Directlink Joint Venture

2025-2030 Directlink Revenue Proposal

January 2024

Energy Infrastructure Investments

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Glossary

Term	Definition
AARR	Aggregate Annual Revenue Requirement
ABS	Australian Bureau of Statistics
AC	Alternating Current
ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AWOTE	Average Weekly Ordinary Time Earnings
CAM	Cost Allocation Methodology
CGS	Commonwealth Government Securities
DC	Direct Current
DNSP	Distribution Network Provider
DRP	Debt Risk Premium
EBSS	Efficiency Benefit Sharing Scheme
EGWWS	Electricity, Gas, Water and Waste Services
EII	Energy Infrastructure Investments
HVDC	High Voltage Direct Current
LPI	Labour Price Index
MAR	Maximum Allowed Revenue
NEM	National Electricity Market
NEO	National Electricity Objective
NPV	Net Present Value
Proposal	Directlink Revenue Proposal
PTRM	AER Post Tax Revenue Model
RAB	Regulatory Asset Base
RIT	Regulatory Investment Test
RFM	(Asset Base) Roll Forward Model
Rules	National Electricity Rules
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission Network Service Provider
WACC	Weighted Average Cost of Capital

Acknowledgement of Country

At Directlink, we acknowledge the Traditional Owners and Custodians of **Bundjalung** country on which our asset is operated and maintained.

We acknowledge their connections to land, sea and community.

We pay our respects to their Elders past and present, and commit to ensuring Directlink operates in a fair and ethical manner that respects First Nations peoples' rights and interests.

Executive Summary

This Revenue Proposal (**Proposal**) for the Directlink transmission interconnector (the Directlink interconnector) is submitted by Energy Infrastructure Investments Pty Limited on behalf of the Directlink Joint Venture.

As an electricity transmission interconnector, Directlink transmits electricity between the Queensland and New South Wales regions in accordance with AEMO's dispatch instructions. Directlink is registered as a Transmission Network Service Provider (TNSP) in the National Electricity Market (NEM)

Given the energy transition underway, the need for interconnection capacity is increasing. This will require Directlink's maximum available capacity to be maintained with a high level of availability.

Our objective is to manage Directlink in an economically efficient way that ensures safety, compliance and reliability is maintained.

Stakeholder engagement has guided each step of this Proposal. Directlink has approached this stakeholder engagement with the understanding that, although the Directlink interconnector is the smallest transmission network in the NEM, it plays an important role in supporting NSW and QLD customers.

A series of meetings were established where many stakeholders were invited to participate and share their views and preferences on the Directlink interconnector and how it should operate in the future. Stakeholder input was instrumental in helping to improve Directlink's understanding of the needs and expectations of different consumer segments.

In the following pages, the outcomes of Directlink's engagement together with key strategies and investment plans is presented. These strategies and plans will maintain safe, compliant, and reliable service delivery for the 2025-30 period and include:

- To help protect against the increasing risk of break-ins and loss and damage of key assets, improved security to deter break-ins and improve 24/7 site monitoring is proposed. To improve safety, support systems will be installed in high-risk landslip areas.
- To ensure Directlink continues to operate reliably, general upkeep and maintenance of existing asset management systems is required. A feasibility study will also be undertaken to determine if a master controller should be installed to improve monitoring and reliability performance.
- To ensure ongoing safety and compliance of Directlink, key asset replacements and upgrades are proposed to be undertaken including circuit breaker replacement, fire system upgrades, cooling system maintenance, and replacement of major structural components.
- To help protect supply chain vulnerabilities and ensure the ongoing safe and reliable operation of Directlink, the spares strategy is being updated. Key electrical components have an increasingly long lead time post COVID and some components risk becoming obsolete with limited notice from the manufacturer.
- The Insulated-Gate Bipolar Transistor (IGBT) upgrade commenced in 2022 and is due to be completed during 2025/26. The total investment is $25.6 million and will ensure this critical infrastructure is operational and there are sufficient spares available for the longer term. This upgrade reduces the risk of prolonged outages.

- An allowance for end-of-life costs is proposed to cover costs associated with the removal of equipment and rehabilitation of land for decommissioning of Directlink in the longer term. This ensures current consumers, rather than future consumers, pay for the asset.

The annual change in revenue is proposed to be 10.19 per cent which represents a $1.29 increase in the annual electricity bill for a typical residential customer by 2029-30. Our stakeholders told us that cost-of-living pressures are significant for many customers in QLD and NSW, and Directlink recognises the increases proposed for 2025 to 2030 are substantial in revenue terms.

In recognition of these cost pressures, Directlink has taken steps to support long term affordability for customers. This proposal includes:

- Reducing the risk of needing to undertake costly system upgrades by buying enough spares to reach the end of Directlink's life for assets which have a high risk of obsolescence.
- Undertaking a feasibility study on the master controller project to assess benefits and whether it should proceed, rather than putting forward the project for the 2025 to 2030 period.
- Reducing the risk of bill shock for consumers by smoothing end of life costs over multiple regulatory periods.
- Improving Directlink's resilience to extreme weather events and reducing the risk of significant repair costs through capital expenditure to upgrade land slip management.

Directlink has also deferred or cancel a number of projects, for example, installation of solar panels and batteries at the converter stations and proactive rectification of potential future landslip sites. The spares strategy will also be adapted to ensure that re-use and reconditioning of items is a priority where practical.

Directlink remains focused on affordability and will continue to look for opportunities to limit proposed expenditure where possible.

Directlink invites customers and stakeholders to read this information and provide feedback to the AER via their website at www.aer.gov.au or to us directly at yoursay@apa.com.au.

Introduction

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1.1 About Directlink

The Directlink interconnector consists of a 63 km, 180 MW High Voltage Direct Current (HVDC) interconnect running between Mullumbimby and Bungalora in NSW. A 110kV line runs from Bungalora to Terranora and a 132kv line runs from Dunoon to Mullumbimby. A 110kV high voltage alternating current line runs from Bungalora to Terranora and a 132kv line runs from Dunoon to Mullumbimby.

While geographically located in NSW, Directlink effectively delivers electricity between New South Wales and Queensland due to its position in the transmission network. Directlink has capacity to deliver 180 megawatts into the Alternate Current (AC) network in either state.

1.1.1 The Directlink Interconnector

The Directlink interconnector has a number of unique features that distinguishes it from the more conventional static transmission assets operated by other TNSPs:

- It is a point-to-point transmission line, rather than a network with multiple connections or direct connected customers
- The cables have unusual installation approaches - Directlink cables are laid primarily underground and partly in above-ground galvanised steel tray (GST).
- Directlink has a finite Economic Life, to reflect this the entire asset will be fully depreciated for regulatory purposes in financial year 2042.
- Directlink was initially valued for regulatory purposes on the benefit it provided to the market rather than cost.

The converter stations at Bungalora and Mullumbimby use what was, at the time of their installation, cutting edge High Voltage Direct Current (HVDC) Light technology.

The primary equipment at the converter stations includes:

- 132 kV power transformers;
- AC/DC converter valve banks;
- harmonic filtering and power factor correction equipment; and
- busbars and switches;

This primary equipment is supported by a number of ancillary systems, all of which are essential for the secure operation of the Directlink Interconnector:

- power system protection equipment;
- computerised control systems and communications;
- air conditioning systems (necessary for the control system equipment to function);
- power transformer oil circulation pumps and cooling fans;
- converter valve water purification and cooling equipment;
- converter hall air filtering and ventilation; and
- fire protection systems.

The expected service life of the primary converter station equipment is 40 years. While the DC cables have a potential service life in excess of 40 years, their useful life will be limited to that of the converter stations because the cable is designed for use with the converter stations.

1.1.2 Directlink

The Directlink Interconnector is owned by the Directlink Joint Venture.

This Revenue Proposal is submitted on behalf of the Directlink Joint Venture by:

- Directlink (No 1) Pty Ltd (ACN 085 123 468);
- Directlink (No 2) Pty Ltd (ACN 095 439 222); and
- Directlink (No 3) Pty Ltd (ACN 095 449 817);

These entities are owned by Energy Infrastructure Investments Pty Limited.

A diagram of the ownership structure is set out in section 17.1

Energy Infrastructure Investments Pty Limited is owned by three corporations:

- MM Midstream Investments Pty Ltd owns 49.9 per cent of the shares
- Osaka Gas Energy Oceania Pty Ltd owns 30.2 per cent of the shares
- APA Group Limited owns 19.9 per cent of the shares

1.1.3 APA Operations (EII) Pty Ltd

APA Operations (EII) Pty Ltd operates and maintains the Directlink Interconnector under contract with Energy Infrastructure Investments Pty Limited.

Under that contract, APA Operations (EII) Pty Ltd operates the Directlink Interconnector at the direction of Energy Infrastructure Investments Pty Limited. Energy Infrastructure Investments Pty Limited sets the budget for APA Operations (EII) Pty Ltd

1.2 Directlink's value to customers

Directlink provides significant benefits to customers. The nature of Interconnectors is these benefits are not evenly distributed over time.

In some circumstances that have arisen historically Directlink has provided massive benefits relative to its size in a short period.

As part of the last Directlink transmission determination proposal Directlink engaged EnergyEdge to model the market benefits provided by Directlink in terms of wholesale prices in Queensland and New South Wales. The modelling, based on pre dispatch bids by generators, demonstrates that for the period 1 January 2016 to 30 December 2018, the existence of Directlink provided wholesale market benefits of $1.2 billion. This is massively in excess of the cost of Directlink to customers over the same period of around $40m.

This analysis does include the first quarter of 2017 where flows were from the higher price market in Queensland to lower price New South Wales. This demonstrates a different type of value provided by the Directlink Interconnector. When there were supply issues into Northern NSW during this period, at times, it was presence of Directlink that meant customers were not subject to blackouts.

1.3 Purpose of this document

This Proposal provides details of Directlink's revenue requirements for prescribed transmission services during its third regulatory control period. This period is proposed to span 5 years, from 1 July 2025 to 30 June 2030 (**Proposal Period**).

This Proposal has been developed in accordance with Chapter 6A of the National Electricity Rules (Rules)1.

1.4 Length of regulatory control period

Directlink's current (third) regulatory control period was for the nominal 5-year period from 1 July 2020 to 30 June 2025 **(Current Determination Period**). Directlink proposes that the length of the next regulatory control period be 5 years, from 1 July 2025 to 30 June 2030 (Proposal Period).[2]

During the proposal period, Directlink will require the investment program outlined in this proposal, to continue to reliably perform its role as an interconnection between the Queensland and New South Wales regions of the National Electricity Market (NEM).

1.5 Prescribed Transmission Service provided by Directlink

Directlink enhances the transfer of active power between the Queensland and NSW regions of the NEM. The transfer capacity of the Directlink Interconnector is 180MW consistent with the quality, reliability, safety and security obligations set out in the Rules.

As an element of the transmission network, Directlink provides prescribed transmission services to customers throughout the NEM.

Directlink provides no negotiated services, and there are no negotiated services associated with these two connections to the Directlink Inte4rconnector.

1.6 Map of the transmission network

Figure 1-1 is a map of the location of the Directlink interconnector. The dark blue line is the Directlink transmission network.

Through the 100kV Terranora substation, the Interconnector joins with the Essential Energy distribution network to the Queensland region of the NEM. At its southern end, the converter station near Mullumbimby is joined through Dunoon to the Lismore 132kV substation by overhead 132kV lines owned by Essential Energy.

1 Australian Energy Market Commission, National Electricity Rules Version 45, as at 14 July 2011.

2 S6A.1.3(9) requires Directlink to propose the commencement and length of the regulatory control period.

Figure 1-1: Directlink transmission connection

The Directlink Interconnector's energy flow may be adjusted continuously up to its rating of 180 MW in either direction.

1.7 Structure of this document

The remaining elements of this document are structured as follows:

- Chapter 2 describes the environment in which Directlink operates and the main challenges anticipated in the next regulatory control period;
- Chapter 3 describes Directlink's approach to consumer engagement;
- Chapter 4 presents the revenue needs for the 2020-25 regulatory control period, calculated using the AER's Post-Tax Revenue Model.;
- Chapter 5 describes Directlink's capital expenditure forecasts;
- Chapter 6 describes Directlink's operating expenditure forecast;
- Chapter 7 details the outcomes of the current capital expenditure sharing scheme;
- Chapter 8 describes Directlink's historic cost and service performance;

- Chapter 9 outlines the calculation of the regulated asset base for the forthcoming regulatory control period, using the AER's Roll Forward Model (RFM);
- Chapter 10 explains Directlink's future rate of return, capital financing costs and taxation;
- Chapter 11 describes the depreciation allowance;
- Chapter 12 summarises the process for revenue cap adjustments;
- Chapter 13 describes the proposed Incentive Schemes (STPIS, CESS and EBSS) for the future regulatory period;
- Chapter 14 outlines Directlink's proposed cost pass throughs;
- Chapter 15 describes Directlink's governance and compliance arrangements;
- Chapter 16 explains set out the Pricing Methodology and Negotiating Framework for Directlink; and
- Chapter 17 outlines compliance with additional legal obligations.

To assist the AER in assessing the compliance of this Proposal with the Rules, Directlink has provided a compliance checklist as attachment 07e to this Proposal. This checklist cross-references the relevant Sections of this Revenue Proposal and the attachments that address each Rule and RIN requirements.

Business environment and key challenges

Directlink Joint Venture
2025-2030 Revenue Proposal

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2.1 Introduction

This Proposal demonstrates how Directlink expects to continue providing flexible and cost effective prescribed transmission service in the NEM, whilst maintaining levels of service availability.

Directlink's capital and operating costs are driven by the business and natural environment in which it operates. The following sections outline the nature of the operating environment and how it impacts on the Proposal.

2.2 End of Economic Life

The single factor that most distinguishes Directlink from its TNSP peers for regulatory purposes is that the Directlink interconnector has a finite depreciation life, at the end of which it will be fully depreciated.

This is because the Directlink interconnector is a point-to-point interconnector which cost more to construct than the forecast value of the benefits it produced at the time of commencing regulation. As a result, its opening RAB was set at a value lower than its cost of construction.

The Directlink interconnector is an electricity network that, while it comprises a large number of interconnected working parts or assets, has some critical infrastructure that represent the bulk of the value of the Interconnector. It is likely that when that critical infrastructure reaches the end of its Economic Life that an alternative to the existing asset will produce higher net economic benefits to customers. As explained in the section below, when this occurs the Interconnector has reached the end of its Economic Life.

This is explained in more detail below.

2.2.1 Economic end of life

The NER requires that an asset's depreciation life is based on its expected Economic Life.[3]

Economic Life is not a defined term in the NER but as the name suggests it relies on economic concepts. Economic Life is not the same as technical life, although these often coincide.

What does Economic Life mean?

Economic Life is a forward-looking concept. In an unregulated business the Economic Life of the asset is determined by comparing the future net income of the operating asset compared to alternatives, including decommissioning the asset[4]. Where an alternative produces a higher net income in present value terms than the existing asset then the existing asset has reached the end of its Economic Life. This could be because the alternative generates higher income or lower cost or both.

Economic Life is slightly different for a regulated TNSP. Because the AER sets the revenue that a regulated TNSP can earn, an asset's end of Economic Life cannot be determined in the "normal" way. This is because a regulated business's revenue is linked to cost, not price and demand.

In the absence of a direct feedback mechanism of customer value like increased net income the Australian regulatory framework seeks to replicate this concept by assessing potential investments in

3 r6A.6.3(b)(1)

4 An asset would be decommissioned with no replacement where all options produce negative net income in present value terms

a TNSP by using long-term net customer benefit through the Regulatory Investment Test – Transmission[5].

So, under the Australian regulatory framework for electricity transmission an asset reaches the end of life when the present value of the net customer benefits is less than the present value of net customer benefits from an alternative. [3]

2.2.2 The Directlink Interconnector's End of Economic Life

The Directlink Interconnector is a point-to-point interconnector with multiple operating systems interacting to transfer high voltage direct current from Mullumbimby to Bungalora. This means that the entire Directlink Interconnector will also have an Economic Life, that is a point where the net customer benefits from an alternate project is greater than the continued operation of Directlink.

This distinguishes it from TNSPs such as Transgrid and Powerlink because those networks comprised multiple lines from generators to demand centres so the entire network will not have a single Economic Life.

Another distinguishing feature of Directlink is that it is very unlikely that at the point where it reaches the end of its Economic Life, the solution that maximised net customer benefits would be the same or similar technology to what is currently utilised by Directlink.

This view is supported by the ACCC's finding that the net benefits of Directlink were less than the construction cost of the asset at the time of conversion. This means that an exact like for like replacement is unlikely to demonstrate material net customer benefits.

Further, the nature of technology and construction approach for Directlink has created issues that have not been replicated on more recent HVDC projects such as Murraylink and Basslink.

2.2.3 Timing of the end of Economic Life

Both the future customer benefits and future costs are based on forecasts and therefore have a high probability of error. This makes it a challenge to determine the point in time when Directlink will reach its end of Economic Life. Therefore, it will always require a forecast that is inexact.

However, there are certain periods that make the economic end of life more likely. One of these is the point where significant maintenance expenditure is required in the near term.

This is the basis on which Directlink and the AER have determined the Directlink Interconnector's Economic Life. When Directlink was constructed the Manufacturer estimated the likely life of key components at 40 years. This still remains the best forecast of the point when significant operating systems will all be required to be upgraded and the most likely point where the economic end of life occurs.

However, some assets did not last as long as the manufacturer estimated – for example, the valves (Insulated gate bipolar transistors) are currently being replaced due to obsolescence. This demonstrates that for certain pieces of key equipment, the Economic Life will be determined by the ability and commitment of Hitachi to support equipment and provide spares. We are seeking to mitigate the risk associated with this (see section **Error! Reference source not found.**).

