrid Environment Business Partner for endorsement prior to commencement of works.
GS2	Vehicles and equipment shall remain on existing roads and nominated site access. Vehicles and equipment shall be free of mud, soil or vegetated matter prior to access onto public roads.
GS3	Any imported fill shall be certified at source location as pathogen and weed free Excavated Natural Material (ENM) or Virgin Excavated Natural Material (VENM) in accordance with the Protection of the <i>Environment Operations Act 1997</i> (POEO Act) and the Waste Regulation.
GS4	Any excavated material suspected of showing evidence of contamination shall be sampled and analysed by a NATA Registered laboratory and managed in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014), the Guidelines on the Duty to Report Contamination (EPA, 2015) and the <i>Contaminated Land Management Act 1997</i> . This procedure shall be included in the CEMP.
GS5	An Asbestos Management Plan (AMP) shall be prepared, in accordance with relevant WorkCover guidelines, prior to any earthworks or disturbance being performed in the impact area where potential asbestos has been identified, such as <i>Structure 13/14-331</i> if required.
GS6	All oil handling shall be undertaken in accordance with Transgrid's Oil Management Procedure.
GS7	The CEMP shall include an unexpected finds process that outlines how to identify and manage contaminated soils, material, and groundwater.
Hydrology and water quality	
HW1	No refuelling or bulk herbicide preparation shall occur within 40 metres of drainage lines/pits.
HW2	The following water management controls shall be included within the CEMP: • The use of diversion drains (or similar) to reduce water flow into excavations and off-site • Separation of clean and dirty water during construction, where feasible • Methodology for intercepted/collected water (e.g. regular monitoring, treatment and discharge) • Installation of appropriate erosion control devices (sediment fence, coir logs, sandbags, etc), including monitoring and maintenance.
HW3	Spoil shall be stockpiled in a manner to avoid the possibility of sediments entering stormwater drains, waterways or migrating off-site.
Ecology	
EC1	Vegetation disturbance and removal shall be minimised as far as practicable within the impact area. No vegetation removal shall occur outside the impact area without further assessment.

Mitigation measures	
EC2	To manage the introduction and spread of Phytophthora and any other potential biosecurity risks during construction, the following shall be implemented: • Delineation/fencing of the construction footprint and wash down of machinery following completion of the required clearing activities undertaken during site establishment. All vegetation outside this fence line shall be clearly marked as an exclusion zone (inclusive of signage) to avoid transfer of weeds or pathogens • Wash down procedures to reduce the spread of weeds via vehicles and machinery. This includes a vehicle washdown area to utilise at the entrance of the impact area, on-hard stand areas and egress points to disinfect and prevent contaminated runoff. This shall be detailed within the site-specific map and provided to all staff (and contractors) prior to any works commencing. Inspections shall be completed after washdown to verify that all soil and organic material has been removed • Undertaking and documenting a vehicle hygiene inspection checklist. This shall include cleaning of vehicle tyres, undersides, and radiator grills before leaving the property. Vehicle hygiene checklists shall be incorporated into site procedures • Cleaning of footwear and minimising soil movement between locations shall be implemented across the project site • Importing weed-free material • Working from clean areas towards weedy/pathogen effected areas to reduce the spread of weeds/soil pathogens • Selecting and using pesticides in accordance with Transgrid's <i>Use of Pesticides</i> and <i>Schedule of Approved Pesticides</i>. All herbicide selection and use shall be in accordance with Transgrid requirements • Maintaining communication records with landowners regarding biosecurity requirements • Appropriate signage shall be installed to communicate hygiene requirements and biosecurity protocols • The site induction package shall include detailed information on Phytophthora risk and associated control measures, including how Phytophthora spreads, the sensitivity of nearby natural areas, and responsibilities under Transgrid's biosecurity protocol • Ongoing monitoring shall include weekly verification that hygiene stations are operating correctly, routine inspections of vehicle washdown records, and immediate rectification of any identified non-compliance • Spoil shall be appropriately classified, tested, and disposed of at a licenced facility to avoid stockpiling of potentially contaminated material on the ground. Temporary stockpiles shall be located on impermeable surfaces and bunded to prevent runoff into adjacent, uninfested natural areas.
