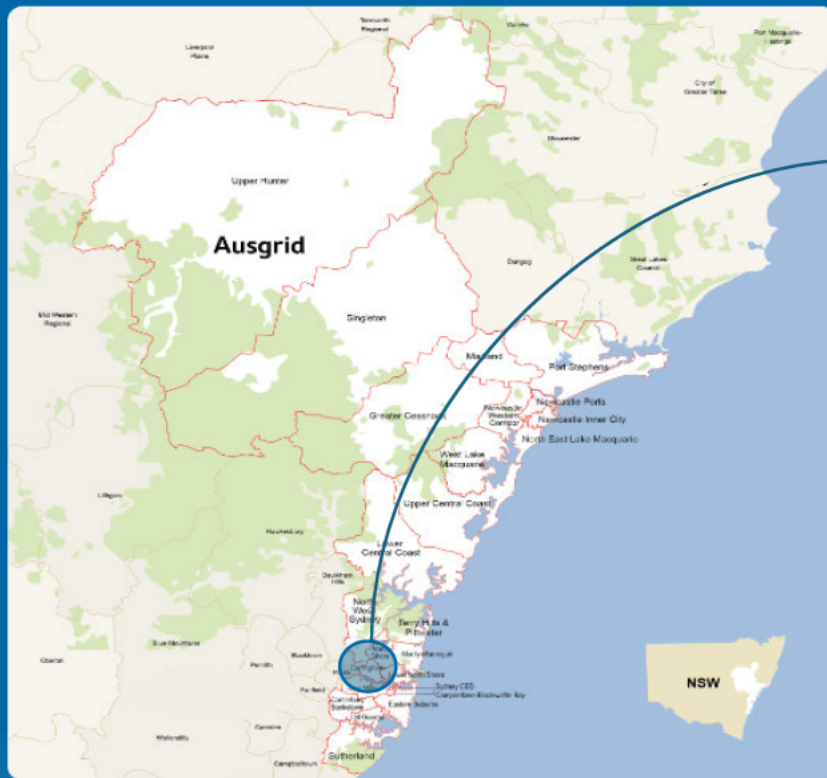


Addressing increased customer demand requirements in the Macquarie Park area

CONTINGENT PROJECT APPLICATION

Appendix 7 –Pre-lodgement consultation with the AER



07 February 2025

Addressing increased customer demand requirements in the Macquarie Park area

Contingent Project Application

Appendix 7 – Pre-lodgement consultation with the AER


Contents

INFORMATION PACK PRESENTED ON THE 11 TH AND 20 TH NOVEMBER 2024	3
INFORMATION PACK PRESENTED ON THE 27 TH NOVEMBER 2024	12


Information pack presented on the 11th and 20th November 2024

Addressing increased customer demand requirements in the Macquarie Park area

NEW WALLUMATTA SUBTRANSMISSION SUBSTATION



Ausgrid/AER Meeting – Wallumatta STS Contingent Project
20 Nov 2024



Agenda

Agenda Item	Lead	Timing
1 Background / overview of Wallumatta STS, including progress against the AER's approved contingent project triggers	Ausgrid	15 minutes
2 Developments since our regulatory proposal, including: 1. Contingency costs (previously not included) 2. Higher land acquisition costs	Ausgrid	20 minutes
3 Engagement with Ausgrid's customer panel	Ausgrid	5 minutes
4 AER's expectations for contingent project applications, including: 1. Any guidance on key areas our application should address 2. Lessons learnt from previous applications	AER	10 minutes
5 Next steps	Ausgrid / AER	10 minutes

For Official use only

Background

Macquarie Park is a suburb in Northern Sydney well connected to telecommunications, electrical and transport infrastructure, making it an attractive location for major loads.