[5] To assess different projects that have different customer benefits, different costs and different timing of costs and benefits, the assessment is done on a present value present value basis ie discount the forecast future customer benefits and costs by the return on capital.

A strength of the regulatory framework is the 5 yearly revenue reset which means that the Economic Life can be revisited and reviewed as the Directlink Interconnector approaches the relevant date.

2.2.4 What happens at the end of Directlink's Economic Life

There is 20 years until Directlink's expected end of Economic Life. Consistent with the National Electricity Objective (NEO), a RIT-T, or its successor will be, performed and the best option will be selected. But for the reasons outlined above, the option that maximises long term customer benefits will not be replacement with an identical asset to the current Directlink.

2.2.5 Impact on this Proposal

This proposal is looking to establish actions and projects that minimise the long term operational costs associated with running the Directlink Interconnector.

Maximising the likelihood that Directlink will reach the end of its Economic Life without any premature major asset replacements due to lack of spare parts is in the long term interests of consumers. This is underpinning the Spares Management project. See section **Error! Reference source not found.**

The wish to avoid significant short term increases in Directlink revenue to recover the cost of restoration and removal costs at the end of the Directlink Interconnector's life underpins the end of life allowance.

The capital expenditure program is designed to maintain the operation of Directlink in line with the use by AEMO.

2.3 Directlink's operating environment (other factors affecting costs)

2.3.1 Natural Environment

The natural environment that Directlink operates in is challenging.

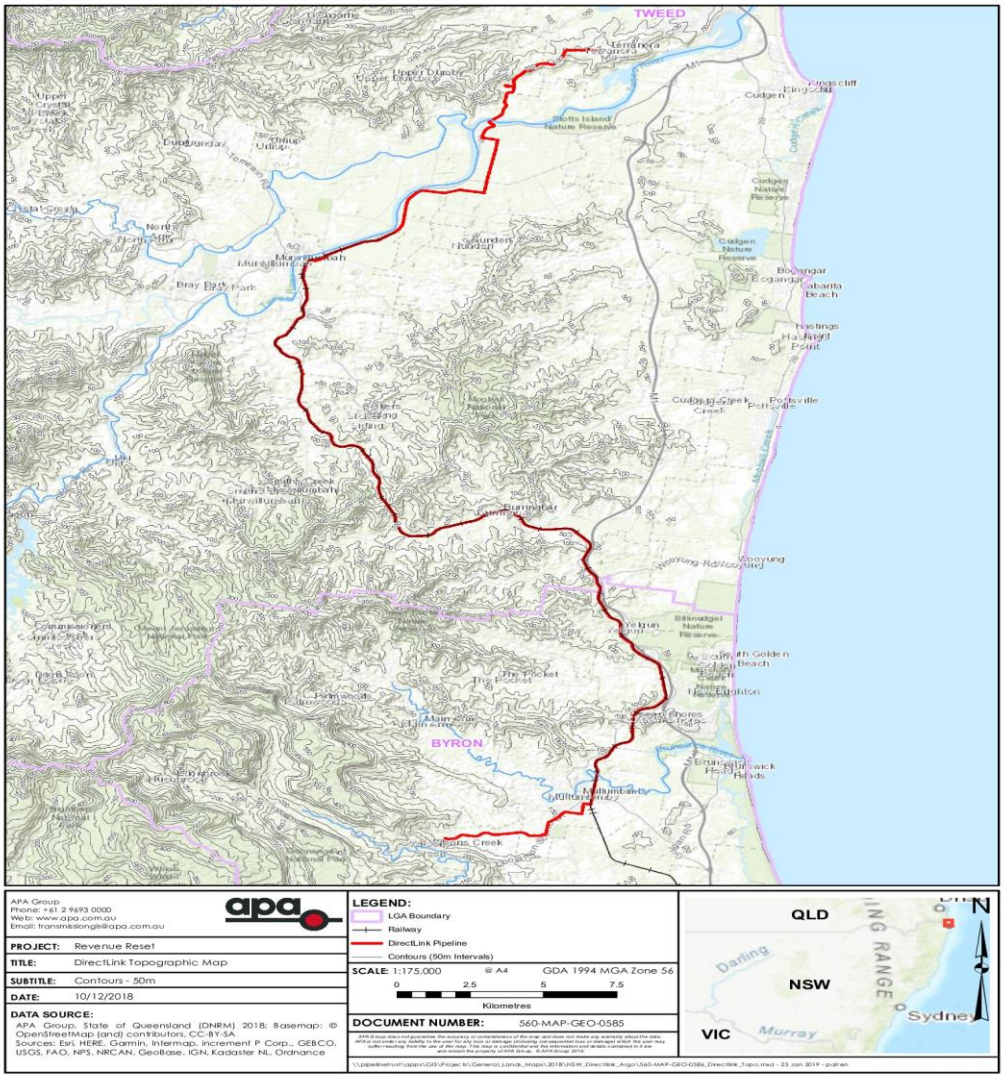
The area has high rainfall. Mullumbimby averages over 1800mm a year (climate-data.org, 2019). This compares to just over 1200mm in Sydney and 1000mm in Brisbane (Bureau of Meterology, 2019).

In some locations, Directlink's easement is surrounded by dense vegetation which leads to issues of access to the easement and the above ground sections of the cable. The dense vegetation can be seen in the picture below.

Figure 2-1: Directlink galvanised steel tray

The terrain approaching the easement is rough as can be seen in the topographic map below.

Figure 2-2: Topographic map of Directlink



In addition, there are 124 water crossings and 17 tunnels in the 63kms. All of which required engineering solutions to address and which represent a point of reliability weakness for the transmission cables[6].

Impact on this Proposal

Due to the nature of the rainfall in the area, the water levels in the creeks are highly variable, resulting in threats of flooding – again a risk to the reliable operation of the network if the flooding occurs in areas where the cable is above ground.

6 An engineering study performed for Directlink has identified that temperature changes in the cable when it enters and leaves the ground are a common source for cable failures.

Further high moisture levels result in faster corrosion and asset deterioration. This is addressed in section 5.8.2 below

2.3.2 Technological environment

The Directlink Interconnector is HVDC light technology. The convertor stations and the HVDC cables are designed to operate as a single system. This interconnected nature means that any individual piece of this equipment must be capable of operating seamlessly with the other equipment.

Much, but not all, of the equipment, and the software which controls its operation, is proprietary technology, being the intellectual property of Hitachi.

This technical need for integration means it is very expensive to select equipment from a supplier other than the original equipment manufacturer, noting specifically that:

- in order to participate in any tender for supply of equipment, alternate manufacturers have to undertake detailed design work to make sure their equipment can be engineered to be compatible with the existing equipment. When considered in light of the risk they will not win the contract, this is a clear disincentive for alternative providers to participate in the tender process;
- EII could compensate the alternate tenderer/s for their pre-design engineering costs to encourage them to compete in the tender. However, these engineering costs are not insignificant, and the cost of providing this incentive may be greater than any cost savings achieved by the competitive process.
- seeking to move all equipment requirements to a different manufacturer would require the replacement of functional ancillary equipment at a significant cost, and risks creating the same issue with the new manufacturer, which would also have the intellectual property in respect of their equipment.

Where generic equipment is used - as in cooling and fire suppression systems – Directlink seeks to ensure that the maintenance and replacement of that equipment is sourced through competitive processes.

Impact on this Proposal

The reliance on a single source supplier for the most significant equipment utilised on Directlink has a direct impact on cost estimates. A key input to the cost estimates used in this Proposal are costs provided by Hitachi.

The other significant impact of this reliance on the Proposal is the increased risk of equipment obsolescence, and the manner in which Directlink is seeking to mitigate that risk as part of its Spares Management project. This is further detailed in section **Error! Reference source not found.**.

2.3.3 A maturing asset base

Directlink is middle aged. It was commissioned in 2000 and the converter stations are expected to continue to operate until 2041/42. However, the converter stations are made up of a range of equipment that have different life expectancies:

- individual cable joints are only expected to have a relatively short life and require frequent replacement;
- the control and protection system is expected to last 15 years; and

- the cables can be expected to last 50 years (which is beyond the operational life of Directlink).

Impact on this Proposal

As equipment ages it is more likely to break. As equipment reaches the end of its operating life it becomes due for replacement. The Major Maintenance program is focused on this issue. See section 5.8 below.

2.3.4 Regional development

Directlink has an obligation to maintain public safety. There is increasing public use of sites near Directlink. This increase in public activity next to or in the vicinity of the asset access is expected to increase materially in the Proposal Period.

The Mullumbimby area, due to the appeal of its location and natural attributes, is undergoing substantial ongoing development. The estimated population of the Mullumbimby area has increased by 10% since 2017.[7] As population density increases in these areas, community expectations in respect of operational practices changes - what would have been considered acceptable in locations remote to residential areas need to be adapted.

Directlink is also anticipating issues associated with its proximity to the Northern Rivers Rail Trail, which is a popular recreational trail that runs parallel to parts of Directlink. This is particularly problematic in that 14 kms of the Directlink cables are above ground, and it is difficult to prevent intentional or unintentional interference with the high voltage DC cables inside the GSTs.

Impact on this Proposal

As population increases in and around the cable and the rail trail increases public access to the cable easement this requires additional focus on the Safety and Protection of Directlink assets. For more information see section 5.8 below.

2.3.5 Labour costs

Like all other electricity networks Directlink relies on access to highly qualified staff. Labour costs reflect the level of competition from sectors seeking access to staff with the same skills such as the infrastructure, mining and resource sectors. While the forecast operating expenditure in this proposal reflects relatively modest increases in real labour costs compared to previous years, this is subject to wages and salary competition from these competing sectors remaining modest.

Impact on this Proposal

There is forecast labour cost increases included in the operation forecast (see section 6 below) and major projects in the forecast capital expenditure program (see section 5 below). Directlink is also proposing work to the site's amenities as a way of reflecting the needs of the workforce.

2.4 Directlink's role and obligations

The Rules require Directlink to identify its role and obligations.

Directlink is registered as a TNSP in the NEM[8] and must comply with all obligations imposed on it by the National Electricity Law and Rules. These obligations require Directlink to operate as an efficient

7 https://profile.id.com.au/byron/population-estimate?WebID=130, 10/1/24

8 under National Electricity Rule 2.5.1

regulated network service provider and comply with the transmission network and technical performance standards (e.g. planning, design and operating criteria).

Directlink and its maintenance service providers are also subject to numerous other environmental, cultural heritage, planning approval, workplace health & safety, financial and other regulatory obligations or requirements under a range of federal, state and local government legislation, codes, standards, policies and other instruments in New South Wales.

The main legislative and statutory obligations that Directlink must meet are referenced throughout the Proposal and in the supporting documentation.

Directlink is also required to meet legal obligations that arise out of common law such as contractual and tort law.

2.4.1 Impact on this Proposal

This proposal reflects the operating and capital expenditure necessary to meet Directlink's existing legal obligations.

2.5 Meeting customer demand

Directlink is an integral part of the transmission system that forms the NEM. The demand that is placed on its network services arises from the requirement for energy to be transported between the NSW and Queensland regions, to minimise the overall costs of electricity production in the NEM.

Directlink's transmission network services must therefore remain available at their maximum available capacity and with a high level of availability, throughout the proposal period.

2.5.1 Impact on this Proposal

This Proposal is consistent with maintaining the quality, reliability and security of supply of the Directlink Interconnector.

Stakeholder Engagement

Directlink Joint Venture
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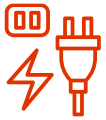
3.1 Our engagement process

Directlink has approached this stakeholder engagement with the understanding that, although Directlink is the smallest transmission network in the NEM, it plays an important role in supporting NSW and QLD customers.

Our objectives for stakeholder engagement during the regulatory process are to deliver a revenue proposal that:

'Brings the outside in' by directly responding to the needs and preferences of our customers and other key stakeholders.

Provides sustainable returns for shareholders and investors.



Delivers a reliable supply of electricity between New South Wales and Queensland.

Supports the energy transition in New South Wales and Queensland.

3.2 Stakeholder interactions

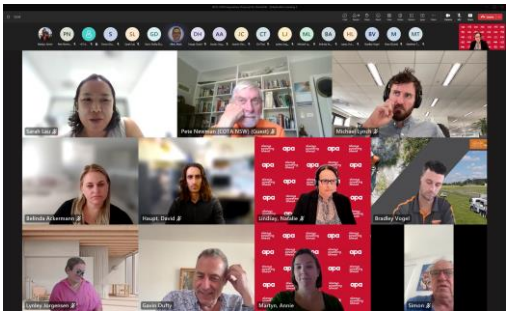
We established a series of meetings where we invited many stakeholders to participate and share their views and preferences on Directlink and how it should operate in the future. Stakeholder input was instrumental in helping to improve our understanding of the needs and expectations of different consumer segments.

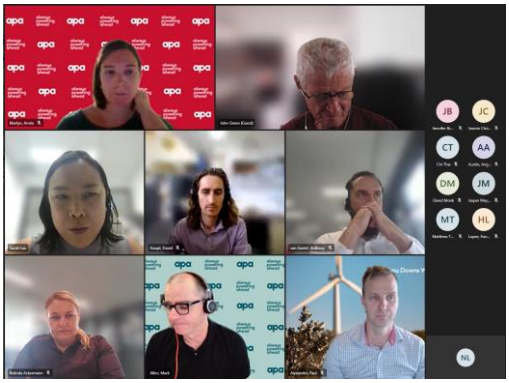
We asked our stakeholders to:

- Provide independent feedback and challenge Directlink on the degree to which its Regulatory Proposal addresses the needs and preferences of customers.
- Co-design the engagement program, including scope, timing, themes and engagement activities.
- Input into the development of the Proposal and challenge key components including operating expenditure and capital expenditure.
- Assist in improving APA's understanding of the needs and expectations of different customer segments, including vulnerable groups.

Attendees at our stakeholder meetings as well as individual meetings included:

BYRON SHIRE COUNCIL	• David Haupt
COTTON AUSTRALIA	• Jennifer Brown
COTA NEW SOUTH WALES	• Marika Kontellis • Pete Newman • Maxi Victoria
COTA QUEENSLAND	• John Green • Robyn Robinson
essential energy	• Bradley Vogel
EUAA Energy Users Association of Australia	• Mark Grenning
Independent expert	• Simon Bartlett
Public Interest Advocacy Centre	• Craig Memery • Michael Lynch
QEUN	• Jennifer Brownie
St Vincent de Paul Society good works	• Gavin Dufty
Transgrid	• Belinda Ackermann
AEMO	
AER AUSTRALIAN ENERGY REGULATOR	





We sincerely thank our stakeholders for their commitment, active participation and thoughtful insights, feedback and challenge throughout Directlink's engagement activities. The engagement outcomes have enriched our understanding and has led to meaningful outcomes as discussed in attachment 6 – SEC Newgate report.

To date, we have conducted a co- creation workshop, four stakeholder meetings and seven individual stakeholder meetings. This included several meetings with representatives of AEMO to better understand the role Directlink plays in the NEM. Following the AER's release of its Draft Decision, our intention is to reconnect with stakeholders. Directlink's engagement interactions are shown below.

31 August 2023	Co-creation workshop with stakeholders	Identification of core issues and priorities
11 September 2023	Stakeholder meeting #1	Future of Directlink
11 September 2023	Meeting with AEMO	Outage duration and planning
13 September 2023	Meeting with AEMO	Blackstart support
11 October 2023	Stakeholder meeting #2	Forecast capital expenditure
18 October 2023	Meeting with Energy Users Association of Australia	Future of Directlink and capital expenditure
1 November 2023	Meeting with Essential Energy	DC and AC systems and converter
8 November 2023	Stakeholder meeting #3	Forecast operating expenditure and building blocks
9 November 2023	Meeting with AEMO	How Directlink fits into the Integrated System Plan (ISP)
13 November 2023	Meeting with Energy Users Association of Australia	Directlink capital expenditure and operating expenditure
16 November 2023	Supplementary meeting - stakeholder meeting #3	Forecast operating expenditure and building blocks
24 November 2023	Meeting with Byron Bay Shire Council	Directlink – Byron Bay Shire Council impacts
4 December 2023	Stakeholder meeting #4	Proposal overview
January 2024	Stakeholder group	Stakeholder review Directlink regulatory proposal overview
31 January 2024	Directlink submits proposal to the AER	
February 2024 and onwards	Additional stakeholder meetings to	Discuss AER draft decision and revised proposal

3.3 What we heard and how we responded

We have focused our engagement on key issues where stakeholders can have the greatest impact on the Proposal, and where their opinion would genuinely influence and guide the final outcomes.

Meeting focus	What we heard	How we responded
Co-creation workshop	▪ Stakeholders sought clarification around how costs and risks are allocated to consumers for the Directlink Interconnector and indicated their interest in affordability and minimising customer risk. ▪ Among the stakeholder group, there was also interest in ensuring the Directlink Interconnector played a role in the Federal Government's objective of net zero by 2050 and the need to consider environmental impacts, including fire risk and climate resilience, in developing the revenue proposal. ▪ Some stakeholders suggested additional stakeholder groups to consult with such as biking groups, small farm holdings and other small communities that may be impacted by changes in the asset's infrastructure. ▪ Stakeholders highlighted concerns around increased vulnerability to supply chain issues particularly in the context of finding spare parts and staffing and labour force issues. ▪ Some stakeholders also indicated support for in depth engagement around the future of the Directlink Interconnector as part of the engagement process. ▪ Stakeholders broadly endorsed the proposed engagement objectives and mapping of issues for the revenue proposal.	▪ Directlink has noted concerns around energy affordability and has sought to clearly outline trade-offs between affordability, reliability and risk in discussing its capital and operating expenditure proposals with stakeholders. ▪ Directlink has considered the need to manage climate risk and resilience, with $179,368 proposed to future protect against land slip risks, included in its revenue proposal. ▪ Vulnerability to supply chain issues and labour force issues were discussed with stakeholders in Meetings 2 and 3 as part discussions around proposed capital and operating expenditure. ▪ Directlink will continue to engage with a broad range of stakeholders as the AER assesses its revenue proposal.

