

Draft Decision

Powerlink electricity transmission determination 2027 to 2032

(1 July 2027 to 30 June 2032)

Attachment 2 – Capital Expenditure

September 2026

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2 Capital expenditure

Capital expenditure (capex) refers to the money required to build, maintain or improve the physical assets needed to provide prescribed transmission services. Generally, these assets have long lives, and a network service provider (NSP) will recover capex from customers over several regulatory control periods. A NSP's capex forecast contributes to the return of and return on capital building blocks that form part of its total revenue requirement.

Under the regulatory framework, a NSP must include a total forecast capex that it considers is required to meet or manage expected demand, comply with all applicable regulatory obligations, to maintain the safety, reliability, quality, and security of its network and contribute to achieving emissions reduction targets for reducing Australia's greenhouse gas emissions (the capex objectives).¹

We must decide whether or not we are satisfied that this forecast reasonably reflects prudent and efficient costs and a realistic expectation of future demand, cost inputs, and other relevant inputs (the capex criteria).² We must make our decision in a manner that will, or is likely to, deliver efficient outcomes in terms of price, quality, safety, reliability and security of supply and contribute to achieving targets for reducing Australia's greenhouse gas emissions for the benefit of consumers in the long term (as required under the National Electricity Objectives).³

The AER capital expenditure assessment outline explains our and NSP's obligations under the National Electricity Law and National Electricity Rules (NER) in more detail.⁴ It also describes the techniques we use to assess a NSP's capex proposal against the capex criteria and objectives. Where relevant we also assess capex associated with emission reduction proposals taking into account our Guidance on the National Electricity Objectives.⁵

2.1 Total capex framework

We analyse and assess capex drivers, programs and projects to inform our view on a total capex forecast. However, we do not determine forecasts for individual capex drivers or determine which programs or projects a NSP should or should not undertake. This is consistent with our ex-ante incentive-based regulatory framework.

Once the ex-ante capex forecast is established, there is an incentive for NSPs to provide services at the lowest possible cost, because the actual costs of providing services will determine their returns in the short term. If NSPs reduce their costs, the savings are shared with consumers in future regulatory control periods. Our assessment of the ex-ante capex is consistent with the National Electricity Objectives, which in addition to providing for the lowest possible costs also recognises that services should be valued appropriately and adapt

¹ NER, cl. 6A.6.7(a).

² NER, cl. 6A.6.7(c).

³ National Electricity Law, ss. 7, 16(1)(a).

⁴ AER, *Capex assessment outline for electricity distribution determinations*, February 2020.

⁵ AER, *Guidance on amended National Energy Objectives*, September 2023.

to changing circumstances to maintain efficiencies in the long-term interest of consumers. This incentive-based framework provides NSPs with the flexibility to prioritise their capex program given their circumstances and due to changes in information and technology.

NSPs may need to undertake programs or projects that they did not anticipate during the reset. NSPs also may not need to complete some of the programs or projects proposed if circumstances change. These are decisions for the NSP to make. We consider a prudent and efficient NSP would consider the changing environment throughout the regulatory control period and make decisions accordingly.

Importantly, our decision on total capex does not limit a NSP's actual spending. We set the forecast at a level where the NSP has a reasonable opportunity to recover its efficient costs.

Ex-post assessment

Our capex framework also sets out the assessment process where a regulated transmission business overspends the total capex forecast in the ex-post period.⁶ The ex-post period comprises the first 3 years of the current regulatory control period and the last 2 years of the preceding regulatory control period.⁷ For Powerlink, the ex-post period is 2020–25. This differs from the period covered by clause 6A.14.2(b) of the NER and for the Capital Expenditure Sharing Scheme (CESS) benefit/penalty calculation, which for Powerlink is the current regulatory control period, 2022–27.⁸

Once we have determined that a regulated transmission business has overspent its forecast capex in the ex-post period, we can exclude capex incurred during the ex-post period that does not reasonably reflect the capex criteria from the regulatory asset base (RAB).⁹

2.2 Assessment approach

We provide guidance on our assessment approach in several documents, including the following which are of relevance to this decision:

- Expenditure Forecast Assessment Guidelines.⁹
- Regulatory Investment Test for Distribution and Transmission (RIT-D and RIT-T) Guidelines.¹⁰
- Asset Replacement Industry Note.¹¹
- Information and Communication Technologies (ICT) Guidance Note.¹²

⁶ NER, cl. S6A.2.2A.

⁷ NER, cl. S6A.2.2A(a1).

⁸ NER, cl. S6A.2.2A(f).

⁹ AER, *Expenditure Forecast Assessment Guideline for Distribution*, August 2022. The legal requirements of the AER under the National Electricity Law and the NER in assessing capex are outlined in section 2.1.

¹⁰ AER, *RIT-T and RIT-D application guidelines (minor amendments) 2017*, September 2017.

¹¹ AER, *Industry practice application note for asset replacement planning*, January 2019.

¹² AER, *AER publishes guidance on non-network ICT capital expenditure assessment approach*, November 2019.

- Better Resets Handbook – Towards consumer centric proposals.¹³
- Guidance note on network resilience.¹⁴
- Guidance on amended National Energy Objectives¹⁵
- An interim guidance on emissions reduction.¹⁶
- Capital Expenditure Incentive Guideline for Electricity Network Service Providers.¹⁷

Our draft decision has been based on the information before us at this time, which includes:

- the Provider's regulatory proposal and accompanying documents and models
- the Provider's responses to our information requests
- stakeholder comments in response to our issues paper
- technical review and advice from our consultant's reports. We engaged Oakley Greenwood in January 2026 to assist us in reviewing ICT and cyber security capex and opex proposals. Oakley Greenwood's report is released with our draft decision.

2.3 Draft decision

Our draft decision is to not accept Powerlink's proposed total forecast capex of \$2,499.5 million (\$2026–27) for the 2027–32 regulatory control period because we are not satisfied that it reasonably reflects the capex criteria. This requires expenditure to be both prudent and efficient and exhibit a realistic expectation of demand and cost inputs required to meet the capex objectives.

Our alternative forecast is \$1,140.0 million, which is 54.4% below Powerlink's forecast. We consider this forecast will provide for a prudent and efficient service provider in Powerlink's circumstances to meet the capex objectives.

Our draft decision is also to not accept 7 of Powerlink's proposed contingent projects. Powerlink submitted a revised contingent project proposal on 30 June 2026, proposing between \$2,957.6 million to \$3,256.1 million for 7 contingent projects for the 2027–32 period. It had initially proposed 9 contingent projects. We consider Powerlink's contingent projects do not meet the requirements in the NER to be included as contingent projects.

We encourage Powerlink to respond to the issues we have raised in our draft decision and welcome further supporting information in its revised regulatory proposal.

Table 2.1 outlines our alternative estimate of forecast capex and compares this to Powerlink's proposed forecast capex.

¹³ AER, *Better Resets Handbook – Towards consumer-centric network proposals*, December 2021.

¹⁴ AER, *Network resilience: A note on key issues*, April 2022.

¹⁵ AER, *Guidance on amended National Energy Objectives*, September 2023.

¹⁶ AER, *An interim guidance on emissions reduction*, June 2025.

¹⁷ AER, *Capital Expenditure Incentive Guideline for Electricity Network Service Providers*, April 2023.

Table 2.1 AER’s draft decision on Powerlink’s total net capex forecast (\$ million, 2026–27)

	2027–28	2028–29	2029–30	2030–31	2031–32	Total
Powerlink’s proposal	516.3	503.5	428.3	535.4	516.0	2,499.5
AER’s draft decision	194.3	208.7	247.6	267.3	222.2	1,140.0
Difference (\$)	-322.0	-294.8	-180.7	-268.1	-293.8	-1,359.4
Difference (%)	-62.4	-58.6	-42.2	-50.1	-56.9	-54.4

Source: Powerlink’s revenue proposal and AER analysis.

Notes: Powerlink’s proposal and our draft decision do not include an adjustment for movements in provisions of \$15.0 million and \$6.9 million respectively. This is an additional modelling adjustment that is performed to forecast capex before it is included into the post-tax revenue model.

Ex-post review

Our draft decision is to accept that Powerlink’s capex overspend in the ex-post period (2020–25) reasonably reflects the capex criteria. While Powerlink submitted that it will overspend its capex allowance by 6.3% (\$63.4 million, nominal),¹⁸ we have found the overspend to be higher than this. With the inclusion of the cost of the Pinkenba site (\$41.2 million) and a review of its numbers, we found the overspend to be approximately 8.9% (\$101.8 million, 2026–27).¹⁹ Our ex-post review findings are in Appendix C.

While we found no significant concerns with Powerlink’s capex overspend, the now-higher overspend flows through to the calculation of the CESS penalty. As a result we have applied a higher CESS penalty of \$161.5 million, \$25.1 million higher than Powerlink’s proposed penalty of \$136.4 million.²⁰ This is discussed further in Attachment 6.

2.4 Powerlink’s proposal

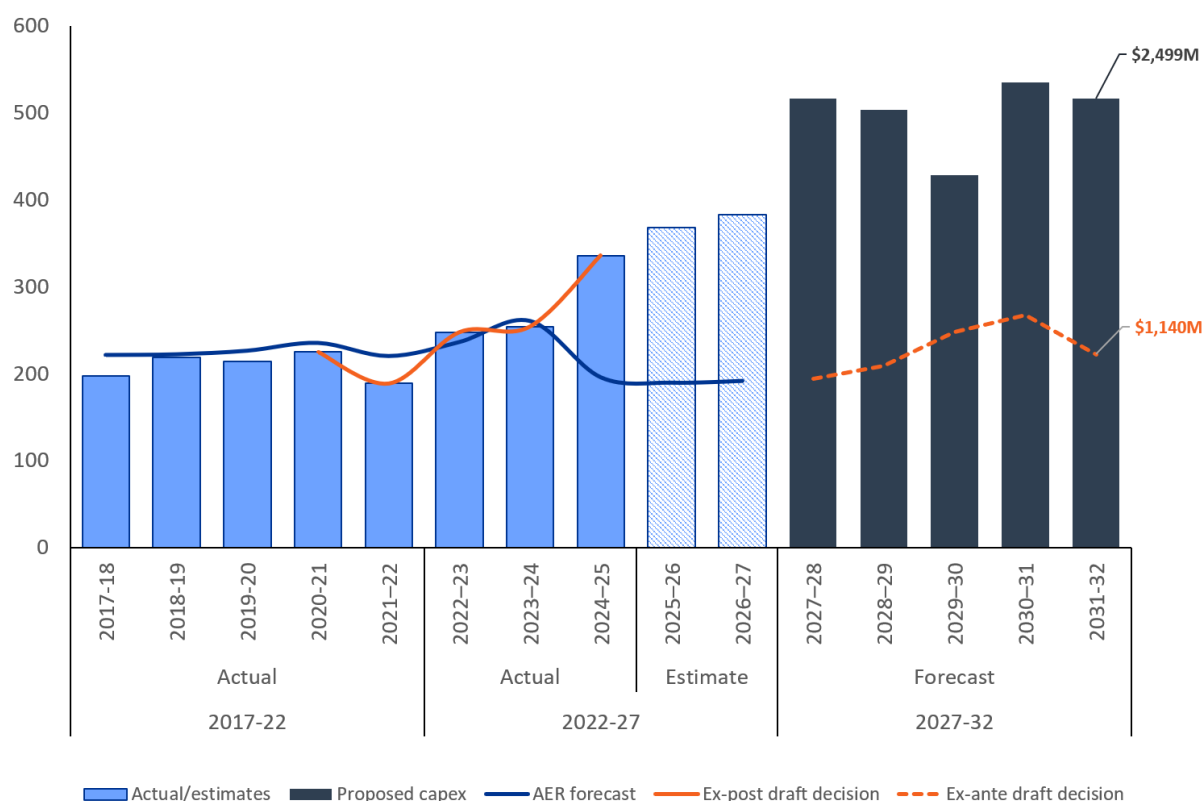
Figure 2.1 outlines Powerlink’s historical capex trend, its proposed forecast for the 2027–32 regulatory control period, and our draft decision for the 2027–32 period as well as for the ex-post period (2020–25). As can be seen, Powerlink is proposing a material step up in the forecast period relative to the current period. Powerlink’s proposal represents an increase of approximately 57.4% compared to actual and expected expenditure over the current period, and 99.8% higher than its capex in the ex-post period. The main driver of the step up for 2027–32 is replacement expenditure.

¹⁸ Powerlink, *Powerlink 2027-32 Revenue Proposal*, January 2026, p 48.

¹⁹ Powerlink, *Response to information request 016: Final Year adjustment for Pinkenba Site – Question 1*, May 2026; Powerlink, *Response to information request 026: Restating Ex-Post Capex*, July 2026; Powerlink, *Response to information request 033: Follow on adjustments to RFM – Question 2*, July 2026.

²⁰ We note that the CESS calculation applies to the current 2022–27 period, which is different to the ex-post period of 2020–25.

Figure 2.1 Powerlink’s historical and forecast capex (\$ million, 2026–27)



Source: Powerlink’s revenue proposal and AER analysis.

Notes: (a) Powerlink’s 2022–27 actual/estimates are based on Powerlink’s latest restated capex as part of IR#026, which is still subject to assurance by Powerlink. Powerlink’s 2022–27 actual/estimates includes \$41.2 million for the Pinkenba site acquisition in 2024–25 that we added to its RAB in our draft decision.
(b) Powerlink’s proposal and our draft decision do not include an adjustment for movements in provisions of \$15.0 million and \$6.9 million respectively. This is an additional modelling adjustment that is performed to forecast capex before it is included into the post-tax revenue model.

In comparing our draft decision with Powerlink’s actual spend, we consider that the appropriate historical benchmark is Powerlink’s capex in the ex-post period (2020–25) rather than current period combination of actuals and estimates (2022–27). This is because, at this stage, we have little confidence in the fourth and fifth year estimates in the current period.

In determining whether the current period actuals/estimates is a reasonable historical benchmark, we typically review the degree that the third-year actuals differ from the fourth- and fifth-year estimates and reasons for that difference. In this case, there is uncertainty around the capex spend in the third year of the current period which, in turn, impacts our confidence in the fourth and fifth year estimates in the current period.²¹

In particular, to address misallocation of expenditure over the first 3 years in the current period (2022–23, 2023–24 and 2024–25 years) where non-prescribed capex was included in

²¹ We note that the average of the fourth and fifth year is 34.5% higher than the average of the first 3 years in the current period and that the fourth and fifth year is 96.2% higher than the AER/Powerlink forecast in the current period.

the regulatory information notice (RIN) for prescribed services, Powerlink adjusted only the third year in the current period (the 2024–25 year). We requested that Powerlink re-allocate its capex across all 3 years to accurately reflect capex spent in each of the 3 years. While Powerlink undertook this re-allocation, we are seeking assurance from Powerlink in its revised proposal of the validity of the capex in each of the first 3 years in the current period.

While we could use the first 3 years in the current period as a historical benchmark, we consider that a longer 5-year time series of the capex in the ex-post period is a better comparison. Further, we have more confidence in actual capex in the ex-post period as we undertook an ex-post review and we found that capex to be prudent and efficient.

Given this, our alternative forecast is 8.9% (or \$110.9 million) lower than capex in the ex-post period. It is worth noting that our alternative forecast is lower than the capex in the ex-post period because:

- The IT capex forecast for 2027–32 is about \$60 million lower due to most Software-as-a-Service (SaaS) costs now being expensed rather than capitalised, consistent with the International Financial Reporting Standards.
- Powerlink proposed significantly lower demand driven augmentation expenditure (augex) for 2027–32 (\$5.0 million forecast relative to the ex-post period actuals of \$66.4 million; noting the actuals were assessed as part of the overspend), preferring to include forecast demand driven augex as contingent projects.²²
- The Northern Bowen Basin Reinforcement and Surat Basin Area Network Development contingent projects may be sufficiently certain such that these could be included as augex in the 2027–32 period. Its proposed system strength contingent project may also be more appropriate to be included as augex in the 2027–32 period. Our draft decision does not include an ex-ante forecast for these projects and we encourage Powerlink to reassess these contingent projects in its revised proposal.

2.5 Reasons for draft decision on capex in the ex-post period (2020–25)

Our draft decision is to accept that Powerlink’s capex overspend in the ex-post period (2020–25 period) reasonably reflects the capex criteria. While Powerlink submits that the overspend was 6.3% (\$63.4 million, nominal),²³ we found the overspend to be higher. This is mainly because we have included the cost of the Pinkenba site in the 2024–25 period.²⁴ We calculate a total capex overspend of \$101.8 million, or approximately 8.9%, in the ex-post period. We found this total capex overspend in the 2020–25 period was prudent and efficient and have therefore added this amount into the opening RAB for the 2027–32 period.

²² The \$258.8 million of augmentation in Table 2.3 is comprised of \$253.8 million of land and easement acquisitions, where most of the expenditure relates to contingent projects or longer term replacement requirements.

²³ Powerlink, *2027-32 Revenue Proposal*, January 2026, p 48.

²⁴ See section 2.2 of the overview to our decision, and section 1.2 of Attachment 1 to our decision, for an explanation of our decision on the roll-forward of Powerlink’s regulatory asset base (RAB) into the opening RAB for the 2022–27 period, and the differences between our draft decision and Powerlink’s proposal.

2.5.1 Assessment framework

We reviewed Powerlink's capex overspend in line with the ex-post staged review process set out in the AER's Capital Expenditure Incentive Guideline for Electricity Network Service Providers.²⁵ The first stage considers whether the overspend is significant at the total forecast capex level. If we consider that the transmission network service provider's (TNSP's) capex overspend warrants further assessment, stage 2 involves a deeper bottom-up review of the capex overspend.

2.5.2 Key findings

In Stage 1 of the ex-post review, we found Powerlink's capex overspend of \$101.8 million (or 8.9% above the AER forecast) to be significant at the total forecast capex level. We had regard to a number of factors in the Guideline, and undertook an initial prudence and efficiency assessment. Based on the information before us, we found no significant concerns with the reasons and information provided by Powerlink in support of the prudence and efficiency of its capex overspend in the ex-post review period. As such, we consider that a deeper bottom-up review (under Stage 2 process) is not warranted. However, because of our different view on the total amount of the overspend, a higher CESS penalty of \$161.5 million (compared to Powerlink's estimate of \$136.4 million) applies.²⁶

We arrived at our draft decision based on the findings below.

- Powerlink addressed our concerns in relation to the misallocation of expenditure in the ex-post period. Prior to lodgement of its regulatory proposal, Powerlink notified us that there was a misallocation of expenditure in the 2022–23, 2023–24 and 2024–25 regulatory years, where non-prescribed (unregulated) capex was included in the regulatory information notice (RIN) for prescribed (regulated) transmission services. Powerlink has provided sufficient evidence to demonstrate that it identified the root cause of the misallocation of expenditure in the ex-post period, addressed this issue expeditiously, and that it has processes in place to ensure that the misallocation does not occur again.
- The cost of the Pinkenba site, which Powerlink acquired in 2024–25, should be classified as an asset used for the provision of prescribed services at the time of acquisition of the site. We also found the cost of the site to be prudent and efficient. We recognise that strategic land acquisition (acquiring land ahead of building on the land) is a typical standard industry practice and that land values generally appreciate over time. We consider Powerlink's strategic land acquisition to be prudent and efficient in this case given the likely eventual future use of the site as an operational relocation site.
- The inclusion of the cost of the Pinkenba site into capex incurred in 2024–25 results in a higher capex overspend in the ex-post period of 8.9%, compared to Powerlink's proposed 6.3%. We view this overspend amount as significant at the total capex level.

²⁵ AER, *Capital Expenditure Incentive Guideline for Electricity Network Service Providers*, August 2025, pp 18–21.

²⁶ We note that the CESS calculation applies to the current 2022–27 period, which is different to the ex-post period of 2020–25.

The higher overspend also results in a higher CESS penalty than proposed by Powerlink.