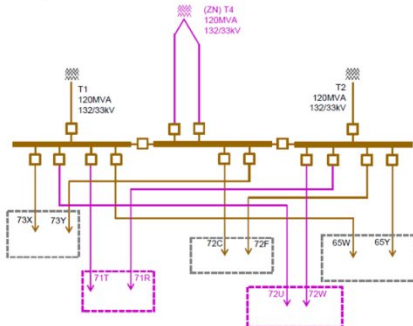
The area has also been selected by the NSW Department of Planning, Housing and Infrastructure to accommodate new residential dwellings and commercial floorspace.

The Macquarie Park network area has been recently augmented to accommodate the connection of major loads with the establishment of a new 132/33kV subtransmission substation (STS) known as Macquarie STS.



Project Need

Macquarie 132/33kV STS



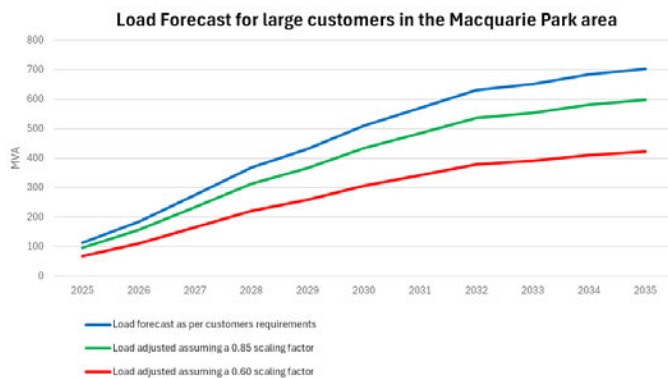
- Three major customer loads already connected to Macquarie STS in 2022 and 2023.
- Two additional major customer loads to be connected to Macquarie STS in 2025 and 2026.



Physical site restrictions at Macquarie STS mean that new loads cannot be accommodated at this site.

Further network investment would be required to connect additional major loads in the area.

Project Need



- Four additional connection applications have been received from major customers seeking to connect in the Macquarie Park area.
- Additional enquiries have been received from other prospective major customers seeking to connect in this network area.
- Combined loads are expected to exceed available capacity in the Macquarie Park network before the end of this decade.

If action is not taken, Ausgrid will fail to meet requirements to connect customers under the NER. This creates an opportunity to provide a scale-efficient investment in shared network assets.

How options are defined

Various dimensions for supply arrangements to connect these major loads have been investigated, considering physical location, connection to the upstream transmission network and substation configuration.

Three sites to accommodate a substation

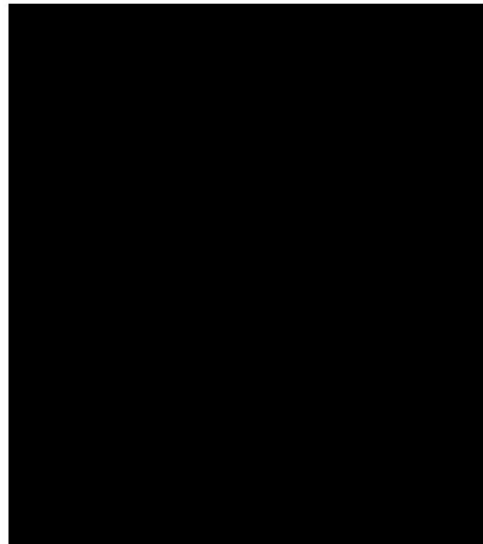
Three connection arrangements to the 132kV upstream network