Meeting focus	What we heard	How we responded
Meeting 1: Future of Directlink	▪ Stakeholders wanted to ensure that the continued reliability of the asset was a key priority for Directlink, noting increased concerns around cost pressures and labour shortages. Some stakeholders also asked whether key equipment, such as the control and protection system and remote terminal units, would remain fit for purpose until the end of the asset's life in 2042. ▪ Stakeholders showed strong interest in understanding the options for the Directlink Interconnector once it reaches its end of life in 2042 and what this looks like for consumers. Some stakeholders queried whether the asset would be needed until the end of its life, while other stakeholders queried whether the asset could be upgraded. ▪ In separate one-on-one stakeholder meetings, AEMO emphasised the criticality of the Directlink Interconnector, particularly as it is in an area of high demand and the energy system is becoming more unpredictable. AEMO also highlighted its preference for shorter outages on the Interconnector and the value it provides in managing voltage. AEMO also noted it continues to assume the Directlink Interconnector's ongoing presence in its ISP modelling.	▪ Directlink has noted the importance stakeholders place on reliability and has taken this into account in developing its capital expenditure plans, which were discussed in detail with stakeholders in Meetings 2 and 3. ▪ Directlink held a number of meetings with AEMO during the development of the revenue proposal to understand future demand for the Directlink Interconnector, with AEMO confirming the continued value the asset provides. ▪ Directlink will continue to consult with stakeholders on plans for the end of the asset's life over the coming years to understand their preferences. As outlined with stakeholders, Directlink expects the Interconnector's technology will be obsolete or sub-optimal by 2042. As a result, Directlink has included additional operating expenditure of $4.7m in its revenue proposal to account for end-of-life restoration and rectification costs.

Meeting focus	What we heard	How we responded
Meeting 2: Capital expenditure	▪ Some stakeholders asked about the future demand for the Directlink Interconnector and queried how the risk of outages would be managed. ▪ One stakeholder noted they could understand the need for investment around land risk management. Another noted that the AER was best placed to make this assessment. ▪ A number of stakeholders indicated it was unclear whether the proposed master controller project would be beneficial. One stakeholder noted their preference was to not proceed with this project while another stakeholder stated their interest in undertaking a feasibility study for the master controller. ▪ Stakeholders were particularly interested in Directlink's approach to spares. Stakeholders emphasised the need for Directlink to make reasonable and prudent purchasing decisions, which considered the risk of stranded assets and the risk of costly upgrades if there were insufficient spares. Stakeholders also noted there was a need for further detail on spares and queried the potential risks around spares and opportunities for efficiencies.	▪ To reduce the risk of outages and enable the Interconnector to reliably meet increasing demand, Directlink has included a total of $33.8m in capital expenditure in its revenue proposal, which includes $8.6m in major maintenance and $12.5m for spares management. Directlink has also included operating expenditure for an apprenticeship program in its revenue proposal to manage labour force risks. ▪ To better manage land slip risks, Directlink has included $179,368 in capital expenditure in its revenue proposal. ▪ In light of some stakeholder concerns around the master controller project, Directlink has included $136,488 in capital expenditure to undertake a feasibility study of this project to assess its benefits and whether it should proceed. ▪ Directlink provided further detail on its proposed capital expenditure and spares strategy for stakeholder feedback in Meeting 3. Directlink continues to undertake a critical spares assessment to determine what spares are required and will continue to engage with stakeholders in developing its spares strategy. The spares strategy will take into account the unique nature of many of the Directlink Interconnector's assets and the need for appropriate storage to ensure spares are kept in recommended conditions.

Meeting focus	What we heard	How we responded
Meeting 3: Capital Expenditure updates *(Spares management – assets with long lead times)*	▪ Some stakeholders noted the Directlink Interconnector is a critical asset for providing connection between NSW and Queensland. For this reason, most stakeholders were largely risk-averse and prioritised reliability, supporting Directlink's preference to buy enough spares to reach its end of life. ▪ However, some stakeholders raised concerns around affordability and the risk of buying too many spares, indicating a preference for Directlink to buy enough spares to cover expected lead times or enough to reach the end of the regulatory period (2030).	▪ Directlink will continue to develop its spares strategy and discuss its strategy with stakeholders through to the AER's Draft Determination. ▪ Directlink acknowledges the high level of importance placed on reliability by stakeholders as well as concerns around managing the risks of buying too many spares. ▪ Based on the views put forward by most stakeholders, Directlink's revenue proposal includes for assets with: ○ Long lead times, a proposal to buy enough of some spares to reach the end of the Directlink Interconnector's life, with spares for other assets to be purchased based on lead times. ○ A high risk of obsolescence, a proposal to buy enough spares to reach the end of the Directlink Interconnector's life. ○ No change in sourcing and obsolesce risk, a proposal to buy enough spares to cover expected lead times or enough to reach the end of the regulatory period.
Meeting 3: Capital Expenditure updates *(Spares management – assets with high risk of obsolescence)*	▪ Stakeholders were largely comfortable with Directlink's preference to buy enough spares to reach the end of the interconnector's life in light of the uncertainty around the future supply of these types of assets. ▪ However, one stakeholder noted their preference for Directlink to buy enough spares to reach the end of the regulatory period (2030) to limit the risk of buying too many spares.	
Meeting 3: Capital Expenditure updates *(Spares management – no change in sourcing and obsolescence risk)*	▪ Stakeholders again expressed that the reliability of the asset is essential, noting having enough spares in stock is critical to this. ▪ Stakeholders were broadly comfortable with Directlink's proposal to buy enough spares to cover expected lead times or enough to reach the end of the regulatory period (2030).	

Meeting focus	What we heard	How we responded
Meeting 3: Operating expenditure	▪ Most stakeholders expressed support for the proposed operating expenditure step change in relation to labour resilience to better manage labour force risks. ▪ Stakeholders noted that the end of life step change sounded logical and there was broad support for spreading the costs of the program across multiple years. However, some stakeholders noted consumers are still experiencing concerns around energy affordability. A stakeholder also noted the importance of ensuring the expenditure set aside for the end of life program was used for that purpose. ▪ Stakeholders did not raise any concerns around the proposed step change for security of critical infrastructure. ▪ One stakeholder queried the appropriate excess level for Directlink's insurance in relation to the insurance step change. ▪ The stakeholder group was largely supportive of Directlink's draft forecast operating expenditure. However, it was emphasised that consumers are focused on reducing immediate financial burdens.	▪ Directlink will continue to refine its forecast operating expenditure and will put forward one step change relating to the apprentice program to improve labour resilience and two category specific forecasts relating to insurance and end of life costs in its revenue proposal to reflect additional costs in these categories. ▪ Directlink will continue to work with the AER on the proposed end of life costs, on ways to limit the impact on customers, provide certainty around how this expenditure will be used, and ensure the program is flexible as forecasts are refined. ▪ Directlink is no longer proceeding with the step change on security of critical infrastructure as this expenditure will instead be incorporated into the base year costs. ▪ Directlink remains focused on affordability and will continue to look for opportunities to limit proposed operating expenditure where possible.
Meeting 3: Capital Expenditure Sharing Scheme (CESS) proposal for Insulated-Gate Bipolar	▪ There were a range of stakeholder views on Directlink's proposal to separate out the IGBT replacement project from the CESS due to contractual changes by the manufacturer. ▪ One stakeholder noted that Directlink's CESS proposal was reasonable as the ability of	▪ Directlink acknowledges the complexity of this issue and the CESS and the risks of setting precedents for other network businesses. ▪ Directlink has put forward a proposal to separate out the IGBT replacement project from the CESS in its revenue proposal due

Meeting focus	What we heard	How we responded
Transistor (IGBT) project	Directlink to manage the risk around changes in the IGBT contract were outside of its control. There were concerns from some stakeholders around setting precedents for other network businesses and the risks of weakening the incentives under the CESS for managing capital expenditure allowances. ▪ Other stakeholders also noted the complexity of this issue and noted the AER was best placed to make the decision on how the IGBT project should be treated under the CESS.	to its limited ability to manage contractual changes by the manufacturer. ▪ Directlink will continue to discuss this proposal with the AER and consider any ways it could limit similar risks from occurring in the future.
Meeting 4: Overview of the Proposal	▪ Stakeholders expressed a high level of interest in the detail of Directlink's spares strategy. One stakeholder raised concerns about the ongoing need for the Directlink Interconnector and the risk that consumers will be paying for spares that won't be used until future regulatory periods. However, another stakeholder was supportive of Directlink's spares proposal and noted there needs to be enough spares purchased to account for unforeseen breakdowns. ▪ With regards to the Directlink Interconnector's end of life, one stakeholder noted end of life costs will need to be updated over time, while another stakeholder noted depreciation costs will need to reflect the asset's remaining life. Another agreed that it was reasonable that current	▪ Directlink acknowledges the importance of striking the right balance between affordability and reliability in its approach to spares. Directlink will continue to engage with stakeholders to seek their feedback as it further develops its spares strategy. ▪ Directlink understands the end of life program is a significant new annual cost, however these costs will continue to increase if this cost is further delayed to after 2030. As a result, Directlink has included end of life costs in its revenue proposal. Directlink will continue to investigate and refine end of life costs as the Directlink Interconnector get closer to its end of life. ▪ Directlink understands affordability is a key concern for many consumers. While a number of factors affecting the forecast increase in the

Meeting focus	What we heard	How we responded
	consumers would contribute to end of life costs. ▪ In relation to insurance, one stakeholder was particularly concerned around affordability and was interested in what Directlink was doing to reduce insurance costs for consumers. Other stakeholders noted there are ongoing increases in insurance costs and that reducing insurance costs for consumers may result in higher risks.	Directlink Interconnector's revenue for 2025 to 2030 are outside of Directlink's control, such as insurance costs and higher interest rates, Directlink is taking steps to support long term affordability for consumers. This includes: ○ Reducing the risk of needing to undertake costly system upgrades by buying enough spares to reach the end of the Directlink interconnector's life for assets which have a high risk of obsolescence. ○ Undertaking a feasibility study on the master controller project to assess benefits and whether it should proceed, rather than putting forward the project for the 2025 to 2030 period. ○ Reducing the risk of bill shock for consumers by smoothing end of life costs over multiple regulatory periods. ○ Improving the Directlink Interconnector's resilience to extreme weather events and reducing the risk of significant repair costs through capital expenditure to upgrade land slip management.

3.4 Rules and Better Resets Handbook

Under the Rules a network is required to describe how they have engaged with electricity consumers and sought to address any relevant concerns identified as a result of that engagement.

The AER released its Better Resets Handbook in December 2021. The Handbook sets out the principles, processes and methodologies the AER uses to assess network businesses' revenue proposals. Ultimately, the Handbook aims to achieve better consumer outcomes by encouraging network businesses to own their engagement with customers and tailor engagement to best suits the needs and circumstances of their customers.

The Handbook sets out the AER's expectations on consumer engagement, which focus on three broad areas. We have set out how Directlink performed on each of the AER's expectations on consumer engagement during the development of its revenue proposal below:

AER expectation	How we performed on this expectation
Nature of engagement	▪ 100% of stakeholders rated Directlink as good or excellent in "displaying genuine interest in your opinion" ▪ 94% of stakeholders rated Directlink as good or excellent in "making sure everyone had a chance to participate". ▪ 94% of stakeholders rated Directlink as good or excellent in "fulfilling the purpose of engagement established at the outset".
Breadth and depth	▪ 100% of stakeholders rated Directlink as good or excellent in "clearly explaining the purpose of engagement and how your feedback would be used" ▪ 100% of stakeholders rated Directlink as good or excellent in "providing clarity on the issues you are able to influence" ▪ 100% of stakeholders rated Directlink as good or excellent in "overall quality of the engagement event" ▪ 100% of stakeholders rated Directlink as good or excellent in "overall quality of stakeholder engagement on the Directlink regulatory reset"
Evidenced impact	▪ Following the December stakeholder meeting and the provision of the overview of the revenue proposal, stakeholders were asked about their views on the revenue proposal, with 100% of stakeholders indicating they 'somewhat agree' or 'strongly agree; the proposal reflects customers' priorities and preferred outcomes and is in the long-term interests of customers.

Further detail on how Directlink has sought to meet each of the AER's expectations on consumer engagement during the development of its Proposal is set out in attachment 6 – SEC Newgate report.

Maximum allowable revenue

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy
Infrastructure
Investments

Directlink's Proposal is derived from the post-tax building block approach outlined in the Rules[9] and the AER's Post Tax Revenue Model (**PTRM**)[10]. The completed PTRM forms attachment 09a to this Proposal.

This chapter summarises the building block approach, the components of which are detailed in additional chapters. The Maximum Allowed Revenue (**MAR**) and X factor for Directlink are calculated from the PTRM. Future adjustments to the revenue cap are also described.

4.1 Building block approach

Under the Rules, revenue is determined by the AER based on a building block approach.

The building block formula to be applied in each year of the regulatory control period is:

$$MAR = return\ on\ capital + return\ of\ capital + operating\ expenditure + taxation\ allowance + revenue\ adjustments$$

$$MAR = (WACC\ x\ RAB) + Depn + Opex + Tax + Rev\ Adj$$

Where:

MAR = Maximum Allowable Revenue.

WACC = post-tax nominal weighted average cost of capital ("vanilla" WACC).

RAB = Regulatory Asset Base.

Depn = Regulatory Depreciation.

Opex = operating expenditure.

tax = income tax allowance.

Rev Adj = Revenue Adjustments for EBSS, CESS and STPIS

The MAR is then smoothed with an X factor, in accordance with the Rules requirements.[11]

4.2 Building Block components

The building blocks that formed a part of the revenue calculation are set out below.

9 *National Electricity Rules*, Part C of Chapter 6A, AEMC.
10 AER, Final decision, Amendment - Electricity transmission network service providers Post-tax revenue model, December 2010.
11 AEMC, *National Electricity Rules*, Chapter 6A, clause 6A.6.8.

Table 4-1: Building Block Revenue

Building Block Revenue ($m Real FY25)	2025/26	2026/27	2027/28	2028/29	2029/30	Total
Return on Capital	9.7	10.0	9.7	9.4	9.0	**47.7**
Regulatory Depreciation	5.8	6.7	8.8	8.1	8.2	**37.7**
Operating Expenditure	7.8	7.8	7.9	8.0	8.0	**39.5**
Revenue Adjustments	0.2	-0.3	-0.5	0	0	**-0.6**
Net Tax Allowance	0.3	0.6	0.9	0.8	0.8	**3.4**
Total	**23.8**	**24.8**	**26.9**	**26.2**	**26.0**	**127.7**

4.3 Major Changes in Building Blocks

There is a material increase in the revenue forecast between the Current Determination Period and the Proposal period.

Compared to the 2020-25 period, revenue for the 2025-30 period is proposed to increase by $39.5 million, key drivers include:

Return on capital

$10.4M

driven by higher interest rates and inflation

Depreciation

$12.4M

driven by the remaining life of the asset base of 16 years

Operating expenditure

$3.6M

driven by historic increases in cost

End of life costs

$4.7M

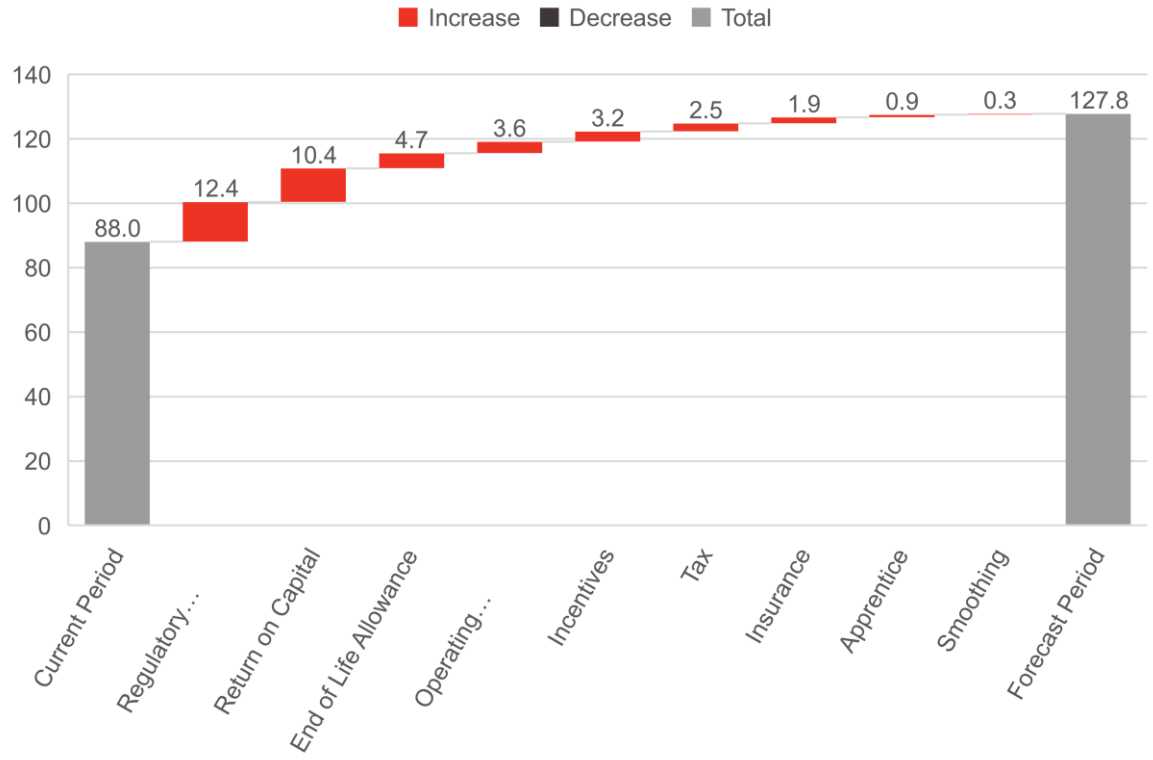
Incentives

$3.2M
driven by penalties this period being lower than last period

Insurance premiums and apprentice

$2.8M
driven by tightening insurance markets and long term need for qualified labour

Figure 4-1: Current Period to Forecast Waterfall Diagram



Directlink recognises that revenue increases are challenging in the current cost environment for consumers. We are focused on reducing the overall cost to consumers over the longer term. This is the central purpose of the Spare Management strategy.