EC3	To reduce the potential for adverse impacts on ecologically sensitive areas containing suitable habitat for threatened microbats, woodland bird species, and the Cumberland Plain Land Snail, the following measures shall be implemented: • Minimise vegetation clearance and disturbance, including impacts to hollow-bearing trees and standing dead trees, as far as possible. Where possible, limit clearing to trimming rather than the removal of whole plants or trees

Mitigation measures	
	- Clearing of mature and hollow-bearing trees shall be avoided where possible. Any hollow-bearing trees identified during pre-clearing surveys or prior to construction shall be retained if possible, and if not, hollows shall be salvaged and relocated into adjacent vegetation where practical - A suitably qualified ecologist shall be engaged prior to any clearing works to physically delineate vegetation to be protected on site and install appropriate signage and high-visibility fencing around the vegetation prior to works commencing. All vegetation within this fence line shall be clearly marked as an exclusion zone to avoid unnecessary vegetation and habitat removal. Fencing and signage shall be maintained for the duration of the construction period and shall be designed to allow fauna to exit the site during clearing activities - Stockpiles of fill or vegetation shall be placed within existing cleared areas (and not within areas of adjoining native vegetation).
EC4	Pre-clearance surveys shall be undertaken by a qualified ecologist for target species (Cumberland Plain Land Snail) and shall include: - Pre-clearing surveys for the Cumberland Plain Land Snail, with any located individuals to be relocated to appropriate habitat adjacent to the project footprint - A procedure for clearing potential habitat, including hollow-bearing trees and stags (if required) - An experienced, licenced wildlife carer or ecologist shall be present to supervise vegetation clearing and capture and relocate fauna (if required).
EC5	If native fauna is encountered on site, stop work and allow the fauna to move away un-harassed. A local wildlife rescue service or the ecologist responsible for pre-clearing surveys shall be engaged to assist with fauna removal and rescue if fauna fails to move away on its own.
EC6	A Site Management Plan (SMP) shall be prepared and implemented for operation of Kemps Creek 330 kV substation in accordance with Transgrid's <i>Site Management Plan</i> Procedure. The SMP shall identify known environmental aspects/sensitivities including biosecurity risks, and stipulate environmental control measures that must be implemented.
EC7	Where operational activities are required outside of the KCS substation palisade fence, an additional environmental constraints report shall be extracted from Transgrid's spatial system to identify biosecurity restrictions on relevant property holdings, including ETMHC-owned lands. Minimum controls to address biosecurity risks, including mandatory hygiene protocols, wash-down procedures and biosecurity risks during operational activities shall be undertaken in accordance with the Environmental Guide Note Biosecurity.
Heritage	
HE1	In the event that a site or artefact (as defined by the <i>National Parks and Wildlife Act 1974</i> or <i>Heritage Act 1977</i>) is identified during construction works, works shall cease at the location and no further harm to the object shall occur. The find shall be immediately reported to Transgrid, and the regulator in accordance with legislation. No work shall commence in the vicinity of the find until any required approvals have been given by the regulator. In the event that skeletal remains are encountered during the activity, works shall stop immediately, the area secured to prevent unauthorised access and the NSW Police, Department of Planning, Housing and Infrastructure (DPHI) and Transgrid contacted.

Mitigation measures	
HE2	• Inductions for work crews shall include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the Unexpected Finds Protocol.
HE3	• All personnel working onsite shall be made aware of the presence of the locally listed historic heritage item Kemps Creek Forest. This site shall be designated as a no-go zone on all site plans.
Noise and vibration	
NV1	Noise generating works shall be undertaken in accordance with the <i>Interim Construction Noise Guideline</i> (DECC, 2009) including application of the following standard construction hours: • 7:00 am – 6:00 pm Monday to Friday • 8:00 am – 1:00 pm Saturdays • No work on Sundays or Public Holidays. Work outside normal hours, on Sundays and public holidays shall only comprise: • The delivery of materials outside normal hours requested by police or other authorities for safety reasons • Emergency work to avoid the loss of lives and/or property • Work timed to correlate with system planning outages • Vacuum and oil filling of equipment. Other noise generating works outside of the standard construction hours shall require the prior formal written consent of the Environmental Business Partner and require justification in accordance with the ICNG Guideline.
