

Draft Decision

Directlink Electricity Transmission Determination 2025 to 2030 (1 July 2025 to 30 June 2030)

Attachment 5 Capital Expenditure

September 2024

© Commonwealth of Australia 2024

This work is copyright. In addition to any use permitted under the *Copyright Act 1968* all material contained within this work is provided under a Creative Commons Attributions 4.0 Australia licence with the exception of:

- the Commonwealth Coat of Arms
- the ACCC and AER logos
- any illustration diagram, photograph or graphic over which the Australian Competition and Consumer Commission does not hold copyright but which may be part of or contained within this publication.

The details of the relevant licence conditions are available on the Creative Commons website as is the full legal code for the CC BY 4.0 AU licence.

Important notice

The information in this publication is for general guidance only. It does not constitute legal or other professional advice. You should seek legal advice or other professional advice in relation to your particular circumstances.

The AER has made every reasonable effort to provide current and accurate information, but it does not warrant or make any guarantees about the accuracy, currency or completeness of information in this publication.

Parties who wish to re-publish or otherwise use the information in this publication should check the information for currency and accuracy prior to publication.

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601
Email: aerinquiry@aer.gov.au
Tel: 1300 585 165

AER reference: AER213705

Amendment record

Version	Date	Pages
1	27 September 2024	9

Contents

5	Capital expenditure	1
5.1	Draft decision.....	1
5.2	Directlink's proposal.....	2
5.3	Reasons for draft decision	3
	Ex-post statement of efficiency and prudence	8
	Shortened forms	9

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, or 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 \$33.8 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 draft decision on Directlink's forecast capex.

5.1 Draft decision

Our draft decision is to not accept Directlink's proposed total forecast capex of \$33.8 million (\$2024–25). Our substitute forecast is \$18.8 million which is 44.4% below Directlink's forecast.

Based on the information available during our draft decision, we consider this forecast will provide prudent and efficient service to meet the capex criteria. Table 5.1 sets out our draft decision on Directlink's forecast capex.

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, *Attachment 03 – Revenue Proposal*, 31 January 2024, p. 49.

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

	2025–26	2026–27	2027–28	2028–29	2029–30	Total
Directlink's proposal	13.8	4.5	4.2	3.8	7.2	33.8
AER's draft decision	11.6	2.5	1.7	2.2	0.9	18.8
Difference (\$)	2.2	2.0	2.5	1.6	6.3	15.0
Difference (%)	15.9%	44.4%	59.5%	42.1%	87.5%	44.4%

Source: AER analysis and Directlink's proposal.

Note: Numbers may not sum due to rounding.

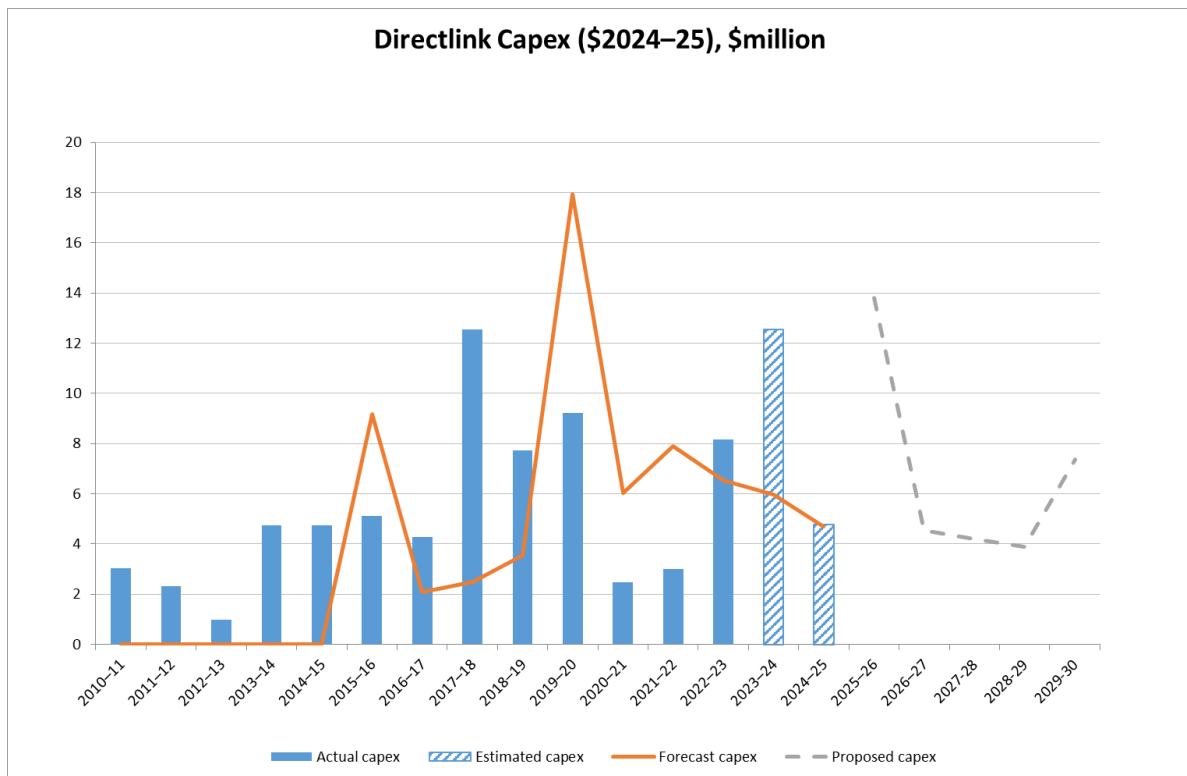
In Directlink's case, we note that the projects between the current and forecast period are not primarily recurrent. Given this factor, we focused our assessment on a bottom up review of both the capex model and business cases provided to us.