A brief summary of the major drivers of this revenue increase are set out below.

4.3.1 Return

All businesses need to finance their activities and do so through accessing both debt (borrowing money) and equity (ownership in the company). This requires access to the international debt and equity markets, where participants price in the risk of owning debt or equity in a particular asset relative to owning debt or equity in different assets in order to earn a return.

The cost of debt and equity (meaning what Directlink needs to pay to borrow money, or what return it needs to give to shareholders) reflect changes in macro-economic factors such as inflation and interest rates. It is the changes in these factors, and the resulting changes in the cost of debt and equity that are primarily driving the change in the return for Directlink.

The actual calculation of the Rate of Return is determined by the AER as a benchmark Rate of Return in its Rate of Return Instrument. The AER reviews the Rate of Return Instrument every 4 years, with the most recent being determined in 2022.

The quantum of the Rate of Return presented in the Proposal is a result of the application of the mandated benchmark calculation in the Rate of Return Instrument - Directlink does not have any discretion in respect of how the Rate of Return is calculated.

4.3.2 Depreciation

The calculation of the depreciation amount presented in this Proposal is the result of the application of the Regulatory depreciation methodology, calculated as straight-line depreciation less indexation.

The largest determination of the level of regulatory depreciation is the remaining asset lives and historic capital expenditure. The asset lives are required to be based on the best estimate of the Economic Life of the assets. This is what Directlink has previously done and there are no changes to Directlink's expected Economic Life. The Directlink Interconnector has a fixed regulatory life. The closer it gets to the end of its life the higher the regulatory depreciation will be.

Indexation is the inflation adjustment of the RAB. This means that if the level of inflation over the period of the Proposal is forecast to be higher than the historical average, the indexation amount actually reduces the level of regulatory depreciation compared to previous years.

4.3.3 Operating Expenditure

Directlink has sought to identify that path of operating expenditure that is the most efficient way of maintaining Directlink's reliability and affordability in the long run. Directlink's proposed operating expenditure is the consistent with the Rules. More detail on the operating expenditure is contained in section 6 below.

The most material increase in the operating expenditure forecast is the end of life cost allowance. The end of life costs are attributable to activities that will be necessary once the asset ceases to operate. Customers benefit from establishing the allowance in the proposal period rather than when the costs are incurred. This is articulated further in attachment 05.

4.4 Key elements of the building blocks

4.4.1 Regulatory Asset Base

The Regulatory Asset Base (RAB) is calculated by starting with the opening RAB (being that used in the previous revenue determination), and then adjusted (referred to as 'rolled forward') to account for inflation, forecast capex, any asset disposals or redundancies and depreciation. Section 9 outlines in detail the calculation of the estimated RAB of $164.5 million, as at 1 July 2025, using the forecast capex detailed in Chapter 5. Table 4-2 below sets out a summary of this calculation.

Table 4-2: Summary of forecast regulatory asset base ($M, nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30
Opening RAB	164.5	172.9	170.7	165.8	161.2
plus indexation	4.3	4.5	4.5	4.4	4.2
plus forecast capital expenditure	14.4	4.9	4.6	4.4	8.5
less forecast depreciation	-10.2	-11.6	-14.0	-13.4	-13.6
less forecast disposals	-	-	-	-	-
less forecast redundant assets	-	-	-	-	-
Closing regulatory asset base	172.9	170.7	165.8	161.2	160.3

4.4.2 Return on capital

As noted in section 4.3.1 above, the Return on capital, which is the Rate of Return allowance, is calculated by applying the AER's Rate of Return calculation outlined in the Rate of Return Instrument to the opening RAB in the respective year. Directlink notes that the Rate of Return methodology adopted by the AER is also sometimes referred to as a 'post-tax nominal vanilla WACC', and results in a Rate of Return of 6.03%. This calculation is further detailed in Section 11.

The amount attributable to a Return on Capital, calculated by applying the Rate of Return to the RAB and using the AER's PTRM, is summarised in Table 4-3.

Table 4-3: Summary of return on capital forecast ($M, nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30
Return on capital	9.9	10.5	10.5	10.4	10.3

4.4.3 Regulatory Depreciation

Chapter 11 describes how Directlink has calculated the return of capital, referred to often as 'Regulatory Depreciation'. The AER's PTRM combines both the straight line depreciation and an adjustment for inflation on the opening RAB. A summary of the Regulatory Depreciation or Return of Capital allowance is given in Table 4-4.

Table 4-4: Summary of regulatory depreciation ($M, nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30
Forecast straight line depreciation	10.2	11.6	14.0	13.4	13.6
Forecast Indexation	4.3	4.5	4.5	4.4	4.2
Forecast regulatory depreciation	5.9	7.1	9.5	9.0	9.4

4.4.4 Operating expenditure

Chapter 6 of this Proposal details Directlink's operating expenditure requirements in each year of the Proposal Period. This is summarised in Table 4-5.

Table 4-5: Summary of forecast operating expenditure ($M nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30
Forecast operating expenditure	8.0	8.2	8.5	8.8	9.1

4.4.5 Tax allowance

The tax allowance Is calculated by the AER's PTRM based on the tax asset base outline in section 9.4. The forecast tax allowance is summarised in Table 4-6.

Table 4-6: Summary of tax allowance ($M nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30
Tax allowance	0.3	0.6	1.0	0.9	0.9

4.5 Maximum Allowable Revenue

The total revenue cap and the MAR for each year of the Proposal Period is provided below. Based on the building blocks outlined in the previous section, the total revenue cap and MAR requirement is summarised in Table 4-7.

Table 4-7: Summary of unsmoothed revenue requirement ($M, nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30	Total
Return on capital	9.9	10.5	10.5	10.4	10.3	51.6
Return of capital	5.9	7.1	9.5	9.0	9.4	40.9
plus operating expenditure	8.0	8.2	8.5	8.8	9.1	42.7
plus Revenue adjustment	0.2	(0.3)	(0.5)	(0.0)	(0.1)	(0.7)
plus net tax allowance	0.3	0.6	1.0	0.9	0.9	3.8
Unsmoothed revenue requirement	24.4	26.2	29.0	29.1	29.5	138.2

4.6 X-Factor smoothed revenue

Directlink is required to use the AER's PTRM model. The AER has built this model to 'smooth' the price path across the Proposal Period. This is achieved by applying an approach that seeks to ensure:

- the total net present value of the unsmoothed revenue requirement is achieved across the Proposal Period, but in a manner that has relatively consistent changes year on year; and
- the expected MAR for the last regulatory year is as close as reasonably possible to the amount derived from the building block calculation for that final year. This provides the most stable 'base' for the next regulated revenue period.

The rate of change required each year to achieve these outcomes is referred to as the 'x-factors', and they are presented in Table 4-8.

Table 4-8: Smoothed revenue requirement and X factor ($M, nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30	Total
Unsmoothed Revenue	24.4	26.2	29.0	29.1	29.5	138.2
Smoothed Revenue	24.4	25.9	27.6	29.3	31.2	138.4
X factors	-40.8%	-3.6%	-3.6%	-3.6%	-3.6%	

Capital expenditure

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy Infrastructure Investments

5.1 Introduction

This chapter contains Directlink's capital expenditure forecasts for each year of the Proposal Period, as well as the total expenditure for the period.

This section describes the capital expenditure categories used and the methodology adopted to forecast the capital expenditure. The major inputs and assumptions underpinning the forecasts are explained.

The major projects that contribute to the capital expenditure forecast are described. The forecast capital expenditure is then demonstrated to be efficient.

The resulting forecast capital expenditures are set out in the response to the AER's Regulatory Information Notice, which forms attachments 07 to this Proposal.

5.2 Rules Obligations

The information and matters relating to capital expenditure that must be provided in Directlink's Proposal are set out in Rules 6A.6.7 and schedule S6A. The proposed capital expenditure must:

- meet the capital expenditure objectives;
- be allocated to prescribed transmission services in a manner consistent with the Cost Allocation Methodology;
- include both total and year-by-year forecasts; and
- be a reliability augmentation, or have satisfied the AER's Regulatory Investment Test (RIT), if required.

A revenue proposal should also, if relevant, include capital expenditure required in relation to contingent projects.

No capital expenditure corresponding to augmentations has been included.

Capital expenditure associated with the Regulatory Investment Test – Transmission for obsolete IGBTs is included in the historic and forecast capital expenditure.

5.2.1 Capital expenditure objectives

Directlink's forecast capital expenditure is capital expenditure that is considered to be required in order to meet the capital expenditure objectives. Rule 6A.6.7(a) sets out the capital expenditure objectives which are:

- meet or manage the expected demand for prescribed transmission services over that period;
- comply with all applicable regulatory obligations or requirements associated with the provision of prescribed transmission services;
- to the extent that there is no applicable regulatory obligation or requirement in relation to:
- the quality, reliability or security of supply of prescribed transmission services; or
- the reliability or security of the transmission system through the supply of prescribed transmission services,

- to the relevant extent:
- maintain the quality, reliability and security of supply of prescribed transmission services; and
- maintain the reliability and security of the transmission system through the supply of prescribed transmission services; and
- maintain the safety of the transmission system through the supply of prescribed transmission services.

Directlink considers that this revenue proposal achieves the capital expenditure objectives set out in Rule 6A.6.7. Directlink also considers that the forecast of required capital expenditure reasonably reflects the efficient costs that would be incurred by a prudent network operator in meeting the capital expenditure objectives consistent with 6A.6.7(c).

5.2.2 Integrated System Plan

In December 2024 the Australian Energy Market Operator (AEMO) published its draft 2024 Integrated System Plan (ISP). The ISP sets out an 'optimal development path' of generation, storage and transmission investment that will meet the NEM's reliability and security needs.

Since publication of the 2022 ISP, some transmission projects have been completed, including the Queensland – NSW Interconnector Minor upgrade (QNI Minor). The QNI Minor project has been considered in service from June 2023 and will provide additional transfer capacity to NSW.12

The draft 2024 ISP also identifies a larger Queensland - NSW Interconnector (QNI Connect) as a future ISP project. QNI Connect will increase the transfer capacity of the existing QNI by 1,260MW northbound and 1,700 southbound. This project now has an earliest feasible delivery date of 2030-31. [13]

Neither of these is expected to have an impact on the capability or future scope for augmentation of the Directlink interconnector.

5.3 Historic Capital Expenditure

The Rules and the Regulatory Information Notice set three obligations in relation to Directlink's proposal and historic capital expenditure:

- Directlink must explain the difference between the forecast capital expenditure for the proposed determination period and historic capital expenditure.
- Directlink must explain the difference between the capital expenditure incurred and the AER's forecast for the current regulatory period.
- Directlink must compare the actual capital expenditure incurred for the 5 years to the end of financial year 2023 and the relevant AER capital expenditure allowance.

[12] AEMO, draft 2024 ISP, Appendix 5 Network Investments, December 2024, p27

13 AEMO, draft 2024 ISP, Appendix 5 Network Investments, December 2024, p37

5.3.1 Explanation of variations in forecast capital expenditure vs historical capital expenditure

Table 5-1 compares the forecast capital expenditure for the proposal determination period (FY26 to FY30) with the capital expenditure expected for the current determination period (FY21 to FY25).

Table 5-1: Forecast and historic capital expenditure ($m FY25)

	YR 1	YR 2	YR 3	YR 4	YR 5	Total
Forecast capital expenditure	13.8	4.5	4.2	3.9	7.4	33.8
Historic capital expenditure	2.5	3.0	8.1	12.5	4.8	30.9
Difference	11.3	1.5	-3.9	-8.6	2.6	2.9

Directlink is a single asset with stochastic capital expenditure requirements. So Directlink can be expected to have significant variation year on year based on the work being undertaken[14]. There is relatively little repetitive activities undertaken in the capital expenditure that will be incurred or is in the forecast. Therefore, the current determination period and proposal period forecast comprise a separate list of projects and consistency across those two periods shouldn't be expected.

A complete list of the projects undertaken in the current determination period and those in the proposal period is contained in the capital expenditure model which is attachment 09c

5.3.2 Capital Expenditure: Current Determination Period vs AER allowance for Current Determination Period

The historic capital expenditure for Directlink is set out in Table 5-2.

The historic variation in total capital expenditure reflects the change in the nature of the project to resolve the obsolescence of IGBTs. The project as forecast, the long term asset replacement contract, was not able to be implemented and a prudent and efficient alternative solution is in the process of being completed.

While a long term cost forecast out to FY 2042 for the long term asset replacement contract was provided to the AER as part of the revised regulatory proposal for the current determination period only the expenditure expected to be incurred in prior to the end of FY 2025 was captured in the AER's forecast (25.7m FY20).

The prudent and efficient solution as supported by the outcome of the Regulatory Investment Test-Transmission commenced in FY22 and will be completed in FY26. While the cost of the project implemented is less than the overall cost of the long term asset replacement contract more of that cost falls into the current determination period ($14.85m)

This is discussed further in attachment 04.

14 as required by Rule S6A.1.1(7).

Table 5-2: Actual Capital expenditure compared to AER forecast ($m nominal)

	FY20	FY21	FY22	FY23	FY24	Total
Actual						
Expansion	-	-	-	-	-	-
Replacement /refurbishment	2.0	2.6	7.6	12.1	4.8	29.1
Non-network	-	-	-	-	-	-
Total	2.0	2.6	7.6	12.1	4.8	29.1
AER Forecast						
Expansion	-	-	-	-	-	-
Replacement /refurbishment	4.9	6.9	6.1	5.8	4.7	28.4
Non-network	-	-	-	-	-	-
Total	4.9	6.9	6.1	5.8	4.7	28.4
Difference						
Expansion	-	-	-	-	-	-
Replacement /refurbishment	2.9	4.3	-1.4	-6.3	-0.1	-0.6
Non-network	-	-	-	-	-	-
Total	2.9	4.3	-1.4	-6.3	-0.1	-0.6

5.3.3 Capital Expenditure: Actual 5 year expenditure vs AER allowance

The AER may review the historic capital expenditure and exclude any capital expenditure from the RAB to the extent that the sum of capital expenditure for the review period exceeds the AER's forecast for the period and does not satisfy the Capital Expenditure Criteria.[15]

The capital expenditure incurred in the period FY 2019 to FY 2023 was $26.2m, the AER's allowance for this period was $26.5m so the allowance is $0.3m higher than the actual expenditure. This is set out in Table 5-3.

15 Rule S6A.2.2A

Table 5-3: Capital expenditure and AER forecast for the review period ($M nominal)

	FY19	FY20	FY21	FY22	FY23	Total
Actuals	6.2	7.8	2.0	2.6	7.6	26.2
AER Forecast	2.7	4.9	6.9	6.1	5.8	26.5
Difference	3.5	2.9	-4.8	-3.5	1.7	-0.2

5.4 Forecast Capital Expenditure

5.4.1 Asset Management System

Energy Infrastructure Investment (EII) has an asset management plan (AMP) that identifies the necessary actions required to optimally manage the EII assets. A long-term consideration of the integrity of assets is necessary to ensure that they remain fit-for-purpose.

The AMP is written on the basis of the best known information at the time of writing.

The purpose of the AMP is to:

- provide a comprehensive understanding of the current management approach relating to the asset, its controls and utilisation.
- provide a platform for approval of work programs; and
- identify specific issues affecting the assets and the proposed remediation for budget consideration.

The objective of the AMP is to ensure that a strong focus on safety and reliability is maintained in relation to the operation and management of the EII assets. In developing the operating and maintenance procedures incorporated within the AMP, the operator (being APA Operations EII Pty Ltd) has considered the approved policies and procedures of the APA Group.

Suitable safety management systems are in place and operating to ensure that the risks relating to the operation of all EII assets are effectively managed to keep risks as low as reasonably possible. The APA HSE Management System is called ‘Safeguard’ and provides a framework by which the processes relating to EII’s HSE activities are written, approved, issued, communicated, implemented and controlled. Additionally, the management system is also subject to review and improvement to ensure objectives and obligations are continually satisfied.

The AMP is reviewed each year to ensure that the content is current.

Changes to the assets will inevitably occur during the life of the AMP. Unless there are issues identified that significantly impact the validity of the plan it is only intended to amend the AMP at each annual review.

The AMP will identify any material changes to budget items for the previous period. A copy of the Directlink AMP is included in attachment 04a.

5.4.2 Cost escalation

Directlink is proposing cost escalation for the forecast labour component of major capital projects based on the forecast labour escalators provided by BIS Oxford Economics for Basslink Pty Ltd. Their report is attachment 05a. The labour cost escalation is set out in the forecast Capital Expenditure model at attachment 09c.

5.5 Capital expenditure categories

The demand for Directlink's service will remain equal to its maximum capability throughout the Proposal Period. The capital expenditure described in this Proposal is therefore not growth related. Expenditure is directed at maintaining the capability and reliability of the network, whilst ensuring that all regulatory, statutory and legislative requirements are met.

The major items of plant that comprise Directlink: the convertor equipment; transformers; harmonic filters; and cable, all of which have been maintained in serviceable condition in accordance with the manufacturer's recommendations.

