

Draft Decision

TasNetworks

Electricity Transmission

Determination 2024 to 2029

(1 July 2024 to 30 June 2029)

Attachment 5
Capital Expenditure

September 2023

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5 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 will recover capex from customers over several regulatory control periods.¹ TasNetworks' 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, TasNetworks must include a total forecast capex that it considers is required to meet or manage expected demand, comply with all applicable regulatory obligations, and to maintain the safety, reliability, quality, and security of its network (the capex objectives).²

We must decide whether or not we are satisfied that this forecast reasonably reflects prudent and efficient costs and a realistic expectation of future demand and cost inputs (the capex criteria).³ We must make our decision in a manner that will, or is likely to, deliver efficient outcomes that benefit consumers in the long term (as required under the National Electricity Objective (NEO)).⁴

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 service provider should or should not undertake. This is consistent with our ex-ante incentive-based regulatory framework and is referred to as the 'capex bucket'.

Once the ex-ante capex forecast is established, there is an incentive for service providers to provide services at the lowest possible cost, because the actual costs of providing services will determine their returns in the short term. If service providers reduce their costs, the savings are shared with consumers in future regulatory control periods. This incentive-based framework recognises that service providers should have the flexibility to prioritise their capex program given their circumstances and due to changes in information and technology.

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

¹ Capex impacts revenue in two ways. It is recovered incrementally over time by a regulatory depreciation building block that equally distributes the value of the asset over its expected economic life (e.g. for an asset with a 50 year life, 1/50th of the value will be incurred in revenue for each year the asset is expected to remain in service). Service providers also earn a rate of return on the asset to cover the cost of raising capital (see attachment X).

² NER, cl. 6A.6.7(a).

³ NER, cl. 6A.6.7(c).

⁴ NEL, ss. 7, 16(1)(a).

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

Assessment approach

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

- AER’s *Expenditure Forecast Assessment Guideline*⁵
- *Regulatory Investment Test for Distribution and Transmission (RIT-D and RIT-T) Guidelines*⁶
- AER’s *Asset Replacement Industry Note*⁷
- AER’s *Information and Communication Technologies (ICT) Guidance Note*.⁸

We also had regard to the guiding principles in the AER’s *Better Resets Handbook – Towards consumer centric proposals* which encourages networks to develop high quality, well-justified proposals that genuinely reflect consumers’ preferences.⁹

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

- the transmission service provider’s regulatory proposal and accompanying documents and models.
- the transmission service provider’s responses to our information requests.
- stakeholder comments in response to our Issues Paper.

5.1 Draft decision

Our draft decision is to accept TasNetworks’ total capex forecast inclusive of overheads of \$290 million (\$2023–24). Our alternative estimate of \$279 million is not materially different (\$11 million or 3.7% lower) from TasNetworks’ total capex forecast proposal.¹⁰ We consider that TasNetworks’ total capex forecast reasonably reflects the capex criteria and will provide for a prudent and efficient service provider in TasNetworks’ circumstances to maintain the safety, reliability and security of electricity supply on the transmission network.¹¹

Table 5.1 outlines TasNetworks’ forecast gross capex for the 2024-29 period, which we have accepted in our draft decision.

⁵ AER, *Expenditure Forecast Assessment Guideline for Distribution*, August 2022. The legal requirements of the AER under the NEL and the NER in assessing capex are outlined in section 2.1.

⁶ AER, *RIT-T and RIT-D application guidelines (minor amendments) 2017*, September 2017.

⁷ AER, *Industry practice application note for asset replacement planning*, January 2019.

⁸ AER, *AER publishes guidance on non-network ICT capital expenditure assessment approach*, November 2019.

⁹ AER, *Better Resets Handbook – December 2021*, December 2021.

¹⁰ The reasoning behind our alternate estimate is outlined in Table 5.4 and Appendix A. In short, our alternative estimate does not include \$8.3 million worth of projects and \$2.4 million of associated capitalised overheads.

¹¹ The capex criteria are set out at NER, cl. 6A.6.7(c).

Table 5.1 AER gross capital expenditure forecast (\$2023-24, million)

	2024–25	2025–26	2026–27	2027–28	2028–29	Total
TasNetworks' proposal and AER draft decision	52	68	59	58	52	290

Source: AER analysis. Numbers may not sum due to rounding.