- Our review of the remaining areas of capex overspend (that is, excluding the cost of the Pinkenba site) found that most of the overspend was due to circumstances out of Powerlink’s control, such as unexpected demand growth and compliance requirements. It also appears that Powerlink undertook to manage the increase to the extent it could, such as selecting the least cost option with a comparable unit cost.
- We have had regard to Powerlink not passing on inefficient re-scoping costs to its customers, where it has voluntarily removed its overspend in Advanced Energy Management System (AEMS) costs from the RAB. This decision by Powerlink is consistent with only recovering the prudent and efficient costs from customers.

2.6 Reasons for draft decision on forecast capex for 2027–32

We reviewed Powerlink’s capex drivers, programs and projects to inform our view on a total capex forecast that reasonably reflects the capex criteria. We conducted a top-down analysis, including examining trends and forecast costs compared with historical capex, and interrelationships between cost categories. To complement this, we conducted a bottom-up analysis of Powerlink’s major programs and projects.

Our capex assessment focused primarily on the material capex categories that either represented a significant uplift in expenditure, had stakeholder interest, or are new and evolving areas. For capex that was relatively small and forecast using established modelling approaches and inputs in line with our expectations, we did not need to undertake a more detailed analysis of the individual programs and projects. Our draft decision is reflective of this approach, as set out below in Table 2.3.

Further, in considering the scope of our review, we had regard to how Powerlink has performed against the Better Resets Handbook expectations for capex.²⁷ Our top-down assessment against each expectation is set out in Table 2.2. As can be seen, Powerlink did not satisfy most of the Better Resets Handbook expectations for capex. We have therefore undertaken a bottom-up review in most capex categories.

Table 2.2 Better Resets Handbook capex expectations

Capital expenditure expectations	AER position
Top-down testing of the total capex forecast and at the category level.	Powerlink has not satisfied this expectation because: • Its total capex forecast is 57.4% above 2022–27 current period actual/estimates. • Replacement expenditure (repep, a recurrent expenditure) represents most of the total capex forecast, and is 44.8% higher than current period spend.

²⁷ AER, *Better Resets Handbook – Towards Consumer Centric Network*, December 2021, pp 19–23.

	• There is a material step up relative to the current period in most capex categories. • It has not undertaken a deliverability risk assessment of its overall capex portfolio especially in light of a large step up in capex (including repex), 7 contingent projects for demand growth, the Gladstone project and system strength requirements proposed for the 2027–32 period.
Evidence of prudent and efficient decision-making on key projects and programs.	Powerlink has not satisfied this expectation because: • We found significant information and analysis gaps, and a lack of justification of the prudence and efficiency of most of its forecast at the category level.
Evidence of alignment with asset and risk management standards.	Powerlink has not satisfied this expectation because: • While there have been improvements in Powerlink’s asset management practices as reflected in its line re-investment review, we found several incidences where it did not align with good industry standards and practices. For example, we found that some of Powerlink’s repex forecasts in its regulatory proposal are based on asset age and less on asset condition.
Genuine consumer engagement on capital expenditure proposals.	Powerlink has satisfied this expectation because: • Submissions received from Powerlink’s Revenue Proposal Reference Group (RPRG) and the Consumer Challenge Panel sub panel 34 (CCP34) observe a well-structured, collaborative and transparent engagement process. The CCP34 notes that the engagement process subjected the proposal to sustained and informed external challenges, especially on deliverability, uncertainty and customer impacts, although not fundamentally altering the underlying expenditure profile or asset investment framework.²⁸ • In relation to the principles of genuine consumer engagement in the Better Resets Handbook, the RPRG submitted that its engagement with Powerlink meets and often exceeds these principles. The RPRG also noted Powerlink has demonstrated genuine collaboration and meaningful opportunities for stakeholder influence in the development of the revenue proposal.²⁹

2.6.1 Key findings

Our draft decision involved a thorough and careful consideration of all information before us. Overall, we found that a significant amount of Powerlink’s capex forecast of \$2,499.5 million would be required to maintain the safety, reliability and security of electricity supply of its network. We have included Powerlink’s forecast for aspects of capex where it provided

²⁸ CCP34, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 1.

²⁹ RPRG, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 8.

sufficient information to support the prudence and efficiency of its forecast, such as for fleet, the Gladstone Hub depot, business-as-usual property programs, and other minor easement acquisitions.

We have not accepted Powerlink's total capex forecast in full, reducing it by 54.4%. Powerlink's capex forecast represents a substantial increase in the amount of capex it has historically incurred to operate its network, a 99.8% increase compared to the most recent five years of actual expenditure (2020–25), and including several contingent projects that would further increase Powerlink's capex forecast if they go ahead. We expect a proposal of such magnitude to be well supported by robust evidence of the prudence and efficiency of the forecast expenditure including a deliverability risk assessment. However, we found significant analysis gaps in Powerlink's proposal in support of its forecasts for repex, property, easements, ICT, cyber-security capex and capitalised overheads. We consider consumers should not pay for parts of the forecast where Powerlink has not demonstrated them to be in the long-term interests of consumers. We observe that some consumer groups found similar issues with Powerlink's proposal, including the lack of transparency of the build-up of its forecast in a few cases.

We note that our alternative forecast of \$1,140.0 million is based on the information before us. There were substantial gaps in Powerlink's supporting information and analysis such that we have had to derive our alternative forecast using the limited verifiable information it provided. In many cases, we could not use Powerlink's cost benefit modelling with confidence to derive alternative cost estimates; as such, our alternative forecast is mostly based on historical spend. In some cases, such as Powerlink's \$59.4 million Future Grid program, Powerlink has not sufficiently demonstrated that the expenditure is prudent and efficient to undertake for the 2027–32 period, and we have removed the expenditure from our forecast entirely.

To provide guidance for Powerlink in preparing its revised proposal, we have noted all information and analysis gaps in Appendix D. We would also encourage Powerlink to engage with its customers about its revised proposal. We acknowledge the extensive customer engagement that Powerlink undertook on its capex proposal and would encourage it to continue to ensure that its customers' preferences are considered in its revised proposal.

However, consumer support alone does not guarantee any one or more of the assessment criteria have been met in respect of an NSP's total expenditure forecast, or of any individual projects or programs that have informed those forecasts. When considering the outcomes of an NSP's consumer engagement, and consumers' responses to our decisions, we have regard to the consumer concerns the NSP seeks to address. In developing proposals to address those concerns, and achieve those outcomes, we expect an NSP to identify, test (including through engagement), and choose from credible options and solutions it considers will achieve the opex and capex objectives, and that it can satisfy us will reasonably reflect the opex and capex criteria.

Where we are satisfied that an NSP has achieved this, its proposed options and solutions will form part of the total opex and capex we approve. Where we are not satisfied, we must look to alternative forecasts of capex or opex in order to approve total expenditure forecasts that will address consumers' concerns and deliver their preferred outcomes in a way that does achieve the opex and capex objectives and satisfy the opex and capex criteria. Consumers

are not well served by engagement that focuses on solutions that do not reflect those criteria, or by proposals that are not supported by rigorous and robust analysis, and which do not demonstrate that proffered options are prudent and efficient.

The key findings in our draft decision are set out below.

Replacement expenditure

- Replacement expenditure (repex) is the largest component of Powerlink’s capex forecast, with the forecast a 44.8% step up relative to the current period. Our alternative forecast is in line with historical spend as Powerlink did not provide sufficient evidence to support a step up from the historical level of expenditure. We identified significant concerns with the prudence and efficiency of its forecast.
- For primary assets and secondary system programs, we found:
 - *Overstatement of safety risk, financial risk and network risk in its cost benefit analysis.* This then overstates the capex required to mitigate that risk. We found this to be the case for Powerlink’s standalone line and substation replacement projects.
 - *Insufficient options analysis for almost all repex programs.* Typically, we expect businesses to demonstrate the efficiency of its preferred option by testing it with other practical options.³⁰ Powerlink’s cost benefit modelling only compares its preferred option to the base case (“do nothing”). The CCP34 found that for repex programs “... the supporting options analysis appears limited, with insufficient testing of other options for timing and scope”.³¹ We also found that in several cases, Powerlink’s forecast was the higher cost scenario (with no other options tested) for the purposes of the revenue determination, with the intention of a thorough cost benefit analysis occurring later as the project plan progresses (post final determination). We consider that this forecasting approach is not in the interests of consumers as they would be paying more than necessary for the provision of services.
 - *Evidence of inefficient opportunistic replacement.* We acknowledge opportunistic replacement is a common and good industry practice if it is cost effective to do so. However, Powerlink did not demonstrate that there are economies of scale or scope from its proposed bundling of replacement works. We found incidents of inefficient opportunistic replacement in the information it submitted in support of line and substation projects.
 - *Forecasts in its regulatory proposal are based mainly on asset age, and less on condition of the asset.* Powerlink used asset age as the primary means of deriving its repex forecast, with further investigation of asset condition to occur after our final decision for many of its projects and programs. This practice overstates its forecast because when asset condition is assessed during the regulatory period, less

³⁰ In addition to previous decisions, we have formally set out our expectations on supporting information for repex forecasts in our 2024 industry note for asset replacement planning:
<https://www.aer.gov.au/industry/registers/resources/reviews/industry-practice-application-note-asset-replacement-planning>

³¹ CCP34, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 3.

replacement will be required as not all assets of the same age will be in a condition that requires replacement. We found that Powerlink's forecasts for its substation primary plant and secondary system programs are mainly based on the results from its Health Index. We found that its Health Index results are based on placing most weight on asset age for substation assets. It also places weight on other factors which are not related to asset condition, such as costs related to the asset. Further, we found several examples in condition reports where Powerlink notes the condition of the asset is satisfactory, but the recommendation is to still intervene by replacing the asset because the asset has reached a certain age. While good industry practice acknowledges that age is a factor to consider in replacement decisions, most weight should be placed on asset condition and historical revealed risks to derive the likely probability of failure of each asset.³² The CCP34 also expressed similar concerns with the transparency of Powerlink's Health Index observing that:³³

Health Indices are a central input to Powerlink's replacement forecasts, linking asset condition to capex decisions. While their use is appropriate, there is limited transparency on calibration of thresholds, sensitivity to assumptions and the relationship to actual failure outcomes. ... Heavily influenced by factors such as age and obsolescence, the application of this framework to secondary systems is less transparent, and the supporting option analysis appears limited, with insufficient testing of other options for timing and scope.

- *Powerlink's assets are, on average, the youngest compared to other TNSPs.*
Powerlink has indicated that its population of assets is aging and that this is one of the main reasons for the step up in repex in the forecast period. However, when we compared the age of Powerlink's assets against other TNSPs (ElectraNet, Transgrid, AusNet and TasNetworks) we found that Powerlink's assets are, on average, the youngest.
- For its security/compliance programs, we have accepted some of Powerlink's forecast for enhanced security in response to changing risk in the forecast period. We have not accepted its forecast in full because Powerlink did not provide sufficient evidence to support the prudence and efficiency of most of its proposed initiatives. For instance:
 - It has not performed site-specific security risk assessments, which its industry peers typically undertake.
 - The proposed benefits are expressed as avoided costs and are significantly overestimated compared to its historical incident evidence; and
 - The costs for many of its initiatives are significantly higher than its peers.For our draft decision, we have categorised these programs as repex consistent with Powerlink's regulatory reporting.
- For its operational and communication technology programs, we have not accepted Powerlink's forecast in full mainly because Powerlink did not sufficiently demonstrate that its Future Grid program is prudent and efficient. We have concerns with its cost

³² This probability of failure then flows into the cost benefit analysis as a separate independent input to enable a monetised assessment to demonstrate the overall net benefit to consumers from proactive replacement.

³³ CCP34, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, pp 3, 11.

benefit analysis, finding benefits overstated and based on unrealistic assumptions. We found the project to have an overall negative net benefit after adjusting its analysis to address our concerns. For our draft decision, we have categorised these programs as replex consistent with Powerlink's regulatory reporting.

Property

We have accepted Powerlink's forecast for its recurrent property program (sustaining current building) and its Gladstone Hub depot as it provided sufficient information to support the prudence and efficiency of its forecast. However, we have not accepted Powerlink's forecast in full as it did not provide sufficient evidence to demonstrate the need for the Virginia Uplift nor its New Eagle Farm Depot which is related to the Virginia Uplift. Powerlink did not explore feasible options (such as a leasing option) to demonstrate that its preferred option results in the greatest net benefit. We have also placed less weight on its independent condition assessment report for the existing Virginia site because it assumes that Powerlink's preferred option would occur and does not test other options (for example, life extension rather than demolish and rebuild). Further, Powerlink's assessment of the identified need is largely qualitative, with a lack of quantification of potential risks and benefits.

We acknowledge that some degree of expenditure for the Virginia uplift program may be prudent if the Future Grid program is implemented. We therefore encourage Powerlink to respond to the analysis gaps we have identified in relation to its Virginia uplift program and its dependencies with the Future Grid program in its revised proposed.

Easements

We consider Powerlink's forecast for 'other minor easement acquisitions' to be prudent and efficient as it is mostly a carryover from the current period requirements already in progress.³⁴ We have not accepted the remaining forecast for easements because these are primarily related to contingent projects that we have not accepted in this draft decision. We also identified other information gaps with Powerlink's easement forecast such as the lack of a detailed cost breakdown, insufficient detail on other underlying drivers for the easement forecast as well as reconciliation issues between the investment case and the proposed expenditure.

Capitalised overheads

We found Powerlink's forecasting approach to not be a reasonable predictor of a prudent and efficient amount for capitalised overheads, and that its approach overstates the capitalised overheads required to maintain the network. Our alternative forecast is based on applying the AER's standard approach and the flow-on impacts to overheads from reductions to the wider capex portfolio.

Contingent projects

We acknowledge that there is uncertainty when forecasting large capex investments. We also understand that the option of proposing a contingent project gives businesses the assurance of the inclusion of capex into the regulatory period if certain triggers are satisfied. Our draft decision is to not accept any of Powerlink's 7 proposed contingent projects, which

³⁴ This proposed expenditure is set to occur in the early years of the forecast period.

together are estimated to cost between \$2,957.6 million to \$3,256.1 million for the 2027–32 period. Our review of the proposed contingent projects found common concerns including:

- The phrasing of trigger events in relation to the proposed contingent projects did not sufficiently satisfy the NER requirements. In most cases, the triggers were not reasonably specific and capable of objective verification.
- Insufficient information to demonstrate that the proposed trigger events are probable in the 2027–32 period. For instance, we found a lack of evidence of the capacity constraint which, if it occurs, means the contingent project is necessary to achieve the capex objectives. In some cases, Powerlink did not provide load growth forecasts and expected timing of the load growth, which we would expect in support of contingent projects.
- Some contingent projects being driven by the desire to encourage the commitment of new power generation, rather than relating to augmentation having to occur because of a capacity constraint.
- The Northern Bowen Basin Reinforcement and Surat Basin Area Network Development contingent projects may be sufficiently certain such that these could be included as augex in the 2027–32 period. Its proposed system strength contingent project may also be more appropriate to be included as augex in the 2027–32 period. Our draft decision does not include an ex-ante forecast for these projects and we encourage Powerlink to reassess these contingent projects in its revised proposal.

Deliverability risk

In response to our draft decision, we expect Powerlink to include a delivery risk assessment of its capex investment portfolio in its revised proposal. A prudent NSP would typically demonstrate that its entire capex portfolio is deliverable especially when faced with multiple major projects outside of the reset process. Powerlink is proposing 7 contingent projects in addition to a material step up in capex works in the 2027–32 period. This is against a backdrop of increases in demand for infrastructure and energy related skills and materials.

We also note the request from the Revenue Proposal Reference Group (RPRG) for the AER to consider deliverability risk of Powerlink’s overall capex program. The RPRG submits: ³⁵

...that the AER review the ability for Powerlink to deliver projects on time and on budget to protect consumers from additional unexpected cost pressure. The RPRG consider that the deliverability assessment should include a review of the proposed productivity improvements, sequencing of projects, workforce capacity, contractor availability and supply chain risks.

We would expect a prudent and efficient business to have thoroughly assessed current and emerging deliverability risks, including accounting for its current skill and material inventory including gaps, to determine a feasible capex program with credible timing of investments. As delivery risks emerge for individual projects and programs, there may be a material change to the selection of preferred options and timings. This could then result in a corresponding reduction in the level of capex that Powerlink would incur and a re-prioritisation within the capex portfolio.

³⁵ RPRG, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 11.

2.6.2 Alternative forecast by capex category

Our draft decision for Powerlink's total net capex forecast by capex category is at Table 2.3.

Table 2.4 summarises our reasons for not accepting Powerlink's forecast, by capex driver. Our findings on each capex driver are part of our broader analysis and should not be considered in isolation. We do not approve an amount of forecast expenditure for each individual capex driver or project/program. However, we use our findings on the different capex drivers to assess a regulated business' proposal as a whole and arrive at an alternative estimate for total capex where necessary. Our decision on total capex does not limit a regulated business' actual spending.

Table 2.3 AER's draft decision on Powerlink's total net capex forecast (\$ million, 2026–27)

Category	Powerlink's proposal	AER draft decision	Difference (\$)	Difference (%)
Replacement	1,667.9	875.7	-792.2	-47.5
Augmentation	258.8	22.1	-236.7	-91.5
Connections	-	-	-	-
ICT	23.5	17.6	-5.9	-25.3
Property	165.5	35.1	-130.4	-78.8
Fleet	29.4	29.4	-	0.0
Other non-network	10.6	10.6	-	0.0
Capitalised overheads	350.9	168.6	-182.3	-52.0
Gross capex	2,506.7	1,159.1	-1,347.6	-53.8
Less asset disposals	7.2	7.2	-	-
Modelling adjustments	n/a	-11.9	n/a	n/a
Net capex	2,499.5	1,140.0	-1,359.5	-54.4

Source: Powerlink's capex model and AER analysis

Notes: (a) Powerlink's proposal included capex categories inconsistent with our RIN categories. We have categorised capex consistent with the RIN and our capex model.
(b) Powerlink's proposal and our draft decision do not include an adjustment for movements in provisions of \$15.0 million and \$6.9 million respectively. This is an additional modelling adjustment that is performed to forecast capex before it is included into the post-tax revenue model.
(c) Powerlink's \$258.8 million in augmentation includes \$253.8 million in easements and land acquisitions.