The projects that can go to make up the proposed capital expenditure program are associated with the following investment drivers:

- Augmentation/Expansion: This is capital expenditure that is associated with the augmentation or expansion of the capacity of the Directlink network;
- Replacement/refurbishment: The refurbishment or replacement of items of auxiliary equipment, necessary for the continued reliable and secure operation of the link. The replacement of the control system is a major project in this category; and
- Non Network: This is capital expenditure that is associated with the provision of network services but is not directly on the network itself.

However, Directlink did not have any expenditure in the Augmentation/Expansion in the Current Determination Period and is not forecasting any in the next period.

To assist the AER's understanding of the capital expenditure program, capital expenditure projects have been subdivided into categories that reflect these principal drivers in the table below.

Table 5-4: Forecast capital expenditure by driver ($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Augmentation/expansion	-	-	-	-	-	-
Replacement/refurbishment	13.8	4.5	4.2	3.9	7.4	33.8
Non Network	-	-	-	-	-	-
Total	13.8	4.5	4.2	3.9	7.4	33.8

5.6 Forecasting methodology

Directlink's forecast of capital projects in the Replacement/refurbishment categories was developed in the context of its asset management practices.

These management practices and a description of the associated projects are discussed in section 5.4

The 2023 Directlink Asset Management Plan follows the strategic direction established in the Asset Management Strategy[16]. The Plan contains details of the Asset Lifecycle Management System with its business processes - used to manage individual maintenance and improvement projects.

5.7 Key inputs and assumptions

5.7.1 Key Assumptions

Directlink's forecast capital expenditure over the next period is based on the following key assumptions:

- there is no change being made to the maximum capacity of the Interconnector in the period 1 July 2025 to 30 June 2030;
- the forecasts are based on current legislative and regulatory obligations and these obligations will not materially change prior to 30 June 2030;
- there is no change in the outputs delivered by the Directlink interconnector; and
- the forecast capital expenditure is designed to maintain the quality, reliability and security of supply for the Directlink interconnector and non-network options are not appropriate.

5.7.2 Asset replacement/refurbishment framework

Directlink's asset management processes are described in the Asset Management Plan. These processes call for the maintenance history, condition and service performance of each component of equipment to be monitored.

Plans to replace or refurbish equipment components are formulated when:

- the service performance of the equipment deteriorates, to the point where it jeopardises the reliability and availability performance of the link;
- maintenance costs escalate, to the point where it becomes economic to replace or refurbish the equipment; and
- equipment associated with auxiliary systems becomes obsolete, with the potential to jeopardise the availability performance of the link due to unavailability of spares.

The forecast capital expenditure has been based on the Asset Management Plan approved by the EII Board in December 2023. The only adjustments to those relate to conferring calendar years values into financial years and forecast expenditure that is outside the scope of the AMP due to the AMP only covering the period to the end of calendar year 2028.

16 APA Group, Directlink Asset Management Plan ML-DO-06, 9 January 2017.

The forecast capex has been reviewed after models were completed and compared to the Asset Management Plan.

5.7.3 Project scope, cost and timing estimates

Directlink's approach to estimating the scope, cost and timing of the projects that comprise the capital expenditure program is set out in Table 5-5.

Table 5-5: Project scope and costs estimates

Expenditure Category	Refurbishment	Compliance	Capability(Contingent)
Project Scope	All projects are relatively small in scope and readily specified.		Not able to be fully determined at this stage
Project Timing	Based on equipment condition.	As soon as is reasonably practicable.	Pending detailed analysis, not able to be determined at this stage.
Project Cost Estimate	Based on similar minor works carried out for Directlink, or by obtaining a quotation for the work from existing service providers.		Not able to be accurately estimated at this stage, based on generic estimating procedures.

5.8 Significant components of the capital expenditure program

The following projects form significant elements of the capital expenditure program. They are detailed in the supporting information that accompanies this Proposal, which also explains how each project meets the capital expenditure objectives and capital expenditure criteria set out in the Rules at clauses 6A.6.7(a) and 6A.6.7(c). These significant projects are set out below. Business cases for these projects are provided in attachment 04d.

5.8.1 Asset Monitoring

This category of capital expenditure includes improved monitoring of asset condition though improved asset data acquisition monitoring capabilities, upgraded communications infrastructure and remote access equipment resulting in better remote support and asset optimisation capabilities.

Table 5-6: Forecast capital expenditure asset monitoring($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Capital Expenditure	0.8	0.2	0.1	0.1	0.1	1.3

5.8.2 Major Maintenance

This category of capital expenditure is for larger itemised preventative maintenance works. The items include;

- Cable Transitions
- Facility Cable Tray Install and Cable Relocation
- Circulating Cooling Water System Preventative Maintenance
- Reactor Cooling Reliability Improvement
- Circuit Breakers
- Fire System Updates
- Land Grading
- Major Capital Maintenance

Table 5-7: Forecast capital expenditure major maintenance ($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Capital Expenditure	1.4	2.0	2.2	2.1	0.9	8.6

5.8.3 Safety and Protection

This category of capital expenditure is for the cooling components of the HVDC conversion process, including cooling tower fans and the reactor cooling systems. The items include;

- Bungalora Facilities Improvements
- Bungalora Storage Facilities
- Cameras for Inspections
- DC disconnectors
- Environmental Damage from Landslips
- Fire Systems Updates
- Physical Site Security and Public Protection
- Reposition Nitrogen Tanks
- Sound Wall Earthing

Table 5-8: Forecast capital expenditure safety and protection ($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Capital Expenditure	3.7	1.1	0.2	-	-	5.0

5.8.4 Spares Management

This category of capital expenditure is for the spares management of critical equipment required throughout the life of the asset to maintain integrity of the asset.

An external engineering advisor has been engaged to conduct a complete review of Directlink's spares strategy, as part of the recent stakeholder engagement, feedback on the approach has also been received from external stakeholders.

There are two risks that need to be addressed; increasing lead times due to global supply issues and obsolescence of key components. Based on known improvements in sparing required, APA has estimated $12.5 million will be required over the Proposal Period to be spent on capital spares and storage. This may be slightly adjusted based on stakeholder feedback, the outcome of the external review and will depend on supplier quotations to inform lead times and spend phasing.

Table 5-9: Forecast capital expenditure spares management($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Capital Expenditure	1.8	1.2	1.7	1.5	6.2	12.5

5.8.5 Obsolete IGBTs

This category of capital expenditure is for the ongoing project to replace Bungalora System 1, valve room VA and VB, generation one IGBTs positions with newer generation 3 IGBTs.

Table 5-10: Forecast capital expenditure obsolete IGBTs($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Capital Expenditure	6.1	0.0	0.0	0.0	0.0	6.1

5.9 Total forecast capital expenditure

The forecast capital expenditure required to maintain the prescribed transmission services by Directlink during the Proposal Period is set out in Table 5-11.

Table 5-11 Forecast capital expenditure by asset class ($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Transmission Assets	8.9	2.5	2.4	1.2	13.5	28.4
Transmission Determination Costs	0.0	0.0	0.0	0.1	0.1	0.3
Easements	0.2	0.0	0.0	0.0	0.0	0.2
Land	0.0	0.0	0.0	0.0	0.0	0.0
Buildings	0.5	2.2	1.2	1.0	0.0	4.9
Total	9.5	4.7	3.5	2.4	13.7	33.8

Table 5-12 Forecast capital expenditure by asset driver ($m real FY25)

	FY26	FY27	FY28	FY29	FY30	Total
Augmentation/Expansion	-	-	-	-	-	-
Replacement/Refurbishment	13.8	4.5	4.2	3.9	7.4	33.8
Non-network	-	-	-	-	-	-
Total	13.8	4.5	4.2	3.9	7.4	33.8

5.10 Proposed contingent capital expenditure projects

There are no contingent projects proposed for Directlink.

Forecast Operating Expenditure

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy Infrastructure Investments

6.1 Introduction

This chapter contains Directlink's operating and maintenance expenditure forecasts for each year of the Proposal Period, as well as the total expenditure for the period.

Directlink has applied the AER's preferred base-step-trend methodology to derive its operating expenditure forecasts in line with Directlink's E*xpenditure Forecast Methodology* as submitted to the AER in June 2023.

The chapter describes the methodology adopted and explains the major inputs and assumptions underpinning the forecasts.

6.2 Rules Obligations

The information and matters relating to operating expenditure that must be provided in Directlink's Proposal are set out in Rules 6A.6.6 and schedule S6A1.2.

The proposed forecast of total operating expenditure is required to

- meet the operating expenditure objectives:
- be allocated to prescribed transmission services in a manner consistent with the Cost Allocation Methodology;
- be subdivided into programs or types of expenditure and identify the fixed and variable components;
- include a forecast of key variables used to derive the forecast; and
- have Directors' sign off on the reasonableness of key assumptions used in the operating expenditure forecast.

6.3 Customer benefit of step changes and separate forecasts

Directlink has included a step change allowance based on its estimates of the additional cost of sponsorship of an Apprenticeship program.

Specific forecasts have been used to separately estimate Directlink's insurance costs because they are an external cost and a material component of Directlink's total operating cost. End of life costs have also been estimated individually as they are not part of the operation of the interconnector.

Detailed information on the operating expenditure step change and separate line item forecasts are contained in attachment 05.

6.4 Key Assumptions

Forecasting Directlink's operating and maintenance cost over the next period is based on the following assumptions:

- there is no change being made to the maximum capacity of the Interconnector in the period 1 July 2025 to 30 June 2030;
- the forecasts are based on current legislative and regulatory obligations and these obligations will not materially change prior to 30 June 2030;

- the best forecast of operating expenditure to meet the Rules' objectives over the 2025-30 period is to use Directlink's current and most recent operating and maintenance requirements;
- adjustments are only required to reflect changes in input costs and step changes;
- there is no change in the outputs delivered by the Directlink interconnector; and
- forecast operating expenditure is designed to maintain and operate the Directlink interconnector and non-network options are not appropriate.

6.5 Summary of Opex

Figure 6-1: Historic and forecast operating expenditure

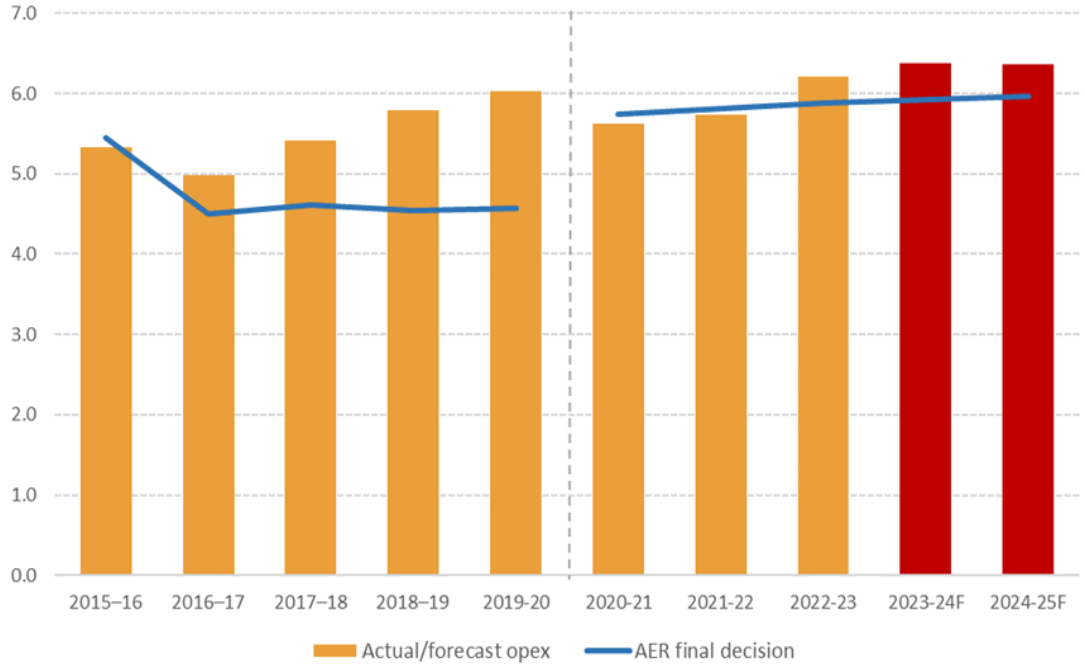


Table 6-1 sets out the forecast operating expenditure and EBSS as entered into the revenue calculation in the AER's post tax revenue model.

Table 6-1: Forecast operating expenditure including debt raising costs ($m real FY25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Operating expenditure	**7.7**	**7.7**	**7.8**	**7.9**	**7.0**	**39.1**
Debt Raising Cost	0.1	0.1	0.1	0.1	0.1	0.4
Total operating expenditure	**7.8**	**7.8**	**7.9**	**8.0**	**8.0**	**39.5**

Capital Expenditure Sharing Scheme

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy
Infrastructure
Investments

The capital expenditure sharing scheme (CESS) is a mechanism by which the AER seek to incentivise businesses to operate within their capital expenditure allowance.

For historic capital expenditure and the opening RAB please see section 9.

The operation of the CESS means any 'overspend' incurs a penalty, irrespective of whether the expenditure is properly considered prudent and efficient.

However, the AER has discretion to not apply the CESS mechanism in some circumstances, and Directlink is asking the AER to consider excluding from the CESS Directlink's expenditure in the Proposal Period incurred in relation to the replacement of obsolete IGBTs.

As noted in section 5.8, IGBTs are semiconductor switching devices that assist with switching power from AC to DC and, without them, the converter stations, and Directlink, would not be able to operate.

The IGBTs that were originally installed (generation one IGBTs) are now obsolete, and Directlink was required to develop an IGBT replacement strategy in order to continue to operate at its full capacity.

In preparing its 2019 revenue proposal for the Current Determination Period, Directlink forecast a long-term contractual arrangement with the single source vendor Hitachi (ABB at the time) so that Hitachi would take responsibility for extending the life of the generation one IGBTs and their eventual replacement. The purpose of the proposed arrangement was to incentivise the party best able to manage extending the operation of the generation one IGBTs, Hitachi, to efficiently maximise the life of the original IGBTs.

The Directlink cost estimate provided to the AER in 2019 was based on estimates provided to Directlink by Hitachi. It was expected to cost 18.9m ($FY25) in the Current Determination Period.

However, after the AER accepted the project in its June 2020 final determination, it was no longer possible to contract with Hitachi under a long-term contractual arrangement where Hitachi would become responsible for the ongoing operation of the IGBT's (a critical requirement to produce customer benefit). The preferred option was no longer available to Directlink.

Instead Directlink undertook a project which replaces the generation one IGBTs in two phases. It is the most prudent and efficient means of resolving the issue of Obsolete IGBTs as the analysis supporting the RIT-T for the project demonstrated.

Directlink believes that the following characteristics make the Upgrade of Obsolete Generation One IGBTs exemption from the CESS consistent with the NEO:

1. the demonstration that the forecast project was the best available forecast consistent with the Rules.
2. the external nature of the change in circumstances
3. materiality of this expenditure to Directlink
4. the demonstration that the actual capital expenditure meets the requirements of the Rules

The removal of the Obsolete IGBT Replacement project from the operation of the CESS would retain the incentives for TNSPs to pursue innovative arrangements that are in the long-term interests of customers. This will ensure that expenditure is incurred when it is necessary and efficient for project delivery, rather than to reduce regulatory risk for the proposal. Should the project not be removed from the calculation of the CESS, there is a risk that Directlink will be penalised for undertaking what was the most prudent and efficient course of action at the time.

7.1 Objective of CESS

The operation of the CESS must be consistent with the capital expenditure incentive objective under clauses 6.4A and 6A.5A:

> *"The capital expenditure incentive objective is to ensure that, where the value of a regulatory asset base is subject to adjustment in accordance with the Rules, then the only capital expenditure that is included in an adjustment that increases the value of that regulatory asset base is capital expenditure that reasonably reflects the capital expenditure criteria"*

The capital expenditure criteria are set out in rule 6A.6.7(c) and require that capex is prudent and efficient.

In developing the scheme, the AER is required to have consideration of the Capital Expenditure Sharing Scheme Principles in 6A.6.5A(c) – NSPs should be rewarded or penalised for improvements or declines in the efficiency of capex.

7.2 Criteria for exemptions

7.2.1 Best available forecast

The best available forecast has two characteristics that:

- it is based on the best available information and
- the forecast project is the one that best meets the requirements of the Rules.

Adjustments to the CESS should be consistent with incentivising the TNSP to provide the best forecast available at the time it is undertaking the forecast.

7.2.2 External nature of change in circumstances

The capital expenditure criteria are intended to incentivise prudent and efficient expenditure. An exemption from the CESS should be as a result of changes in external circumstances to the business not management action otherwise it risks undermining capital expenditure criteria.

7.2.3 Materiality of expenditure

The materiality of the forecast and actual expenditure are proportional to the strength of incentives both formal and informal. In particular the concern in relation to the CESS is that on a material project the informal incentives described in section 7.4 below are significant in the decision making for prudent and efficient management of the asset.

7.2.4 The actual capital expenditure meets the requirements of the Rules

The AER is only allowed to add capital expenditure to the RAB where it is consistent with the Rules. The operation of the CESS should be consistent with the requirements of the Rules. So an exemption should only apply where the business has undertaken a project consistent with the requirements of the Rules.

7.3 Directlink's relevant circumstances

7.3.1 Best available forecast

At the time of preparing the proposal for the Current Determination Period, Hitachi informed Directlink that the IGBTs that were being used on the Directlink Interconnector were going to shortly become obsolete.

As part of its due diligence and substantiation for its proposal, Directlink included other credible options for the replacement of the IGBTs and supplied present value analysis assessing those options. This analysis supported the Long Term Replacement Contract as the solution that had the lowest long term cost based on a range of IGBT failure rates.