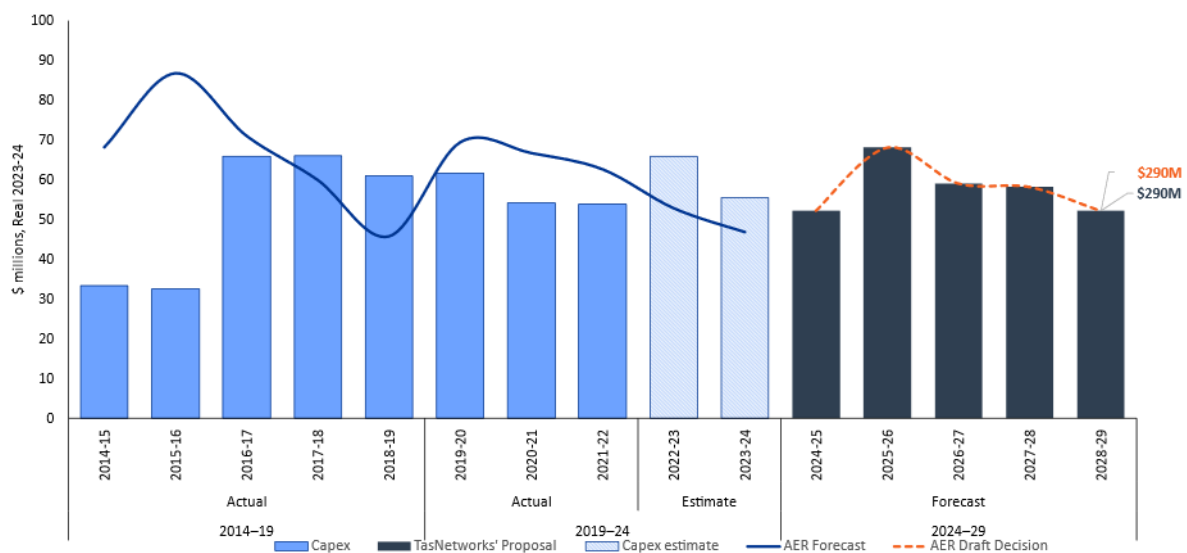
Note: These figures are net of overheads.

Our draft decision is:

- \$7 million (or 2%) higher than TasNetworks’ actual (and estimated) gross capex in the 2019-24 regulatory control period.
- \$2 million (or 1%) higher than the TasNetworks' gross capex forecast we approved in our final decision for the 2019–24 regulatory control period.

In Figure 5.1 we compare our approved forecast of capex to TasNetworks’ proposal for the next regulatory control period. We also show the forecasts we approved for the last three regulatory periods and TasNetworks’ actual and estimated capex over these periods.

Figure 5.1 TasNetworks’ transmission gross capital expenditure (\$million, 2023-24)



Source: AER Analysis

5.2 TasNetworks initial proposal

TasNetworks forecasts \$290 million gross capex over the 2024-29 period, representing an approximately 2% increase over the 2019-24 period. This increase is driven by slightly higher rates of replacement expenditure (repx) and lower levels of expenditure on Information and Communication Technologies (ICT), and overheads.

Table 5.2 shows TasNetworks’ proposed capex by category for the 2024-29 period and its actual/estimated spend in the 2019-24 period.

Table 5.2 Top-down capex by category – 2024-29 forecast versus actual/estimated for 2019-24 (\$millions 2023-24)

Category	2024-29 forecast	% of total forecast	2019-24 actual/estimate	Difference
Replacement	154	68%	145	7%
Augmentation	22	10%	12	79%
Connections	0	0%	3	-100%
Operational Support Systems	13	6%	16	-18%
ICT*	26	11%	28	-7%
Other	13	6%	11	10%
Net capex	227	100%	215	6%
Capitalised network overheads	31	14%	37	-17%
Capitalised corporate overheads	31	14%	31	1%
Gross capex	290		283	2%

Source: AER Analysis. TasNetworks, *TasNetworks - Capex Forecast Model Prescribed - December 2022*, 31 January 2023; TasNetworks, *TasNetworks – information request AGD IR#011 – further details on augex projects, ICT, overheads, and expenditure time series – 20230316 – PUBLIC*, 31 March 2023

The historical and forecast transmission capex by subcategory in Table 5.2 provides the top-down trends of the major drivers of capex: repex, ICT, augmentation capex (augex) and Operational Support Systems (OSS). Repex has increased marginally by 7%, proposed augex has increased materially, while both OSS and ICT categories have decreased.

5.2.1 Contingent Projects

TasNetworks has also proposed seven contingent projects for the 2024-29 regulatory period totalling \$905 million. These relate to new load and/or generation impacting thermal and/or stability limits or other system requirements to comply with the NER. TasNetworks proposed a Palmerston to Sheffield Upgrade contingent project to be triggered by new load and/or generation, which may separately be triggered as part of the Marinus Actionable ISP project.¹² We have assessed these in Appendix B below.