Three substation arrangements to connect the new customers

How options are defined

Three sites to accommodate a substation

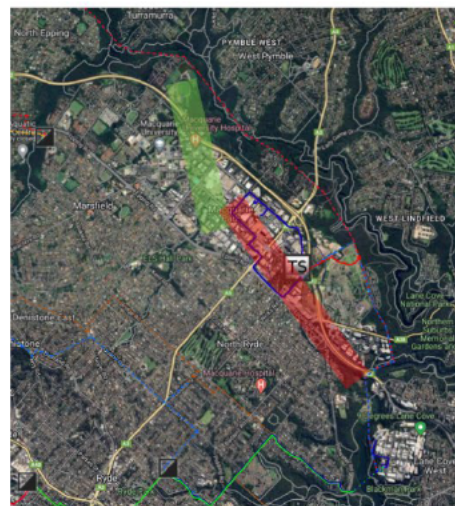
- Site 1 has been impacted by a rezoning and is now suitable for residential high-rise developments, resulting in a significant increase in value.
- Site 2 will require subdivision, as a large substation can be accommodated and will use a portion of the site area.
- Site 3 is not suitable to accommodate a large substation. Expansion of this site will require compulsory acquisition and national park land clearing.



How options are defined

Three connection arrangements to the 132kV upstream network

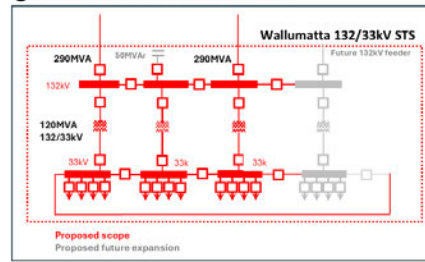
- The green corridor involves looping into 132kV feeders 92A & 92B Sydney North Bulk Supply Point (BSP) to Lane Cove Subtransmission Switching Station (STSS). Twin cables in two different routes are required to maintain network rating capacity, leading to materially higher costs.
- A sub-set of the green corridor arrangement involves looping into 132kV Feeder 92B, but this could lead to overloading on the existing tee connection 92A(2) to the Macquarie Park Zone Substation under N-1 conditions.
- The red corridor involves a tee connection at the East Ryde Transition Point from 132kV feeders 92G & 92J from Top Ryde/Meadowbank Zone Substations to Lane Cove STSS.



How options are defined

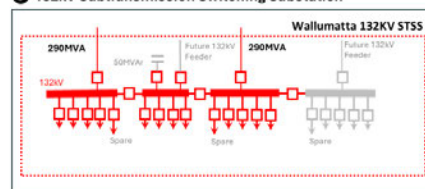
Three substation arrangements to connect the new customers

1 132/33kV Subtransmission Substation



2 132/33kV Subtransmission Substation with expanded 132kV busbar

3 132kV Subtransmission Switching Substation



- Arrangement 1 provides 33kV supply connections for major loads.
- Arrangement 2 provides both 33kV and 132kV supply connections for major customers.
- Arrangement 3 provides 132kV supply connections for major customers.

Customers predominantly use 33kV supply modules and have requested 33kV input supply in their connection applications.

How options are defined

Various dimensions for supply arrangements to connect these major loads have been investigated, considering physical location, connection to the upstream transmission network and substation configuration.

Three sites to accommodate a substation

Three connection arrangements to the 132kV upstream network

Three substation arrangements to connect the new customers

The combination of these parameters leads to 27 options, but drawbacks identified previously reduce the assessment to 11 network options, and can be further narrowed down to 4 credible options involving:

- Two substation types: a 132/33kV STS or a 132/33kV STS with expanded 132kV busbar
- Two sites: Site 1 or Site 2
- One connection arrangement, with the substation tee connected to 132kV feeders 92G & 92J

11 options considered were reduced to 4 with the preferred based on the lowest overall cost