On the basis of these negotiations with Hitachi and the analysis conducted, the proposal for the Current Determination Period included capital expenditure for IGBT replacement for $14.9 m (FY20) over the 5 year period.

The AER made its final decision in relation to the Current Determination in April 2020, and accepted the capex costs in relation to the IGBT replacement program as outlined above.

7.3.2 Material impact on the Network

At the time of the proposal and final determination for the Current Determination Period Hitachi had provided an estimate of the cost it would charge for this service. This estimate, including margin, was that Directlink would pay $3.3m per annum for the first 10 years and $1.65m per annum until the end of 2041.

This made it by far the largest project that Directlink forecast in the Current Determination Period representing 60.4% of the forecast capital expenditure and the second largest project Directlink has undertaken since its construction was complete.

This investment would have been 10% of the Directlink RAB at the time of its completion.

7.3.3 Fundamental change in circumstances

Directlink continued to negotiate with Hitachi. However, after the AER's final determination it became apparent that Hitachi were no longer intending to commit to the Long Term Asset Replacement Contract where the risk of early replacement was with Hitachi to incentivise them to manage this risk.

As the sole supplier of IGBTs the decision by Hitachi meant that the Long Term Asset Replacement Contract or any similar solution was impossible for Directlink to undertake.

7.3.4 Demonstrated selection of the most prudent and efficient option

As a project with expenditure above $6m Directlink was required to undertake a RIT-T. Directlink engaged economic consultancy Houston Kemp to conduct this analysis. This work commenced with the publication of the Project Specification Consultation Report in April 2021.[17]

The RIT-T assessment process continued for the next year and was completed in with the Project Assessment Conclusions Report in April 2022.

17 https://www.apa.com.au/our-services/other-energy-services/electricity-interconnectors/directlink/

The Project Assessment Conclusions Report outlines why the replacement project that Directlink is currently undertaking to address the issue of obsolete generation one IGBTs is the project that is most consistent with the requirements of the Rules.

7.3.5 The Replacement of generation one IGBTs with Generation three IGBTs

To maintain the three System capacity of Directlink into the future, this project will upgrade two phases of the Bungalora System One Convertor Building to Generation Three IGBT technology. This will include all required supporting hardware including newer version VCUs and capacitors. The control system will not be upgraded as the current version is compatible. The resulting recovered Generation One IGBTs and VCUs will be used to replenish spares stocks for the remaining Generation One based systems.

7.4 Potential detriment to customers if unadjusted CESS applied

In the stakeholder engagement clear feedback was provided to Directlink that we need to clearly articulate what are the benefits to customers from excluding replacement of obsolete generation one IGBTs from the CESS.

The negative impacts to customers from the application of the CESS to the replacement of obsolete generation one IGBTs:

- Discourages TNSPs from pursuing innovative solutions that are in customers long term interest.
- Incentivises the networks to “lock down” costs of major expenditure at the time of the proposal rather than when implementation of the project is being undertaken.

7.4.1 Discourage Innovative Solutions

It is the nature of innovative solutions that they are going to be more difficult to implement than business-as-usual projects that do not necessarily use the same supply pathways as business-as-usual projects.

This means they are more likely to end up being, like the long-term replacement contract, ultimately not a credible option.

Penalising a business where reasonable efforts have been made to develop the forecast and customers are the beneficiary from the innovation is not consistent with National Electricity Objective (NEO).

7.4.2 Encourages early expenditure on major projects

A prudent and efficient operator manages financial risks. Where there is a large project that could attract material financial penalties under the CESS for relatively modest variations then a prudent and efficient operator will manage that risk.

The best way to manage the risk is to contract with the provider of the project at the time of the project to lock in the cost at the time of preparing the regulatory proposal rather than at a timing of commencing the project.

Providers of infrastructure or subsystems require deposits at the time of entering into contracts. The operation of the CESS, in the absence of a potential exemption, means that customers will pay for the contract deposit before they would in the absence of the CESS. This can be significantly earlier

where the capital expenditure is expected to occur at the end of a regulatory control period with expenditure occuring up to 7 years earlier that would otherwise be the case.

7.5 AER's Powers to use discretion

The Rules give the AER discretion around how the CESS is to apply to a particular TNSP in a particular period. For example, cl 6A.6.5A contemplates that the AER will need to decide whether to apply a CESS to TNSP for a regulatory period and will also need to decide on the nature and details of the CESS that is to apply.

As part of a final decision for a TNSP, the AER needs to determine how any applicable CESS will apply to the TNSP. In determining how a CESS will apply in a regulatory period, the AER can exclude some capex from the operation of that scheme – and indeed the possibility of exclusions is contemplated in the AER's latest CESS guideline. In making these decisions for a particular TNSP and a particular period, the AER must do so in a way that contributes to the CESS objective and takes into account the CESS principles and circumstances of the TNSP – in other words, the AER's discretion is guided by these objective and principles.

For the 2020-25 period, the AER has decided to apply the CESS as set out in version 1 of its guidelines (per the AER's final decision for Directlink dated June 2020). The guidelines specify a formula for calculating increments and decrements under the scheme, but do not specifically deal with all of the exclusions that may be required when determining actual capex for the purposes of these calculations. The guidelines refer to some adjustments that the AER may make, but do not limit the adjustments that may be made in performing these calculations.

Neither the AER's final decision dated June 2020 nor the guidelines limit the adjustments that may be made to actual capex when calculating increments and/or decrements under the CESS for the 2020-25 period for Directlink. The AER has discretion to exclude some items from these calculations, if it considers this appropriate.

However, the AER's discretion is not 'at large'. This should be guided by the CESS objective, the CESS principles and more broadly the NEO and the Revenue and Pricing Principles. Notably, one of the CESS principles is that a TNSP should be rewarded or penalised for improvements or declines in efficiency of capital expenditure. If exclusion of certain capex from the calculations aligns with this principle, then making the adjustment may be appropriate.

As part of its January 2019 proposal Directlink supplied present value analysis assessing different credible options for the replacement of obsolete generation one IGBTs that found that the Long Term Replacement Contract was the solution that had the lowest long term cost based on a range of IGBT failure rates.

The main issue is that if the IGBT obsolescence project is included in the operation of the CESS then Directlink will be penalised for a change in circumstances beyond its control. It will penalise Directlink where the project undertaken is demonstrably prudent and efficient as demonstrated by the RIT-T analysis.

7.6 Preferred Option

Directlink's preferred option is to remove the IGBT obsolescence project from the calculation of the CESS in the Current Determination Period.

In operation this would mean that two things happen to the CESS calculation:

- the IGBT obsolescence project forecast ($15.5m) will be removed from the AER's capital expenditure allowance for the Current Determination Period; and
- the actual and estimated capital expenditure on the IGBT obsolescence project ($10.08m) will be removed from the actual total capital spend for the Current Determination Period.

The advantage of Directlink's preferred approach is that it resolves the operation of the CESS in a way that is consistent with the objectives of the Scheme in the Current Determination Period.

7.7 Alternative options for adjustments to the CESS

7.7.1 Adjust the AER's capital allowance for the CESS for subsequent periods for the long term asset replacement contract.

The alternative is to allow the capital expenditure actually incurred in replacing the IGBTs ($16.18m) to be incorporated into the capex allowance across all relevant revenue periods, being the periods from FY21 through to FY42.

This would incorporate the forecast of the Long Term Asset Replacement Contract costs in all periods until FY2042 This is consistent with the original forecast for the Obsolete IGBTs being expenditure across multiple periods. In operation this would mean:

- No changes to the operation of the CESS in the Current Determination Period;
- In the Proposal Period (FY26 to FY30) the AER's capital expenditure allowance for CESS purposes would include the inflation adjusted value of $3.3m per annum (consistent with the original forecast for the long term asset replacement contract of 10 years at $3.3m);
- In the following period (FY31 to FY 35) the AER's capital expenditure allowance for CESS purposes would include the inflation adjusted value of $3.3m for the first year and the inflation adjusted value of ($1.65m) for the remaining four years consistent with the forecast price for the subsequent 10 year period under the long term asset replacement contract;
- In the next period (FY36 to FY40) the AER's capital expenditure allowance for CESS purposes would include the inflation adjusted value of $1.65m per annum for the entire period; and
- In the subsequent period (FY41 to FY45) the AER's capital expenditure allowance for CESS purposes would include the inflation adjusted value of $1.65m for the first year.

The outcome of this approach, all other things remaining the same, will be a CESS penalty for the current period ($1.8m) and rewards in subsequent periods.

This would be consistent with the AER's allowance for the current period but it would result in an ongoing series of adjustments in future periods to maintain the incentive properties of the CESS.

7.7.2 Adjust the Current Capital expenditure allowance by present value of future forecast long term asset replacement costs

A further option is to increase the allowance for the Current Determination Period by the present value of the future estimates of the contract. This would operate by:

- increasing the current AER allowance by the present value of future forecast long term asset replacement contract ($39.6m); and
- including the actual and estimated capital expenditure on the IGBT obsolescence project ($26.5m) in the Current Determination Period.

This has the advantage of resolving the matter in the Current Determination Period and does not require any future adjustments to the AER's capital expenditure allowance in future periods. However, it would require an additional adjustment to include the estimated capex from the next period to be included in the assessment of the Current Determination Period so that the entire forecast and the entire actuals are compared.

7.8 Consistent with the NEO

In our stakeholder engagement, stakeholders indicated that there was no in principle opposition to adjustments to the CESS.

Adjusting the calculation of the CESS to maintain the objectives produces two significant benefits to customers.

1. It encourages the TNSPs to try innovative solutions to problems recognising that these have a higher risk that the solution will not be able to be implemented. Where it can be demonstrated that the innovative solution is consistent with the requirements of the Rules, then the risk of a penalty on the TNSP should the solution ultimately not be capable of being pursued is not in customers' best interests.
2. A penalty on a major project where expenditure represents a significant portion of the total capital expenditure forecast creates an incentive on a TNSP to avoid the risk that this creates. The way to avoid this is to lock in as much of the expenditure as possible at the time of the preparation of the revenue proposal. This requires signing contracts which requires paying deposits or commencement fees at a time earlier than they would otherwise have been incurred.

7.9 CESS Proposal

The outcomes of the calculation using the AER's model is in Table 7-1.

Table 7-1: CESS outcomes ($m real FY25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Capital Expenditure Sharing Scheme	-0.007	-0.007	-0.007	-0.007	-0.007	(0.04)

Historic cost and service performance

Directlink Joint Venture
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8.1 Introduction

The Rules and RIN require Directlink to set out its historical operating cost and performance.

This chapter presents that information as well as a review of Directlink's historical performance under the AER's Service Target Performance Incentive Scheme (STPIS) during the Current Determination Period.

Audited results are available and have been quoted for the three years from 2020-21. An estimate has been used for 2023-24 and 2024-25. These costs are contained within the AER's RIN template, which forms attachments 07 to this Proposal.

There is no difference from the material provided in the RIN template and material previously provided to the AER.

8.2 Historic operating expenditure

Table 8-1 below sets out the actual incurred and estimated operating expenditure against the AER's forecast from the 2020 revenue determination.

Table 8-1: Historic operating expenditure compared to AER allowance ($m FY25)

	2020-21	2021-22	2022-23	2023-24F	2024-25F	Total
Actual expenditure	5.6	5.7	6.2	6.4	6.4	30.3
AER Allowance	5.7	5.8	5.9	5.9	6.0	29.3
Differences	-0.1	-0.1	+0.3	+0.4	+0.4	+1.0

The Historic operating cost is discussed in the Opex Chapter (Attachment 05).

8.2.1 Movements in provisions

Directlink does not have any provisions in its historic or forecast capital expenditure or operating expenditure.

8.3 Small scale incentive scheme

Directlink does not have a small-scale incentive scheme, and consistent with the AER's Framework and Approach paper, Directlink is not proposing one.

8.4 Demand Management Incentive Scheme

Directlink does not have a demand management incentive scheme, and consistent with the AER's Framework and Approach paper, Directlink is not proposing one.

8.5 Historic service target performance incentive scheme

The table below sets out Directlink's performance against the STPIS. This data is produced on the same basis as outlined in the STPIS guideline.

Table 8-2: STPIS outcomes

	AER Target	2019	2020	2021	2022
Circuit outage rate - fault	933%		867%	383%	317%
Circuit outage rate – forced	147%		0.7%	0.2%	0.2%
Failure of protection system	3		0	0	0

Table 8-3: STPIS outcomes – Market impact

	AER Target	2020	2021	2022
Market Impact Parameter Count[18]	1,189	766	1,391	1,444

8.6 Efficiency benefit sharing scheme

Directlink is subject to the AER's Efficiency Benefit Sharing Scheme (EBSS).

The operating expenditure for the comparison to the AER's target is set out in Table 8-4. This is the operating expenditure excluding insurance premiums and debt raising costs. It is also worth noting that the actual figure for 2023-24 is a forecast and will not be finalised until October 2024.

Table 8-4: EBSS operating expenditure ($m FY25)

	2020-21	2021-22	2022-23	2023-24F
AER Allowance	5.0	5.1	5.1	5.1
Actuals	5.0	4.9	5.4	5.4
Difference	-	-0.2	+0.3	+0.3

This table does not make any adjustments to the proposed approach for calculating the EBSS for the current period. The impact of the EBSS on Directlink's revenue for the Proposal Period is used in the PTRM and is set out in Table 8-5.

Table 8-5: EBSS Carryover amounts ($m FY25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
EBSS Outcomes	+0.2	-0.3	-0.5	0.0	-0.0	-0.6

18 Adjusted for unplanned outage event limit

Regulatory asset base

Directlink Joint Venture
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9.1 Introduction

This chapter explains how Directlink has determined the proposed opening RAB for the Proposal Period. Directlink is required by the Rules to provide a completed asset Roll Forward Model (RFM) to accompany its proposal. The RFM forms attachment 09b to this Proposal.

9.2 Roll forward methodology

Directlink has calculated the value of its opening RAB as at 1 July 2025. The annual adjustments to the RAB included:

- Increase by the amount of capital expenditure incurred during the current regulatory control period, to 2022/23;
- Increase by the estimated amount of capital expenditure for 2023/24 and 2024/25;
- Reduction by the amount of depreciation of the RAB, using the rates and methodologies allowed for in the AER's final determination for the current regulatory control period;
- Reduction by the value of assets disposed of during the current regulatory control period; and
- Indexation by CPI.

These adjustments have been calculated using the AER's RFM.

9.3 Opening RAB as at 1 July 2025

The outcome of applying the AER's roll forward methodology and RFM is an opening RAB for Directlink of $164.5m, for the 2025-30 transmission determination period. This calculation is set out in Table 9-1.

Table 9-1: Opening RAB as at 1 July 2025 ($m, nominal)

	FY21	FY22	FY23	FY24	FY25
Opening RAB	146.9	143.3	143.6	155.0	165.7
Capital expenditure	2.1	2.6	7.9	12.5	4.9
Depreciation	-7.0	-7.3	-7.8	-8.8	-9.5
Indexation	1.3	5.00	11.3	7.00	5.8
Adjustment	-	-	-	-	-
Closing RAB	143.3	143.6	155.0	165.7	166.9

9.3.1 Asset classes

Directlink is not proposing any new asset classes. The standard depreciation and tax asset lives of the current assets are consistent with the complete depreciation of Directlink in 2041-42.

Table 9-2: Standard asset lives by asset class

Asset class	Useful life
Transmission assets	21.2
Transmission Determination Costs	5
Easements	21.2
Land	n/a
Buildings	21.2

9.4 Depreciation

Table 9-3: Regulatory Depreciation in Roll Forward Model($M, nominal)

	FY21	FY22	FY23	FY24	FY25
Forecast Depreciation	-5.7	-2.3	3.3	-1.9	-3.7

Consistent with the AER's 2020 final determination, Directlink has utilised forecast depreciation in the RFM as generated by the AER's final determination PTRM.

9.5 Tax Asset Base

Directlink has also used the AER's RFM to calculate the Tax Asset Base. Directlink is only proposing those changes to the Standard Tax Asset life for asset classes outline in 9.3.1.

Table 9-4: Opening Tax Asset Base as at 1 July 2025 ($M, nominal)

	FY21	FY22	FY23	FY24	FY25
Opening TAB	109.5	106.4	103.6	105.9	112.4
Capital Expenditure	2.1	2.6	7.6	12.1	4.8
Depreciation	-5.1	-5.3	-5.3	-5.5	-6.2
Closing TAB	106.4	103.6	105.9	112.4	111.0

9.6 Immediate Expensing

No changes have been made or are proposed to be made to the immediate expensing policy.

Rate of Return and value of imputation credits

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For this revenue proposal, Directlink has calculated the return on capital, for each regulatory year of the regulatory control period, as the product of a – the allowed rate of return – and the projected regulatory asset base for the regulatory year.

Directlink has used, as the rate of return, a rate of 6.03% calculated using the methods and parameter values set out in the *Rate of return instrument* issued by the AER in June 2023.

10.1 Allowed rate of return

Directlink has calculated the rate of return as a nominal "vanilla" weighted average of an allowed rate of return on equity and an allowed rate of return on debt:

$$k_t = k^e \times (1 - G) + k_t^d \times G$$

where:

- k_t is the rate of return in regulatory year t (the allowed rate of return);
- k^e is the allowed rate of return on equity for the regulatory control period;
- k_t^d is the allowed rate of return on debt for regulatory year t; and
- G is the gearing ratio.[19]

10.2 Gearing

The weight to be applied to the allowed rate of return on debt, in the weighted average cost of capital which is to be taken as the allowed rate of return is, the *Rate of return instrument* advises, to be the gearing ratio. That ratio is set at a value of 0.6.[20]

Directlink has used a gearing ratio of 0.6 when calculating the rate of return.