Table 2.4 Summary of findings and reasons, by capex category

Issues	Finding and reasons
Total replacement	Our draft decision does not include Powerlink's repex forecast of \$1,667.9 million as part of our total capex forecast. Instead, we include a substitute estimate of \$875.7 million which is 47.5% lower than Powerlink's forecast. Our findings are discussed at Appendix A.1.
<i>Line replacement</i>	Our draft decision does not include Powerlink's forecast of \$369.5 million as part of our total capex forecast. Instead, we include an alternative forecast of \$130.3 million. We found Powerlink's forecast to not be prudent and efficient because we found, for its stand-alone projects, significant overstatement of risk in its cost benefit analysis and insufficient options analysis. For its individual regional projects, while we did not have material concerns with the volume forecast, we found the unit rates to be overstated relative to historical levels without information to support the step up.
<i>Substation replacement</i>	Our draft decision does not include Powerlink's forecast of \$360.2 million as part of our total capex forecast. Instead, we include an alternative forecast of \$213.9 million. We found overstatement of risk in its cost benefit analysis, overstatement of benefits in its net present value (NPV) analysis, heavy reliance on asset age for replacement decisions, lack of options analysis and opportunistic replacement without sufficient quantitative support.
<i>Secondary Systems</i>	Our draft decision does not include Powerlink's forecast of \$429.4 million as part of our total capex forecast. Instead, we include an alternative forecast of \$229.4 million. We found Powerlink's forecast to not be prudent and efficient because we found it did not demonstrate, in most cases, that it explored lower cost options. For its 5 deferred projects, it did not provide sufficient information to support the substantial cost increases. We also have concerns with errors in its failure data used to derive its probability of failure and that its health index is primarily age-based.
<i>Security and Compliance</i>	Our draft decision does not include Powerlink's forecast of \$137.2 million as part of our total capex forecast. Instead, we include an alternative forecast of \$32.5 million. We found Powerlink's forecast to not be prudent and efficient as it provided insufficient site assessment information to support its cost benefit analysis and it overestimated its benefits. We also found errors with its cost estimation and that its costs are higher than its peers. For its trend-based expenditure, we were satisfied with the trend-based methodology and accepted its forecast.
<i>Operational and Communication Technology</i>	Our draft decision does not include Powerlink's forecast of \$273.3 million as part of our total capex forecast. Instead, we include an alternative forecast of \$184.8 million. We are not satisfied that it is prudent and efficient for Powerlink to undertake its proposed Future Grid program in the 2027–32 regulatory control period. We have also included a lower forecast cost of communications asset replacement, based on Powerlink's historical costs. Powerlink's proposed capex of \$273.3 million included \$37.6 million of operational technology (OT) capex related to cyber-security. Our draft decision of \$184.8 million includes \$18.0 million for cyber-security related

Issues	Finding and reasons
	OT capex. Our assessment of this capex is set out in section 3.3.4 of Attachment 3.
<i>Other replacement</i>	Our draft decision does not include Powerlink's forecast of \$98.3 million as part of our total capex forecast. Instead, we include an alternative forecast of \$84.6 million, which accounts for the removal of the procurement of a spare transformer (\$13.7 million, discussed in substation primary plant). Aside from the spare transformer procurement, we found these programs to be prudent and efficient as they are in line with historical expenditure and Powerlink's forecast methods are reasonable.
Property	Our draft decision does not include Powerlink's forecast of \$165.5 million as part of our total capex forecast. Instead, we include an alternative forecast of \$42.7 million. We found that Powerlink did not provide sufficient evidence to demonstrate the need for the Virginia Uplift (its largest project), nor the New Eagle Farm Depot which is related to the Virginia Uplift. Our alternative forecast is based on accepting its recurrent property requirement and the forecast for its Gladstone Hub depot, for which Powerlink provided sufficient supporting evidence. Our findings are discussed at Appendix A.2.
Easements	Our draft decision does not include Powerlink's forecast of \$253.8 million as part of the total capex forecast. Instead, we include an alternative forecast of \$17.1 million. Our reduction to Powerlink's forecast is because 3 of the easements proposed are primarily related to contingent projects we have not accepted. We also have other concerns that indicate that these easements may not be needed in the forecast period. Our findings are discussed at Appendix A.3.
ICT	Our draft decision does not include Powerlink's forecast of \$23.5 million as part of our total capex forecast. Instead, we include an alternative forecast of \$17.6 million. ICT was assessed as totex and is discussed in section 3.3.4 of Attachment 3. Our alternate forecast of \$17.6 million includes \$2.8 million of ICT related cyber security capex. Powerlink also proposed OT related cyber security, which is referred to in Table A1.6.
Fleet	Our draft decision includes Powerlink's forecast of \$34.2 million for fleet capex. Powerlink provided sufficient evidence to support the prudence and efficiency of its forecast in this area.
Non-network – other	Our draft decision includes Powerlink's non-network other (tools) forecast of \$10.6 million as part of our total capex forecast. Although we found errors in Powerlink's trend model calculations, the forecast method is reasonable and its forecast is below its historical expenditure.
Capitalised overheads	Our draft decision does not include Powerlink's forecast of \$350.9 million as part of the total capex forecast. Instead, we include an alternative forecast of \$156.7 million. Our alternative forecast is based on applying the AER's standard approach and the flow-on impacts to overheads from reductions to the wider capex portfolio. We found Powerlink's forecasting approach to not be a reasonable predictor of a prudent and efficient amount for capitalised

Issues	Finding and reasons
	overheads, and that its approach overstates the capitalised overheads required to maintain the network. Our findings are discussed at Appendix A.4.
Modelling adjustments	Our draft decision includes a modelling adjustment of -\$11.9 million. The reduction is primarily driven by not applying real cost escalation to contract labour (-\$9.9 million) and updating inputs to the wage price index (-\$5.6 million). Updating inflation for 2025–26 added \$2.0 million while adjusting for an error in Powerlink’s CPI conversions added \$1.6 million. Powerlink did not provide information to support applying real cost escalation to contract labour. Our decision to not apply escalation to contract labour is consistent with past decisions.

Source: AER analysis.

A Reasons for draft decision on key capex categories

This appendix sets out our assessment of key capex categories and programs/projects within Powerlink's total capex forecast and the reasons for our draft decision for the following:

- Repex (A.1)
- Property (A.2)
- Easements (A.3)
- Capitalised overheads (A.4)

A.1 Repex

We do not accept that Powerlink's repex forecast of \$1,667.9 million would form part of a total capex forecast that reasonably reflects the prudent and efficient costs to maintain the safety, reliability and security of the network. Our draft decision includes an alternative forecast of \$875.7 million, which is \$792.2 million (or 47.5%) lower than Powerlink's proposal.

The reasoning for our draft decision is set out below. We note that this identifies areas of additional information and analysis we seek from Powerlink as part of its revised proposal – further details on information and analysis gaps can be found at Appendix D.

A.1.1 Powerlink's proposal

Table A1.1 provides a breakdown of Powerlink's repex forecast and our draft decision at a program level. As can be seen, Powerlink is proposing increases across almost all programs.

Table A1.1 AER's draft decision on Powerlink's proposed forecast repex (\$m, 2026–27)

Repex category	Current period	Powerlink's forecast	AER's draft decision
Line	135.6	369.5	130.3
Substation primary plant	211.4	360.2	213.9
Secondary systems	205.7	429.4	229.4
Security and compliance	13.3	137.2	32.5
Operational and Communication Technology	294.4	273.3	184.8
Other replacement	62.0	98.3	84.6
Total	922.3	1,667.9	875.7

Source: Powerlink's proposal, response to information request #008, AER analysis.

Notes: Numbers may not sum due to rounding. Numbers exclude capitalised overheads. The current period uses Powerlink's most recent 3 years of actual repex averaged over 5 years. This is based on analysis of Powerlink's response to information request #008 (attachment 1). Given the limitations of the information provided, there might be some overlap between repex categories. Our categorisation of 'other replacement' differs to Powerlink's categorisation of 'other' in Table 4.6 of its revenue proposal.

Powerlink submits that its line replacement program was informed by the line reinvestment review, a review of its approach to network asset reinvestment, particularly for overhead transmission lines. This review included representatives of customers, the AER and Powerlink subject matter experts, and concluded in June 2023 with the publication of the Asset Reinvestment Review Working Group Report.³⁶

For its Security and Compliance program, Powerlink submits that it developed an investment case for future physical security uplift of our operational sites, which is based on a standardised approach to each site, based on comparative size and critically. A targeted risk assessment will be conducted to confirm the criticality and vulnerability of each site and works tailored to specific site requirements.³⁷

In support of its Operational and Communication Technology programs, Powerlink submits that it has initiated a series of targeted work packages aimed at enhancing control room operations. These initiatives are designed to support more informed and agile operational responses and enable Powerlink to operate the network at higher risk tolerances.³⁸

A.1.2 Reasons for our decision

Overall, we found that, for almost all programs, Powerlink did not provide sufficient evidence to support the material step up relative to historical spend.

Powerlink's repex forecast is mainly driven by its forecast in primary asset programs (line and substation primary plant replacements) and secondary system replacements. We found several systemic issues with its supporting information such as a lack of options analysis, inefficient opportunistic replacement, overstated risks, and a forecasting approach that relies heavily on asset age. As we did not have confidence in its cost models, our alternative forecast has been based on historical actuals.

We have also made material reductions to Powerlink's forecast for its Security and Compliance program because it has not provided sufficient evidence to support most of its initiatives. Our alternative forecast includes expenditure for its recurrent physical security needs and for some additional security measures that reflect changing risk.

In the Operational and Communication Technology category, we found the forecasts for some operational technology (OT) programs to be prudent and efficient. However, due to a lack of information in support of the prudence and efficiency of Powerlink's Future Grid program, we did not include this component in our total capex forecast.

We discuss below our specific findings from our review at the program level.

A.1.2.1 Line replacement

Powerlink proposes \$369.5 million for its line replacement program. This represents an increase of approximately 170% based on Powerlink's historical actuals for the first 3 years

³⁶ Powerlink, *Asset Reinvestment Review Working Group Report*, June 2023.

³⁷ Powerlink, *2027-32 Revenue Proposal*, January 2026, p 54.

³⁸ Powerlink, *2027-32 Revenue Proposal*, January 2026, p 55.

in the current period.³⁹ Our draft decision is to not accept Powerlink’s forecast and to include an alternative forecast of \$130.3 million (and the replacement of 480 structures). Our alternative forecast is in line with Powerlink’s historical actuals.

Table A1.2 provides a breakdown of Powerlink’s line replacement program.

Table A1.2 Powerlink’s proposed forecast for its line replacement program (\$million, 2026–27)

Line replacement program	Powerlink’s forecast
<i>Standalone projects</i>	
Woree to Kamerunga 132kV Line Refit	127.1
Ross To Chalumbin 275kV line Refit	99.0
Woolooga to South Pine 275kV Line Refit	43.9
Mudgeeraba to Terranora 110kV Line Refit	9.0
Ross to Dan Gleeson 132kV Line Refit	5.1
Standalone projects total	284.2
<i>Geographical lines refit projects</i>	
Southern - Geographical lines refit	40.4
Townsville - Geographical lines refit	23.8
Cairns - Geographical lines refit	16.4
Rockhampton Gladstone - Geographical lines refit	4.7
Geographical lines refit projects total	85.3
TOTAL	369.5

Source: Powerlink’s proposal and AER estimate.

Notes: Numbers may not sum due to rounding. Numbers exclude capitalised overheads.

Powerlink’s line replacement program involves intervention on 1,247 structures and comprises:

- 5 ‘stand-alone’ line replacement projects. These projects bundle and replace all assets (for example, towers, poles, conductors, insulators, other supporting infrastructures) along the entire feeder section, which can be hundreds of kilometres in length between 2 major substations.
- 4 regional programs to replace individual ‘at-risk’ structures (towers or poles). Powerlink proposes replacing 235 structures under these programs.

³⁹ Powerlink, *Response to information request 008: Attachment 1 – Incurred capex and adjustments*, April 2026. This calculation is based on extrapolating a 3-year average for 5 years.

We found that, from an asset management perspective, most of Powerlink’s overall approach to line replacement is reasonable. That is, to replace higher risk assets on an individual basis via regional programs and only replace the entire feeder section if it is economical to do so. This approach is in line with the outcome of Powerlink’s line reinvestment review as well as good industry practice.⁴⁰

For the individual regional projects, while we did not have material concerns with the volume forecast, we found the unit rates to be more than 40% higher than Powerlink’s historical implied unit rates with insufficient information to support the material step up. Our alternative forecast of \$62.1 million for these projects is derived by using Powerlink’s own volume forecast of 235 structures and Powerlink’s historical revealed rates.⁴¹ We consider that our draft decision is in line with the findings of Powerlink’s line reinvestment review. We have accepted that replacement of individual at-risk structures should be prioritised and have accepted Powerlink’s volume forecast for these projects.

Below we discuss our findings on Powerlink’s supporting information for its standalone projects.

Standalone projects

Our assessment found common and specific issues across information in support of stand-alone projects, and these issues were sufficiently material that we do not consider the stand-alone line projects, as proposed, reflect prudent and efficient expenditure. We also could not use Powerlink’s cost benefit models with confidence to derive our alternative forecast.

Given these circumstances, our alternative forecast of \$68.2 million is derived using the same historical unit rates as the regional projects. The volume forecast of 245 structures are those structures with a Health Index of more than 8.⁴² In particular, we have erred on the side of caution and maintained Powerlink’s historical practice of proactive intervention on structures having a Health Index above 8 irrespective of the consequences of failure,⁴³ and potential gaps in its inspection practices.⁴⁴

Common issues

We found common concerns across the projects which lead to an overstatement of capex to mitigate the risk. In Powerlink’s cost benefit modelling we found:

- **Overstatement of safety risk.** Powerlink applies a disproportionate factor of 10 and multiple fatalities, with insufficient evidence to support the use of these assumptions in its circumstances.⁴⁵ Given the nature of these assets, we expect the average disproportionate factor value to be around 3 to 4 depending on the structure’s location

⁴⁰ Powerlink, [Asset Reinvestment Review - Working Group Report](#), June 2023, p.16.

⁴¹ Based on information submitted in Powerlink’s Annual Information Notice (RIN).

⁴² According to Powerlink, a Health Index of 8 translates to 100% loss of galvanisation and 20% loss in certain steel members of the structure and would require proactive intervention.

⁴³ Given the high redundancy and remoteness of certain areas of the network, not every asset requires proactive intervention simply because it has a higher probability of failure.

⁴⁴ Powerlink’s approach, which is to extrapolate actual inspection results of one structure to neighbouring structures because it is in a similar environment, is not consistent with good industry practice.

⁴⁵ Powerlink, *Powerlink – Asset Risk Management Framework – December 2025 - Public*, December 2025.

based on a single fatality (such as, a trained worker). We found overstated safety risk particularly evident for the Woolooga to South Pine and Woree to Kamerunga line refits where safety risk makes up 51% and 37% of its total risks/benefits, respectively.⁴⁶

- **Overstatement of financial risk.** Powerlink applies a minimum third-party damage of \$2 million per incident irrespective of the structure's location. We do not consider that this a reasonable modelling approach for the stand alone line projects. For example, we consider it is an overstatement when Powerlink estimates the failure of a single structure from third party damage in a remote area at \$2 million. This is particularly evident for the Ross to Chalumbin and Woolooga to South Pine line re-fits where financial risk makes up 62% and 38% of its total risks/benefits, respectively.⁴⁷
- **Overstatement of network risk.** Powerlink has overstated the probability of failure (PoF) as its calculation is based on a simple addition of each individual structure along the feeder section resulting in PoFs greater than 100% per annum. For example, it has a PoF of greater than 300% in 2036 for the Woree to Kamerunga line and greater than 700% in 2032 for the Ross to Chalumbin line. Network risk for these line refits make up 54% (Woree to Kamerunga) and 31% (Ross to Chalumbin line) its total risks/benefits.⁴⁸
- **A lack of option analysis.** Powerlink cost benefit models contain one investment option (that is, Powerlink's preferred option to replace the entire feeder section) and a comparison to its base case (that is, the 'do nothing' case). This is in contrast to the findings of its line reinvestment review where an option to only replace higher risk assets exists as a default intervention option (that is, replace assets with a Health Index of more than 8).⁴⁹ Powerlink has chosen not to include this within its cost benefit models for each stand-alone line project for comparison.

Specific issues

We also identified specific concerns in our assessment of the Woree to Kamerunga and Ross to Chalumbin line refit projects, which makes up 61% of the total stand-alone project forecast.

The Woree and Kamerunga line is a 10km 132kV double circuit tower line that supplies Kamerunga substation which in turn supplies the Cairns and northern beaches region as well as connecting the Barron Gorge Hydro Power Station.⁵⁰ We found that:

- Powerlink is proposing to replace most of the existing tower line with underground cables which carries a substantial cost premium (namely, 5 to 10 times the cost of a new

⁴⁶ Powerlink, *Response to information request 005: Question 1 – CP.02818 Woolooga-South Pine 275kV Modified Refit – Lines Model Calcs – Public*, May 2026; Powerlink, *Response to information request 005a: Question 1 – Woree to Kamerunga TL risk cost – Public*, May 2026.

⁴⁷ Powerlink, *Response to information request 005: Question 1 – BS.1671 Ross to Chalumbin Life Extension – Lines Model Calcs_Final – Public*, May 2026; Powerlink, *Response to information request 005: Question 1 – CP.02818 Woolooga-South Pine 275kV Modified Refit – Lines Model Calcs – Public*, May 2026.

⁴⁸ Powerlink, *Response to information request 005a: Question 1 – Woree to Kamerunga TL risk cost – Public*, May 2026; Powerlink, *Response to information request 005: Question 1 – BS.1671 Ross to Chalumbin Life Extension – Lines Model Calcs_Final – Public*, May 2026.

⁴⁹ Powerlink, [Asset Reinvestment Review - Working Group Report](#), June 2023, p 16.

⁵⁰ Powerlink, *CP.02003 Woree to Kamerunga 132kV Line Reinvestment - January 2026 – PUBLIC*, January 2026.

overhead line). While we acknowledge the challenges of replacing like-for-like in the existing easement, Powerlink did not provide sufficient evidence of testing this option with more cost-effective options such as separate compact pole lines and dual function pole lines with Ergon.

- Powerlink has not provided evidence in the business case or cost benefit analysis on the feasibility of using the Barron Gorge Hydro Power Station as backup supply to Kamerunga substation to mitigate supply risk in the event of a feeder outage or to assist in a staged replacement of the line.

The Ross to Chalumbin line is a 244km double circuit tower line located between Ross and Chalumbin substations forming part of the network supplying Far North Queensland. Most of the line is very remote and access to most structures is difficult. While the line has been exposed to several cyclones over the years, it has not shown signs of serviceability problems.⁵¹

- We note that the prudence and efficiency of this line refit was one of the key concerns in our 2022–27 decision which led to the line reinvestment review. While we accepted Powerlink’s total proposed capex in our 2022–27 final decision, Powerlink has deferred this project from the current period (2022–27) to the next period (2027–32).
- We still have concerns over the prudence and efficiency of this investment for the 2027–32 period. This is because:
 - The network associated with this line has a high degree of redundancy as it is not the only 275kV supply to Far North Queensland. Combined with the remoteness of this line, the overall risks associated with the failure of this line are lower compared to other lines.
 - Based on Powerlink’s modelling, the key network risk is a tower failure during the maintenance activities of the other 275kV supply (that is, N-2 planning). While we consider probable N-2 events, Powerlink has overstated the consequences of the event as it assumes the maintenance activity to occur based on average demand and will continue for the full 33 to 37 hours regardless of the status of its network. A prudent and efficient business would abandon the maintenance task, put the line back into service such that the system operator can restore the network within a timeframe less than 33 hours. The abandoned maintenance task can be rescheduled in a low demand period once the network is fully restored to normal operating condition. Thus, we consider that Powerlink has not had sufficient regard to its operational flexibility in its network planning requirements for the purpose of large capital investments.

A.1.2.2 Substation primary plant

Powerlink proposes \$360.2 million for its substation primary plant program. This represents an increase of approximately 60% based on Powerlink’s historical actuals for the first 3 years in the current period.⁵² Our draft decision is to not accept Powerlink’s forecast and to include

⁵¹ Powerlink, *CP.02750 Ross to Chalumbin Life Extension - January 2026 – PUBLIC*, January 2026.

⁵² Based on extrapolating a 3-year average for 5 years; Powerlink, *Response to information request 008: Attachment 1 – Incurred capex and adjustments*, April 2026.

an alternative forecast of \$213.9 million. Our alternative forecast is based on Powerlink's historical actuals.

Table A1.3 provides a breakdown of Powerlink's substation replacement program.

Table A1.3 Powerlink's proposed forecast for its substation replacement program (\$million, 2026–27)

Substation replacement program	Primary plant	Secondary system
<i>Substation replacement projects</i>		
Callemondah*	11.6	7.0
Wandoo*	14.4	8.7
Coppabella*	38.5	11.7
Grantleigh*	19.2	5.8
Chinchilla	7.6	2.5
Oonooie*	37.8	11.4
Kamerunga	52.8	12.8
Alligator Creek Bays	6.3	17.5
Ingham South	12.6	8.4
Chalumbin 275kV	16.0	7.0
Chalumbin 132kV	5.6	15.8
Total substation replacement projects	222.3	108.6
<i>Primary plant replacement projects</i>	<i>Primary Plant</i>	-
Blackwater*	18.7	
Broadsound	12.8	
Calvale	21.4	
Mudgeeraba	17.7	
Middle Ridge	8.3	
Woolooga Bay	5.3	
Lilyvale	0.4	
Townsville	2.4	
Woree	4.4	
Redbank	0.03	
Total primary plant replacement projects	91.4	

<i>Transformer replacement projects</i>	<i>Primary Plant</i>	-
Tully	6.3	
South Pine	15.0	
Tarong	1.7	
Middle Ridge	4.7	
Tennyson	5.9	
Newlands	2.5	
Moura (x2)	10.1	
Blackwater	0.09	
Redbank Plains	0.07	
Kemmis	0.13	
Total transformer replacement projects	46.4	
TOTAL	360.2	108.6

Notes: * denotes those programs with traction supply. Separation of primary plant and secondary system expenditures are based on primary drivers for simplicity.