Option	Description	Network capital cost	Customer connection cost	Combined cost
1	New 132/33kV STS at site 1 looped into 132kV Feeder 92B	188	28	217
2	New 132/33kV STS at site 1 looped into 132kV Feeders 92A & 92B	252	28	280
3	New 132kV STSS at site 3 and new 132/33kV STS at site 1 looped into 132kV Feeder 92B	200	28	229
4	New 132/33kV STS at site 1 tee connected at East Ryde Transition Point to 132kV Feeders 92G & 92J	179	28	207
5	New 132/33kV STS at site 2 tee connected at East Ryde Transition Point to 132kV Feeders 92G & 92J	162	12	175
6	New STS with expanded 132kV busbar at site 1 tee connected to 132kV Feeders 92G & 92J	186	28	214
7	New STS with expanded 132kV busbar at site 2 tee connected to 132kV Feeders 92G & 92J	170	12	182
8	New 132kV STSS (expandable) at site 1 looped into 132kV Feeder 92B	179	126	305
9	New 132kV STSS (expandable) at site 1 tee connected to 132kV Feeders 92G & 92J	169	126	294
10	New 132kV STSS (expandable) at site 2 tee connected to 132kV Feeders 92G & 92J	152	106	258
11	New 132kV STSS (expandable) at site 3 looped into 132kV Feeder 92B	185	181	366

RIT-D assessment and Next Steps

- **Application of the RIT-D started with the publication of a Draft Project Assessment Report (DPAR) on 16 August 2024. It was accompanied by a Notice to report that non-network or stand-alone power system solutions were found to be not viable for this RIT-D.**
- **The DPAR called for submissions from parties by 27 September 2024. No submissions were received on either the DPAR or the separate screening notice.**
- **A Final Project Assessment Report (FPAR) was published on 11 October 2024. Under the National Electricity Rules, parties have 30 days from this date to dispute the application of the RIT-D. No disputes were received.**

Ausgrid intends to submit a contingent project application to the AER for the preferred option, as soon as practicable after completion of the RIT-D process.

If approved, construction would commence immediately, targeting commissioning in 2028/29.

Developments since our regulatory proposal



What has changed since November 2023

- *Options 1, 2 and 3 presented in our initial business case are no longer considered credible.*
- *Option 4 was initially considered the preferred option, but the value of site 1 was impacted by the rezoning of the area, causing a significant cost increase.*
- *Additional enquiries from major customers have led to consider an expanded Wallumatta STS.*
- *Accordingly, Options 5, 6 and 7 have been included to consider an alternative site for Wallumatta STS as well as an expanded configuration arrangement.*
- *Updated property valuation assessments have been received for the sites considered in 2024.*
- *A contingency has been estimated and included in the capital costs following a risk assessment.*
- *The updated assessment of the options published in the Regulatory Investment Test for Distribution (RIT-D) determines Option 5 is the preferred solution.*

Inclusion of a Contingency Allowance

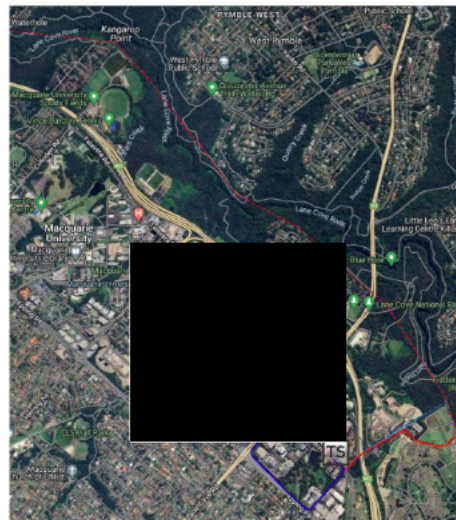
Component	Labour	Materials	Contracted Services	Contingency allowance	Total
Install a new 132/33kV STS (Wallumatta STS) with 3x120MVA transformers, 10x132kV and 18x33kV circuit breakers on site 2 + 132kV connections to tee off from Feeder 926 & 92J	15.2	44.4	83.8	18.9	162.3