10.3 Rate of return on equity

In accordance with clause 4 of the Rate of return instrument, Directlink has calculated the allowed rate of return on equity component of the rate of return (k^e) using the asset pricing model:

$$k^e = k^f + \beta \times MRP$$

where:

- k^f is the allowed risk free rate of return for the regulatory control period;
- β (beta) is the allowed equity beta; and
- MRP is the allowed market risk premium.

10.3.1 Risk free rate

The risk-free rate of return is to be estimated, for the purpose of estimating the rate of return on equity, using a simple average of the daily yields on Commonwealth Government Securities with terms to maturity of 10 years.[21]

19 Australian Energy Regulator, Rate of return instrument, June 2023, clause 3.

20 Australian Energy Regulator, Rate of return instrument, June 2023, clause 3.

21 Australian Energy Regulator, Rate of return instrument, June 2023, clause 5.

Directlink understands that the estimate of the risk-free rate will be updated during the AER's revenue proposal approval process, and updated again for the AER's final decision.

For this Proposal, Directlink has estimated the risk-free rate as an average of the yields on Commonwealth Government Securities with terms to maturity of 10 years over a period of 20 business days. The averaging period is nominated in section 0 of this document.

As the data for the averaging period is not yet available at the time of writing, Directlink uses the data for 20 business days starting 1 September 2023 as the proxy to estimate the risk-free for the purpose of this proposal.

Directlink's estimate of the risk-free rate is 4.24%.

10.3.2 Market risk premium

Clause 4 of the Rate of return instrument sets the allowed market risk premium at an effective annual value of 6.2%.

Direct link has used the MRP estimate of 6.2% when applying the asset pricing model to clause 4 to estimate the allowed rate of return on equity.

10.3.3 Beta

An estimate of beta of 0.6 is set in the Rate of return instrument, and Directlink has used this estimate when applying the asset pricing model to clause 4 to estimate the allowed rate of return on equity.

10.3.4 Rate of return on equity estimate

Directlink's estimate of the rate of return on equity is, in these circumstances:

$$4.24\% + 0.6 \times 6.2\% = 7.96\%$$

10.4 Rate of return on debt

The estimate of the return on debt in regulatory year t of the regulatory control period ($k_{t,\,tr}^{d}$), the Rate of return instrument advises, is to be a trailing average of rates of return on debt for a period of 10 years.

Directlink has calculated the trailing average, which is to be the allowed rate of return on debt until that allowed rate is updated, as:

$$k_{2025\text{-}26,\,tr}^{d} = \left(0.1 \times \sum_{i\,=\,2016\text{-}17}^{2024\text{-}25} k_{i}^{d} + k_{2025}^{d} \right)$$

where k_{i}^{d}, i = 2016-17 to 2024-25 are the on-the-day returns on debt for the relevant financial years, over the averaging period for that financial year. [22] These are illustrated in Table 10-1 below.

[22] Australian Energy Regulator, *Rate of return instrument*, June 2023, clause 10.

Table 10-1: On the day return on debt

i	k_i^d
2016-17	5.6%
2017-18	5.1%
2018-19	4.6%
2019-20	4.5%
2020-21	2.6%
2021-22	2.2%
2022-23	3.8%
2023-24	6.2%
2024-25	6.4%

Directlink has estimated $k_{2024\text{-}25}^d$ as required by clauses 10 to 22 of the *Rate of return instrument*. That estimate, for an assumed BBB+ credit rating implemented as 1/3 A rated and 2/3 B rated, has been made using data for 20 business days starting 1 September 2023 and is 6.38%.

k^d_{2025} is Directlink's estimate of the on-the-day rate of return on debt for 2025, is assumed to be the same as $k_{2024\text{-}25}^d$.

$k^d_{2025\text{-}26,tr}$ is then 4.74%, and Directlink has used this percentage as its estimate of the rate of return on debt for the regulatory control period.

Directlink understands that the estimate of the rate of return on debt will be updated during the AER's revenue proposal approval process and updated again for the AER's final decision. It will also be updated annually during the Proposal Period.

The averaging period is nominated in attachment 03c.

As the data for the averaging period is not yet available at the time of writing, Directlink uses the data for 20 business days starting 1 September 2023 as the proxy to estimate the values for parameters $k_{2024\text{-}25}^d$ and k^d_{2025} for the purpose of this Proposal.

10.5 Rate of return

Directlink's estimate of the rate of return for the Proposal Period is 6.03% (see Table 10-2 below).

Table 10-2: Rate of return

Component		Value
Rate of return on equity		
Risk free rate	k^f	4.24%
Beta	β	0.60
Market risk premium	MRP	6.2%
Rate of return on equity	$k^e = k^f + \beta \times MRP$	**7.96%** = 4.24% + 0.60 x 6.2%
Rate of return on debt		
Rate of return on debt	$k^d_{2025\text{-}26,\ tr}$	**4.74%**
Gearing ratio	G	**0.6**
Rate of return	$k = k^e \times (1 - G) + k^d_{2025\text{-}26,\ tr} \times G$	**6.03%** = 7.96% x (1–0.6) + 4.74% x 0.6

10.5.1 Averaging periods

The risk-free rate of return and the on-the-day rate of return on debt are to be calculated from current market data. Those data are to be for:

- a period of 20 consecutive trading days;
- a period which is as close as possible to commencement of the access arrangement period; and
- a period which has not commenced at the time of its nomination.

Directlink has nominated its averaging periods in attachment 03c

10.6 Forecast inflation

Financial information used in preparing the Proposal has been provided on a nominal basis. All financial information has been provided, and all calculations have been made, consistently on this basis.

Making a forecast of financial information expressed in nominal terms requires a forecast of inflation.

Directlink has forecast inflation using the method adopted in the AER's June 2020 final decision on the regulatory treatment of inflation.

The PTRM calculates an inflation rate for the purposes of converting the WACC from real, 2.62%, has been used for calculating the nominal rate of return in this Proposal.

Directlink understands that the forecast of inflation will be updated during the AER's revenue proposal approval process and updated again for the AER's final decision.

10.7 Value of imputation credits

Under Australian taxation law, company profits are taxed, and dividends paid from the after-tax profits are also taxable as income accruing to Australian resident taxpayers. So that a given income stream from company profits is not taxed twice, the law provides for imputation or franking credits to be distributed to equity investors when dividends are paid, providing those investors with a potential offset against their personal tax liabilities.

The estimated cost of corporate income tax is, therefore, to be reduced by an amount which represents the value of those imputation or franking credits.

The value to be attributed to imputation credits – the estimate of the factor γ – is set in the Rate of return instrument: $\gamma = 0.57$.[23]

Directlink has used this estimate of γ in preparing this Proposal.

[23] Australian Energy Regulator, *Rate of return instrument*, June 2023, clause 27.

Depreciation

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This chapter sets out how the proposed depreciation allowance for Directlink has been determined.

11.1 Depreciation methodology

The depreciation methodology used is the Weighted Average Remaining Life option from the AER's PTRM.

11.2 Asset Classes

Directlink is proposing no changes to regulatory or tax asset classes. The current Asset Classes are set out in Table 11-1

11.3 Standard asset lives

Due to the declining asset life of the Directlink asset so that it is fully depreciated in 2042 the standard life of the asset is reduced by 5 years every 5 years at the revenue reset.

The standard life of the asset in the RAB RFM is 5 years greater than the standard life of the asset in the Post Tax Revenue model. The standard life per asset class is set out in Table 11-1.

Table 11-1: Forecast standard life of regulatory assets

	Standard Life/Remaining Life
Transmission assets	16.2
Transmission Determination Costs	5
Easements	16.2
Land	n/a
Buildings	16.2

11.4 Remaining asset lives

As the remaining asset lives is greater than the standard asset life the remaining asset lives are reduced to be a maximum of the standard asset life. The weighted average remaining asset lives are set out in Table 11-2.

Table 11-2: Weighted average remaining asset lives as at 1 July 2020

Asset class	Useful life
Transmission assets	16.2
Transmission Determination Costs	0
Easements	16.2
Land	n/a
Buildings	16.2

11.5 Depreciation forecast

The regulatory depreciation has been calculated using the AER's PTRM.

The forecast regulatory depreciation for Directlink during the 2025-30 regulatory control period is set out in Table 11-3.

Table 11-3: Forecast depreciation 2025-30 ($M, nominal)

	FY 26	FY 27	FY 28	FY 29	FY 30
Depreciation	10.2	11.6	14.0	13.4	13.6
Indexation	4.3	4.5	4.5	4.4	4.2
Regulatory Depreciation	5.9	7.1	9.5	9.0	9.4

Revenue cap adjustments

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In accordance with the Rules,[24] Directlink's revenue cap determination by the AER is in the CPI-X format, and may be subject to adjustment during the next regulatory control period for the following reasons:

- Adjustment for actual CPI - Directlink's revenue cap will be calculated each year using the actual CPI.
- STPIS – Directlink's revenue cap will be adjusted by the impact of the STPIS as discussed in chapter 13;
- Pass through – Directlink's revenue cap may be adjusted in the event that an eligible pass through amount is approved by the AER.

[24] AEMC, National Electricity Rules, Chapter 6A.5.3.

Incentive Schemes

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13.1 Service Target Performance Incentive Scheme

13.1.1 Introduction

This chapter comments on the parameters of the STPIS, including the market parameters, to apply for the Proposal Period.

13.1.2 STPIS during the 2025-30 transmission determination period

There are two components of the STPIS that will apply to Directlink in the Proposal Period. These are the service component and the market impact component. In setting service component targets for the Proposal Period Directlink is proposing to apply the AER's latest version of the scheme.[25]

13.1.3 Service component

The service component of the AER's scheme has two sub-parameters. These are:

- Circuit event rate – fault
- Circuit even rate - forced

The AER requires a TNSP to propose the following in relation to these parameters:

- Performance target
- Floor
- Cap

Directlink has calculated these in accordance with the AER.

The table below sets out targets for these parameters:

Table13-1: Service Target Performance Incentive Scheme parameters

Unplanned circuit outage event rate	Floor	Target	Cap
Circuit event rate – fault	961%	607%	252%
Circuit event rate - forced	54%	17%	0%
Failure of Protection system	3	1	0

Directlink is not proposing a change to the parameter weightings outlined by the AER.[26] These weightings are 0.75 and 0.5 respectively.

13.1.4 Market impact component

The AER's market impact component is based on unplanned outages. The AER requires the provision of a performance target, unplanned outage event limit and dollar per dispatch interval incentive.

Directlink provides this information in the table below.Table13-2

[25] AER, Service Target Performance Incentive Scheme version 5 (corrected), October 2015
[26] AER, Service Target Performance Incentive Scheme version 5 (corrected), October 2015

Table13-2: Market impact values

	Target	Event limit	Dollar per dispatch
Unplanned outage dispatch intervals	1,161	197	$205

Directlink is proposing a target based on the annual average performance over the past seven years from 2016 to 2022 and will update these figures for when outage data for 2023 is finalised.

13.1.5 AER consultation on STPIS

We note that the AER is currently consulting on the operation of the STPIS. The applicability of the updated scheme to Directlink will depend on the nature of the changes to the scheme and the ease of transitioning to the revised information requirements.

13.2 Efficiency Benefits Sharing Scheme

13.2.1 Introduction

Directlink proposes that a 5-year carryover should be adopted. This would then provide incentive properties for the scheme that matched those of all other TNSPs in the NEM.

13.2.2 Proposed EBSS

Directlink is proposing that debt raising costs, end of life allowances and insurance premiums should be excluded from the calculation of the EBSS.

In principle, costs associated with difficult to forecast costs or costs that are volatile and not within the scope of the business to control should be excluded from the calculation of EBSS.

Insurance costs were separately forecast in Directlink's 2020-25 Revenue determination as it was recognised that they represented a higher proportion of operating cost than for other network service providers (NSPs). Directlink's total operating cost was therefore highly sensitive to changes in the insurance market.

It is therefore inappropriate to include insurance in the EBSS as it would provide Directlink with little control over meeting the incentives provided by the EBSS.

It is also appropriate to exclude the recovery of end of life costs from the EBSS as they are not operating costs that are within the control of Directlink during this regulatory period.

Excluding the debt raising costs is also consistent with the AER's historic approach for the EBSS.

After excluding these items from the forecast, Directlink proposes the EBSS operating expenditure set out in Table13-3.

Subject to the outcomes of the AER's draft determination, Directlink is not proposing any other changes to the EBSS operating expenditure.

Table13-3: Efficiency Benefit Sharing Scheme Operating Expenditure ($M real 2024-25)

	2025/26	2026/27	2027/28	2028/29	2029/30	Total
Total Operating Expenditure	7.69	7.75	7.82	7.88	7.91	39.1
Excluded items	1.94	1.96	2.01	2.03	2.02	10.0
EBSS Operating Expenditure	5.75	5.79	5.81	5.85	5.89	29.1

13.3 Application of CESS to Current Determination Period

The application of the CESS to the current period is discussed in Section 7.

13.4 Application of CESS to Proposal Period

Directlink is proposing the application of the latest version of the CESS for the 2025-26 to 2029-30 regulatory period.

Cost Pass Throughs

Directlink Joint Venture
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14.1 Introduction

The Rules provide an avenue to pass through costs incurred by a TNSP in connection with prescribed or approved events beyond its control. This regulatory framework recognises that there are unpredictable events which may impose high costs on a TNSP. Customers are protected from paying these high costs for low probability events that are beyond a TNSP's control.

We propose the following nominated pass-through events for the Proposal Period, which are discussed in turn at sections 3 to 6 below:

- Insurance coverage event
- Insurer credit risk event
- Natural disaster event
- Terrorism event

Each of these proposed nominated pass-through events have been selected with the aim of promoting prudent and efficient risk mitigation so that we can safely, reliably and securely supply our customers. When preparing this Proposal for the above nominated pass-through events, we have been guided by:

- the nominated pass-through event considerations outlined in the Rules and
- stakeholder engagement sessions where we discussed, among other things, rising insurance premiums and high deductible levels.

14.1.1 NER Requirements

Clause 6A.7.3(a1) of the Rules provides that any of the following is a pass through event for a transmission determination:

(1) a regulatory change event;

(2) a service standard event;

(3) a tax change event;

(4) an insurance event;

(5) any other event specified in a transmission determination as a pass through event for the determination; and

(6) an inertia shortfall event.

Clause 6A.6.9 of the Rules provides that a Revenue Proposal may include a proposal as to the events that should be defined as 'pass through events' under clause 6A.7.3(a1)(5), having regard to the nominated pass through event considerations. The NER Glossary provides that the nominated pass through event considerations are:

- Whether the event proposed is covered by a category of pass-through event specified in NER clause 6A.7.3(a1)(1)-(4);
- Whether the nature or type of event can be clearly identified at the time the determination is made for the NSP;
- Whether a prudent service provider could reasonably prevent an event of that nature or type from occurring or substantially mitigate the cost impact of such an event;

- Whether the relevant service provider could reasonably insure against the event or whether the event can be self-insured; and
- Any other matter the AER considers relevant and which the AER has notified NSPs as a nominated pass-through event consideration.

We have been guided by these considerations in preparing our nominated cost pass through events for this Proposal.

14.2 Insurance coverage event

Including an insurance coverage event as a relevant event protects Directlink from losses if an insurer is not liable to pay all, or part, of a large or catastrophic event that could have a financially significant impact.

There is inherent volatility in the liability insurance market (particularly in respect of bushfire liability). Including this category of event is intended to cover potential insurance gaps and the possibility of withdrawn capacity or uneconomic increases in premiums in the future.

14.2.1 Scope of proposed pass through event

Directlink's proposed definition for our nominated 'insurance coverage event' is set out below and is consistent with the AER's recent determinations.[27] The definition is cognisant of the AER's preferred drafting and does not propose any deviations from recently approved definitions of an 'insurance coverage event'.

An insurance coverage event occurs if:

1) *Directlink makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy or set of insurance policies; or*
2) *would have been able to make a claim or claims under a relevant insurance policy or set of insurance policies but for changed circumstances; and*
    a) *Directlink incurs costs:*
3) *beyond a relevant policy limit for that policy or set of insurance policies; or*
4) *that are unrecoverable under that policy or set of insurance policies due to changed circumstances; and*
5) *The costs referred to in paragraph 2 above materially increase the costs to Directlink in providing prescribed transmission services.*

For the purposes of this insurance coverage event:

'changed circumstances' means movements in the relevant insurance market since the acquisition of the insurance policy or set of insurance policies that applied during the majority of Directlink's base year and that are beyond the reasonable control of Directlink, where those

27 AER, *ElectraNet* transmission *determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 13 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023).

movements result in it no longer being prudent or efficient for Directlink to take out with a reputable insurer:

i. a relevant insurance policy; or

ii. in the case of a set of insurance policies, one or more layers of insurance within that set (or there are otherwise one or more gaps within the set), either at all or on commercial terms reasonable to Directlink.

'costs' means the costs that would have been recovered under the insurance policy or set of insurance policies had:

i. the limit not been exhausted;

ii. those costs not been unrecoverable due to changed circumstances.

A 'relevant insurance policy' or 'set of insurance policies' is an insurance policy or set of insurance policies held during the regulatory control period or a previous regulatory control period in which Directlink was regulated; and

i. Directlink will be deemed to have made a claim on a relevant insurance policy or set of insurance policies if the claim is made by a related party of Directlink in relation to any aspect of Directlink's network or business; and

ii. Directlink will be deemed to have been able to make a claim on a relevant insurance policy or set of insurance policies if, but for changed circumstances, the claim could have been made by a related party of Directlink in relation to any aspect of Directlink's network or business.