As can be seen in Table A1.3, the build-up of Powerlink's substation primary plant replacement program comprises:

- \$222.3 million of substation replacements across 11 projects that also involves bundled replacement of secondary systems. Our assessment of Powerlink's forecast for secondary systems is in section A.1.2.3. Traction supply equipment costing \$166.0 million is proposed for 5 of these projects.⁵³
- \$91.4 million of primary plant replacements only across 10 projects, with one traction supply of \$18.7 million.
- \$46.4 million of transformer replacements or refurbishments across 11 projects.

Our assessment found common and specific issues across information in support of Powerlink's substation primary plant replacement programs. These issues mean we do not consider this aspect of Powerlink's proposal reflects prudent and efficient expenditure. We also could not use Powerlink's cost benefit models with confidence to derive our alternative forecast.

We consider our alternative forecast of \$213.9 million which is based on its historical actuals to be a reasonable forecast in these circumstances. We discuss our findings below.

⁵³ Traction supply are substations that supply the coal transport railway haulage network in Central Queensland from the inland coal mines to coal export ports on the coast.

Common issues

We found common concerns across the projects which lead to an overstatement of capex to mitigate the risk. In its cost benefit modelling we found:

- *Overstatement of safety risk.* Powerlink calculates an average occupancy rate of 25% for each substation.⁵⁴ This appears to be overstated as this assumes an average occupancy of 6 hours a day every day for every substation. A higher occupancy rate means a higher safety risk due to a higher likelihood of personnel being present within the substation at the time of electrical equipment failure. We found Powerlink's calculated occupancy rate for some substations to be more than 100% which is illogical. Based on our experience with previous NSPs' proposals, we consider this risk is overstated in the range of 200% to 300%.
- *Overstatement of financial risk.* Powerlink uses the total cost of replacement to quantify its financial risk rather than the incremental cost of replacement in the event of asset failure (that is, the cost difference between proactive and reactive replacement). Since Powerlink uses a reactive replacement cost premium of 20%, this risk is 500% overstated (that is, counting 120% instead of 20% of cost).
- *Overstatement of benefit in its NPV analysis.* Powerlink uses a 30-year NPV with terminal value. Our standard approach is typically a 20-year NPV for transmission assets (and 15-year NPV for distribution assets) but we also consider terminal value in a case-by-case basis. Powerlink's approach results in a 20% overstatement of overall benefits even if we accept the proposed terminal value in full.
- *Concerns with Powerlink's forecasting approach which places most weight on asset age.* If asset age is used as a primary driver of the capex forecast, the forecast will be overstated because when asset condition is assessed during the regulatory period, less replacement will be required as not all assets of the same age will be in a condition that requires replacement. Powerlink's forecasts are mainly based on the results from its Health Index (HI). Powerlink states that "It gives a total score of between 1 and 10 representing the item's overall condition relative to that of the other items within the specific equipment population."⁵⁵ For substation primary plant assets except power transformers, we found that its Health Index results are based on Powerlink placing the most weight on age (minimum weighing of 40%). It also places weight on other factors which are not related to the condition of the assets such as costs associated with the asset.⁵⁶ Further, we found several examples in its condition assessment where Powerlink notes the condition of the asset is satisfactory, but the recommendation is to still forecast replacement because the asset has reached a certain age. This is inconsistent with accepted industry practice. Good industry practice places more weight on asset condition along with revealed risks to derive the likely probability of failure of each asset. This probability of failure then flows into the cost benefit analysis as a

⁵⁴ Powerlink, *Response to information request 024: Question 10 – Personnel On-Site Calculation*, June 2026 – CONFIDENTIAL.

⁵⁵ Powerlink, *Substation Asset Methodology Framework*, p. 28.

⁵⁶ Powerlink, *Response to information request 024: Question 2 – Substation Asset Health Index Weighting*, June 2026 – CONFIDENTIAL.

separate independent input to enable a monetised assessment to demonstrate the overall net benefit to consumers from proactive replacement.

- *Lack of options analysis.* Similar to line replacement, Powerlink has only considered one option (its preferred option) in its cost benefit analysis alongside the ‘do-nothing’ case. Thus, lower cost options have not been considered and quantified which reduces our confidence that its preferred option is efficient.
- *Inefficient opportunistic replacement which is not based on economic justification.* Based on our review of Powerlink’s inflight substation projects this period (that is, projects in progress in the current period), Powerlink is proposing considerably more bundled replacement of primary plant and secondary system assets within the same substation at the same time, compared to the current period. Powerlink has not provided sufficient economic assessment for the material step up in bundled replacement compared to its historical practices.

Specific issues

For the dedicated transformer replacement projects across 10 substations, we found that Powerlink provided sufficient evidence to support the prudence and efficiency of the forecast. Our draft decision is to include \$46.4 million for these projects in the total capex forecast.

We had regard to the following in coming to our draft decision:

- Powerlink’s condition assessment of its transformers to be robust in identifying at-risk transformers;
- The replacement forecast is primarily based on the quantitative results of the condition assessment rather than age (that is, oil and electrical test results);
- Testing of the preferred option with low-cost solutions like transformer refurbishments and life extensions;
- The proposed forecast for transformer replacement is either in line or less than historical spend.

For traction supply, Powerlink has not provided sufficient evidence to demonstrate that its wider customer base will not be subsidising its proposed investment in traction supply infrastructure.

Powerlink currently provides 132kV connection to traction supply customers (rail haulage operators) who then utilise 132/50kV transformers to provide supply to individual rail track sections. While we acknowledge the potential need for some of these investments, given that the benefit is to a specific large user, we consider that the wider customer base should not be bearing the cost of this investment.

While Powerlink has referred to its Cost Allocation Methodology (CAM) and Pricing Methodology in its response to our information request, we have not been provided sufficient evidence that cross subsidises will not be incurred if we are to accept the forecast of \$184.7 million of traction supply replacements.⁵⁷ We encourage Powerlink to provide a price

⁵⁷ Powerlink, *Response to information request 024: Question 12 – Part 3 substation reinvestment*, June 2026 – PUBLIC.

impact analysis with and without the traction supply investments, as well as a letter of support from its large user for this proposed investment in its revised proposal.

For its second spare transformer, Powerlink is proposing a second spare 275/132kV transformer at a cost of \$13.7 million. It submits that the need for this investment is to maintain an equivalent risk of a second transformer failure. Powerlink submit that this is because there has been an increase in lead time in recent years to procure a new transformer to replenish the spare transformer after a transformer failure.

Powerlink have not provided sufficient evidence to demonstrate the prudence and efficiency of this proposed investment because:

- While it is standard industry practice to maintain a spare transformer, it is not standard industry practice to maintain a second spare transformer of the same voltage type without a robust justification on its criticality of supply. It is also not a regulatory obligation to maintain an equivalent risk of a second transformer failure;
- It did not provide a cost benefit analysis to demonstrate positive net benefit of its proposed approach;
- Powerlink's derived failure rate of 21% for its oldest transformers at 42 years old appears high compared to other networks, with a lack of supporting information on the root causes and reparability of historical failures⁵⁸;
- There is a lack of an options analysis. Given the low probability nature of the event (namely, 3 non-repairable transformer failures of the same voltage ratio), Powerlink did not consider whether this risk can be sufficiently managed through better operational responses including shuffling its incoming new transformers from planned projects on anticipation of a second transformer failure after the first transformer failure or simply retain a retired transformer in working condition as an emergency second spare at minimal cost.

A.1.2.3 Secondary systems

Powerlink proposes \$429.4 million for its secondary systems program in 2027–32. This represents an increase of approximately 100% based on Powerlink's historical actuals for the first 3 years in the current period.⁵⁹ Our draft decision is to not include Powerlink's forecast into the total capex forecast and to include an alternative forecast of \$229.4 million.

Secondary systems are typically made up of control, protection, monitoring and communication equipment located inside substations. Powerlink submits the primary driver of its forecast is to manage the obsolescence of its equipment.⁶⁰ Powerlink's secondary systems replacement program comprises:

⁵⁸ Powerlink, *Response to information request 024: Question 3 – Attachment 1 – Transformer POF*, June 2026 – CONFIDENTIAL.

⁵⁹ Powerlink, *Response to information request 008: Attachment 1 – Incurred capex and adjustments*, April 2026. Based on extrapolating a 3-year average for 5 years.

⁶⁰ Powerlink, *2027–32 Revenue Proposal*, January 2026, p 53.

- \$320.8 million (or 75% of the total program) of stand-alone secondary systems replacement projects. These projects are presented in Table A1.4.
- \$108.6 million (or 25% of the total program) of secondary systems replacements as part of Powerlink’s proposed substation replacement projects. These are presented in Table A1.3 in section A.2.2.

Table A1.4 Powerlink’s proposed forecast for standalone secondary systems projects (\$million, 2026–27)

Standalone secondary systems projects	Powerlink’s forecast
Alan Sherriff	13.8
Mudgeeraba	18.2
Murarrie	30.5
Molendinar	48.8
Middle Ridge	31.9
Goodna	36.2
Strathmore	16.2
Garbutt	8.1
Ashgrove West	22.2
South Pine 275 kV	30.4
South Pine 110 kV	17.8
Townsville South	10.3
Biloela	13.0
West Darra	5.9
In flight projects	17.6
TOTAL	320.8

Source: Powerlink’s proposal.

Notes: Numbers may not sum due to rounding. Numbers exclude capitalised overheads.

We came to our draft decision having regard to the following findings:

- Powerlink provided insufficient information to demonstrate it has explored lower cost options to test its preferred options.
- Powerlink’s preferred secondary system replacement options vary across each substation. These options range from replacing all panels within a new building, replacing all panels in existing buildings, and replacing all devices (i.e. relays) in existing panels in existing buildings (in-situ replacement). While Powerlink submitted that multiple sites are feasible for in-situ replacement, only one site (South Pine) was chosen for this

lower cost solution.⁶¹ It did not provide sufficient information to justify choosing the higher cost replacement options for the other sites. Based on the information before us, Powerlink has also not explored lower cost options such as repairs or device level replacement (rather than replacing all devices and equipment in existing panels).

- For projects at an early stage of development, Powerlink proposed a single option for each substation that it considered to be the most credible solution at the current point in time.⁶² Based on the information before us, most of these options are high-cost new building replacements or replacing whole new panels in existing buildings. It submits that for these projects, the need and options analysis will be performed closer to the time of project delivery, which may occur post release of the determination.⁶³ This indicates that lower cost credible solution(s) are probable as the project development matures during the period. We consider Powerlink has not sufficiently considered the level of lower cost options at the time of developing its revenue proposal which leads to an overestimate of its replacement requirements. We do not consider this prudent and efficient from a portfolio point of view as it indicates a lack of a top-down challenge.
- Like substation primary plant replacement (section A.1.2.2), we have concerns that Powerlink's forecasting approach is based on asset age. Powerlink's health index for its secondary systems assets is primarily age based and does not consider condition and performance across its network. We consider good industry practice places more weight on asset condition along with historical revealed risks to derive the likely probability of failure of each asset.
- Powerlink's submitted failure data indicates there is no increasing failure trend among any of its secondary system assets.⁶⁴ It also provided historical information from 2015 indicating there has been little impact to customers due to secondary systems faults.⁶⁵ Given the proposed step up in Powerlink's expenditure for secondary systems, we expect it to provide robust evidence of the risk the assets pose to maintaining the safety and reliability of its network.
- Powerlink also submitted that it found several potential inaccuracies in its failure data, which is used to derive its probability of failure.⁶⁶ Given these errors with its probability of failure data, we have concerns with the robustness of its intervention decisions and hence the prudence of its proposed expenditure.
- Powerlink deferred 5 projects from the current 2022–27 period into the forecast 2027–32 period with significantly higher costs. While Powerlink submitted that some of its assets

⁶¹ Powerlink, *Response to information request 022: Secondary system replacements – Question 7 – Attachment 1 – Secondary systems in-situ assessment*, May 2026, p 1.

⁶² Powerlink, *Response to information request 022: Secondary system replacements – Question 7*, May 2026, p 1.

⁶³ Powerlink, *Project Pack – CP.02796 Goodna Secondary System Replacement - PUBLIC*, January 2026, p 2.

⁶⁴ Powerlink, *Response to information request 022: Secondary system replacements – Question 1*, May 2026.

⁶⁵ Powerlink, *Response to information request 022: Secondary system replacements – Question 3*, May 2026, pp 3–5.

⁶⁶ Powerlink, *Response to information request 022: Secondary system replacements – Question 1*, May 2026, pp 1–2.

have doubled in price over the last 4 years, it did not provide evidence that this applies to secondary systems assets and has therefore not provided sufficient information to support these substantial price increases.⁶⁷ While Powerlink has updated the costings of its deferred projects, it has not undertaken corresponding updated condition and economic assessments. Given the material increase in project costs, we would expect a prudent NSP to also undertake updated condition assessments and cost benefit analyses to validate that these projects still result in a positive benefit to consumers including the confirmation of efficient investment timing.

We consider there are significant information gaps in Powerlink’s proposal which do not justify the significant increase in its forecast relative to historical levels. We therefore include an alternate forecast of \$229.4 million based its historical expenditure.⁶⁸ Appendix D sets out the information we seek from Powerlink in support of its proposed secondary systems program to address the issue raised above.

A.1.2.4 Security and Compliance

Powerlink proposes \$137.2 million of capex for security and compliance. Our draft decision does not include Powerlink’s forecast into the total capex forecast and instead includes our alternative forecast of \$32.5 million. The main driver of our reduction is the Substation Physical Security program. Table A1.5 is a summary of Powerlink’s forecast security and compliance by program and our draft decision at the project level.

Table A1.5 AER’s draft decision on Powerlink’s security and compliance program (\$million, 2026–27)

Project	Powerlink’s forecast	AER’s draft decision
Substation Physical Security	126.1	21.4
Security and Compliance Trend Based	11.1	11.1
Total	137.2	32.5

Source: Powerlink’s proposal and AER analysis.

Notes: Numbers may not sum due to rounding. Numbers exclude capitalised overheads. Powerlink included \$6.3 million of Wide Area Monitoring, Protection And Control programs (WAMPAC) programs as part of Security and Compliance. This has been assessed as part of Future Grid below.

Substation Physical Security

Powerlink submits that its proposed \$126.1 million in capex for substation physical security is due to regulatory obligations to meet the *Security of Critical Infrastructure Act 2018* (SoCI Act), following Powerlink’s internal and external assessments of its current security capabilities.⁶⁹ We do not consider Powerlink’s forecast is prudent and efficient and have included an alternative forecast of \$21.4 million.

⁶⁷ Powerlink, *2027–32 Revenue Proposal*, January 2026, pp. 10–11.

⁶⁸ Based on Powerlink’s historical actuals for the first 3 years in the current period.

⁶⁹ Powerlink, *Substation Security Uplift – Investment Case – PUBLIC*, January 2025, p. 5.

We note the RPRG's submission requested that the AER undertake a close review of Powerlink's substation physical security expenditure including its risk assessment used to inform its cost benefit analysis.⁷⁰

While Powerlink has obligations under the SoCI Act and Critical Infrastructure Risk Management Program (CIRMP) Rules, there are multiple ways of satisfying these obligations, with differing costs and levels of risk reduction. The CIRMP Rules require critical infrastructure operators to minimise or eliminate material risks, and mitigate relevant impacts, 'as far as it is reasonably practicable to do so'.⁷¹ This requires consideration of whether the time, cost and effort of a mitigation measure is justified by the benefit achieved. We consider it good industry practice to use the SoCI Act and the CIRMP Rules to inform and guide Powerlink's investment decision making.

We came to our draft decision having regard to the following findings:

- Powerlink provided insufficient site-specific risk assessment information to support its cost benefit analysis. Powerlink submits that it will perform a targeted risk assessment closer to project delivery to refine the scope.⁷² We consider this methodology could overestimate project requirements.
- Powerlink's benefits are significantly overstated relative to its historical incident experience.
- Powerlink's forecast costs for several physical security initiatives are significantly higher than its peers, when comparing unit costs with similar sized substations of similar criticality. This appears to be primarily due to the scope of works proposed for various substations, rather than the element costs for each initiative (e.g. cameras, signs, fencing). We also identified deficiencies in Powerlink's cost modelling that reduce our confidence in the robustness of its estimates.

Our alternate forecast of \$21.4 million for substation physical security consists of 2 parts:

- \$10.0 million – This is a conservative estimate for business-as-usual work based on our analysis of Powerlink's costs for annual historical intrusion events.⁷³ This is in line with its historical business-as-usual physical security expenditure.⁷⁴
- \$11.4 million - Additional perimeter security measures in response to the changing risk to critical infrastructure.
- We discuss our draft decision for Powerlink's proposed physical security program in more detail in confidential Appendix E.

⁷⁰ RPRG, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 33.

⁷¹ Security of Critical Infrastructure (Critical Infrastructure risk management program) Rules 2023, s. 11(1)(b). *Management Program*, March 2025.

⁷² Powerlink, *2027–32 Revenue Proposal*, January 2026, p 54.

⁷³ Powerlink, *Response to Information Request 007: Question 1 – CONFIDENTIAL*, 24 April 2026.

⁷⁴ Powerlink, *2027–32 Revenue Proposal*, January 2026, p 45.

Security and compliance trend based

Powerlink proposed \$11.1 million for the Security and Compliance trend-based expenditure. Powerlink submits that this includes environmental upgrades, and OT security management. We are satisfied with Powerlink’s trend-based methodology and confirmed there is no overlap with the substation physical security program. Therefore, we accept Powerlink’s forecast of \$11.1 million.

A.1.2.5 Operational and Communication Technology

Our draft decision is to not include Powerlink’s forecast of \$273.3 million for operational and communication technology replacement expenditure into the total capex forecast and to include an alternative forecast of \$184.8 million. Table A1.6 below sets out the programs comprising Powerlink’s forecast.

Our alternative forecast is 32.4% lower than Powerlink’s forecast and is driven by our draft decision to not accept Powerlink’s Future Grid program, and by a lower forecast cost for communications replacement and for cyber security-related replacement of operational technology assets.

Table A1.6 AER’s draft decision on Powerlink’s operational technology and communications repex forecast (\$ million, 2026–27)

Project	Powerlink’s proposal	AER’s draft decision
Communications network replacement	115.5	106.1
Operational technology – Future Grid program	59.4	-
Operational technology – cyber-security related replacement	37.6	18.0
Operational technology – Advanced Energy Management System	15.3	15.3
Operational technology – other replacement	45.4	45.4
Total	273.3	184.8

Source: Powerlink’s proposal and AER analysis.

Notes: Numbers may not sum due to rounding. The future grid program includes WAMPAC expenditure, some of which Powerlink included within its Security and Compliance proposal. We assessed future grid in its entirety in this section. Operational technology (OT) cyber-security related replacement was assessed by Oakley Greenwood as part of total cyber security expenditure. This is discussed in section 3.3.4 of Attachment 3. Our draft decision of \$18.0 million is included, along with \$2.8 million of ICT related cyber security capex, in Table 3.9 of Attachment 3.

Communications replacement

Powerlink’s forecast communications replacement expenditure is predominately comprised of its telecommunications consolidation program (\$73.2 million) and replacement of its operational wide area network (OpsWAN) (\$40.1 million).

Powerlink’s current communications network consists of several layers of different technologies. The oldest technology layer (PDH) has been employed in the network since

the late 1980s, with only one remaining vendor. Other technology layers (SDH and MPLS) were installed between 2011 and 2016. Powerlink submits that the current telecommunications platforms are approaching end of life, with manufacturer support expected to end progressively between 2023 and 2027. Powerlink proposes to replace these assets via its telecommunications network consolidation project.⁷⁵

The main telecommunications network is complemented by Powerlink's OpsWAN, which enables data communications between Powerlink's corporate head office, its Business Continuity Site (BCS), remote substations, and telecommunications sites. Powerlink's OpsWAN assets have typically been deployed in an ad hoc fashion within the scope of substation refurbishments and secondary systems replacements. Powerlink submits that many of these devices can no longer be procured, and are either beyond manufacturer support or in a limited support mode.

