Final Decision

Directlink Electricity Transmission Determination 2025 to 2030

(1 July 2025 to 30 June 2030)

Attachment 5
Capital Expenditure

April 2025

AUSTRALIAN ENERGY REGULATOR

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List of attachments

This attachment forms part of the Australian Energy Regulator's (AER's) final decision on the transmission determination that will apply to Directlink for the 2025–30 period. It should be read with all other parts of the final decision.

As a number of issues were settled at the draft decision stage or required only minor updates, we have not prepared all attachments. Where an attachment has not been prepared, our draft decision reasons form part of this final decision. The final decision attachments have been numbered consistently with the equivalent attachments to our draft decision.

The final decision includes the following attachments:

Contents

5 Capital expenditure

Capital expenditure (capex) refers to the investment made in the transmission network to provide prescribed transmission services. This investment mostly relates to assets with long lives (30-50 years is typical) and these costs are recovered over several regulatory periods.

On an annual basis, the financing and depreciation costs associated with these assets are recovered (return of and on capital) as part of the building blocks that form Directlink's total revenue requirement.[1]

Under the regulatory framework, Directlink must include a total forecast of the capex that it considers is required to meet or manage expected demand, maintain the safety, reliability, quality and security of its network; to achieve targets for reducing Australia's greenhouse gas emissions; and comply with all applicable regulations (the capex objectives).[2]

We must decide whether or not we are satisfied that this forecast reasonably reflects prudent and efficient costs and a realistic expectation of future demand and cost inputs (the capex criteria).[3] We must make our decision in a manner that will, or is likely to, deliver efficient outcomes in terms of the price, quality, safety, reliability and security of supply, and to achieve targets for reducing Australia's greenhouse gas emissions that benefit consumers in the long term (as required under the National Electricity Objective (NEO)).[4]

If we are not satisfied, we must set out the reasons for this decision and a substitute estimate of the total capex for the 2025–30 period that we are satisfied reasonably reflects the capex criteria, taking into account the capex factors.

Directlink proposed $31.5 million ($2024–25) in forecast net capex it considers is required to maintain the safety, reliability and security of energy supply on its network in the 2025–30 regulatory control period.[5]

This attachment sets out our final decision on Directlink's forecast capex.

5.1 Final decision

Our final decision is that we are not satisfied that Directlink’s proposed total forecast capex of $31.5 million ($2024–25) reasonably reflects prudent and efficient costs to meet the capex objectives. Our substitute forecast is $20.2 million, which is 34.9% below Directlink’s forecast. This $11.3 million reduction in capex is driven by our alternative forecast for Directlink’s spares management program.

1 NER, cl. 6A.5.4(a).

2 NER, cl. 6A.6.7(a).

3 NER, cl. 6.5.7(c).

4 NEL, ss. 7, 16(1)(a).

5 Directlink, Revised Proposal Document, December 2024, p.22.

We consider this forecast will provide for a prudent and efficient service provider in Directlink's circumstances to meet the capex objectives. **Table 5.1** outlines our substitute estimate of forecast capex and compares this to Directlink's proposed forecast capex.

Table 5.1 AER's final decision on Directlink's total net capex forecast ($ million, $2024–25)

	2025–26	2026–27	2027–28	2028–29	2029–30	Total
Directlink's revised proposal	14.0	5.0	4.2	4.8	3.4	31.5
AER's final decision	11.8	2.8	1.9	2.5	1.2	20.2
Difference ($)	-2.3	-2.3	-2.3	-2.3	-2.3	-11.3
Difference (%)	-16.1%	-45.1%	-53.8%	-47.6%	-66.0%	-36.0%

Source: AER analysis and Directlink's revised proposal.

Note: Numbers may not add up due to rounding.

Our decision relates to Directlink's total forecast capex for the 2025–30 regulatory control period. We do not approve a particular category of capex or specific projects, but rather an overall amount. However, as part of our assessment, we need to review particular projects in order to test whether Directlink's proposed total forecast capex reasonably reflects the capex criteria.