NV2	To minimise construction noise impacts and to avoid noise exceedances at adjacent sensitive receivers, the following mitigation measures shall be included, but not be limited to: • Portable temporary noise screens erected adjacent to stationary or long-term static noise sources, or noise generating items where reasonable and feasible • Spotters, reversing alarms, or broadband reversing alarms used in place of traditional tonal beeper reversing alarms, particularly where reversing alarms are frequently in use • Noise source controls, such as the use of residential class mufflers used to reduce noise from all plant and equipment • Offset distance between noisy plant items and sensitive receivers maximised where reasonable and feasible • Machinery shall be operated in a manner that reduces maximum noise level events such as shaking excavator buckets, dropping materials into trucks from height or steel on steel contact • Construction plant and equipment shall be turned off when not in use.
NV3	A Construction Noise and Vibration Management Plan (CNVMP) shall be developed and implemented for the proposed activity. The CNVMP shall include, as a minimum, the following: • Confirmation of the number, type, and location of nearby residences and other sensitive land uses, particularly where these have changed since the environmental assessment • Assess the potential impacts from the proposed construction methods and staging, including road traffic noise based on final construction methods and current receivers

Mitigation measures	
	- Where noise management levels would be exceeded, examine consider additional feasible and reasonable noise mitigations and develop associated noise and vibration monitoring programs, as required - Develop reactive and proactive strategies for dealing with noise and vibration complaints, including a complaints register - Assign roles and responsibilities for the management of noise and vibration complaints - Machinery shall be operated appropriately to reduce maximum noise level events (such as dropping materials into trucks from height, shaking excavator buckets) and construction plant and equipment would be turned off when not in use. - Environmental awareness training and inductions for site personnel shall include noise mitigation techniques and measures to be implemented during construction - Plant and equipment shall be selected based on noise emission levels - Noise-intensive works shall be limited to less sensitive construction hours (i.e. away from early morning and late afternoon periods) as far as practicable, when working in the vicinity of sensitive receivers - Plant and equipment shall be well maintained to ensure that excessive noise is not generated - Should vibratory construction equipment required for the construction of the proposed activity change, further assessment of construction vibration shall be undertaken within the CNVMP - Any works undertaken outside standard working hours will be further assessed in accordance with the ICNG and the CNVG-R during detailed design and an Out of hours works protocol will be developed to mitigate any identified impacts.
NV4	Opportunities to reduce the impacts associated with construction noise levels through the implementation of proactive community consultation shall be examined, confirmed, and implemented where reasonable and feasible. Controls to be considered shall include, but are not limited to, the following: - Notification to sensitive receivers (refer to Appendix B of the NVIA) of the nature of and duration of works, expected noise levels, and details of where/how sensitive receivers can contact project representatives - The community shall be kept regularly informed of noise intensive activities in the immediate area - If noise complaints are received, the complainant shall be offered the opportunity for noise monitoring to be carried out to confirm the noise level at the receiver. Where the noise monitoring confirms that the applicable noise predictions are being exceeded, the construction methodology shall be reviewed and changes implemented to reduce construction noise levels to be compliant with noise predictions where reasonable and feasible.
NV5	The following noise mitigation measures shall be implemented to ensure compliance with the PNTLs under noise-enhancing conditions: - A minimum 5 m noise wall on the western, southern, and eastern sides of each transformer - A maximum transformer sound power level of 94 dBA for all transformers.

Mitigation measures	
NV6	If noise complaints are received upon completion of the project, the complainant shall be offered the opportunity for noise monitoring to be carried out to confirm the noise level at the receiver. Where the noise monitoring confirms that the applicable noise predictions are being exceeded, and if additional measures are found to be required during the compliance monitoring, these shall be implemented as soon as practicable.