Component	Cost rationale	Cost range (P10 to P90)	Likely cost (P50)	Probability	Allowance (\$ million)
Failing to secure land at budgeted price	Property acquisition will be determined on a negotiated basis.	4.0 - 20.0	12.0	50%	6.0
Delays due to tenants with existing leases	Need to compensate tenants to enable timely initiation of works.	1.5 - 5.0	2.0	75%	1.5
Uncertainty in securing resources	Paying a premium over market rate to have resources with appropriate skills.	1.5 - 4.5	3.1	50%	1.6
Changes in design standards	Evolving industry requirements leading to use of non SF ₆ switchgear.	4.4 - 8.8	4.4	35%	1.5
Demolition works not included in estimates	Assuming \$200/m ² for a 3-level building, demolition could cost \$3 million.	1.0 - 3.0	2.0	75%	1.5
Uncertainty in site specific conditions	Site topography is unknown. Additional setback requirements may be required.	3.4 - 16.0	8.5	40%	3.5
Escalation of prices not included in estimates	Exchange rate and commodity price changes can impact cable procurement.	1.4 - 3.9	2.9	40%	1.2
Contractor cost uncertainties	Variations to contracted costs post award could range between 2% and 10%.	1.7 - 8.4	4.2	20%	0.8
Noise complaints from construction work	Requirement to install noise and/or fire walls.	0.4 - 2.0	1.2	60%	0.7
Cable egress issues	Longer cable runs may be required, leading to purchase of easements.	0.5 - 2.5	1.2	50%	0.6

Higher land acquisition costs

Only two sites are considered feasible to accommodate a substation

- Site 1 [REDACTED] indicative market value has been estimated to be [REDACTED] plus transaction costs (Sep- 2024). This is the impact of the rezoning implemented by the NSW Government. The value considered in the initial business case was [REDACTED] (Nov-2023).
- Site 2 [REDACTED] indicative market value has been estimated to [REDACTED] plus transaction costs. [REDACTED] of the acquisition cost is included in the network options.



Credible network options

Option	Description	Network capital cost	Customer connection cost
Option 4	New 132/33kV STS at 'site 1' tee connected at East Ryde Transition Point to 132kV Feeders 92G & 92J	\$179 million	\$28 million
Option 5	New 132/33kV STS at 'site 2' tee connected at East Ryde Transition Point to 132kV Feeders 92G & 92J	\$162 million	\$12 million
Option 6	New STS with expanded 132kV busbar at 'site 1' tee connected to 132kV Feeders 92G & 92J	\$186 million	\$28 million
Option 7	New STS with expanded 132kV busbar at 'site 2' tee connected to 132kV Feeders 92G & 92J	\$170 million	\$12 million

Option 5 is the preferred choice as it is found to have the highest net market benefits of all options, and it is also the lowest cost of all four credible options.

Thank you

Information pack presented on the 27th November 2024

Hi AER team

Thanks for the time yesterday to talk through the pricing and revenue smoothing aspects of our Wallumatta contingent project application.

Please find attached an updated version of the pack we presented yesterday. It includes a new "Scenario 3" that adopts a smoothing profile where all revenue associated with the contingent project in the current reg period is recovered in FY29.

We have also included additional analysis (see slide 4) which sets out the proportion of revenue/costs that would be recovered from our general customer base under each scenario. Note that this is a low percentage (less than 1%) under each scenario.

Overview of Scenario 3

The discussion yesterday prompted us to model a new "Scenario 3" which further limits the cost impact on our general customer base.

By allocating all incremental revenue associated with Wallumatta to FY29, the bill impacts under Scenario 3 is limited to \$1.80 (0.28% increase) for residential customers. There is still a small bill impact since Wallumatta STS isn't commissioned until December 2028 i.e. half-way through FY29.

We initially excluded Scenario 3 from yesterday's pack because the "smoothed/unsmoothed" revenue in FY29 exceeds the target 3% final year cap applied in the PTRM. However, on reflection we don't consider this to be a major issue. Large swings in price between reg periods are unlikely to occur when the 3% cap is exceeded in the PTRM for our dual function assets given that our revenue from these assets is a small proportion of our total revenue. Specifically, about 10% of our FY29 target revenue comes from dual functions assets (~\$200m) with the remainder (~\$1,900m) from distribution assets. The breach of the 3% cap in Scenario 3 is also not excessive, at 7.2%.