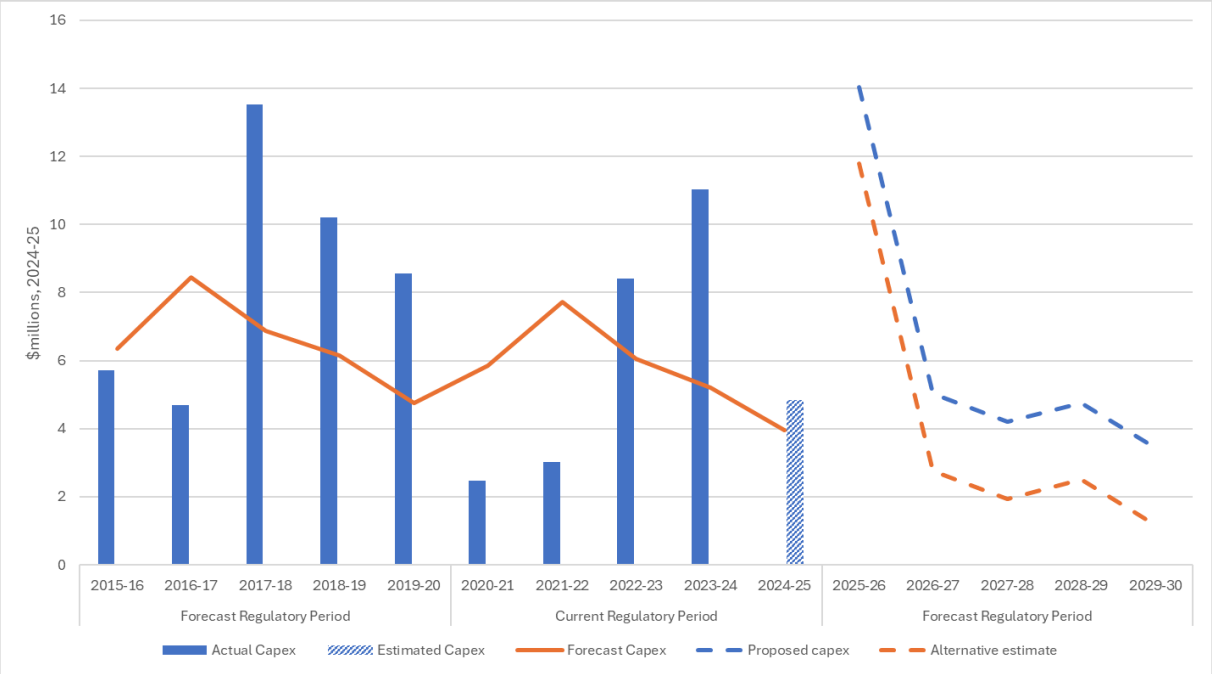
5.2 Directlink's revised proposal

Directlink's revised proposal forecasts $31.5 million ($2024–25) capex over the 2025–30 regulatory control period. This excludes the originally proposed $0.3 million in transmission determination costs which Directlink agreed to repropose as opex.

Figure 5.1 outlines Directlink's historical capex trend, its proposed forecast for the 2025–30 regulatory control period, and our final decision. Consistent with our usual practice, the chart presents a time-series of Directlink's net capex. Compared to the current regulatory period, Directlink forecasts a minor step up in the forecast period of $1.7 million. The capex increase is primarily driven by Directlink's proposed $12.9 million for spares management. This is followed by another $6 million for its insulated gate bipolar transistors generation 3 upgrades, a project previously approved in the current period.

Directlink submits that it has accepted most of the AER's draft decision on capex and made reductions to reflect this. In response to feedback in our draft decision, Directlink has reproposed its spares management project after further work on its forecast modelling. This has shifted the project total from $12.5 million to $12.9 million. The resubmission of its spares management program results in Directlink's revised proposal being $2.3 million less that its initial proposed capex and $12.7 million higher than our draft decision.

Figure 5.1 Historical and forecast capex ($2024–25)



Source: Directlink, Attachment 4-1 – Directlink – Forecast CAPEX, December 2019, Directlink, Attachment 08 - Forecast Capital Expenditure model, December 2024; AER analysis.

5.3 Reasons for final decision

We are not satisfied that Directlink's forecast total capex reasonably reflects the prudent and efficient costs to meet the capex objectives. We have formed an alternative forecast total capex of $20.2 million that we consider is the prudent and efficient costs for Directlink to maintain its network. Overall, we found that the majority of Directlink's proposed capex would be required to meet the capex objectives. The sole driver for our final decision alternate forecast is Directlink's spares management program. The project, worth $12.9 million and 40.9% of Directlink's capex proposal, was put forth to improve reliability and identify which critical assets were in need of spares to manage Directlink's systems until end of life.[6] To support its business case, Directlink provided its modelling to demonstrate the basis of its reasoning for specific spares. We do not wholly agree with the assumptions Directlink has used in its model and have adjusted our forecast to reflect this. We go into further detail for our reasoning for revisions in the next section.

5.3.1 Spares management project

Directlink's spares management project assessed which assets were in critical need of spares, meaning the failure of such an asset could contribute to its system going partially or fully offline. As part of its analysis, Directlink ran a model that included 68 different assets and only proposed to acquire a spare when the model identified that purchasing one would be the lowest economic option.[7] Alternative options included replacing the asset or re-engineering the asset to use a different type of spare. Directlink's own modelling demonstrated that out of the 68 assets, 59 needed to be replaced at a cost of $12.9 million.