Powerlink proposed both projects in its 2022–27 revenue proposal.⁷⁶ We accepted both projects in full in our 2022–27 revenue determination, as part of our decision to accept the entirety of Powerlink's 2022–27 capex forecast.⁷⁷ Powerlink submits that it encountered technology challenges that resulted in project delays.⁷⁸ Powerlink proposes to undertake its telecommunications consolidation and OpsWAN replacement projects in 4 stages. The first stage has already commenced and Powerlink forecasts it will be completed in 2027. Proposed capex for the 2027–32 regulatory control period reflects the costs of the final 3 stages.

Powerlink's revised cost forecasts for its communications replacement capex in its 2027–32 proposal indicate a significant real cost increase over Powerlink's forecasts from its 2022–27 proposal.

We accept that it is prudent for Powerlink to consider replacement of its telecommunication assets given the increasing lack of vendor support and evolving operational needs resulting from increased penetration of intermittent generation. Whether replacement should go ahead or not, and the staging or timing of any replacement, should be the result of a cost-benefit analysis, comparing the replacement cost against the costs of managing an ageing system. Powerlink did not provide a cost-benefit analysis with its 2027–32 revenue proposal, nor an explanation of how its cost forecasts were derived.

In the absence of a robust and up-to-date cost-benefit analysis and detailed supporting information on how Powerlink's cost forecasts were derived, we estimate an alternative forecast for communications asset replacement of \$106.1 million (\$2026–27) based on Powerlink's historical spend in the current regulatory control period.

⁷⁵ Powerlink, 2027-32 Revenue Proposal - Project Pack - Telecommunications Network Consolidation and Equipment Replacement Programme, January 2026, p 2.

⁷⁶ Powerlink, 2022–27 Revenue Proposal – capex model, January 2021.

⁷⁷ AER, *Final decision – Powerlink Queensland transmission determination 2022–27*, April 2022, p 47.

⁷⁸ Powerlink, 2027–32 Revenue Proposal, January 2026, p 47.

Future Grid

Our draft decision is to not accept Powerlink's forecast of \$59.4 million (\$2026–27) for its proposed Future Grid program, and to not include any forecast for this program in our alternative capex forecast. We consider the Future Grid program to be a discretionary program that Powerlink has not sufficiently demonstrated is efficient to undertake in the 2027–32 regulatory control period.

Powerlink submits that the energy transition shift from a small number of synchronous thermal generators to many intermittent renewables places strain on its ability to continuously operate the network within the required operational limits. Powerlink submits that its Future Grid program is to enhance operational capability, primarily in the control room, via 3 investment streams:⁷⁹

- Forecasting and Data Support (\$16.7 million): Powerlink states that this is to enhance forecasting for load, generation and the overall improvement of network resilience.
- Decision Support (\$31.6 million): Powerlink states that this is to improve control room situational awareness, operational safety and overall decision making.
- Wide Area Monitoring, Protection and Control (WAMPAC, \$11.0 million): Powerlink submits this is to upgrade protection tools with dynamic controls, visualisations and integrating grid technologies.

While Powerlink has categorised the Future Grid project as replacement expenditure, we consider it may be more appropriately categorised as augmentation.

We consider that Powerlink has reasonably identified that operational complexity is likely to increase in the long-term as synchronous generation is replaced by intermittent renewables. However, Powerlink has not demonstrated that the timing and scope of the proposed expenditure is efficient.

We have concerns with Powerlink's cost-benefit analysis. We consider that the project has an overall negative net benefit as Powerlink's estimated benefits are unsupported and appear overstated. For example, Powerlink submits that there will be benefits from labour reductions, however Powerlink has not explained how consumers would realise these labour savings (e.g. through FTE reductions). We also consider Powerlink's reliability benefits are overstated and no supporting evidence has been provided to demonstrate the loss of supply frequency, duration, and system black assumptions.

Powerlink submits that the Future Grid project consists of implementing several modules which are likely to have different capabilities and benefits. However, Powerlink's cost-benefit assessment⁸⁰ for its Future Grid project did not provide sufficient detailed information to assess the net benefits of individual modules, their interdependencies, or the optimal mix and timing of modules. A staged implementation that recognises the individual module costs and benefits may result in a project scope that has a higher net benefit. We also consider that a staged approach may result in more efficient timing as the need becomes greater with the

⁷⁹ Powerlink, *2027-32 Revenue Proposal Appendix 4.08 Future Grid Operations Technology Investment Plan*, January 2026, p 16.

⁸⁰ Powerlink, *Response to AER Information Request IR#005a – attachment 1 FGOT NPV model*, May 2026.

energy transition progression. This would also allow for greater certainty of requirements and reduce implementation risks. Powerlink has not considered a staged implementation over 2 regulatory cycles, or any different timing options other than its preferred project timing.

Powerlink submits that the Future Grid project builds on the foundational capabilities provided through Powerlink's Advanced Energy Management System (AEMS).⁸¹ As discussed below, Powerlink forecasts its AEMS project to be completed in 2027–28, although the AEMS project and the complementary communications replacement projects have been subject to significant delays and cost overruns. Taking this into account, we consider that Powerlink should consider a staged implementation of its Future Grid project.

Therefore, on the information currently available to us, we do not consider the proposed Future Grid expenditure to be prudent or efficient and do not include any forecast for this project in our alternative total capex forecast.

Advanced Energy Management System

Our draft decision is to include Powerlink's forecast of \$15.3 million (\$2026–27) into the total capex forecast for completion and deployment of its AEMS.

The energy management system receives real-time data from measurement points across the transmission network and processes this data to provide situational awareness to Powerlink's control centre and support the real-time operation of the power system. Powerlink submits that its energy management system has reached end-of-life, exceeding its original design life and extended vendor support period.⁸²

Powerlink proposed to replace its energy management system through its AEMS project in its 2022–27 revenue proposal. In our determination for Powerlink's 2022–27 regulatory control period (the current period) we accepted Powerlink's AEMS capex forecast of \$6.4 million (\$2026–27) in full, noting Powerlink also forecast \$47.7 million of AEMS expenditure in the 3 years preceding the 2022–27 regulatory control period.⁸³

In its 2027–32 revenue proposal, Powerlink submitted that the project has been delayed, and its actual expenditure on the AEMS project in the previous and current regulatory control periods has significantly exceeded earlier cost forecasts. However, Powerlink forecasts the project to be completed in the 2027–28 regulatory year, with the forecast capex of \$15.3 million reflecting a relatively small portion of overall project cost.

We accept that Powerlink's current energy management system has reached the end of its design life and that it is prudent to consider its replacement. We consider it is likely that the benefits of Powerlink's AEMS will exceed the residual cost of \$15.3 million, with a significant portion of benefits realizable at project completion. We accept Powerlink's AEMS capex forecast as prudent and efficient.

⁸¹ Powerlink, *Response to AER Information Request IR#0024*, June 2026, p. 7.

⁸² Powerlink, *2027–32 Revenue Proposal*, January 2026, p. 44.

⁸³ Powerlink, *2022–27 Revenue Proposal – capex model*, January 2021; AER, *Final decision – Powerlink Queensland transmission determination 2022–27*, April 2022, p. 47.

Other replacement of operational technology

Our draft decision is to include Powerlink’s forecast of \$45.4 million (\$2026–27) into the total capex forecast for the replacement of other operational technology assets, such as software, servers, data storage, data centre support, routers, load balancers, workstations, and wallboard.

Powerlink provided only limited supporting justification for this forecast expenditure, outlining the activities and expenditure proposed but without cost-benefit analysis or asset condition reports.⁸⁴

However, Powerlink’s forecast expenditure for the 2027–32 period compares favourably when benchmarked against Powerlink’s historical expenditure on operational technology replacement, and against similar operational technology capex forecasts included in our recent regulatory determinations for other transmission businesses. On this basis we accept Powerlink’s forecast and include it in our total capex forecast.

Other replacement

We categorised the remainder of Powerlink’s repex proposal as ‘other replacement’, which includes \$98.3 million. Most of this expenditure relates to:

- Current and voltage transformer replacements (\$47.8 million)
- DC systems replacements (\$21.3 million)
- Procurement of a spare 275/132 kV transformer (\$13.7 million)
- Trend-based replacements (\$15.5 million).

Aside from the procurement of the spare 275/132 kV transformer, we are satisfied that Powerlink’s forecast for these programs is prudent and efficient. We consider the proposed expenditure is broadly consistent with historical expenditure and that Powerlink’s forecasting methodologies are reasonable.

As discussed in substation primary plant, we have not included Powerlink’s forecast of \$13.7 million into the total capex forecast for the procurement of a spare 275/132 kV transformer. Accounting for this, our draft decision includes an alternative forecast of \$84.6 million for other replacement capex.

A.2 Property

Powerlink proposes \$165.5 million for property capex. Our draft decision is to not include Powerlink’s forecast for property capex in our total capex forecast, and to instead include our alternative forecast of \$42.7 million.

Table A2.1 provides a breakdown of Powerlink’s property capex forecast and our draft decision.

⁸⁴ Powerlink, *2027-32 Revenue Proposal Appendix 4.07 Operational Technology Plan*, January 2026.

Table A2.1 AER’s draft decision on Powerlink’s property forecast (\$ million, 2026–27)

Project	Powerlink’s forecast	AER’s draft decision
Sustaining Current Buildings	10.8	10.8
Virginia Uplift	91.4	16.5
New Eagle Farm Depot	14.7	0
Gladstone Hub	48.6*	7.8
Total	165.5	42.7

Notes: *Powerlink revised its forecast to \$7.8 million in April 2026.

We have included some parts of Powerlink’s property forecast where it has provided sufficient evidence to support prudence and efficiency of the forecast. In particular, we have included Powerlink’s forecast for Gladstone Hub and the ‘Sustaining Current Buildings’ program in the total capex forecast.

For Gladstone Hub, Powerlink proposed \$48.6 million for the Gladstone Hub in its initial proposal. In response to an IR, Powerlink stated that it had revised its forecast to \$7.8 million because of changes to its scope of works and cost model due to a change in its operational requirements.⁸⁵ Its revised preferred option takes advantage of a leasing option, with an option to buy at a later date should the need arise. While there is limited demonstration of benefit, we consider Powerlink has demonstrated the need for this project and that its preferred option is efficient.

We have also included expenditure for Powerlink’s recurrent capex required to maintain its properties (i.e. Sustaining Current Buildings program) into the total capex forecast. Based on the information before us, we consider this is Powerlink’s recurrent requirement to maintain its existing properties.

The rest of this section discusses the remaining areas of Powerlink’s property forecast which we found to not be prudent and efficient.

Virginia Uplift and New Eagle Farm Depot

We have not included Powerlink’s forecast for the Virginia Uplift project into the total capex forecast. Powerlink did not provide sufficient information to demonstrate the prudence and efficiency of its forecast. Instead, we have included in our alternative forecast the estimate Powerlink provided to maintain the Virginia site. We have also not included the forecast for the proposed New Eagle Farm Depot, given the linkage of this project with the Virginia Uplift, where staff would be relocated to New Eagle Farm Depot while the Virginia site is being redeveloped.

Powerlink’s preferred option includes the relocation of the Field and Asset Management division to the Pinkenba site and the redevelopment of 2 of its buildings at its Virginia

⁸⁵ Powerlink, *Response to AER Information Request IR#009 – Q4 – Attachment 1 – Gladstone Hub Investment Case Addendum*, April 2026.

campus (Edison and Tesla). Powerlink identified the need for the project as changing operational requirements due to organisational growth and the need to upgrade aged facilities that it states are no longer fit for purpose.⁸⁶

In support of its proposal, Powerlink provided an investment case which included information about the New Eagle Farm Depot project given Powerlink's proposal to relocate staff between these 2 sites. In response to an information request, Powerlink provided further details on its proposed Virginia Uplift project.⁸⁷ This included:

- A cost model that compares the costs of different options.⁸⁸
- A condition assessment report published by its consultant, Napier and Blakeley.⁸⁹
- A future workplace options analysis in support of its workplace accommodation strategy.⁹⁰

We arrived at our draft decision having regard to the following:

- The scope of the assessment report assumes that Powerlink's preferred option would occur and there was no testing of other feasible options. We therefore do not consider that this report is evidence of the prudence or efficiency of the Virginia uplift project. Typically, independent property condition reports test the preferred option under the counterfactual "do nothing" scenario which includes any statutory requirements to maintain the existing buildings under the applicable building codes. The Napier and Blakeley report states that the buildings are in fine condition, even though it is prepared under the assumption that these buildings will be demolished in the forecast period.⁹¹ It appears that the independent property report constrains the scope of its advice to the time of Powerlink's proposed investment without further consideration of whether the existing buildings can be further maintained and the associated works that might be required. This means there may be a case to defer this investment with a more cost-effective option that its consultant has not explored and documented.
- Powerlink's assessment of the identified need is qualitative, with a lack of quantification of potential risks. We also note that Powerlink's "do nothing" counterfactual has the lowest cost of all the options proposed, which implies that its preferred option is not the most efficient one. Powerlink also does not include a leasing option in its option analysis, despite using such an option for its Gladstone hub proposal. We therefore consider that Powerlink has not properly explored all options to ensure the lowest annualised cost for consumers.

⁸⁶ Powerlink, *Virginia Campus Uplift – Investment Case*, October 2025, PUBLIC.

⁸⁷ Powerlink, *Response to AER Information Request IR#009*, April 2026.

⁸⁸ Powerlink, *Response to AER Information Request IR#009 – Q4 – Attachment 3 – NPV Model Virginia Uplift*, April 2026, CONFIDENTIAL.

⁸⁹ Powerlink, *Response to AER Information Request IR#009 – Q4 – Attachment 1 – Technical Due Diligence Report*, October 2025, CONFIDENTIAL.

⁹⁰ Powerlink, *Powerlink – Future Workplace Options Analysis Report*, September 2026, CONFIDENTIAL.

⁹¹ Powerlink, *Response to AER Information Request IR#009 – Q4 – Attachment 1 – Technical Due Diligence Report*, October 2025, CONFIDENTIAL, p 3.

We note that our reduction to the Virginia (and New Eagle Farm depot) forecast also aligns with our overall reduction to Powerlink's total capex forecast. Powerlink expects staff numbers to increase post the Virginia uplift project because of the increase in investment proposed in the forecast period. As we are proposing a material reduction in its total capex forecast, it is reasonable to assume that the increased staffing levels will not be required which in turn means less property expenditure is required to support staff.

We also note that the Powerlink's New Eagle Farm depot is proposed to be built on the Pinkenba site. We consider that separate prudence and efficiency assessments need to be undertaken – on the asset that the land resides on as well as the land itself. We assessed the cost of the Pinkenba site in our ex-post review (see Appendix C) and found it would be prudent and efficient. We have therefore rolled the cost of the Pinkenba site into Powerlink's opening RAB for 2027–32.

We also recognise the linkages between the required network operations control room at Virginia campus and Powerlink's Future Grid program. The implementation of the Future Grid program may contribute to establishing the prudence of some level of uplift to the Virginia Campus. We encourage Powerlink to provide information to support both the Future Grid program and a network operations control room at the Virginia campus.

A.3 Easements

Powerlink proposed \$253.8 million for easements in 2027–32. Our draft decision is to not include Powerlink's forecast for easements in our total capex forecast, and to instead include our alternative forecast of \$17.1 million.

Table A3.1 provides a breakdown of Powerlink's easement forecast and our draft decision.

Table A3.1 AER's draft decision on Powerlink's property projects (\$ million, 2026–27)

Easements	Related projects	Powerlink's forecast	AER's draft decision
Southern Cairns Area Substation	Future project – 132kV Substation Site and 132kV Line	11.9	1.9
Nebo to Bouldercombe	Contingent project – Central to North Queensland Reinforcement	129.9	0
Reide River Third Circuit Cut in	Contingent project – Central to North Queensland Reinforcement	26.3	0
Calliope River to Wurdon	Contingent project – Gladstone Area Augmentation	44.0	0
Southern Logan Sub Site	Future project – New 275/110/33kV substation site	31.4	4.9
Other minor easement acquisition		10.3	10.3
Total		253.8	17.1

Source: Powerlink's regulatory proposal; AER analysis.

As can be seen in Table A3.1, we have included Powerlink's forecast for 'Other minor easement acquisitions' into our total capex forecast as Powerlink provided sufficient evidence to support the prudence and efficiency of the forecast. We note that these easement acquisitions are a carryover from the current period related to projects already in progress. This expenditure is set to occur in the early years of the forecast period.

However, as is also evident from Table A3.1, 3 of the easements proposed for the forecast period are related to 2 contingent projects which have not been accepted in this draft decision. As a result, we did not include these easements in our alternative capex forecast. We invite Powerlink to present additional information in its revised proposal that addresses these contingent project proposals and the links to easement capex.

We arrived at our draft decision based on the observations below:

- 3 of the easements (Nebo to Bouldercombe, Riede River Third Circuit cut in, and Calliope River to Wurdon) are dependent on the acceptance of the Central to North Queensland Reinforcement and Gladstone Area Augmentation contingent projects. We have not accepted these contingent projects, which in turn removes the needs for these related easements. We will revisit the assessment of these easements when we review these contingent projects in Powerlink's revised proposal. We also note that Powerlink states that there might be other drivers associated with these easements in addition to the contingent projects, such as replacement⁹². However, Powerlink did not provide sufficient supporting information to demonstrate the need and timing of the projects in relation to these drivers. We would expect to see a business case and cost-benefit analysis associated with these other drivers should Powerlink resubmit these costs in its revised proposal.
- With the easement forecast for the Southern Carins Area Substation, we found that based on the inputs and options Powerlink has presented in its business case, the estimated cost can be either \$1.9 million or \$11.9 million. Without further supporting information to explain the reasoning for the higher forecast, we have included the lower forecast.
- We identified several reconciliation issues with Powerlink's easement proposal which reduced our confidence in the forecast. This includes:
 - Significant discrepancies between the estimates Powerlink received from an independent certified valuer (Herron Todd White) and what it included in its proposal. For example, the easement costs provided by the valuer for the Nebo to Bouldercombe route was estimated at \$13.5 million, while Powerlink has forecast \$129.9 million next period (and \$188 million in total overall cost).
 - Powerlink included land purchases in addition to easements as part of its forecast for easement capex. However, the cost breakdown between land and easement expenditures is unclear.
 - Powerlink's land value estimates contain some unusual features such as a substantial amount of easement fees for neighbouring properties as well as

⁹² For example, Powerlink has stated that the easement driving CP.02003 Woree to Kamerunga 132kV line reinvestment is based on an upgrade solution that also replaces the existing line.

business disturbance fees. It is not clear the type of monetary transactions or contractual arrangements Powerlink is proposing to take place for properties outside of the immediate easement area.

- For the Southern Logan easement, Powerlink’s proposal considered 2 site options but stated that neither were supported due to potential constraints and community impacts.⁹³ We have also not been able to reconcile either option with the amount that Powerlink has proposed. Based on these inconsistencies, we have taken the lower of the estimates available to us. We encourage Powerlink to provide more detail regarding this easement should it repropose the project in its revised proposal.

A.4 Capitalised overheads

Powerlink proposes \$350.9 million for capitalised overheads. Our draft decision is to not include Powerlink’s forecast for capitalised overheads in our total capex forecast, and to instead include our alternative forecast of \$168.6 million. Our reduction is based upon our recalculation of overheads using the AER standard approach in place of Powerlink’s approach as well as the flow-on impacts to overheads from reductions to the wider capex portfolio.

In its proposal, Powerlink did not include information on the approach it used to forecast overheads. It also did not separate direct and indirect costs (overheads) at a project and programs level. This is because Powerlink derived its capex forecast based on a total cost approach where the overheads are embedded within each project and programs during the estimation process.

