

Meeting demand growth in the Western Sydney Aerotropolis ‘Priority Growth Area’

RIT-T Project Specification Consultation Report

Issue date: 7 May 2024



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Summary

This Regulatory Investment Test for Transmission (RIT-T) is a joint planning initiative between Transgrid and Endeavour Energy. The RIT-T will apply to options for ensuring reliable supply to the Western Sydney Aerotropolis 'Priority Growth Area' in light of demand growth from the development of the Western Sydney International (Nancy Bird Walton) Airport and surrounding metropolitan, commercial and industrial precincts (collectively referred to as the 'Aerotropolis precinct'). Publication of this Project Specification Consultation Report (PSCR) represents the first step in the RIT-T process.

This is a joint RIT-T between Transgrid and Endeavour Energy to establish a new Bulk Supply Point (BSP) at Kemps Creek to supply increasing load growth in the area. Endeavour Energy will not be conducting a separate RIT-D for connecting their side of the network to the new BSP because the scope of the Endeavour Energy work and the related cost estimate is included in the RIT-T and these works are necessary and intrinsic to the BSP augmentation work and the connection to the customers in the area.

Transgrid has worked with Endeavour Energy and determined that the expected increase in demand from developments in the Aerotropolis precinct will result in power flows exceeding the capacity of the Macarthur 132 kV transmission BSP from 2026/27 under system normal conditions. This will require load shedding under both system normal and contingency conditions at the Macarthur 132 kV BSP after Endeavour Energy completes the first phase of its current supply network upgrades in the area.¹

This PSCR has been prepared in conjunction with Endeavour Energy (as the relevant distribution network service provider).²

Identified need: relieving network constraints to facilitate the connection of load and provide net market benefits

We have identified the opportunity to improve network supply capacity to the Aerotropolis precinct, which is expected to provide significant net market benefits by eliminating the need for load shedding. This will result in an overall increase in net benefits to participants in the National Electricity Market (NEM) and is considered a 'market benefits' driven RIT-T (i.e., as opposed to a 'reliability corrective action').

Credible options considered

We consider that there are two feasible options from a technical, commercial, and project delivery perspective that can be implemented in sufficient time to meet the identified need. These are summarised in Table E-1.

¹ Endeavour Energy completed a Regulatory Investment Test for Distribution (RIT-D) in January 2022 to address network limitations caused by increasing demand in the Aerotropolis area. This RIT-D identified the construction of a 26.5km 132kV underground feeder with 275MVA capacity that spans between South Erskine Park zone substation (ZS) to the Bringelly ZS as the preferred option. The project is expected to be in place by 2024/25 and will support the various new substations in the region designed to accommodate the increase in demand.

² Consistent with the joint-planning requirements in the National Electricity Rules.

Table E-1 Summary of the credible options

Option	Description	Capital cost (\$m)		
		Transgrid	Endeavour Energy	Total
Option 1	New BSP next to the Kemps Creek substation	\$109.4m	\$24.4m	\$132.8m
Option 2	New Airport South BSP supplied from cut-in to Line 39	\$157.7m	\$100.0m	\$257.7m

Non-network options are not expected to be able to assist with this RIT-T

We do not consider that there will be a non-network solution, or group of solutions, that forms a potential credible option on a standalone basis, or that forms a significant part of a potential credible option for this RIT-T.

This is due to the network augmentation being required to facilitate substantial new loads, i.e., the investment is being built solely for greenfield load developments (and the magnitude of these developments is such that realistic non-network solutions cannot alter the timing or scope of the expected network investment).

Submissions and next steps

The purpose of this PSCR is to set out the reasons we propose that action be undertaken, present the options that address the identified need, outline why for this particular RIT-T we do not consider non-network options are able to assist, and allow interested parties to make submissions and provide input to the RIT-T assessment.

We welcome written submissions on materials contained in this PSCR. Submissions are due on 5 August 2024.

Submissions should be emailed to our Regulation team via regulatory.consultation@transgrid.com.au.³ In the subject field, please reference 'Western Sydney Aerotropolis Priority Growth Area PSCR'.

At the conclusion of the consultation process, all submissions received will be published on Transgrid's website. If you do not wish for your submission to be made public, please clearly specify this at the time of lodgement.

We intend to produce a Project Assessment Draft Report (PADR) that addresses all submissions received and presents our draft conclusion on the preferred option for this RIT-T. Subject to what is proposed in submissions to this PSCR, we anticipate publication of a PADR in late 2024.

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