5.2 Directlink's proposal

Directlink proposed forecast capex of \$33.8 million (\$2024–25) for the 2025–30 regulatory period. This is a \$2.9 million (9%) increase from its actual/expected expenditure for the 2020–25 regulatory control period. A key driver of capex in the current period was the replacement of its insulated gate bipolar transistors (IGBTs) (estimated actual capex of \$15.6 million). Directlink's proposal submitted in January 2024 includes its spares management project (forecasted capex of \$12.5 million) which is similar in scale.

Figure 5.1 shows Directlink's proposed capex forecast compared to historic levels.

Figure 5.1 Comparison of Directlink’s past and forecast capex (\$2024–25, million)



Source: AER analysis.

5.2.1 Key drivers of the capex proposal

Directlink’s proposed capex forecast is predominately replacement capex (99.1% of total capex).⁶ Material projects include:

- \$12.5 million for its spares management project to acquire spares for critical equipment.
- \$6.1 million for the remainder of its IGBT spares project from the current regulatory period.
- \$3.3 million for upgrades to physical site security and public protection at Bungalora and Mullumbimby.
- \$2.1 million for reactor cooling enhancements to address degradation.

Directlink has also proposed \$0.3 million for transmission determination costs originally categorised as repex. We discuss in section 5.3.5 why we do not consider this an appropriate category allocation.

5.3 Reasons for draft decision

We reviewed Directlink’s capex drivers, programs and projects to inform our view on a total capex forecast that reasonably reflects the capex criteria. As Directlink’s capex appears to be stochastic in nature, we did not focus our analysis on a top-down approach, but rather

⁶ Directlink, *Attachment 03 – Revenue Proposal*, 31 January 2024, p. 52.

conducted a bottom-up analysis of Directlink’s specific major replacement programs and projects.⁷

In this draft decision, we are not satisfied Directlink’s total forecast capex reasonably reflects the capex criteria. We have engaged with Directlink extensively through information requests and meetings, but at the time of our decision, we did not have enough information to accept its forecasts on the basis of its business cases. We acknowledge that Directlink has stated it will provide further information at a later date. Table 5.2 sets out the capex projects we have reviewed that we do not consider prudent and efficient. Our reasons are outlined below.

Table 5.2 Projects subject to review (\$2024–25, million)

Project name	Proposed project cost	Alternate estimate
Spares management	\$12.5	\$0
AC isolators / earth switches	\$0.3	\$0.2
DC disconnectors	\$0.4	\$0.4
Master controller - FEED	\$0.1	\$0
Reactor cooling enhancements	\$2.1	\$0
Transmission determination costs	\$0.3	\$0

Source: AER analysis and Directlink, *Attachment 09c – Forecast Capital Expenditure model*, 31 January 2024.