5.2.2 Submissions to the proposal

Submissions to the Issues Paper generally expressed concern about TasNetworks' transparency surrounding contingent projects and, to a lesser extent, its proposed spending on major capex categories. Given the magnitude of TasNetworks' contingent projects, stakeholders have criticised TasNetworks for providing minimal information on bill impacts and for failing to adequately communicate the costs and benefits of these projects. Further,

¹² TasNetworks, *TasNetworks-Combined Proposal Attachment 7 – Contingent projects-Jan 23*, 31 January 2023

the Tasmanian Minerals and Energy Council and the Tasmanian Small Business Council note that while TasNetworks capex appears reasonable compared to previous periods, it has not provided adequate evidence of the prudence and efficiency of its major capex categories.¹³

TasNetworks engagement on contingent projects predominantly focussed on informing customers and stakeholders. The Consumer Challenge Panel sub-panel 27 (CCP27) notes that:

*TasNetworks' limited engagement on contingent projects largely respond to TasNetworks rationale to defer any deep engagement on contingent projects given the projects' uncertainty and unknown costs. However, CCP27 believes a number of these contingent projects could significantly affect affordability for customers. We therefore strongly encourage TasNetworks to engage deeply with customers on the cost implications of contingent projects and consider customers' concerns when preparing its revised proposal.*¹⁴

5.3 Reasons for draft decision

We reviewed TasNetworks' capex drivers, programs and projects to inform our view on a total capex forecast that reasonably reflects the capex criteria. We conducted top-down analysis such as examining trends and forecast costs compared with historical capex, and inter-relationships between cost categories. To complement this, we conducted bottom-up analysis of TasNetworks' specific 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. Capex that was relatively small and forecast using established modelling approaches and inputs in line with our expectations, meant that 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 in Table 5.4 below.

Further, in considering the scope of our review we had regard to how TasNetworks has performed against the Better Resets Handbook expectations for capex.¹⁵

5.3.1 Top-down assessment

We have undertaken a top-down assessment of TasNetworks' total capex as well as a top-down assessment of each capex category.

TasNetworks' total forecast gross capex inclusive of overheads is \$290 million, which is \$7 million (or 2%) higher than its 2019-24 period actual (and estimated) gross capex of \$283 million. TasNetworks' forecast is broadly in line with historical expenditure. We are also

¹³ Tasmanian Minerals and Energy Council, *Tasmanian Minerals, Manufacturing and Energy Council - Submission - 2024-29 Combined Regulatory Proposal - TasNetworks - May 2023*, May 2023; Tasmanian Small Business Council, *Tasmanian Small Business Council – Submission – 2024-29 Combined Regulatory Proposal – TasNetworks – May 2023*, May 2023.

¹⁴ CCP, [Consumer Challenge Panel 27 - Advice to AER - 2024-29 Combined Regulatory Proposal - TasNetworks - May 2023](#), May 2023, p. 7.

¹⁵ AER, *Better Resets Handbook - December 2021*, 9 December 2021, pp. 19-23.

satisfied that TasNetworks can maintain its existing levels of safety and reliability. This is because overall, TasNetworks' forecast capex reflects a similar work program to the current period.

We note that the composition of TasNetworks' capex has shifted, with increases in repex and augex, offset by decreases in overheads current and non-recurrent ICT, OSS, and connections.

We do not consider TasNetworks provided clear supporting evidence in its initial proposal for the capex categories which increased relative to the current period. Overall, we had concerns that TasNetworks did not provide sufficient qualitative detail on the drivers of increased capex.

Despite this, we do not have significant concerns regarding the prudence and efficiency of TasNetworks' proposed capex. This is based on our further analysis, meetings with TasNetworks, and responses to information requests which supplemented TasNetworks' initial proposal.¹⁶ In particular, we note that the overall forecast of capex is not significantly higher than its historical expenditure. Further, our assessment of the capex categories did not find significant issues with the forecast. Based on these considerations, our alternative estimate of efficient capex is \$279 million, which is \$11 million or 3.7% lower than TasNetworks' forecast. We consider that this alternative estimate is not materially different from TasNetworks' total forecast capex, and we accept TasNetworks' total capex as being within a prudent and efficient range.

We are satisfied that TasNetworks' total capex is prudent and efficient from a top-down perspective because our alternative estimate was not materially lower than TasNetworks' proposal. This does not mean that we consider all the projects within specific capex categories are prudent and efficient from a bottom-up perspective. We discuss our specific concerns regarding major capex drivers in section 5.3.2 and Appendix A.

5.3.1.1 Better Resets Handbook expectations

In considering the scope of our review, we had regard to how TasNetworks has performed against the Better Resets Handbook expectations for capex.¹⁷

We have applied the Better Resets Handbook expectations to guide our assessment and identify which areas required a more in-depth assessment. We note that TasNetworks is not a participant in the early signal pathway.¹⁸ However, TasNetworks noted in its proposal that it

¹⁶ Particularly: TasNetworks, *TasNetworks – information request AGD IR#011 – further details on augex projects, ICT, overheads, and expenditure time series – 20230316 – PUBLIC*, 31 March 2023; TasNetworks, *TasNetworks – information request AGD IR#016 – Request for documents and data re repex, augex, contingent projects and ICT – 20230404 – CONFIDENTIAL*, 18 April 2023.