Bill impacts of scenario 3

Scenario 3 - \$ bill increase	2025-26	2026-27	2027-28	2028-29
Residential (EA010/EA116)	\$0.00	\$0.00	\$0.00	\$1.80
Small Business (EA050/EA256)	\$0.00	\$0.00	\$0.00	\$7.24

Scenario 3 - % bill increase	2025-26	2026-27	2027-28	2028-29
Residential (EA010/EA116)	0.00%	0.00%	0.00%	0.28%
Small Business (EA050/EA256)	0.00%	0.00%	0.00%	0.33%

We note that other options were suggested yesterday (e.g. smoothing revenue into the FY30-34 period). Our current position is that they would be less preferable given the complexity they would add and the small price impacts under Scenario 3.

In saying that, our intention in sharing this information is to get early feedback and we are more than happy to work with the AER on modelling other scenarios.



Options to ensure other customers don't pay more

During construction

Depending on the revenue smoothing profile, the additional revenue recovered from other customers is:

Residential: \$2.48 to \$2.77 per average customer

Small business: \$9.46 to \$10.27 per average customer

After commissioning

No impact on other customers is expected as the required revenue will be recovered as a fixed charge from the new Wallumatta STS customers.

This will occur on the condition that the year ahead forecasts provided to Transgrid are accurate.

Options for revenue recovery

Scenario 1	2024-25	2025-26	2026-27	2027-28	2028-29
Smoothed Revenue (\$m, nominal)	\$0.00	\$0.80	\$1.93	\$5.87	\$9.79
X factors	-30.00%	-25.50%	-10.70%	1.92%	1.92%
Final year difference (smoothed vs unsmoothed)					3.02%
Scenario 2	2024-25	2025-26	2026-27	2027-28	2028-29
Smoothed Revenue (\$m, nominal)	\$0.00	\$0.00	\$0.00	\$6.24	\$12.52
X factors	-30.00%	-25.00%	-10.20%	0.92%	0.92%
Final year difference (smoothed vs unsmoothed)					4.24%
Scenario 3	2024-25	2025-26	2026-27	2027-28	2028-29
Smoothed Revenue (\$m, nominal)	\$0.00	\$0.00	\$0.00	\$0.00	\$19.16
X factors	-30.00%	-25.00%	-10.20%	3.62%	-4.74%
Final year difference (smoothed vs unsmoothed)					7.21%

The X factors which have been updated for revenue smoothing are highlighted in the blue cells

Proportion of incremental revenue associated with Wallumatta relative to total ARR to be recovered from all customers

Scenario 1 (\$m, nominal)	2024-25	2025-26	2026-27	2027-28	2028-29
Smoothed Revenue	\$0.00	\$0.80	\$1.93	\$5.87	\$9.79
Ausgrid ARR – Final Decision (smoothed)	\$1,693.96	\$1,874.15	\$2,048.55	\$2,207.50	\$2,156.75
Proportion of incremental revenue recovered from all customers	0.00%	0.04%	0.09%	0.27%	0.44%

Scenario 2 (\$m, nominal)	2024-25	2025-26	2026-27	2027-28	2028-29*
Smoothed Revenue	\$0.00	\$0.00	\$0.00	\$6.24	\$12.52
Ausgrid ARR – Final Decision (smoothed)	\$1,693.96	\$1,874.15	\$2,048.55	\$2,207.50	\$2,156.75
Proportion of incremental revenue recovered from all customers	0.00%	0.00%	0.00%	0.28%	0.44%