Note: Numbers may not sum due to rounding.

5.3.1 Spares management

Directlink submitted it would require \$12.5 million to identify critical assets and implement an approach to acquire spares. The need for spares was highlighted by the sole manufacturer stating that they intended to cease production of certain components.⁸ Directlink cites clause 6A.6.7(a)(3) of the NER, as the main driver for the project is maintaining reliability of the network.⁹

Directlink’s framework for developing the project included three components: an asset criticality assessment, spares assessment and economic assessment. The findings of these assessments were intended to determine the following:¹⁰

- Expected failure rates,
- Cost of acquisition of spares,
- Shelf life,
- Risk of obsolescence,

⁷ Directlink, *Attachment 03 – Revenue Proposal*, 31 January 2024, p. 49.

⁸ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 43.

⁹ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 42.

¹⁰ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 44.

- Procurement lead times,
- Cost of storage,
- Procurement limitations, and
- Replacement cost for its operating system.

We recognise that Directlink has engaged well with stakeholders to seek feedback on the options for lead teams and procurement. However, Directlink was unable to provide the findings from its assessments, or the information on which those findings were based, upon request. We engaged with Directlink and noted delays were partially due to issues it had in obtaining information from external parties. We understand that this has made it difficult for Directlink to respond to our information requests and we will continue to discuss with the Directlink to determine what it can provide as part of its revised regulatory proposal. Currently, we do not have enough information to approve the proposed amount, or to include it in our capex forecast.

5.3.2 AC isolators and DC disconnectors

Directlink has proposed to replace both its AC isolators and DC disconnectors, following the Original Equipment Manufacturer (OEM) ceasing support of the component. Directlink further noted that it did not have spares and that obtaining such would have a long lead time.¹¹

We sought further information from Directlink about the volumes and unit rates for each component. Following Directlink's response, we agree that the lack of OEM support and the inherent risk of not having a replacement component during a failure demonstrates the clear need for more components and one extra spare. However, we considered the proposed amount for each project, \$271,524 and \$431,970, was not efficient as costs for the installation for the extra spare had been included in the forecasted amount.¹² These particularly components are expected to have a long life span and installation of the spare during the forecast period is unlikely. For this reason, we have made adjustments in the capex model to reflect our analysis. The amended forecast for AC isolators and DC disconnectors is \$247,599 and \$416,515 respectively.

5.3.3 Reactor cooling enhancements

Directlink submitted it required \$2.1 million to address its phase reactors that contribute to the power flow of its AC network. Directlink proposes to address the deterioration in its reactors. To support this, Directlink noted its test results indicated a performance decline.¹³

This project was previously proposed in the 2020–25 regulatory period. We stated then that Directlink could not demonstrate the net customer benefits.¹⁴

We sought evidence regarding the nature of the damage to the reactors and a cost benefit analysis. After receiving Directlink's response, our draft decision is to not approve this

¹¹ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, pp. 26-27.

¹² Directlink, Response to information request 004, 2 August 2024, p. 3 & p. 5.

¹³ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 58.

¹⁴ AER, *Directlink 2020–25 – Draft Decision – Attachment 5 – Capital Expenditure*, 31 October 2019, p. 17.

component of Directlink’s capex forecast, and we have not included this project in our total capex forecast, as Directlink has not provided sufficient information to support its business case.

In response to our information request, Directlink cited that a reactor removed in 2023 was the basis of why it considered further work was needed to address deterioration for all other reactors.¹⁵ However, when asked for information about this reactor, Directlink did not respond. Removal of a reactor itself does not prove overall deterioration of other reactors, particularly when Directlink claims external deterioration to be the cause of the reactor in 2023.¹⁶ Additionally, the test reports provided sourced from contractors AC Hargreaves and Wolf Power, did not indicate deterioration of the support structure.¹⁷

The cost benefit analysis provided by Directlink outlines the operational capability, likelihood, and risk of four options it has assessed, but we found the information provided to be limited, particularly about how Directlink determined the inputs and the actual net benefit to consumers.

As stated in our previous determination, we believe that investing in improvements to increase the longevity and performance of Directlink’s phase reactors is still important to meet the capex objectives. However, the supporting evidence for the business case needs to be refined, and further information is required to demonstrate the project is prudent and efficient.