¹⁷ AER, *Better Resets Handbook - December 2021*, 9 December 2021, pp. 19-23.

¹⁸ The early signal pathway is defined in the Better Resets Handbook (AER, *Better Resets Handbook - December 2021*, 9 December 2021, pp. 5-9.): The early signal pathway offers an alternative process for networks to engage with the AER, allowing them to get earlier formal feedback on aspects of their regulatory proposal – such as at the issues paper stage, in exchange for certain commitments. While this process is currently optional, our aim is that the early signal pathway approach eventually becomes part of the business-as-usual approach to regulation.

is guided by the Better Resets Handbook.¹⁹ We summarise our assessment of TasNetworks proposal against the Better Resets Handbook in Table 5.3.

Table 5.3 Better Resets Handbook Expectations

Capex expectations	Comment
Top-down testing of the total capital expenditure forecast and at the category level	<p>TasNetworks has met this expectation.</p> <p>TasNetworks forecasts \$290 million for the 2024-29 period, which is 2% higher than its actual/estimated capex in the 2019-24 period.</p> <p>This increase is driven by slightly higher rates of replacement, and lower levels of ICT and overheads.</p>
Evidence of prudent and efficient decision-making on key projects and programs	<p>TasNetworks' initial proposal did not provide adequate evidence for us to judge the prudence and efficiency of its key projects and programs.</p> <p>The poor quality of documentation in its initial proposal necessitated significant further investigation by AER staff.</p>
Evidence of alignment with asset and risk management standards	<p>TasNetworks' initial proposal did not provide adequate evidence for us to judge its alignment with asset and risk management standards.</p> <p>This does not mean TasNetworks is not in alignment with said standards. However, the poor quality of documentation in its initial proposal necessitated significant further investigation by AER staff.</p> <p>We acknowledge TasNetworks has conducted risk management to prioritise projects, but it is not clear it has applied best practice asset management. In particular, it has not consistently and explicitly justified capex with reference to the capex criteria in the NER. This is a key requirement of ISO 55000.²⁰</p>
Genuine consumer engagement on capital expenditure proposals	<p>TasNetworks has broadly met this expectation.</p> <p>While TasNetworks conducted consumer engagement regarding overall capex with individual consumers and retailers, its engagement on specific categories of their program was primarily conducted with their Reset Advisory Committee, a six-member group of public individuals with diverse and relevant expertise.</p> <p>However, some stakeholders noted the lack of transparency regarding the bill impacts of contingent projects, which raises doubts about how informed participant feedback could have been on this topic.</p> <p>Overall consumer engagement discussed in Appendix A.</p>

Source: AER analysis.

¹⁹ TasNetworks, *TasNetworks - Combined Proposal Overview - January 2023*, 31 January 2023, p.13.

²⁰ A set of the International Standards for Asset Management. ISO 55000:2014 provides an overview of asset management, its principles and terminology, and the expected benefits from adopting asset management.

5.3.2 Capex category assessment

While we are satisfied that the total forecast capex is prudent and efficient, we do not consider that TasNetworks' initial proposal provided information of an acceptable quality. Detailed information was not provided on the projects that built up the forecast of each capex category, and the business cases that were provided did not show how costs or benefits were calculated. We issued several information requests to obtain the required supporting information to undertake our assessment.

Table 5.4 summarises the reasons for accepting TasNetworks' forecast, by capex driver. This reflects the way we have assessed TasNetworks' total capex forecast. Our findings on each capex driver are part of our broader analysis and should not be considered in isolation. We do not approve a forecast of expenditure for each individual capex driver or project/program. Instead, we use our findings on the different capex drivers to assess the 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. Our analysis of key capex drivers is further explained in Appendix A.

Table 5.4 Summary of our findings and reasons, by capex driver

Driver	Findings and reasons
Repex	<p>We have included TasNetworks' forecast for repex in our alternative estimate of efficient capex.</p> <p>TasNetworks' proposed repex is \$154 million for the upcoming regulatory period. This is \$9 million or 7% higher than its actual/estimated current period repex. Repex makes up 68% of the total net capex in the 2024–29 proposal. TasNetworks' replacement program includes transformers, transmission line support structures and foundations, extra high voltage switchgear and other ageing assets.</p> <p>TasNetworks' proposed approach to forecasting repex raised some concerns. In particular, TasNetworks' systematically overstates the risks at issue in its replacement programs. In response, we remodelled TasNetworks' repex programs using more realistic risk/consequences. We ultimately found that the programs put forward by TasNetworks were justified using these inputs. In future regulatory proposals, we consider there are areas for improvement in TasNetworks' approach to overstatement of risk and benefits.</p>
Augex	<p>We have not included TasNetworks' forecast for augex in our alternative forecast.</p> <p>TasNetworks proposed \$22 million for augmentation projects for the regulatory period. This category of capex includes the purchase of assets that expand the capacity of the network, often to accommodate changes in demand. TasNetworks' proposal is made up of one reliability driven project and one efficiency driven transmission substation augmentation project, and several land acquisitions to support development needs beyond 2029.</p> <p>We did not consider TasNetworks' West Coast Reliability project reasonably reflects the capex criteria. In particular, TasNetworks' supporting information identified lower cost options to address the identified need. The preferred option was estimated to cost \$7.1 million. We consider an alternative project costing</p>