NV7	Within three months of the commencement of operations, an operational noise assessment shall be undertaken to verify compliance with applicable noise criteria at all surrounding sensitive receivers. If any exceedances are identified, additional noise mitigation measures shall be considered and implemented, where applicable, to ensure full noise compliance is achieved.
Traffic and access	
TA1	Transportation and equipment delivery movements on public roads shall be in accordance with TfNSW and Council requirements.
TA2	Traffic, transportation and access mitigation and management strategies shall be documented in a Construction Traffic Management Plan (CTMP) and implemented on-site. These shall include: • Nominated haulage routes developed in consultation with Council and TfNSW (including OSOM vehicle routes) • Traffic control measures to manage and regulate traffic movement at the Gurner Avenue access point and reduce the likelihood of queuing on local roads • Measures to maintain safe pedestrian and cyclist access along Gurner Avenue • Prohibiting public on-street parking by construction workers • Consideration of vehicle movements outside of school peak hours • Plan and schedule construction activities to consider conflicts with any TfNSW works on Fifteenth Avenue • Manage vehicles and plant leaving the site to minimise the tracking of mud, soil and other materials onto public roads. Any material deposited on public roads as a result of construction activities would be promptly removed. Transgrid will consult with TfNSW during preparation of the CTMP and will provide the final CTMP for reference.
TA3	A dilapidation survey of the traffic routes would be undertaken prior to bulk earthworks to document the current condition of the roads. Following completion of bulk earthworks, a dilapidation survey would be completed to determine any road damage. Any damage to roads and associated infrastructure as a result of the proposed activity would be reinstated to at least its existing condition, in a timely manner.
Air quality	
AQ1	Air quality mitigation and management strategies shall be documented and implemented in accordance with the CEMP, this shall include, but not be limited to, the following: • Avoiding vehicle and machinery idling as much as possible • Progressively revegetating or otherwise rehabilitating disturbed areas as works are completed • Reducing vehicle speeds on site and in the vicinity of the site to minimise generation of nuisance dust

Mitigation measures	
	Dust suppression including water spraying of unsealed surfaces, covering stockpiles and materials during transportation.
AQ2	Exhaust emissions from plant and equipment during construction shall be managed by: - Inspecting all plant and equipment before it is used on-site - Switching off all vehicles, plant, and equipment when not in-use - Ensuring all vehicles, plant, and equipment operate in a proper and efficient manner - Avoiding the use of diesel or petrol-powered generators and using mains electricity or battery powered equipment where practicable.
Hazards and risk	
HR1	All designs shall be in accordance with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to EMF (ARPANSA, 2010).
HR2	Transgrid's <i>Hot Works and Fire Risk Procedure</i> shall be adhered to for planning and undertaking all hot and fire risk works. This process shall be documented and implemented in accordance with the CEMP.
HR3	All SF ₆ handling shall be undertaken in accordance with Transgrid's <i>Management of SF₆ Gas – Work Instruction</i> .
Visual amenity	
VA1	All construction plant, equipment, waste, and excess materials shall be contained within the designated boundaries of the work site and shall be removed from the site following the completion of construction.
VA2	Exterior lighting for KCS substation shall be installed in a manner that aims to minimise light spill to areas beyond the substation boundary fence.
Waste	
WA1	Waste mitigation and management strategies shall be documented in the CEMP and be in accordance with Transgrid's Waste Management Procedures and associated Work Instructions.
Social and economic impacts	
SE1	Consultation with affected landowners, the wider community, and relevant stakeholders shall be undertaken in accordance with the Community and Stakeholder Engagement Plan that has been prepared for the proposed activity. Information relating to this project can be found on Transgrid's website at: https://www.transgrid.com.au/projects-innovation/supply-to-western-sydney-priority-growth-area/
SE2	Feedback and complaints received during construction of the proposed activity from affected landholders shall be considered and responded to in a timely manner.
Cumulative impacts	
CU1	Consultation shall occur with other nearby projects with the potential to occur simultaneously or consecutively with the proposed activity (e.g. Transgrid Accelerated Synchronous Condenser), including regarding scheduling of works, traffic management, and consultation with the local community.