5.3.4 Master controller FEED study

Directlink currently operates three 60MW stations in parallel under a light load. Directlink is seeking to investigate whether it would be more efficient to run the systems independently so that only one system could operate under a light load.¹⁸ This involves understanding the optimal dispatch and impact of switching on components, energy savings and more broadly assessing any market benefits offered through secondary capabilities such as voltage support or primary frequency response services.

We understand that the benefits of running the systems separately may be prudent, but it is not clear that the proposed cost for the analysis of \$0.1 million is efficient.

We are unable to approve this component of Directlink’s capex forecast, or include this project in our capex forecast, until we have further information as to why this cost should be considered capex, rather than opex, and why the proposed cost is efficient.

¹⁵ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 58.

¹⁶ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 58.

¹⁷ AC Hargreaves, *Smoothing Choke Final Test Report*, 12 February 2024 & Wolf Power, *Reactor Test Results*, 23 July 2024.

¹⁸ Directlink, *Attachment 04d – Business Cases*, 31 January 2024, p. 7.

5.3.5 Transmission determination costs

Directlink has proposed to include its regulatory determination costs in its total capex. This includes the costs of compiling its regulatory submission and the use of consultants and external experts.¹⁹ Partial costs relating to stakeholder engagement has also been included.

As noted in our previous regulatory determination, we do not consider this cost should be considered to be repex, as it is more akin to operating costs.²⁰ For this reason, our draft decision is to not approve this component of Directlink’s capex forecast, and we have not included these costs in our total capex forecast.

5.3.6 Conclusion

We have determined an alternative estimate for Directlink’s capex of \$18.8 million (\$2024–25). Our alternative estimate reduces Directlink’s proposal by \$15.0 million, noting we consider that some of the proposed projects are more appropriately characterised as opex. We are satisfied the amount of \$18.8 million reasonably reflects efficient capex costs, and we acknowledge this may be subject to further review upon receiving additional information at the revised proposal stage.

¹⁹ Directlink, *Attachment 04 – Capital Expenditure*, 31 January 2024, p. 13.

²⁰ AER, *Directlink 2020–25 – Draft Decision – Attachment 5 – Capital Expenditure*, 31 October 2019, pp. 23–24.

Ex-post statement of efficiency and prudence

We are required to provide a statement on whether the roll forward of the regulatory asset base from the previous period contributes to the achievement of the capital expenditure incentive objective.²¹ The capital expenditure incentive objective is to ensure that where the regulatory asset base is subject to adjustment in accordance with the NER, only expenditure that reasonably reflects the capex criteria is included in any increase in value of the regulatory asset base.²²

We have reviewed Directlink’s capex performance for the 2019 to 2023 regulatory years. This assessment has considered Directlink’s out-turn capex relative to the regulatory allowance given the incentive properties of the regulatory regime for a transmission business to minimise costs.

Where Directlink has spent more than its capex allowance for these years, we can review the efficiency of this overspend and make a determination on the capex that should be rolled into the RAB.

Table 5.3 shows Directlink’s actual net capex against the forecast regulatory allowance for this period, including the three years of the ex post review period. This shows that Directlink has spent less than its capex allowance.

Table 5.3 Directlink’s actual net capex versus capex allowance – ex-post period (\$2024–25, million)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
AER allowance	3.5	18.0	5.9	7.9	6.5	41.8
Actual expenditure	7.7	9.2	2.5	3.0	8.4	30.8
Difference (\$)	-4.2	8.7	3.4	4.9	-1.8	11.0

Source: AER analysis.

Note: Numbers may not sum due to rounding.

As Directlink has not incurred an overspend during the ex-post period, we have not completed a review of its expenditure during the 2019–23 period.

²¹ NER, cl. 6A.14.2(b).

²² NER, cl. 6A.5A(a).

Shortened forms

Term	Definition
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	Augmentation expenditure
capex	capital expenditure
CESS	capital expenditure sharing scheme
CPI	consumer price index
EBSS	efficiency benefit sharing scheme
F&A	framework and approach
MAR	maximum allowed revenue
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
repex	replacement expenditure
RFM	roll forward model
RPP	revenue and pricing principles
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
WACC	weighted average cost of capital