Driver	Findings and reasons
	<p>\$3.8 million is more likely to be prudent and efficient. We consider the remainder of the augex forecast reasonably reflects the capex criteria.</p> <p>Consequently, we have included an augex forecast of \$18.5 million in our alternative capex estimate, reflecting our view on the West Coast Reliability project. This is discussed further in Appendix A.1.3.1.</p>
ICT	<p>We have not included TasNetworks' forecast for ICT in our alternative forecast.</p> <p>TasNetworks' proposal for recurrent and non-recurrent ICT is \$25.7 million. This amount is 7% below the current period.</p> <p>We do not consider TasNetworks' ICT capex proposal reflects the capex criteria, and have included a lower amount in our alternative estimate. We also had concerns with the addition of a contingency allowance TasNetworks has proposed for its Cybersecurity forecast because we consider the estimate to be adequate. This is discussed further in Appendix A.3.3.1</p> <p>Consequently, we have included an alternative ICT forecast of \$24.2 million in our alternative estimate of capex. This is \$1.5 million less than TasNetworks' forecast of \$25.7 million.</p>
Operational Support Systems	<p>We have not included TasNetworks' forecast for OSS in our alternative forecast.</p> <p>Overall, we consider TasNetworks' proposed expenditure is broadly supported by the information provided. We also note that its forecast is 18% below current period.</p> <p>However, TasNetworks has not satisfied us that its two Asset Management Information projects are prudent and efficient. We consider that TasNetworks' supporting information did not provide sufficient evidence that the benefits of the projects would be realised. This is discussed further in Appendix A.2.3.1.</p> <p>Consequently, we have included an OSS forecast of \$9.7 million in our alternative estimate of capex. This is \$3.5 million less than TasNetworks' forecast of \$13.1 million.</p>
Other (Fleet/Facilities)	<p>We have included TasNetworks' forecast for Other (Fleet/Facilities) in our alternative forecast of efficient capex. Overall, we found that the information provided adequately supported the proposed expenditure.</p>
Capitalised Overheads	<p>We have not included TasNetworks' forecast for Capitalised Overheads in our alternative forecast of efficient capex, though we broadly accept its proposed expenditure.</p> <p>We have not included overheads associated with the projects outlined above which are not included in our alternative estimate. However, overall, we found that the information provided adequately supported the proposed expenditure and note that the forecast is 8% below current period.²¹</p> <p>Consequently, we have included a capitalised overheads forecast of \$60.0 million in our alternative estimate of capex. This is \$2.4 million less than TasNetworks' forecast of \$62.4 million.</p>

²¹ TasNetworks, *TasNetworks – information request AGD IR#011 – further details on augex projects, ICT, overheads, and expenditure time series – 20230316 – PUBLIC*, 31 March 2023.

Driver	Findings and reasons
Connections	TasNetworks has not proposed connections expenditure in the forecast as no new connections are planned.
Contingent projects	We do not accept TasNetworks' contingent projects proposal because we consider the triggers do not meet the requirements of the NER. ²² We consider that, with revised contingent project triggers, many of these are likely to be acceptable. Our Detailed assessment is set out in Appendix B.
Ex-post review	We are required to provide a statement on whether the roll forward of the regulatory asset base (RAB) from the previous period contributes to the achievement of the capital expenditure objective. ²³ An ex-post review is not required as TasNetworks has not overspent its forecast for the current regulatory period. ²⁴

²² NER, cl. 6A.8.1(c).

²³ NER, cl. 6A.14.2(b).

²⁴ NER, cl. S6A.2.2A(b)(1).

A Reasons for decision on key capex categories

This appendix sets out our assessment of key capex categories and programs/projects within TasNetworks' total capex forecast and the reasons for our decision, and the basis of our alternative capex forecast. This appendix includes:

- Augmentation expenditure (augex)
- Operational Support Systems (OSS)
- Information and communications technology (ICT)

We do not accept the following categories of capex and make amendments as identified. As TasNetworks' documentation justifying its projects was of poor quality, our assessment of the prudence and efficiency has been supplemented by onsite meetings and information requests.