Note for the avoidance of doubt, in assessing an insurance coverage event through application under rule 6A.7.3(j), the AER will have regard to:

i. the relevant insurance policy or set of insurance policies for the event;

ii. the level of insurance that an efficient and prudent Transmission Network Service Provider (TNSP) would obtain, or would have sought to obtain, in respect of the event;

iii. any information provided by Directlink to the AER about Directlink's actions and processes; and

iv. any guidance published by the AER on matters the AER will likely have regard to in assessing any insurance coverage event that occurs.

14.2.2 Rationale

An insurance coverage event is a prudent and efficient way to mitigate the risk of Directlink incurring losses exceeding our insurance coverage or for gaps in the insurance coverage caused by withdrawn capacity or where the cost of coverage cannot be economically justified. We believe this is a pragmatic approach to balancing risks for the following reasons:

- Directlink operates within the business' risk framework to reasonably withstand unpredictable events outside of our control. Our insurance limits are commensurate with risks associated with our operations and customers, as well as industry standards. In some instances, the cost of insurance to mitigate the risk is only available at a prohibitively high cost given the probability of the event occuring.

- Furthermore, it may not be possible to take out an insurance policy at all for these types of improbable events, and/or on reasonable commercial terms over the 2025-30 regulatory period. This has been made more difficult in recent times given the volatility of the global and domestic insurance industry. This volatility has driven up the cost of insurance premiums and influences insurers to reassess the cover they are willing to provide. These factors are outside of our control and cannot reasonably be prevented by a TNSP.
- Without a pass through provision, Directlink will need to set aside additional annual insurance allowance to address these risks. In turn, this means our customers would bear additional costs irrespective of whether such an event actually occurs.
- An insurer coverage event is not already covered by any of the categories of pass through events specified in the NER.

We are therefore proposing an insurance coverage event to protect Directlink in the event that our insurer is not liable to pay all, or part of, a loss which materially impacts our costs. This pass through event will provide us with a reasonable opportunity to recover the efficient costs incurred as a result of unpredicted insurance market conditions, while not imposing costs on consumers for the sort of 'low probability, high cost to insure' events contemplated.

14.3 Insurer credit risk event

An insurance credit risk event mitigates the risk of an insurer becoming insolvent, and as a result forcing Directlink to insure with another provider and incurring substantial additional costs beyond our control. Additional costs may include higher premiums, a lower claim payment or higher deductible.

14.3.1 Scope of pass through event

Our proposed definition for our nominated 'insurer credit risk event' is below and is consistent with the AER's recent determination.[28] The definition is cognisant of the AER's preferred drafting and does not propose any deviations from recently approved definitions of an 'insurer credit risk event'.

An insurer credit risk event occurs if an insurer of Directlink becomes insolvent, and as a result, in respect of an existing or potential claim for a risk that was insured by the insolvent insurer, Directlink:

a) is subject to a higher or lower claim limit or a higher or lower deductible than would have otherwise applied under the insolvent insurer's policy; or

b) incurs additional costs associated with funding an insurance claim, which would otherwise have been covered by the insolvent insurer

Note: in assessing an insurer credit risk event pass through application, the AER will have regard to, amongst other things:

i. Directlink's attempts to mitigate and prevent the event from occurring by reviewing and considering the insurer's track record, size, credit rating and reputation; and

28 AER, *ElectraNet transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 13 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023).

ii. *In the event that a claim would have been covered by the insolvent insurer's policy, whether Directlink had reasonable opportunity to insure the risk with a different provider.*

14.3.2 Rationale

An insurer credit risk pass through event is a prudent and efficient way to mitigate the risk with our customers, while providing us with a reasonable opportunity to recover the efficient costs incurred as a result of unpredicted insurance market conditions. This type of event cannot be reasonably insured against (in part, or at all) by an NSP on reasonable or commercial or economic terms. An insurer credit risk event is also not already covered by any of the categories of pass through events specified in the NER.

Directlink cannot reasonably prevent our insurer becoming insolvent or substantially mitigate the cost impact of such an unpredictable event. As an NSP, we have significant insurance coverage for Directlink. If, for reasons beyond our control, an insurer is unable to pay all, or a part of, a claim, this would significantly impact our ability to deliver services to our customers. The occurrence of increased insurance premiums from alternative insurers (where the original insurer becomes insolvent) is also beyond our control.

Directlink minimises insurer credit risk by using an insurance broker to obtain our insurance coverage. Our broker has minimum financial guidelines for insurers which typically requires an interactive S&P rating of BBB or higher and the local currency equivalent of US$50 million in unencumbered policyholders' surplus. Typically, insurers for Directlink are rated S&P A- or higher and Directlink has access to a live portfolio view of all insurers and their respective financial security rating. In addition, Directlink receives quarterly insurer portfolio listings and alerts when insurers in the portfolio are subject to a rating change.

14.4 Natural disaster event

A natural disaster event is a prudent and efficient way to mitigate the risk of unpredictable and extreme events that are undoubtedly beyond an NSP's control.

14.4.1 Scope of proposed pass through event

Our proposed definition for our nominated 'natural disaster event' is set out below and is consistent with the AER's recent regulatory decisions.[29] Our definition below is cognisant of the AER's preferred drafting and does not propose any deviations from approved definitions of a 'natural disaster event'.

29 AER, *ElectraNet transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 13 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023).

Natural disaster event means any natural disaster including but not limited to cyclone, fire, flood or earthquake that occurs during the 2025-30 regulatory control period that changes the costs to Directlink in providing prescribed transmission services, provided the cyclone, fire, flood, earthquake or other event was:

a) a consequence of an act or omission that was necessary for Directlink to comply with a regulatory obligation or requirement or with an applicable regulatory instrument, or

b) not a consequence of any other act or omission of Directlink.

Note: In assessing a natural disaster event pass through application, the AER will have regard to, among other things:

i. whether Directlink has insurance against the event, and

ii. the level of insurance that an efficient and prudent Network Service Provider would obtain in respect of the event.

14.4.2 Rationale

A natural disaster event mitigates the risk of not being able to obtain insurance coverage for natural disaster events and materially increasing our efficient costs that are unable to be recovered by the NSP. Directlink cannot prevent this type of event from occurring and cannot substantially mitigate the cost impacts of this type of event (both prior to and after the occurrence of the event). A natural disaster event is also not already covered by any of the categories of pass through events specified in the NER.

As an NSP, we employ a wide array of strategies to manage Directlink's exposure to natural disasters and mitigate the consequences of this exposure. Our insurance broker has advised that most NSP's do not purchase coverage for assets such as poles and wires / towers and lines. This is due to a lack of insurance market appetite for these types of assets as they are heavily exposed to natural disasters (such as windstorms, cyclones and bushfires). If insurance is available, it is typically on uneconomic terms.

Other assets which are insured are often subject to sub limits for flood and earthquake and these perils often carry higher policy deductibles. Somewhat uniquely, Directlink has managed to procure efficient coverage for its towers and lines by leveraging the scale of APA's property insurance program combined with the limited kilometres of towers and lines associated with Directlink. However, ongoing coverage for these assets is not guaranteed. Therefore, complete insurance cover for natural disaster events for assets like Directlink is potentially not available, or not available at an efficient cost. This means Directlink cannot always obtain appropriate insurance on reasonable commercial terms covering the full range of costs that could potentially be incurred as a result of a natural disaster event.

The occurrence of a natural disaster event (as defined above) has a low probability of occurrence but a high consequence or magnitude. Accordingly, self-insurance would not be appropriate to obtain given the need to balance the long-term interests of customers against rising insurance premiums and likelihood of a natural disaster event.

14.5 Terrorism event

A terrorism event mitigates the risk of liability arising from devastating and deliberate damage caused to our network which risks our ability to deliver prescribed transmission services to customers.

14.5.1 Scope of proposed pass through event

Our proposed definition for our nominated 'terrorism event' is below and is largely consistent with the AER's recent regulatory decisions.[30]

Terrorism event means an act (including, but not limited to, the use of force or violence, or the threat of force or violence, or a malicious act to access and/or disrupt computer systems or other information communication technologies including operational technology systems) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which:

a) from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear); and

b) *changes the costs to Directlink in providing prescribed transmission services.*

Note: In assessing a terrorism event pass through application, the AER will have regard to, amongst other things:

i. whether Directlink has insurance against the event;

ii. the level of insurance that an efficient and prudent Network Service Provider would obtain in respect of the event; and

iii. whether a declaration has been made by a relevant government authority that a terrorism event has occurred.

14.5.2 Rationale

A terrorism event is also not already covered by any of the categories of pass through events specified in the NER. The occurrence of a particular terrorism event (including a cyber-terrorism attack) has a low probability of occurrence but may have significant financial consequence or magnitude. In recent determination decisions, the AER has approved a terrorism cost pass through event for TNSPs in their preferred drafting.[31]

We agree with the AER that a TNSP is best placed to manage the majority of the risks posed by cyber terrorism attacks. As much as practicably possible, Directlink is committed to maintaining robust and resilient network systems to mitigate the risk and cost impact of this type of event. Notwithstanding the new cyber security and protection measures taken to meet the above obligations

[30] AER, *ElectraNet transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023); AER, *AusNet transmission determination 2022-27*, Attachment 13 – Pass through events (Final decision, 28 January 2022); AER, *Transgrid transmission determination 2023-28*, Attachment 13 – Pass through events (Final decision, 28 April 2023).

[31] AER, *ElectraNet transmission determination 2023-28, Attachment 13 – Pass through events (Final decision, 28 April 2023); AER, AusNet transmission determination 2022-27, Attachment 13 – Pass through events (Final decision, 28 January 2022); AER, Transgrid transmission determination 2023-28, Attachment 13 – Pass through events (Final decision, 28 April 2023).*

and beyond, an act of cyber terrorism could still significantly impact Directlink's ability to deliver prescribed services. It is not possible to eliminate the entirety of the risks we face when it comes to a cyber terrorism attack. It would be neither prudent nor efficient to incur material costs to insure against this type of event, which would inevitably mean additional costs to our customers.

Additionally, our insurance broker has advised that the global insurance market landscape for cyber risk is rapidly evolving, where obtaining insurance for a cyber-terrorism attack is increasingly challenging for critical infrastructure assets like Directlink.

Terrorism event definitions recently approved by the AER only refer to physical acts such as 'the use of force or violence, or the threat of force or violence'. Remaining silent on non-physical terrorist events such as cyber-terrorism attacks raise uncertainty in interpreting this event. Providing certainty will also ensure Directlink can continue to meet its regulatory obligations without curtailing our ability to provide safe, reliable and affordable services to customers.

Accordingly, we propose a small amendment to the preferred drafting of this event to make clear that cyber terrorist attacks explicitly fall under this pass-through event. In the recent AusNet draft decision (and previous decisions for distribution businesses), we note the AER has suggested cyber-terrorism be included in a nominated terrorism pass through event:

> *'…As noted in our previous decisions for distribution businesses, the nominated 'terrorism' pass through event could include cyber-terrorism. Given the likely impacts as set out above that a major cyber-attack usually involves, this intended inclusion should cover a high proportion of risks likely to be faced...'*[32]

Considering the AER has previously contemplated such non-physical events may fall under this pass through event, we propose the AER accept our terrorism event definition which explicitly includes cyber-attacks in a limited manner.

[32] AER, *AusNet transmission determination 2022-27*, Attachment 13 – Pass through events (Draft decision, 30 June 2021).

Operating and capital expenditure compliance

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy Infrastructure Investments

15.1 Introduction

This Proposal has been prepared to comply with the requirements of the Rules and the AER's Regulatory Information Notice.

This chapter describes Directlink's governance and compliance arrangements. Specific compliance requirements are also set out in the following chapters of this proposal.

15.2 Expenditure governance

The EII Asset Management Plan (AMP) forms attachment 04a to this proposal and this underpins the associated capital and operating cost forecasts.

Also contained in the AMP is a description of the processes that are used to establish the risks associated with each asset and, from that, determine the required activity. Adherence to specific plans is required and these include:

- Environmental Management Plan;
- Emergency Response Plan; and
- Safety and Operating Plan

Directlink capital and operating expenditures are subject to an annual budgeting process and to close scrutiny by the shareholding entities.

This asset management plan underpinning this transmission determination proposal was approved by the EII Board.

15.3 Cost allocation

The Cost Allocation Methodology (CAM) for Directlink and Murraylink was originally approved by the AER in July 2008. In December 2008, the Directlink and Murraylink assets were sold by the APA Group to the Energy Infrastructure Investments Group (EII Group). The EII Group subsequently applied to the AER for the approval of minor amendments to the CAM. In March 2010, the AER approved the revised CAM[33].

In preparing the operating and capital expenditure records and forecasts accompanying this Proposal, Directlink has used the approved CAM on both a historical and prospective basis. This document is submitted as attachment 07g to the Proposal.

The CAM and related procedures are regularly reviewed to ensure compliance to statutory, taxation and regulatory requirements while meeting Directlink's business reporting needs.

Consistent with the requirements of the RIN, the Directors' Responsibility Statement that accompanies this proposal as attachment 10a & b certifies that historic expenditure is presented fairly and in accordance with the CAM.

[33] Australian Energy Regulator, *Final decision - Electricity Transmission Network Service Providers - Directlink & Directlink amended Cost Allocation Methodologies*, March 2010.

15.4 Interaction between operating and capital expenditure

The Rules[34] require that a revenue proposal identify and explain any significant interactions between capital and operating expenditure.

Directlink, as previously noted in section 1.1, is unlike a conventional transmission business in that it comprises a single transmission line, albeit one employing advanced technology at the time of construction. Directlink is only forecasting capital expenditure associated with a limited number of capital expenditure projects mainly associated with maintaining the reliability of the interconnector.

Moreover, maintenance activities are currently carried out by a principal contractor, in accordance with a long-term agreement. It is proposed that this will remain the case.

No proposed capital project has been identified that would involve a significant interaction between capital and operating expenditure.

15.5 Capitalisation policies

Directlink's capitalisation policies are the same as those approved by the AER in the June 2020 final determination and have not changed during the Current Determination Period. Nor, at this time, is Directlink proposing to change its capitalisation policies during the next Proposal Period.

15.6 Related parties

Directlink confirms that there are no material related party transactions whose costs are attributed to prescribed transmission services. [35]

All transactions are also consistent with Directlink's CAM and are disclosed in the annual regulatory financial statements in accordance with the AER's Information Guidelines.

15.7 Regulatory accounts

Directlink maintains a set of regulatory accounts which it uses to submit to the AER annually in compliance with the obligations imposed by the AER. These accounts and reports are audited by an external auditor.

These accounts form the basis of this Proposal.

[34] Chapter 6A, schedule S6A.1.3(1).

[35] All related party transactions are made on normal commercial terms and conditions and on an arms-length basis.

Pricing methodology and negotiating framework

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy
Infrastructure
Investments

In satisfaction of clause 6A.10.1(a) of the NER, Directlink provided a *Pricing Methodology.* The revised Pricing Methodology can be found in attachment 03b.

Legally required information

Directlink Joint Venture
2025-2030 Revenue Proposal

Energy Infrastructure Investments

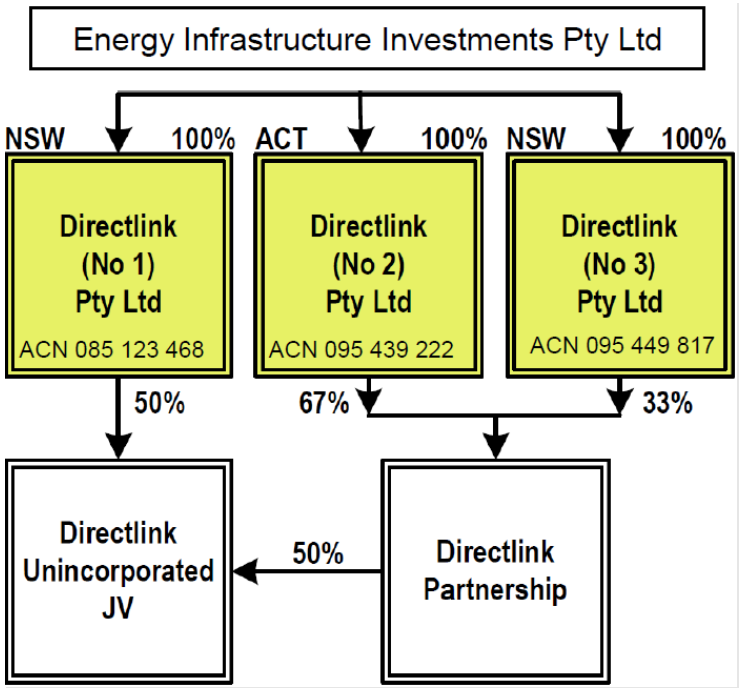
This section includes information that is legally required under the Rules.

17.1 Corporate Structure and ownership

Directlink Pty Ltd is one of a suite of gas and electricity infrastructure assets owned by Energy Infrastructure Investments Pty Limited (ABN 95 104 348 852). Those infrastructure assets are managed by an APA Group wholly owned subsidiary, APA Operations (EII) Pty Ltd.

This Proposal is submitted by Directlink Transmission Company Pty Limited (ACN 089 875 080 Level 25, 580 George Street, Sydney) on behalf of Energy Infrastructure Investments.

Figure 17-1: Energy Infrastructure Investments corporate structure



Each of these businesses is 100% owned by Energy Infrastructure Investments Pty Ltd, which in turn is owned by the following shareholders: Marubeni Group through MM Capital Partners (49.9%); Osaka Gas through Osaka Gas Energy Oceania Pty Ltd (30.2%); and APA Group (19.9%). More detailed information can be found in Directlink's Cost Allocation Methodology – see attachment 07g.

17.2 Directors' statement

In accordance with the Rules, this proposal contains a certification of the reasonableness of the key assumptions that underlie the capital and operating expenditure forecast by the Directors of Directlink. The Directors' responsibility statement is included in attachment 10a & 10b.

17.3 Dedicated Assets

Directlink has no assets dedicated to a single user.