When a NSP chooses to use a different approach to forecast capitalised overheads compared to our standard approach, we assess whether its proposed methodology is reasonable. Based on the information before us, we do not consider that Powerlink’s approach is reasonable. We found that:

- Powerlink used a single base year (i.e. 2024–25) to calculate its overhead rate in its estimation process. By contrast, the AER’s standard approach uses 3 to 4 years to ensure that anomalous years do not distort the calculation. Powerlink’s calculated overhead rate is 14%, which our analysis has determined to be higher than the 3-year average based on Powerlink’s reported figures. We also consider that the 2024–25 year may be an outlier given the previous 2 years’ overhead rates are 10% and 11% respectively. However, this is difficult to confirm at the current point in time given the various adjustments Powerlink has made in its historical capex to correct for its past reporting errors. We will be able to further assess whether the overhead rate for 2024–25 is fit for purpose later in the year once we receive Powerlink’s 2025–26 audited actuals and its 2021–25 restated audited actuals.
- Powerlink’s method for calculating overheads does not account for the fact that some percentage of total overheads are fixed. The AER’s standard approach assumes 75% of overheads are fixed and 25% are variable. This means that we expect to see a 1% increase to overheads for every 4% increase to direct capex. Powerlink’s approach

⁹³ Powerlink, *Project Pack CP.03210 Southern Logan Area Substation Site Acquisition*, March 2026, Pp. 30.

assumes that 14% of its total forecast costs are overheads, meaning that there is a 1% increase in overheads for every 1% increase in direct capex (i.e. 100% variable). We consider that Powerlink's approach materially overestimates the overheads required to operate and maintain an efficient network.

- There are material inconsistencies with Powerlink's historical reporting and forecasting of the split between corporate and network overheads. This has resulted in significant difficulties in reconciling Powerlink's historical spend on overheads as well as testing the reasonableness of its overall overheads forecast.

Our alternative forecast uses the AER's standard approach because of the concerns set out above. In particular, Powerlink's approach of blending direct and indirect costs at the project level has made it difficult for us to assess the prudence and efficiency at the capex category level for both direct and indirect costs. Applying our standard approach to Powerlink's forecast direct capex reduced its overheads forecast by \$155.4 million (to \$195.5 million). Our recommended reduction to Powerlink's forecast direct capex results in a further \$38.8 million reduction (to \$156.7 million).

B Contingent Projects

Contingent projects are significant network augmentation or replacement projects that are reasonably required to be undertaken in order to achieve the capex objectives. However, unlike other proposed capex projects, the need for the project within the regulatory control period and the associated costs are not sufficiently certain. Consequently, expenditure for such projects does not form a part of the total forecast capex that we approve in this determination. Such projects are linked to unique investment drivers and are triggered by defined ‘trigger events’. The occurrence of the trigger event must be probable during the relevant regulatory control period.⁹⁴ The cost of the projects may ultimately be recovered from customers in the future if the trigger events are met.

If, during the regulatory control period, Powerlink considers that the trigger event for an approved contingent project has occurred, then it may apply to us to amend its revenue determination.⁹⁵ At that time, we will assess whether the trigger event has occurred, and the project meets the threshold. If satisfied of both, we would determine, among other things, the incremental revenue which is likely to be required by the TNSP in each remaining year as a result of the contingent project being undertaken and amend the revenue determination accordingly.

This appendix details our assessment of Powerlink’s proposed contingent projects as part of its proposal for the 2027–32 regulatory control period.

B.1 AER’s draft decision

Our draft decision is to not accept any of Powerlink’s 7 proposed contingent projects for the 2027–32 period. We consider Powerlink’s contingent projects do not meet the requirements in the NER to be included as contingent projects. We set out our reasoning below and the further information and analysis we seek from Powerlink in its revised proposal. We have also included this information in Appendix D. Appendix D sets out the consolidated set of information for Powerlink to address in its revised proposal.

B.2 Powerlink’s proposal

We engaged with Powerlink on its proposed contingent projects during a workshop in May 2026 and in subsequent meetings. Based on our feedback, Powerlink submitted an updated proposal for its contingent projects which includes revised triggers. This updated proposal was uploaded to the AER website for stakeholder review.⁹⁶

Powerlink submitted an updated contingent project proposal on 30 June, proposing between \$2,957.6 million to \$3,256.1 million for 7 contingent projects for the 2027–32 period. It had

⁹⁴ NER, cl. 6A.8.1(c)(5).

⁹⁵ NER, cl. 6A.8.2(a)(1).

⁹⁶ Available at: <https://www.aer.gov.au/industry/registers/determinations/powerlink-transmission-determination-2027-2032/proposal#updates>

initially proposed 9 contingent projects. These 7 contingent projects are set out in Table B1.1.

Table B1.1 Powerlink’s proposed contingent projects, as updated (\$million, 2026–27)

Contingent project	Total cost
Central Queensland to North Queensland Augmentation	1,579.0
Northern Bowen Basin Reinforcement	107.0
Gladstone Area Augmentation	76.0 to 374.5
Central Queensland System Strength	225.0
South West Queensland Augmentation	79.0
North Brisbane Area Network Development	247.9
Surat Basin Area Network Development	643.7
Total	\$2,956.7 to \$3,256.1

Source: Powerlink 2027–32 Revenue Proposal, Appendix 4.04 Contingent Projects, January 2026 (Updated June 2026); AER analysis.

B.3 Assessment approach

A contingent project should reflect a project that Powerlink can reasonably expect would occur in the 2027–32 period, with uncertainty related to the scope, timing and costs of the contingent project.

We reviewed Powerlink’s proposed contingent projects against the assessment criteria in the NER. We considered whether:

- The proposed contingent project is reasonably required to be undertaken in order to achieve any of the capex objectives.⁹⁷
- The proposed contingent project capex is not otherwise provided for in the capex proposal.⁹⁸
- The proposed contingent project capex reasonably reflects the capex criteria, taking into account the capex factors.⁹⁹
- The proposed contingent project capex exceeds the materiality threshold.¹⁰⁰

⁹⁷ NER, cl. 6A.8.1(b)(1). Relevantly, a TNSP must include forecast capex in its revenue proposal which it considers is required in order to meet or manage expected demand for prescribed transmission services over the regulatory control period (see NER, cl. 6A.6.7(a)(1)).

⁹⁸ NER, cl. 6A.8.1(b)(2)(i).

⁹⁹ NER, cl. 6A.8.1(b)(2)(ii).

¹⁰⁰ NER, cl. 6A.8.1(b)(2)(iii).

- The proposed contingent project and the proposed contingent project capex, and the information provided in relation to these matters, complies with the requirements of any relevant regulatory information instrument.¹⁰¹
- The trigger events in relation to the proposed contingent project are appropriate.¹⁰²

We reviewed whether the contingent project is reasonably likely to be required in the 2027–32 period based on the materiality and plausibility of the trigger conditions. This gives us a high-level view of whether the project is reasonably required to achieve any of the capex objectives and reflect the capex criteria.

We also considered whether the proposed trigger events for each project are appropriate. This includes having regard to the need for the trigger event:

- To be reasonably specific and capable of objective verification.¹⁰³
- To be a condition or event which, if it occurs, makes the project reasonably necessary in order to achieve any of the capex objectives.¹⁰⁴
- To be a condition or event that generates increased costs or categories of costs that relate to a specific location rather than a condition or event that affects the transmission network as a whole.¹⁰⁵
- To be described in such terms that it is all that is required for the revenue determination to be amended;¹⁰⁶ and
- To be a condition or event, the occurrence of which is probable during the 2027–32 regulatory control period but the inclusion of capex in relation to it (in the total forecast capex) is not appropriate because:¹⁰⁷
 - it is not sufficiently certain that the event or condition will occur during the regulatory control period or if it may occur after that period or not at all, or
 - assuming it meets the materiality threshold, the costs associated with the event or condition are not sufficiently certain.

B.4 Reasons for draft decision

Overall, we found the following common concerns across some of Powerlink’s proposed contingent projects:

- The phrasing of trigger events does not sufficiently satisfy the NER requirements. In most cases, the triggers were not reasonably specific and capable of objective

¹⁰¹ NER, cl. 6A.8.1(b)(3).

¹⁰² NER, cl. 6A.8.1(b)(4).

¹⁰³ NER, cl. 6A.8.1(c)(1).

¹⁰⁴ NER, cl. 6A.8.1(c)(2).

¹⁰⁵ NER, cl. 6A.8.1(c)(3).

¹⁰⁶ NER, cl. 6A.8.1(c)(4).

¹⁰⁷ NER, cl. 6A.8.1(c)(5).

verification. Please refer to Appendix D for an example contingent project application that uses our preferred wording for this trigger event.

- Insufficient information was provided to demonstrate the proposed trigger events are probable in the 2027–32 period. For instance, we found a lack of evidence of the capacity constraint which, if it occurs, means the contingent project is necessary to achieve the capex objectives. In some cases, Powerlink did not provide load growth forecasts and expected timing of the load growth, which we would generally expect in support of contingent projects. Due to the lack of forecasts we have used current and historic Distribution Annual Planning Report connection point load forecasts to assess the likelihood of plant limits being exceeded through organic load growth.
- Several contingent projects are based on load growth on sub-transmission networks, rather than load directly connected to Powerlink’s network. We have not seen any evidence of Joint Planning in accordance with NER clause 5.14.1(d) to efficiently address the predicted network overloads. Such growth would typically be captured in a strategic plan or area plan, and would have the Distribution Network Service Provider endorse details of the limitations on its network.
- Some contingent projects appear to be driven by the desire to encourage the commitment of new power generation rather than relating to augmentation that is necessary because of a capacity constraint.
- For some contingent projects, there was a lack of information to assess whether the trigger events are probable and sufficiently uncertain during the 2027–32 period however, based on the information before us, it would appear that the need is more appropriately addressed through augex in the ex-ante period.
- We also note the CCP34’s submission in response to our issues paper, “...that the AER subject the contingent projects to close scrutiny, noting that such projects do not always receive the same depth of consumer engagement, option assessment and customer affordability testing as expenditure included within the primary regulatory proposal.”¹⁰⁸

We discuss our assessment of each of the 7 contingent projects below.

Central Queensland to North Queensland Augmentation

Our draft decision is to not accept Powerlink’s proposed Central Queensland to North Queensland Augmentation contingent project.

This contingent project proposes to augment the network from Central to North Queensland. Powerlink submits that once the eastern section of the CopperString (Mt Isa to Townsville) line is commissioned, it is highly likely that new renewable generation will seek to connect in this region.¹⁰⁹ However, due to capacity limits, bringing this generation to southern load centres will be constrained. To reduce north-south capacity constraints, Powerlink’s contingent project proposes to build 3 new double circuit 275kV lines along its central to north Queensland network.

¹⁰⁸ CCP34, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 3.

¹⁰⁹ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 5.

Powerlink proposed the following trigger events:

- Commitment from the Queensland Government to construct the eastern section of the CopperString network from Flinders (near Hughenden) to a new 275kV substation south of Townsville (Reid River) with the capability to host at least 1,500MW of new low-cost generation, and
- Successful completion of a RIT-T that demonstrates transmission investment is the preferred option (or part of the preferred option) that maximises net economic benefits, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink's 2027–32 revenue determination pursuant to the Rules.

We consider Powerlink's first trigger event, commitment from the Queensland Government to construct the eastern link of CopperString, is not an event or condition, which, if it occurs, makes the undertaking of the proposed contingent project reasonably necessary to achieve any of the capex objectives as per clause 6A.8.1(c)(2). The CopperString transmission line alone does not create a capacity constraint. Rather, Powerlink submits that new generation connecting to CopperString above 1,500MW would cause the constraint.¹¹⁰ We consider a trigger event relating to the commitment of new generation (rather than CopperString) is the event or condition reasonably necessary to achieve any of the capex objectives as per clause 6A.8.1(c)(2).

Powerlink has not provided any substantive information on the north-south capacity limitation, nor any market modelling to ascertain what generation capacity would need to be built before this proposed contingent project becomes economic. Powerlink also has not provided sufficient information on the likelihood and timing of 1,500MW in new generation connecting to CopperString in the 2027–32 period. Given the final 2026 ISP currently has a completion date for CopperString of 2032, we consider it unlikely that this project would be triggered in the 2027–32 period. Even if Powerlink's first trigger event was revised, we consider it is not probable during the 2027–32 period as per clause 6A.8.1(c)(5).

Therefore, our draft decision is to not accept Powerlink's proposed Central Queensland to North Queensland Augmentation contingent project because we are not satisfied that the proposed first trigger event is appropriate having regard to, among other things, the factors set out in clauses 6A.8.1(c)(2) and 6A.8.1(c)(5) of the NER. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink's revised proposal.

Northern Bowen Basin Reinforcement

Our draft decision is to not accept Powerlink's proposed Northern Bowen Basin Reinforcement contingent project.

Powerlink proposes to augment the network in the Northern Bowen Basin area. Powerlink states that the North Bowen Basin 132kV network is currently limited by thermal ratings, and that increased mining operations could exceed current network capability.¹¹¹ To maximise the

¹¹⁰ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 8.

¹¹¹ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 10.

capacity of existing 132kV circuits, Powerlink proposes to install phase-shifting transformers, reactive power compensation, and special protection schemes.¹¹²

Powerlink proposed the following trigger events:

- Increases in agreed maximum demand of customers connected to the Powerlink network between Lilyvale, Nebo and Strathmore exceeds 30MW in aggregate, or
- Notice from Energy Queensland to Powerlink in Joint Planning conducted under NER clause 5.14 that the increase in maximum demand of customers connected to the Energy Queensland network in the Northern Bowen Basin area exceeds 30MW in aggregate, or
- A combination of the above two items where the increase in maximum demand exceeds 30MW in aggregate, and
- Successful completion of a RIT-T that demonstrates that action is needed to comply with regulatory requirements and that transmission investment is the preferred option (or part of the preferred option) that maximises net economic benefits, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink's 2027–32 revenue determination pursuant to the Rules.

Powerlink has provided insufficient information to demonstrate which parts of the network would be affected by the additional load, the circumstances in which existing network capability would be exceeded, or the resulting network constraints. Powerlink submits that 5 existing mines in the area have requested increases to their maximum demand and that further increases may arise from electrification.¹¹³ However, Powerlink has not provided sufficient evidence or associated details to substantiate these potential increases in load. Given the lack of substantive supporting information, we are unable to determine whether the circumstances are such that Powerlink's first 3 trigger events are probable during the 2027–32 period as per clause 6A.8.1(c)(5).

We consider that an additional load of 30MW is likely to be within the uncertainty of Powerlink's central demand forecast and would normally be considered through standard network planning processes. Powerlink has provided insufficient information to explain why the potential load growth is addressed through a contingent project rather than Powerlink's 2027–32 capex forecast. Therefore, we are unable to determine whether it is sufficiently certain or not that the first 3 trigger events will occur during the 2027–32 period such that the project should be included in the 2027–32 capex forecast as per clause 6A.8.1(c)(5)(i).

We also consider Powerlink's first trigger event (increases in customer maximum demand) is not capable of being objectively verified as per 6A.8.1(c)(1). That is, the wording of the trigger event does not allow the AER to ascertain if this event has occurred.

Therefore, our draft decision is to not accept Powerlink's proposed Northern Bowen Basin Reinforcement contingent project because we are not satisfied that the proposed trigger events are appropriate having regard to, among other things, the factors set out in clauses

¹¹² Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 10.

¹¹³ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 10.

6A.8.1(c)(5), 6A.8.1(c)(5)(i) and 6A.8.1(c)(1) of the NER. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink’s revised proposal.

Gladstone Area Augmentation

Our draft decision is to not accept Powerlink’s proposed Gladstone Area Augmentation contingent project.

This contingent project proposes to augment the network to facilitate additional load in the Gladstone area. Powerlink submits that after the completion of the Gladstone Priority Transmission Investment, connection of new or additional loads is expected to result in overloads of one or more circuits in the Gladstone area.¹¹⁴ To facilitate additional load, Powerlink proposes one or more of the following works:

- a) Installation of a power flow control device on an existing circuit between Calvale and Wurdong substations.
- b) Build a double circuit 275kV line between Calliope River and Larcom Creek substations; and
- c) Build a double circuit 275kV line between Calliope River and Wurdong substations.

Powerlink submits that the lower bound estimate (\$76.0 million) represents works (a) and the upper bound (\$374.5 million) represents works (b) and (c). Given this, we consider the proposed contingent project could involve 2 distinctly different (although possibly related) fundamental network needs. Powerlink has not provided enough substantive information to demonstrate the specific network need (or needs) and why the separate works have been combined. We consider undertaking works (a) could impact the need, scope and timing of the remaining works. Based on the information before us, we consider the proposed contingent project could be split into 2 contingent projects.

Powerlink proposed the following trigger events:

- Increases in maximum demand of customers connected to the Powerlink network at Wurdong, Calliope River and Larcom Creek substations exceeds 465MW in aggregate, or
- Notice from Energy Queensland to Powerlink in Joint Planning conducted under NER clause 5.14 that the increase in maximum demand of customers connected to the Energy Queensland network from Calliope River and Larcom Creek substations exceeds 465MW in aggregate, or
- A combination of the above two items where the increase in maximum demand exceeds 465MW in aggregate, and
- Successful completion of a RIT-T that demonstrates transmission investment is the preferred option (or part of the preferred option) that maximises net economic benefits, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink’s 2027–32 revenue determination pursuant to the Rules.

¹¹⁴ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 16.

We consider Powerlink's first trigger event, increases in maximum demand of customers, is not capable of being objectively verified as per clause 6A.8.1(c)(1). That is, the wording of the trigger event does not allow the AER to ascertain if this event has occurred.

In support of the potential load growth, Powerlink submits that there is considerable interest in electrifying existing heavy industrial loads in the Gladstone area and that it has received several new connection enquiries for industrial loads.¹¹⁵ However, Powerlink has not provided any substantive information about these potential new connections and increased load. It also did not provide the capacity of the existing Gladstone area supply arrangement and details of the expected network constraints. Given the lack of substantive information, we consider Powerlink has not substantiated that an aggregate load growth of 465MW is probable during the 2027–32 period as per clause 6A.8.1(c)(5).

Therefore, our draft decision is to not accept Powerlink's proposed Gladstone Area Augmentation contingent project because we are not satisfied the proposed trigger events are appropriate having regard to, among other things, the factors set out in clauses 6A.8.1(c)(1) and 6A.8.1(c)(5) of the NER. We also consider that, if Powerlink were to re-propose this contingent project in its revised proposal, it should consider if it may be 2 separate contingent projects. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink's revised proposal.

Central Queensland System Strength

Our draft decision is to not accept Powerlink's proposed Central Queensland System Strength contingent project.

We consider the proposed Central Queensland System Strength contingent project may be reasonably required to achieve the capital expenditure objectives. However, we have concerns with the proposed triggers and as such the proposed contingent project does not meet the requirements to be included as a contingent project.

This proposed contingent project is part of the system strength RIT-T that Powerlink undertook across 2023 to 2025. The RIT-T found that the preferred option involved development of 9 synchronous condensers across Central and Southern Queensland by June 2034. Powerlink may submit a contingent project application for an initial 4 synchronous condensers in the current regulatory period, and this proposed contingent project is for a further one synchronous condenser at an existing Powerlink substation in Central Queensland.

Powerlink propose the following trigger events:

One or more of the following:

- The announcement of the planned retirement of more than 340MW of synchronous generation capacity in aggregate connected at either or both of the Calvale and Stanwell substations by or before 2034, as recorded in AEMO's Generation Information page, or

¹¹⁵ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 16.

- AEMO projects in its most likely ISP scenario that more than 340MW of synchronous generation capacity in aggregate connected at either or both of the Calvale and Stanwell substations is expected to be retired or mothballed by or before 2034, or
- Written confirmation from AEMO that the minimum number of coal units online at both Callide and Stanwell power stations and synchronous condensers at Calliope River, Stanwell and Nebo for more 0.13 per cent of the time in each financial years is projected to fall below 6 units by or before 2034.

All of the following:

- The AER accepting Powerlink's application for an exemption under NER clause 5.16.4(z3) from having to reapply the RIT-T, and
- The AER accepting updated analysis from Powerlink that demonstrates that Portfolio 2 remains the highest ranking option under the RIT-T and that there has not been a material change in circumstances, or
- The AER accepting updated analysis from Powerlink that demonstrates an alternative option, which may include alternative timing for Portfolio 2, is now the preferred option, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink's 2027–32 revenue determination pursuant to the Rules.