A.1 Augex

A.1.1 AER's draft decision

We do not consider that TasNetworks' proposed augex of \$21.8 million is likely to reflect the capex criteria. Our alternative forecast for Augex is \$18.5 million.

A.1.2 TasNetworks' proposal

TasNetworks proposed \$21.8 million for augex projects in the upcoming regulatory period. Augex includes the purchase of assets that expand the capacity of the network, often to accommodate changes in demand. TasNetworks' proposal is made up of one reliability-driven project and one efficiency driven transmission substation augmentation project, along with several land acquisitions to support development needs beyond 2029.

A.1.3 Reasons for decision

We have assessed TasNetworks' augex projects to determine if they are prudent and efficient, including that they meet an identified augmentation need, have been considered along with other viable options, and that the business cases are robust. We considered TasNetworks' efficiency-driven augex project and land acquisitions reasonably reflects the capex criteria. However, we have identified an issue with TasNetworks' West Coast Reliability Project.

A.1.3.1 West Coast Reliability Project

This project was proposed to provide a new connection to the town of Zeehan, on Tasmania's West Coast, at a cost of \$7.1 million.²⁵ TasNetworks' business case included several alternative projects to meet the identified reliability need, including solutions that are a lower cost than its preferred solution. In particular, TasNetworks identified a \$3.8 million

²⁵ TasNetworks, *West Coast Reliability Investment Evaluation Summary - 2022* – Public, 30 Jan 2023; TasNetworks, *TasNetworks - Capex Forecast Model Prescribed - December 2022*, 30 January 2023.

option to install a small generator in Zeehan that would meet the reliability need. We consider the lower cost option is all that is required to address reliability issues in Zeehan. Consequently, we have included this in our alternative estimate in place of the more expensive option.

A.2 Operational Support Systems (OSS)

A.2.1 AER's draft decision

We do not consider TasNetworks' proposed OSS capex of \$13.1 million reflects the capex criteria. We have instead included \$9.7 million in our alternative estimate.

A.2.2 TasNetworks' proposal

TasNetworks' proposal includes \$13.1 million on OSS. The OSS category includes investments needed to procure, develop and/or upgrade hardware and software associated with:

- Asset Management Information Systems (AMIS) such as:
 - Geographical Information System
 - health-based risk management system
 - asset master data
- Systems that are needed for monitoring and controlling the transmission and distribution networks in real time such as:²⁶
 - Network Operating and Control System
 - System Control and Data Acquisition systems

TasNetworks' forecast is 18% lower than the previous regulatory period actual (and estimated) expenditure of \$16.0 million.

TasNetworks proposed capex for its Asset Management Improvement Transmission Enhancements (AMITT) and Asset Management Improvement Program (AMIPT).²⁷ In support of the AMITT project, TasNetworks states it has developed an integrated enterprise asset management (EAM) system framework, together with supporting processes and systems, to ensure that performance objectives are consistently achieved. In 2019, an accredited external assessor assessed TasNetworks' asset management maturity as 'competent' to the ISO 55000 Asset Management standard. However, due to the extent and rate of change of its environment, TasNetworks believes that its current EAM system will need to be continually improved to meet all future demands.²⁸

In respect of the AMIPT project, TasNetworks states that:

²⁶ TasNetworks, *TasNetworks-Combined Proposal Attachment 6 - Capital expenditure-Jan-23*, 31 January 2023, p. 30.

²⁷ TasNetworks, *TasNetworks – information request AGD IR#016 – Request for documents and data re repex, augex, contingent projects and ICT – 20230404 – CONFIDENTIAL*, 18 April 2023.

²⁸ TasNetworks, *TasNetworks – information request AGD IR#016 – Request for documents and data re repex, augex, contingent projects and ICT – 20230404 – CONFIDENTIAL*, 18 April 2023.

*In accordance with its Asset Management Policy, has developed its Asset Management System in accordance with AS/NZS/ISO55001:2014 – Asset Management – Management System – Requirements.*²⁹

TasNetworks submits that a key requirement is that asset management and the asset management system be continually improved. To achieve this objective TasNetworks established the Asset Management Information System Improvement Program (AMISIP) and has been implemented to undertake specific improvements in the current regulatory period.³⁰

A.2.3 Reasons for decision

A.2.3.1 Asset Management Improvement Transmission enhancements (AMITT) and Improvement Program and Asset Management Improvement Program (AMIPT)

Having reviewed the two projects, we consider that they form two parts of an overarching asset management improvement program, and consist of overlapping smaller functional projects. TasNetworks has not clearly identified each component and the project benefits, nor has it explained why two separate overlapping projects are being undertaken. We identified areas of potential double counting of benefits between the two projects. We are concerned that TasNetworks' proposal overstates the benefit of undertaking both projects, such that there is insufficient evidence to suggest both projects are prudent and efficient.