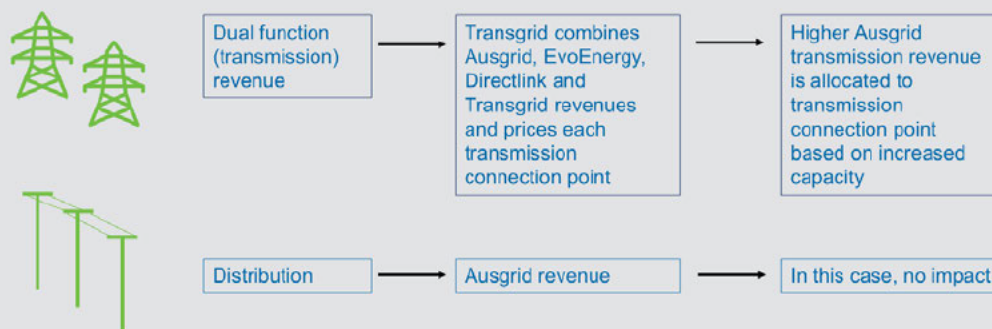
Scenario 2 (\$m, nominal)	2024-25	2025-26	2026-27	2027-28	2028-29*
Smoothed Revenue	\$0.00	\$0.00	\$0.00	\$0.00	\$19.16
Ausgrid ARR – Final Decision (smoothed)	\$1,693.96	\$1,874.15	\$2,048.55	\$2,207.50	\$2,156.75
Proportion of incremental revenue recovered from all customers	0.00%	0.00%	0.00%	0.00%	0.44%

Note: * Reflects commissioning date of December 2023. Half of the FY29 revenue is therefore expected to be recovered from other customers

Price impacts for dual function assets

Wallumatta is a dual function (transmission) asset.

This means there is no distribution revenue, and no distribution charge to these or other customers



Our transmission assets are priced by Transgrid

Each year, Ausgrid provides Transgrid with its transmission MAR, TNI demand forecast, and asset register.

Transgrid includes this information in its pricing model, and produces its annual TNI price list with the following:

- Exit charge (\$/day)
- Locational charge (\$/kW/month)
- Common service and non-locational charges (\$/kW/month)

Customer	Connection Point	Exit (\$/day)	Locational (\$/kW/month)	Billable by:
Ausgrid	Green Square 11kV	6,410.81	5.727	Ausgrid
Ausgrid	Gwawley Bay 11	-	4.6009	Ausgrid
Ausgrid	Haymarket 132	4,929.21	5.881	TransGrid
Ausgrid	Homebush Bay 11	3,070.40	3.7534	Ausgrid
Ausgrid	Hurstville North 11	4,414.84	5.6053	Ausgrid
Ausgrid	Kingsford 11	4,365.58	7.6108	Ausgrid
Ausgrid	Kingsford 132	302.61	7.6227	Ausgrid
Ausgrid	Kogarah 11	5,026.29	6.8855	Ausgrid
Ausgrid	Kumell South 11	3,891.08	7.4492	Ausgrid
Ausgrid	Kumell South 132	254.67	0	Ausgrid
Ausgrid	Lane Cove 132	1,807.52	4.9999	Ausgrid
Ausgrid	Lidell 330	-	1.0692	TransGrid

Screenshot from Transgrid's FY25 price list

These unit rates are based on the TNI demand forecast provide by Ausgrid.

Transgrid have estimated the Wallumatta charges

Earlier this year, we asked Transgrid to run its model with the Wallumatta STS included.

The prescribed TUOS charges (FY25) proposed Wallumatta STS are calculated as (\$, GST excluded):

Exit: \$2,635,829.88

Locational: \$17,155,480.4

Non-locational: \$2,053,925.51

Common Service: \$6,729,658.671

Total: \$28,574,894.46

These charges are calculated using the following:

1. Network model provided by Ausgrid
2. Revenue provided by Ausgrid
3. Load estimate for Wallumatta provided by Ausgrid (with peak demand of 326 MW)
4. All other data as prepared for the published FY25 prescribed transmission prices

Given the Wallumatta STS won't be commissioned until FY29, these numbers are indicative.



Ausgrid