6 Directlink, *Attachment 03 – Consideration of Spares Model explanation*, December 2024, pg. 2.

7 Directlink, *Attachment 03 – Consideration of Spares Model explanation*, December 2024, pg. 2.

After issuing information requests and engaging with Directlink through meetings, we did not find this to be sufficient to support Directlink's business case.

Our analysis determined that while the unit costs, and Directlink's approach to its failure per annum rate, were reasonable, the underlying assumptions applied to the calculation for additional spares were not prudent or efficient. The application of its 4% critical spares threshold, the assumed cost of an outage, and insufficient consideration of alternative spares contributed to what we found to be an overstatement of the spares required to run its network.

Our revised modelling found that 31 assets were in need of spares and produced an alternate forecast of $1.5 million. We consider this amount will allow Directlink to efficiently maintain the safety and reliability of its network. To prepare our alternative estimate, we utilised the inputs for unit costs and lead times provided by Directlink. The only exception to this was where we adjusted lead times for the (unlikely) scenario of a second outage for assets that we considered could be addressed through other means, such as procurement from other industries or re-engineering. This is discussed further below.

We also used the provided failure per annum rate and adjusted it for procurement lead times, which produced the maximum number of failures in the lead time. This number is what we determined to be the efficient number of spares to purchase. We included allowances for extra spares where the probability of failure within the lead time to acquire a spare exceeded 20%. This is a more conservative approach than the 10% Directlink included in its own analysis for the purchase of additional spares.[8] For each 20% increment following that, another spare would be added to our modelling results. We then subtracted the number of spares held to produce the number of spares that should be purchased. Our approach reviewed each individual asset line to ensure the network would have the prudent number of minimum spares.

For assets that required spares, Directlink applied a critical spares threshold of 4% to determine how many spares were required to maintain the asset for the lifetime of its systems. We did not find this approach appropriate, as it used a blanket value that was not based on any clear calculations. When questioned on this, Directlink clarified that this was derived from the recent purchase of its cables and would only affect four assets[9]. We note that while the critical threshold of 4% may have limited impact on specific assets, our alternate approach calculated the replacement volumes using the individual asset lead times and failure rates, leading to a more targeted and measured outcome.

Our assessment also noted that Directlink's 'assumption for the cost of an outage was overstated. In its business case, Directlink stated that the valuation of the cost of an outage was used to determine if spares should be acquired, with spares being acquired when the cost of doing so is less than the cost of an outage to consumers.[10] Originally, the cost of an outage was set as "the average daily revenue for Directlink". While this is an acceptable approach given the inherent value consumers derive from Directlink's services, a loss of any of the identified equipment would only cause the shutdown of one Directlink's systems. As

8 Directlink, *Attachment 03 – Consideration of Spares Model explanation*, December 2024, pg. 5.

9 Directlink, *Response to email of 20 March*, March 2025, pg. 6.

10 Directlink, *Attachment 03 – Consideration of Spares Model explanation*, December 2024, pg. 2.

there are three, we found the appropriate daily value for a loss arising from an outage is more likely to be one third of its average daily revenue. By having a disproportionate value for outages, we determined Directlink would end up acquiring more spares than it needed. Therefore, our alternative estimate applied one third of the value of an outage, when comparing against the cost of acquiring a spare.

In terms of lead times, for normal circumstances we agree with the timings Directlink has proposed. Our alternative estimate primarily utilises Directlink's lead times, but we consider there can be alternatives that Directlink can utilise in an emergency to significantly reduce lead times for acquiring additional spares for specific assets.

During emergency situations, reconfiguring the asset, as well as sourcing from other industries, are potential options for these assets if another failure were to occur in quick succession. When approached on this Directlink noted that for specific relays, it would need a better understanding of the operating characteristics of the relay's configuration. Directlink pointed out that this information is available from its manufacturer, but has not demonstrated that it has approached the business to explore this alternative option before.[11]

Our view on this matter is that maintaining spares to prevent an outage is important, and our calculation maintains the business as usual inputs to determine the number of spares to prevent this. Our only adjustment applies to scenarios where there is an (unlikely) risk of a second failure within the lead time for obtaining a replacement spare. In these limited cases, the number of additional spares has been calculated using a reduced lead time.

Overall, we acknowledge that certain assets are at risk of obsolescence and spares will be required to run Directlink's network. Our alternative estimate is based on each asset having at least one spare and adjusts for the number of additional spares to be purchased. By approaching each asset individually and revising the outage assumptions, we have come to our alternative forecast of $1.5 million that we consider reasonable for maintaining Directlink's network.

[11] Directlink, *Response to email of 20 March*, March 2025, pg. 9.

Shortened forms

Term	Definition
AER	Australian Energy Regulator
capex	capital expenditure
IGBT	insulated gate bipolar transistor
NEL	national electricity law
NEO	national electricity objective
NER	national electricity rules