Consequently, we have not included the combined Asset Management Improvement proposed capex for AIMPT and AMITT of \$6.9 million in our alternative estimate. Instead, we have included an amount of \$3.5 million, reflecting the cost of undertaking half of the identified projects.

A.3 ICT

A.3.1 AER's draft decision

We do not consider TasNetworks' proposed ICT capex of \$25.7 million is prudent and efficient. Our alternative forecast for ICT capex is \$24.2 million.

A.3.2 TasNetworks' proposal

TasNetworks' proposal includes \$25.7 million on both recurrent and non-recurrent ICT expenditure for the regulatory period. The proposed amount of expenditure is consistent with the previous regulatory period of \$27.7 million.

²⁹ TasNetworks, *TasNetworks-Connection Assets Asset Management Plan-Oct 22-Public*, 31 January 2023.

³⁰ TasNetworks, *TasNetworks-Asset Management Information Systems Asset Management Plan-Dec 22-Public*, 31 January 2023.

A.3.3 Reasons for decision

A.3.3.1 Cyber Security

We engaged Energy Market Consulting Associates (EMCa) to review TasNetworks' proposal for Cyber Security capex.³¹

In April 2022 the *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* amended the *Security of Critical Infrastructure Act 2018*, requiring responsible entities to have and comply with a critical infrastructure risk management program (CIRMP).³² The CIRMP requires energy providers to meet obligations set out in Australian Energy Market Operator's (AEMO) 2020-21 AESCSF Version 1 (V1) Framework Core, and specifically requiring the entity to meet a cyber maturity level of SP1.³³

EMCa's findings on cybersecurity capex are as follows:³⁴

- TasNetworks' proposed cyber security program is designed to allow it to maintain its current risk level. This is an appropriate objective, and its prioritised approach and targets are adequately justified.
- The reasons for including the capex contingency of 20% are not compelling and are not justified.

EMCa's view is that TasNetworks' capex cost forecasting methodology is appropriate except for the inclusion of contingency adjustments. EMCa advises that TasNetworks' reasons for including a capex contingency allowance of 20% are not compelling. We have accepted EMCa's advice in our alternative estimate.

Our alternative estimate excludes TasNetworks' application of a 20% contingency of \$1.5 million for cost variations.

³¹ EMCa, *TasNetworks 2024 to 2029 Regulatory Proposal: Review of proposed expenditure on ICT cyber security [Public]*, August 2023.

³² *Security of Critical Infrastructure Act 2018* (Cth), Part 2A.

³³ Australian Government, *Security of Critical Infrastructure (Critical infrastructure risk management program) Rules (LIN 23/006)*, February 2023, Section 8.4.

³⁴ EMCa, *TasNetworks 2024 to 2029 Regulatory Proposal: Review of proposed expenditure on ICT cyber security [Public]*, August 2023, p. 27.

B Contingent Projects

Contingent projects are significant network augmentation or replacement projects that are reasonably required to be undertaken 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.

The cost of the contingent projects may ultimately be recovered from customers in the future if the trigger events are met. The AER separately considers the efficient cost of contingent projects at the time they are triggered. Consequently, our analysis in this draft decision does not include a consideration of the efficient cost of the contingent projects should they be triggered.

B.1 TasNetworks’ proposal

TasNetworks has proposed seven contingent projects totalling \$905 million. These are outlined in table 5.3.

Table B.1 TasNetworks’ proposed contingent projects

Project	Estimated cost (millions, \$2023-24)
George Town Reactive Support (Stage 1)	75
George Town Reactive Support (Stage 2)	80
George Town Substation Network Reinforcement	50
Palmerston to Sheffield Network Upgrade	212
Sheffield to George Town Network Upgrade	166
Palmerston to George Town via Hadspen Network Upgrade	209
Waddamana to Palmerston transfer capability upgrade	113

Source: TasNetworks, *TasNetworks-Combined Proposal Attachment 7 – Contingent projects-Jan 23*, 31 January 2023

B.2 Reasons for the draft decision

The first six contingent projects in Table B.1 relate to augmentations to meet new load from potential hydrogen production in the Bell Bay area. Hydrogen production through electrolyzers requires a significant amount of energy, and if a production facility was established in Bell Bay, network augmentations would be required. There is uncertainty surrounding the timing and scope of this new load, which has yet to reach its final investment decision. However, there is sufficient likelihood that the load could connect within the regulatory control period and that one or more contingent projects are likely to be reasonable, provided the trigger events meet the requirements of the NER. One of the

projects, the Palmerston to Sheffield Network Upgrade, also forms part of the Project Marinus Actionable ISP Project. It is also being proposed as a separate contingent project, as it may be required independently and in advance of Project Marinus.³⁵

The final contingent project in Table B.1, the Waddamana to Palmerston transfer capability upgrade, relates to augmentation to connect new generation.

