

Note on Western Sydney augmentations

Outcome of preliminary network studies

Context: Network Planning progressed studies to investigate capacity to support data centre load growth in Western Sydney. These studies have informed augmentation planning and do not address funding or cost recovery. The below table summarises the capacity for load in Western Sydney following various augmentation and generation scenarios.

Table 1: capacity for data centre loads in western Sydney

Major project scenario*	Additional assumptions	Indicative capacity for load (GW, 2032/33)
Baseline	-	0.00
	Additional SVC	0.35
	Additional SVC + up to 2.6 GW BESS**	0.60
HTP	-	0.50
	Additional SVC + line 14 double-circuit	1.20
	Additional SVC + line 14 double-circuit + up to 2.6 GW BESS + Kemps Creek transformer	2.00
HTP & SRS***	Additional SVC + line 14 double-circuit + 2.6 GW BESS + Kemps Creek transformer	2.80 (2033/34)
	2x additional SVC + line 14 double-circuit + 2.6 GW BESS + Kemps Creek transformer	3.20 (2033/34)

*Assumptions used: studies examine the summer peak demand. The baseline excludes major projects that are not 'committed' or 'anticipated' in the latest ISP – notably HTP and SRS. Overall underlying demand matches the 2025 TAPR (top-down 10% PoE Medium NSW forecast) and is specified to the western Sydney region (at 50% PoE Summer). Generation dispatch is assumed as follows: 20% wind, 5% solar, 90% BESS, 100% coal, 100% gas and hydropower to manage transfer through VNI.

** Comprises the deployment of committed BESS projects along Sydney supply corridors

*** Comprises the SRS option with the South Creek switching station and 330 kV transmission line to Bannaby, delivered in 2033. Final SRS options to be determined following the completion of the RIT-T process

Implications for data centre connections

It should be noted that the above analysis represents an estimate based on the latest available information on DNSP load growth and BESS project status; any updated inputs and more detailed studies may influence results. These findings, nevertheless allow Transgrid to draw several conclusions:

- Studies to-date indicate additional capacity of 2.8 GW to supply load can be enabled in western Sydney, if the following conditions are met:
 - **Data centres connecting to the Transmission network fund** the following augmentation projects: double-circuiting of line 14 between Kemps Creek and Sydney West with high-capacity conductors, approx. 280 MVAR dynamic voltage support (such as installation of one new static VAR compensator like the existing one at Sydney West), an additional 1,500 MVA 500/330 kV transformer at the Kemps Creek substation and data centre connection capacitor banks totalling 800 MVAR

- **Actionable projects obtain regulatory and funding approval and proceed** as planned, namely HTP and the 330 kV South Creek Switching Station with 330 kV lines to Bannaby SRS option
- **Committed BESS projects** along Sydney's supply corridors totalling 2.6 GW proceed as planned
- Transgrid could potentially increase its capacity for load further through identification of additional augmentation projects, such as the operation of SRS at 500 kV and additional dynamic support. This requires further study.