The prescribed trigger events in clause 11.143.18 for the introduction of system strength services would no longer apply in the 2027–32 period, and hence we expect trigger events proposed for further system strength investment to be assessed against the factors in clause 6A.8.1(c) or for the system strength project to be assessed as an ex ante project. Having regard to clause 6A.8.1(c)(3), Powerlink has not identified a specific location where the need for this project arises and refers only to the need occurring at system strength nodes due to existing coal-fired synchronous generators reducing operation and progressing to retirement.

We also have concerns with specific aspects of the proposed trigger wording due to the lack of clarity and that it could be interpreted in different ways.

In a written notice to the AER on 19 August 2026, Powerlink identified that a material change in circumstances (MCC) had occurred for its Addressing System Strength in Queensland from 2025 RIT-T.¹¹⁶ We published our determination specifying actions Powerlink must take to respond to a MCC on 9 September 2026. Having considered Powerlink's notice, our determination accepts Powerlink's proposed actions to address the identified MCC. We considered these actions will support a robust and transparent analysis and provide stakeholders with sufficient opportunity to respond. As part of that determination, we required Powerlink to publish its draft analysis by 19 October 2026 and its final statement by 9 December 2026, in line with the timeframe set out in its proposed actions.

This MCC creates uncertainty regarding the extent and timing of the need for the project. Until that process is complete, we cannot conclusively assess the project's eligibility against

¹¹⁶ Powerlink, *Addressing System Strength Requirements in Queensland from December 2025 – Notification of Material Change in Circumstances Assessment*, August 2026.

the contingent project requirements. We invite Powerlink to reconsider the need for this project following its final statement on the MCC.

Therefore, our draft decision is to not accept Powerlink’s proposed Central Queensland System Strength contingent project because we are not satisfied that the trigger event proposed are appropriate having regard to, among other things, the factor set out in cl 6A.8.1(c)(3). In addition, the current MCC creates uncertainty in the timing of the need for this project. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink’s revised proposal.

South West Queensland Augmentation

Our draft decision is to not accept Powerlink’s proposed South West Queensland Augmentation contingent project.

This contingent project proposes to augment the network between the Darling Downs area and South East Queensland. Powerlink submits that after the completion of the QNI Minor, the network in the Darling downs area will be fully utilised.¹¹⁷ Additional generation in this area is expected to result in potential congestion and increased reliance on higher cost generation.¹¹⁸ To facilitate increased power flows, Powerlink proposes to replace an existing 330/275kV transformer with a higher rated unit and to augment a separate substation with additional 330/275kV transformer capacity.

Powerlink proposed the following trigger events:

- Acceptance by Powerlink, under NER clause 5.3.4A(e), of negotiated performance standards to connect new generating capacity in excess of 750MW to Powerlink’s 330kV network between Braemar, Middle Ridge and the New South Wales border, and
- Successful completion of a RIT-T that demonstrates transmission investment is the preferred option (or part of the preferred option) that maximises net economic benefits, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink’s 2027–32 revenue determination pursuant to the Rules.

Powerlink has not provided any substantive information to demonstrate the likelihood and expected timing of new generation connecting to the affected areas of its network. The final 2026 ISP includes the transformer replacement as a future project with optimal timing of 2041–42.¹¹⁹ The ISP states the earliest timing for this replacement under the accelerated scenario would be 2037–38.¹²⁰ This indicates that a date for this project earlier than 2037–38 is not likely as it would not be economic. Based on the information before us, we consider Powerlink’s first trigger event is not probable during the 2027–32 period as per 6A.8.1(c)(5).

¹¹⁷ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 22.

¹¹⁸ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 22.

¹¹⁹ AEMO, *2026 Integrated System Plan – Appendix A5 – Network Investments*, June 2026, p 65.

¹²⁰ AEMO, *2026 Integrated System Plan – Appendix A5 – Network Investments*, June 2026, p 65.

We also consider Powerlink's first trigger event, acceptance by Powerlink of negotiated performance standards, is not capable of being objectively verified as per 6A.8.1(c)(1).¹²¹ It does not refer any specific evidence that can be used by the AER to verify that it has occurred.

Therefore, our draft decision is to not accept Powerlink's proposed South West Queensland Augmentation contingent project because we are not satisfied that the proposed trigger events are appropriate, having regard to, among other things, the factors set out in clauses 6A.8.1(c)(5) and 6A.8.1(c)(1) of the NER. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink's revised proposal.

North Brisbane Area Network Development

Our draft decision is to not accept Powerlink's proposed North Brisbane Area Development contingent project.

The proposed contingent project proposes to augment the network in the North Brisbane area. Powerlink submits that the primary electricity supply on the north side of the Brisbane River is a 2 kilometre 110kV line from Powerlink's South Pine Substation to Energex's Nudgee substation.¹²² It states that new industries, including a quantum computing facility, will impose significant new load in the North Brisbane area and that the 110kV rating of this cable limits the maximum supportable load.¹²³ To facilitate increased power flows in the North Brisbane area, Powerlink proposes to uprate an existing line to 275kV, construct a new double circuit 275kV line and establish a new 275/110kV substation.¹²⁴

Powerlink proposed the following trigger events:

- New customer connection to Powerlink's part of the South Pine to Nudgee 110kV feeder with an agreed maximum demand greater than 88MW, or
- Notice from Energy Queensland to Powerlink in Joint Planning conducted under NER clause 5.14 that the agreed maximum demand of new customers connected to the Energy Queensland network in the North Brisbane area exceeds 88MW in aggregate, or
- A combination of the above two items where the agreed maximum demand of new customers exceeds 88MW in aggregate, and
- Successful completion of a RIT-T that demonstrates that action is needed to comply with regulatory requirements and that transmission investment is the preferred option (or part of the preferred option) that maximises net economic benefits, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink's 2027–32 revenue determination pursuant to the Rules.

While Powerlink submits that new industries are expected to impose significant additional load in the North Brisbane area, it has not provided load growth forecasts or supporting

¹²¹ We assume that Powerlink's first trigger refers to the negotiated access standards (as per NER clause 5.3.4A) rather than performance standards.

¹²² Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 25.

¹²³ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 25.

¹²⁴ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 25.

information to demonstrate the timing of the additional load.¹²⁵ Based on the information before us, it is not possible for us to determine whether Powerlink’s proposed trigger events are probable during the 2027–32 period as per 6A.8.1(c)(5).

Powerlink submits that PsiQuantum has secured government commitments to develop a quantum computing facility in North Brisbane.¹²⁶ However, based on the information provided, it is unclear whether the proposed contingent project is required to provide connection assets for the facility, augment the shared network to accommodate the connection, or address broader load growth in the North Brisbane area. We note that PsiQuantum has elected to move their site to Petrie and therefore will no longer be placing load on the Nudgee 110 kV network.¹²⁷ Therefore, we do not have sufficient substantive information to assess the need or the timing of this proposed contingent project and therefore to determine whether it is reasonably required to be undertaken to achieve any of the capex objectives as per 6A.8.1(b)(1).

We consider Powerlink’s second trigger event does not identify a sufficiently specific location at which the relevant load increase must occur. As a result, the trigger event does not sufficiently specify the location of the event or condition as per 6A.8.1(c)(3).

Therefore, our draft decision is to not accept Powerlink’s proposed North Brisbane Area Network Development contingent project because we are not satisfied that the proposed project is reasonably required to be undertaken in order to achieve any of the capex objectives under cl 6A.8.1(b)(1), and that the proposed triggers are appropriate having regard to, among other things, the factors set out in clauses 6A.8.1(c)(5), and 6A.8.1(c)(3) of the NER. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink’s revised proposal.

Surat Basin Area Development

Our draft decision is to not accept Powerlink’s proposed Surat Basin Area Development contingent project.

This contingent project proposes to augment the network in the Surat Basin area. Powerlink submits that with the anticipated commitment of the Bungaban windfarm, capacity at the Surat radial network will be fully utilised.¹²⁸ It submits that no material new generation can connect to the Surat Basin network without significant congestion and that this is a deterrent to the bankability of future generation projects.¹²⁹ To increase generation hosting capacity, Powerlink proposes to build 2 new 275kV substations (at Waranna and Auburn River) with a new 275kV double circuit transmission line between them.

Powerlink proposed the following trigger events:

¹²⁵ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 25.

¹²⁶ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 25.

¹²⁷ PsiQuantum, [PsiQuantum Unveils New Australian Site at Moreton Bay Central](#), PsiQuantum website, 2026, accessed 4 September 2026.

¹²⁸ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 28.

¹²⁹ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 29.

- Acceptance by Powerlink, under NER clause 5.3.4A(e), of negotiated performance standards to connect new generating capacity in excess of 1,400MW to the 275kV Surat Basin network, and
- Successful completion of a RIT-T that demonstrates transmission investment is the preferred option (or part of the preferred option) that maximises net economic benefits, and
- Powerlink Board commitment to proceed with the project subject to the AER amending Powerlink's 2027–32 revenue determination pursuant to the Rules.

Powerlink submits that expanding network capacity in the Darling Downs and Surat Basin is part of the optimal development pathway but has provided no information to substantiate this.¹³⁰ The 2026 ISP does not appear to include this project. Powerlink provided no substantive information to indicate the likelihood and timing of greater than 1,400MW of new generation connecting in the area. Based on the information before us, it is not possible for us to determine whether Powerlink's first trigger event is probable during the 2027–32 period as per 6A.8.1(c)(5). We are also unable to determine whether it is sufficiently certain or not that the first trigger event will occur during the 2027–32 period such that the project should be included in the 2027–32 capex forecast as per 6A.8.1(c)(5)(i).

Powerlink has not provided any substantive information to demonstrate the timing of this proposed contingent project, or to explain the identified network need. It is unclear whether this proposed contingent project is a connection asset, part of the shared network, or part of the NEM flow path. Therefore, we do not have sufficient information to assess the need for this project and determine whether it is reasonably required to be undertaken to achieve the capex objectives as per 6A.8.1(b)(1).

We also consider Powerlink's first trigger event, acceptance by Powerlink of negotiated performance standards, is not capable of being objectively verified as per 6A.8.1(c)(1).¹³¹ It does not refer to any specific information that could be used by the AER to verify that it has occurred.

Therefore, our draft decision is to not accept Powerlink's proposed Surat Basin Area Development contingent project because we are not satisfied that the proposed project is reasonably required to be undertaken in order to achieve any of the capex objectives under clause 6A.8.1(b)(1), and that the proposed first trigger event is appropriate having regard to, among other things, the factors set out in clauses 6A.8.1(c)(5) and 6A.8.1(c)(1) of the NER. Please refer to Appendix D for the information we are seeking on this contingent project in Powerlink's revised proposal.

¹³⁰ Powerlink, *Appendix 4.04 – Contingent Projects (Updated)*, June 2026, p 29.

¹³¹ We assume that Powerlink's first trigger refers to the negotiated access standards (as per NER clause 5.3.4A) rather than performance standards.

C Ex-post review

From one control period to the next, the RAB is updated to include actual capex incurred. Clause S6A.2.2A of the NER provides that in certain circumstances we may reduce the amount by which a TNSP's RAB is to be increased as part of the RAB roll forward. One of these circumstances is where a TNSP has spent more than its capex forecast ('the overspending requirement'). In this case, we may exclude capex above the forecast from the RAB if, after an ex-post review, we consider it does not reasonably reflect the capex criteria.

The relevant period over which this ex-post review is to occur comprises the first 3 years of the current regulatory control period and the last 2 years of the preceding regulatory control period. For Powerlink, the ex-post period is 2020–25. This differs from the period covered by clause 6A.14.2(b) of the NER and for the capital expenditure sharing scheme (CESS) benefit/penalty calculation, which for Powerlink is the current regulatory control period, 2022–27.

C.1 Draft decision

We are satisfied that Powerlink's capex overspend in the ex-post period (2020–25 period) of \$101.8 million reasonably reflects the capex criteria (in particular, we are satisfied that it reasonably reflects the prudent and efficient costs to meet the capex objectives). As such, we have included Powerlink's capex overspend of \$101.8 million into the opening RAB for the 2027–32 period.

Our draft decision is that Powerlink's capex overspend is higher than what it has proposed in its regulatory proposal. We found that the capex overspend in the ex-post period is \$101.8 million, 8.9% higher than the AER forecast. Powerlink submits that its capex overspend in the ex-post period was \$79.7 million, 6.3% higher than the AER forecast.¹³² Our review of Powerlink's numbers found this capex overspend to be 5.3%. Further, the capex overspend includes the cost of the Pinkenba site that was acquired during the ex-post period.

In the rest of this section, we discuss Powerlink's proposal, the framework applied to assess the overspend in the ex-post period and reasons for our draft decision.

C.2 Powerlink's proposal

Powerlink submits that it exceeded its capex allowance in the ex-post review period by 6.3%. It states that it does not consider this a significant overspend within the context of the operating environment.¹³³ Powerlink considers that its capex program experienced unprecedented increases in the cost of major plant items, material and skilled resources.¹³⁴

Powerlink, in preparing its revenue proposal, notified the AER of a reduction to actual regulated capital expenditure in 2022–23 to 2024–25 as a result of its review into historical cost allocations. Powerlink has consulted on the reallocation of expenditure with its Revenue

¹³² Powerlink, *2027-32 Revenue Proposal*, January 2026, p 48.

¹³³ Powerlink, *2027-32 Revenue Proposal*, January 2026, p 39.

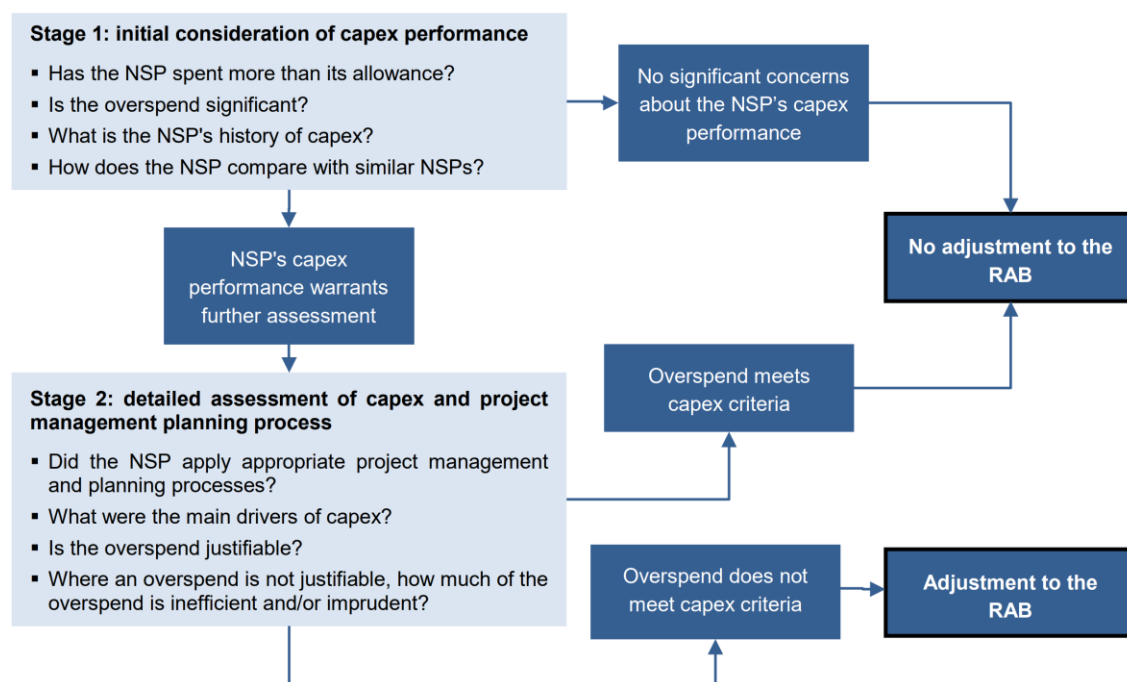
¹³⁴ Powerlink, *2027-32 Revenue Proposal*, January 2026, p 48.

Proposal Reference Group.¹³⁵ In our March 2026 issues paper, we noted that the AER is currently reviewing the reallocation of expenditure and that, in the event that the AER is not satisfied with the reallocation, there is potential for the magnitude of the overspend in the ex-post review period to be significantly higher.

C.3 Staged process for ex-post review

We reviewed Powerlink’s capex overspend in line with the staged review process in the AER’s Capital Expenditure Incentive Guideline for Electricity Network Service Providers (the Guideline).¹³⁶ Figure C1 sets out the staged process. In the first stage, we undertake a high-level assessment of capex overspend. If, from this high-level assessment, we have no significant concerns about the capex overspend, no further assessment would be undertaken. If we consider that the TNSP’s capex overspend warrants further assessment, we would progress to stage 2 which involves a further in-depth bottom-up assessment of the capex overspend.

Figure C1 Staged process for the ex-post review



Source: AER, *Capex Expenditure Incentive Guideline for Electricity Network Service Providers*, April 2023, p 13.

Overall, we have assessed that, at the total forecast capex level, Powerlink’s total capex overspend of \$101.8 million is high, but we have found no significant concerns. We are satisfied that Powerlink’s overspend reasonably reflects the capex criteria, and we consider that a further in-depth assessment of the capex overspend is not warranted. Our reasons are discussed below.

¹³⁵ Powerlink, *Revenue Proposal Reference Group Meeting*, October 2025, p 6.

¹³⁶ AER, *Capital Expenditure Incentive Guideline for Electricity Network Service Providers*, August 2025, pp 18–21.

C.4 Reasons for draft decision

In our ex-post review, we found Powerlink’s capex overspend in the ex-post period to be higher than estimated by Powerlink, due to a different regulatory treatment of the Pinkenba asset, but that the total overspend reasonably reflects the capex criteria.

In coming to our draft decision, we considered a number of issues including:

- Whether we are satisfied that Powerlink has identified the root cause of the misallocation of expenditure and took prudent steps to address the issue.
- Regulatory treatment of the Pinkenba site.
- Powerlink’s historical expenditure pattern, to understand the drivers of the overspend.
- Powerlink’s absorption of some inefficient costs that contributed to the overspend.

We discuss these issues in the subsections below.

We do not consider that further review of Powerlink’s overspend is required. In coming to this view we have taken into account that our review to date finds the overspend reasonably reflects the capex criteria, that Powerlink endeavoured to limit costs out of its control and voluntarily absorbed some inefficient costs that contributed to the overspend, and the magnitude of the CESS penalty that directly results from the overspend.

Several stakeholders commented on Powerlink’s overspend in the ex-post period:

- The RPRG states that, ‘The RPRG had extensive discussions with Powerlink on actual vs forecast capex for 2020–25 ex post period. We leave the AER to assess Powerlink’s proposal that its 6.3% overspend is not material.’¹³⁷
- The CCP34 submits that, ‘If businesses perceive that prudent but ultimately optimistic forecasts will later attract material efficiency penalties, there is a risk of creating incentives toward more conservative forecasting behaviour in future resets, potentially leading to higher proposed expenditure and less constructive engagement outcomes over time. This does not remove the need for detailed scrutiny of expenditure efficiency. The broader context suggests that at least part of the divergence between forecast and actual expenditure reflects changed operating conditions and forecasting uncertainty, rather than clear evidence of imprudent decision-making.’¹³⁸

C.4.1 Misallocation of expenditure

Based on the information before us, we are satisfied that Powerlink has identified the root cause of the misallocation of expenditure, and that it has taken prudent steps to ensure that this misallocation does not occur in the future.

Identification of root cause

In October 2025, prior to lodgement of its regulatory proposal, Powerlink notified us that there was a misallocation of expenditure in the 2022–23, 2023–24 and 2024–25 regulatory

¹³⁷ RPRG, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 44.

¹³⁸ CCP34, *Submission – Powerlink 2027–32 electricity transmission revenue proposal*, May 2026, p 26.

years, where non-prescribed (unregulated) capex was included in the regulatory information notice (RIN) for prescribed (regulated) transmission services. Rather than amending all 3 regulatory years, Powerlink adjusted the year 2024–25.

On 6 November 2025, we requested Powerlink clarify the circumstances surrounding the misallocation of expenditure to better understand the root cause of this issue. This includes when Powerlink became aware of the issue, what measures Powerlink put in place to address the current and any future misallocation, and when these measures were implemented. Powerlink provided a response to us on 17 December 2025. In particular, Powerlink provided evidence of the root cause of the misallocation of expenditure; where we found that:

- the misallocation of expenditure came to light in 2024 during an internal monitoring and analysis of financial data. In September 2024, Powerlink’s CFO discussed the issue with its customer panel and explained that Powerlink would be investigating the issues further;¹³⁹
- the non-prescribed services component of its business was growing and that it had not been classifying expenditure used to provide non-prescribed services correctly. The root cause of the overstated capex in prescribed services during the years 2022–23, 2023–24 and 2024–25 was because of incorrect classification of fleet and shared services;
- Powerlink absorbed \$60.0 million of overspend in AEMS (a prescribed service).¹⁴⁰ Powerlink netted out the overspend amount from the RAB through disposals in 2024–25.¹⁴¹

Addressing the misallocation

After identifying the root cause, Powerlink included all the required adjustments (fleet, shared assets, and AEMS) into a single year (2024–25). These adjustments were audited. Stemming from its internal review, Powerlink has provided evidence that it has a more robust process to monitor and allocates expenditure to prescribed and non-prescribed services.

While we acknowledge that Powerlink has identified the root cause of the misallocation of expenditure and has a process going forward to ensure that this does not occur again, we would prefer that expenditure in the current period be accurately reflected in the regulatory years that these costs were incurred. A more accurate historical spend series can then be used with more confidence when assessing the forecast. Powerlink has provided a restatement of the RIN that allocates the misallocation expenditure across the first 3 years of the current period as well as clearly separating the absorption of the AEMS overspend as a Powerlink decision rather than a misallocation issue. To ensure the validity of the capex in each of those years, we seek Powerlink’s assurance that the capex in 2022–23, 2023–24 and 2024–25 accurately reflects the capex incurred in those years.

¹³⁹ Powerlink, *Transcript Customer Panel Meeting*, 17 September 2024, pp 1–2.

¹⁴⁰ See Attachment 1 sections 1.2.2 and 1.2.4 for more information.

¹⁴¹ Powerlink, *Internal Memo, FY25 Annual Information Orders – Adjustments to Regulated Asset Base*, 21 August 2025, p 6.

C.4.2 Regulatory treatment of the Pinkenba site

We consider that the Pinkenba site should be classified as an asset used for the provision of prescribed services at the time of acquisition of the site. This results in a higher CESS penalty than proposed by Powerlink. The CESS adjustment is discussed in Attachment 6.

NER clause S6A.2.1(f)(8) allows for the value of assets that previously provided non-prescribed transmission services to be included in the RAB at the commencement of a regulatory period. This clause recognises that the classification of assets should reflect what service it is being used for and that this can change from one regulatory period to the next.

However, it appears that at the time of acquiring Pinkenba in June 2025 (ex-post and current period), Powerlink had intended the site to be used for the provision of prescribed services, where it states that:¹⁴²

To ensure prescribed customers are not funding the asset prematurely, Powerlink classified the Pinkenba site as a non-prescribed asset at the time of purchase, with its classification to change only if it is ultimately required to support the delivery of prescribed transmission services.

We do not agree with Powerlink's argument that the early purchase and classification of Pinkenba as a non-prescribed asset is a net benefit to its prescribed customers. Powerlink's proposal suggests that customers benefit because no return of capital is incurred on these assets in the first 2 years, with the depreciated value being rolled into the RAB on 1 July 2027 instead of the full acquisition cost being included in 2024–25 capex. This equates to a saving of approximately \$1.4 million in return of capital for customers. However, this customer benefit is more than offset by Powerlink avoiding a CESS penalty by classifying this capex as an end-of-period RAB addition due to a service classification change.

Consistent with our position in previous decisions, we recognise that strategic land acquisition (acquiring land ahead of building on the land) is typically a standard industry practice and that land values generally appreciate over time. Our high-level review at this stage has found that the acquisition of the Pinkenba site was prudent and efficient given the likely eventual future use of the site as an operational relocation site. However, Powerlink's treatment of the Pinkenba site as an asset for the provision of non-prescribed services in the ex-post period and then including 74% of the cost of Pinkenba into the opening RAB for 2027–32 is not an outcome that is of benefit to Powerlink's customers. Powerlink's treatment means that it avoids a CESS penalty and an ex-post review of the cost of the Pinkenba site.

Our concern with Powerlink's treatment of Pinkenba is further compounded when we observe its different approach to its acquisition of easements. Powerlink is proposing to treat the strategic acquisition of \$195 million in forecast capex for easements as assets for the provision of prescribed services, meaning it is included in the ex-ante forecast.

Given these concerns, our draft decision:

¹⁴² Powerlink, *Powerlink 2027-32 Revenue Proposal, Appendix 7.01 Regulatory Asset Base Transfers*, January 2026, p.1.

- includes 74% of the cost of the Pinkenba site into actual capex incurred in 2024–25 given the intention at the time of purchasing was for the provision of prescribed services. This results in a higher capex overspend in the current period, which directly flows through to a higher CESS penalty than what was proposed by Powerlink. The higher CESS penalty is set out in Attachment 6.
- finds the Pinkenba site to be a prudent and efficient investment such that the proposed cost of that site is to be included in the opening RAB for 2027–32.

The inclusion of the cost of the Pinkenba site into capex incurred in 2024–25 also results in the calculated capex overspend in the ex-post period rising to 8.9%. We view this overspend amount as significant. However, we consider that further in-depth review (under Stage 2 of the Guideline process) is not warranted because of other factors we had regard to, which are set out below.

C.4.3 Powerlink's historical expenditure pattern

As we have already found the cost of the Pinkenba site to be prudent and efficient, we then assessed the remaining areas of capex overspend. Augex is the primary driver of the remaining overspend, where actual costs for augex were 606% higher than the augex forecast. There was also a material overspend of 121% in the 'other' category and 66% in Security/ Compliance as well as some overspend in Business IT.

Our review found that:

- For augex, where 'demand-driven ground clearance rectification works' make up the majority of the overspend, Powerlink has provided information indicating that the action it undertook to address the need and unit cost are reasonable. In particular, Powerlink provided information that it used line re-tensioning, one of the lowest cost options to address its ground clearance issues. If there is a material over scoping of work, we would expect a much higher level of overspend. In terms of investment timing, Powerlink has an obligation under *Electrical Safety Regulation 2013 (Qld)* to meet ground clearance limits within a reasonable period. Therefore, the investment timing is determined at the point where Powerlink became aware of any actual or expected ground clearance issues. It appears that Powerlink acted within a reasonable timeframe once it identified the ground clearance issues.
- For the 'Other capex category', where the 'installation and configuration of phasor measurement units' make up the majority of the overspend, we compared Powerlink's unit cost with other TNSPs and found Powerlink's to be comparable. We also note that the timing of the investment is driven by AEMO providing Powerlink a notice in June 2022 to install these units by a particular time.
- For 'Security/Compliance', the Wide Area Monitoring Protection and Control (WAMPAC) makes up the majority of the overspend. We consider that the unit cost is likely reasonable as it is being rolled out with other core activities (i.e. replacements) to minimise cost.

Overall, the majority of the overspend was due to circumstances out of Powerlink's control. It also appears that Powerlink undertook to manage the increase to the extent it could. For

these reasons we find Powerlink’s capex overspend in the ex-post period (2020–25 period) reasonably reflects the capex criteria.

C.4.4 Powerlink absorbed the inefficient overspend in ICT

Powerlink made a voluntary decision to absorb \$60.0 million (\$2026–27) of overspend in AEMS, which means this expenditure will not be recovered from customers.

As noted in section A.1.2.5 above, the AEMS project is a long-delayed project where actual costs have materially exceeded forecasts. For the 2022–27 regulatory control period, Powerlink proposed (and we approved) \$6.4 million (\$2026–27) in AEMS capex. Powerlink submitted that through the 2022–27 period it identified greater complexity needed in required architecture, and additional costs from unique customisations applied to the existing energy management system during the delay, resulting in actual costs significantly exceeding the forecasts in our 2022–27 transmission determination. As a result of these challenges Powerlink reviewed the project during the 2022–27 period, resulting in a revised implementation strategy. Powerlink also decided to absorb costs incurred prior to the revised implementation strategy, netting out this amount from the RAB through disposals in 2024–25, as it considered that these inefficient project costs incurred before its revised implementation strategy should not be passed on to its customers.¹⁴³

We have had regard to this discretionary action in our consideration of whether a further assessment into Powerlink’s capex overspend is warranted. We consider that this decision by Powerlink is consistent with only recovering the prudent and efficient costs from customers.

¹⁴³ Powerlink, *Internal Memo, FY25 Annual Information Orders – Adjustments to Regulated Asset Base*, 21 August 2025, p 6.

D List of information gaps

The table below sets out the analysis we seek from Powerlink in support of its proposed capital expenditure (and operating expenditure, where relevant) and contingent projects for the 2027–32 period. This list of analysis gaps is based on our review of Powerlink’s regulatory proposal, supporting information and its response to our information requests.

Table D1.1 Analysis gaps identified in Powerlink’s capex and contingent project proposal

Category/Area	Analysis gap
Overall capex	• Analysis of deliverability risks including a quantitative assessment of the probable major projects in the planning horizon (10-15 years). In your assessment, provide analysis on the current and emerging labour skill and major equipment gaps and identify how Powerlink intends to address these gaps. • Demonstration of the application and consideration of top-down challenges performed by Powerlink’s Investment Governance Committee and Executive Leadership Team at the total capex level. This includes, but is not limited to, Committee/Board papers and the associated minutes. • For the top 4 projects/programs in each capex category, provide a detailed cost breakdown from the estimating system (or best available sources) that itemises each activity by internal labour (including workhours), material types (including volume), and contract services (including contract rates, volume and other key contractual details). • With reference to the network performance in the current regulatory period, provide analysis demonstrating the risks to network performance in the forecast period. This analysis should include the quantified risk of changes to all relevant network performance metrics under a business-as-usual scenario and compare this with the quantified risk of changes to all relevant network performance metrics under proposed investment levels for each major investment proposed. • Provide assurance of historical restated capex; that is 5 years for the ex-post period (2020–25 period). • Provide a capex forecast model that separates direct and indirect costs at the project/program level and a worksheet that reconciles the capex forecast model with the revised proposal capex tables, business cases, and Table 2.1.1 of the reset RIN. • Provide Restated historical and forecast replacement expenditure/volume/failure by asset category on an ‘as incurred’ basis in the same format as Table 2.2.1 of the 2024–25 Annual Information Order.

	Please review whether the wording of the triggers in all contingent projects complies with clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.
Line replacement	- Analysis to support the use of a disproportionality factor of 10 and multiple fatalities for safety risk per incident. For example, a history of the actual fatalities, injuries, and damage to demonstrate the reasonableness of the disproportionality factor. Analysis to demonstrate that a disproportionality factor of 10 is appropriate given the forecast uncertainty. - Analysis to support the use of \$2 million and similar costings for financial risk per incident. - Analysis to support the probability of failure (PoF) sum calculation for network risk. - Analysis to support the increase of unit rates compared to historical revealed costs. For example, a detailed line item comparison of the forecast unit rates with the historical revealed cost. - Provide cost benefit analysis for the option to only replace individual assets with a health index of 8 and above. Please explain the outcome of that option. - Provide the inspection manual that sets out Powerlink's inspection sampling practices and asset health assumptions for neighbouring assets. - Applying Powerlink's preferred option analysis for the Woree to Kamerunga line refit project but also taking account of the use of Barron Gorge Hydro Power Station as a potential backup supply and the information presented to Powerlink's Executive Leadership Team on other potential options (i.e. compact pole lines).¹⁴⁴ - Supporting analysis on the network risk associated with maintenance activities for the Ross to Chalumbin line refit project.
Substation replacement	- Please explain how Powerlink interprets its substation access data to derive an average substation occupancy rate of 25%. - Analysis to support the use of 120% replacement cost for financial risk per incident. - Analysis to support the use of a longer than a 20-year analysis period and the terminal value used in the net present value calculations. - Analysis to support each of the weightings Powerlink used to evaluate the health indexes of each asset class. - For each substation project, please demonstrate that the proposed list of asset replacements maximises the benefit to cost ratio. - Analysis to support the efficient timing for replacement of each substation project.

¹⁴⁴ Powerlink, *Response to AER Information Request IR#024 – Part 2 Line Asset Replacement*, June 2026.

	• Analysis that shows the bill impacts for residential customers with and without the proposed traction supply investments and evidence of support from key stakeholders. • Cost benefit analysis demonstrating positive net benefit for the second spare transformer and historical information on non-repairable transformer failure incidents by voltage level. In addition, provide further information on other options considered.
Secondary Systems	• Analysis to support that the proposed level of building replacement solution is warranted based on current observed level of feasible in-situ or panel replacement solutions including the likely scope reduction beyond the initial planning phase. • A detailed cost breakdown of in-situ and panel replacement solutions compared to a building replacement solution. • Analysis to support increasing failure rates or changes in reliability at a device level (e.g. relays, RTUs, etc). • Provide detail on the outcome of the investigation into the known data errors¹⁴⁵ and the impacts on probability of failure (PoF). This includes Powerlink's review of only using a single PoF for all secondary system devices. • Analysis to support each of the weightings Powerlink used to evaluate the health indexes of each asset class. • Evidence of increasing costs for secondary systems equipment based on comparisons of historical and current contracts. • Analysis to support Powerlink's spare strategy including how it models the expected availability of spares from building and panel replacement solutions against the rate of failure at the portfolio level.
Security/ Compliance	• Provide site-specific security risk assessments. • Provide information/analysis on the approval status of Powerlink's criticality assessment methodology and physical security standards. • Analysis to support the material step-up in expected avoided costs between historical incidents and forecast incidents. • Analysis to support cost efficiency including the scope of work required and the associated cost modelling.
Operational Technology: Future Grid program	• Provide a detailed breakdown of the cost estimate and the supporting material evidencing the source and calculation of the costs. • Supporting material evidencing the source and calculation of the estimated program benefits included in the cost benefit model and the source data supporting the assumptions that underpin the estimated benefits.

¹⁴⁵ Powerlink, *Response to AER Information Request IR#022 – Secondary System Replacements*, May 2026.

	• Cost benefit modelling that includes consideration of options and scenarios that demonstrate the efficiency of the chosen option. This should include consideration of staged implementation and consideration of various combinations of functional modules. • Analysis to support efficient timing of each stage or module within the program of works.
Communications replacement program	• Explanation of how the cost forecasts were derived from Powerlink's market approach. • A detailed breakdown of the program benefits and supporting material evidencing the source of these benefit estimates. • Efficient timing analysis based on cost and benefit estimates above.
Easements	• A detailed cost breakdown of the proposed easement costs. Provide the historical easement costs for the past 5 years with a similar cost breakdown at the individual easement level. If an independent review of these costs is readily available, please also provide. • Analysis to support the future needs and projects driving each easement requirement. This includes the business case, cost benefit analysis, and likely timeframe for each future project associated with each easement requirement. • Analysis to support Powerlink's preferred easement option for the Southern Cairns and Southern Logan Substation projects including a reconciliation of the options considered and the proposed costs.
Property	• Please provide an independent building condition assessment report that considers the life extension of the Virginia complex beyond Powerlink's preferred option. • Please provide a further breakdown of requirements and costs associated with the control room upgrade • Analysis that includes the additional option of leasing for the Virginia complex and New Eagle Nest Depot. • Please provide papers/minutes or other documentation presented to Powerlink's Board outlining the needs and options for the Virginia complex next period. This may include, but is not limited to, the long-term masterplan for the entire Virginia complex and its relationship with the new Eagle Farm depot and the Pinkenba site.
Overheads	• Analysis to support the capitalised overheads forecasting methodology including, but not limited to, any top-down and bottom-up challenges to validate the reasonableness of the forecast in 2027–32. • Analysis to support the step-up in capitalised overheads in 2024–25 compared to 2023–24 and 2022–23 including the associated changes to staff and skillset level during that time.

ICT and cyber security	• Analysis to support the proposed costs, including detail on how the cost forecasts were derived (i.e. internal and external FTE levels and daily rates), and supporting material evidencing the source and calculation of these cost forecasts. • Quantification of the benefits, with supporting material evidencing the source and calculation of the estimated benefits. • Cost benefit analysis completed with benefits quantification for each option of the Cyber Security, Enterprise asset management, Health, safety and environment, and Support and Sustain projects.
Proposed Contingent Projects	
Central Queensland to North Queensland Augmentation	• Information and analysis on the existing and future north-south capacity limitation. This includes analysis defining the network limitations and their specific location(s) as well as details of the additional generation required to trigger this project. • Analysis to support the likelihood and expected timing of sufficient generation connecting in Hughenden area such that constraints would arise in the 2027–32 period. • Analysis to explain how this project relates to and interacts with the ISP projects being considered for this area. • Please clarify whether the Queensland Government has already committed to constructing the eastern section of the CopperString network.
Northern Bowen Basin Reinforcement	• Analysis to demonstrate that load growth of 30MW is probable in the 2027-32 period. • Analysis to support why load growth is not sufficiently certain that it should not be included in Powerlink's ex-ante forecast for 2027–32, as we consider 30MW is likely to be within the uncertainty margin of the demand forecast. • Please review the wording of the triggers against clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.
Gladstone Area Augmentation	• Analysis to support that load growth of 465MW is probable during the 2027–32 period. This includes details of connection inquiries such as estimated load, location, and expected timing. • Analysis to support the capacity of the existing Gladstone area supply arrangement and specific details of the expected network constraints. • Please explain why the proposed contingent project involves various different scopes of work and how those various scopes of work related to the identified need. For the avoidance of doubt, we are seeking to understand why this has been proposed as one bundled project with optional scopes of work as opposed to 2 or more separate contingent projects.

	• Please review the wording of the triggers against clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.
Central Queensland System Strength	• Analysis to justify how the specific need for this project arises, including a specific location or locations. • Please review the wording of the triggers against clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.
South West Queensland Augmentation	• Analysis to support the likelihood and timing of sufficient generation connecting to Powerlink’s 330kV network between Braemar, Middle Ridge and the New South Wales border such that constraints are probable in the 2027–32 period. • Analysis to explain how this project relates to and interacts with the ISP projects being considered for this area. • Please review the wording of the triggers against clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.
North Brisbane Area Network Development	• Analysis to support the likelihood and timing of load growth in excess of 88MW in the North Brisbane area. • Analysis to support how the proposed project addresses the need identified in the proposed trigger wording. • Analysis to support how the scope of this proposed contingent project relates to the connection of a major computing facility in the area, and specifically whether this project is part of the “up-stream” supply for that facility. • Please review the wording of the triggers against clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.
Surat Basin Area Network Development	• Analysis to support the likelihood and timing of 1,400MW of new generation connecting to the Surat Basin network such that it is probable that constraints would arise in the 2027–32 period. • Analysis to support the specific network limitations and their location(s) as well as details of the additional generation required to trigger this project. • Analysis to support why the expected growth in generation in the area is not sufficiently certain that it should not be included in Powerlink’s ex-ante forecast for 2027–32. • Analysis to explain how this project relates to and interacts with the ISP projects being considered for this area. • Please review the wording of the triggers against clause 6A.8.1(c) of the NER. As a guide, review triggers in recent AER contingent project decisions.

Glossary

Term	Definition
AER	Australian Energy Regulator
AEMO	Australian Energy Market Operator
AEMS	Advanced Energy Management System
augex	augmentation capital expenditure
capex	capital expenditure
CCP34	Consumer Challenge Panel sub panel 34
CESS	capital expenditure sharing scheme
CPI	consumer price index
FTE	full time equivalent
ICT	information communications technology
ISP	Integrated System Plan
kV	kilovolt
MW	megawatt
NER	National Electricity Rules
NPV	net present value
NSP	network service provider
OpsWAN	Powerlink's Operational Wide Area Network
RAB	regulatory asset base
repex	replacement capital expenditure
RIN	regulatory information notice
RIT-D	regulatory investment test for distribution
RIT-T	regulatory investment test for transmission
RPRG	Revenue Proposal Reference Group
SoCI	Security of Critical Infrastructure Act 2018
TNSP	transmission network service provider
WAMPAC	Powerlink's Wide Area Monitoring, Protection and Control