We have assessed the proposed triggers for the contingent projects against the requirements of the NER. We are of the view that the trigger definitions are not sufficient to allow us to objectively assess that the projects have been triggered. In particular, the triggers do not specify the amount of new load required to trigger the contingent projects. We asked TasNetworks to consider resubmitting the triggers with an explicit reference to new load in the triggers. TasNetworks provided us updated contingent project triggers on 11 August 2023.³⁶ This timing did not allow us to appropriately consider whether these addressed our concerns before this draft decision. We have published the proposed new triggers at Table B.2 below and invite stakeholder views on the updated triggers.

Three of the contingent projects have triggers which include the connection of new generation and/or new load. We consider new generation should be considered as part of AEMO's Integrated System Plan, which seeks to coordinate the connection of generation along an optimal development path. Consequently, we consider these triggers should be amended to refer to new load, but not to new generation.

The Waddamana to Palmerston transfer capability upgrade contingent project is related solely to the connection of new generation. We consider the connection of new generation is provided for by AEMO's ISP and its optimal development path. Consequently, our draft decision is to not accept the project as we do not consider a contingent project of this type is necessary or appropriate as part of an AER revenue determination decision. This is consistent with our decision on contingent projects for ElectraNet, where we considered AEMO's ISP was the appropriate pathway for augmentation related to generation connection.³⁷

Table B.2 below includes the triggers presented in the combined proposal and the amended triggers proposed by TasNetworks.³⁸ We invite stakeholder views.

In summary the changes are intended to:

- Reflect updated technical analysis to confirm the new load/generator connections that will trigger the contingent projects. In most cases this is a reliability/compliance trigger. In the case of the Sheffield to George Town upgrade it is a market benefits trigger.

³⁵ TasNetworks, *TasNetworks-Combined Proposal Attachment 7 – Contingent Projects-Jan-23*, 31 January 2023, p. 2.

³⁶ TasNetworks, *TasNetworks 2024-2029 Contingent Projects - Revised Trigger Events*, email, 11 August 2023.

³⁷ See AER, *AER - ElectraNet 2023-28 - Draft Decision - Attachment 5 - Capital expenditure - September 2022*, 30 September 2022 pp 29-30.

³⁸ TasNetworks, *TasNetworks 2024-2029 Contingent Projects - Revised Trigger Events*, email, 11 August 2023.

- Simplify the first trigger event so that it is objectively verifiable and refers to a specific location.
- Satisfy the AER that TasNetworks has successfully completed a RIT-T that demonstrates a network investment is the preferred option that provides net market benefits and/or addresses a reliability corrective action.
- Remove the Palmerston to George Town contingent project, which is no longer considered likely in the 2024-29 regulatory period.

Table B.2 Revised triggers for 2024-29 Contingent Projects directly quoted from TasNetworks³⁹

Project	Combined Proposal Triggers	Amended Triggers
George Town Reactive Support (Stage 1)	<ol style="list-style-type: none"> 1. TasNetworks demonstrates customer commitment of additional load to connect to the transmission network in the George Town-Bell Bay area will result in TasNetworks being non-compliant with power system voltage and system stability requirements at George Town with respect to clause S5.1.8 of the NER 2. Successful completion of the RIT-T, including a comprehensive assessment of credible options, demonstrating a network investment is the most efficient option to meet reactive support requirements at George Town under clause S5.1.8 of the NER. 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER. 	<ol style="list-style-type: none"> 1. Commitment of at least 210 MW of additional load to connect to the transmission network at George Town 2. AER is satisfied that TasNetworks has successfully completed a RIT-T that demonstrates a network investment is the preferred option that provides net market benefits and / or addresses a reliability corrective action 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER.

³⁹ TasNetworks, *TasNetworks-Combined Proposal Attachment 7 – Contingent Projects-Jan-23*, 31 January 2023; TasNetworks, *TasNetworks 2024-2029 Contingent Projects - Revised Trigger Events*, email, 11 August 2023.

Project	Combined Proposal Triggers	Amended Triggers
George Town Reactive Support (Stage 2)	<ol style="list-style-type: none"> 1. TasNetworks demonstrates that a second occurrence of load committed to connect to the transmission network in the George Town-Bell Bay area will result in TasNetworks being non-compliant with power system voltage and system stability requirements at George Town with respect to clause S5.1.8 of the NER. 2. Successful completion of the RIT-T, including a comprehensive assessment of credible options, demonstrating a network investment is the most efficient option to meet reactive support requirements at George Town under clause S5.1.8 of the NER 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER. 	<ol style="list-style-type: none"> 1. Commitment of at least 350 MW of additional load to connect to the transmission network at George Town 2. AER is satisfied that TasNetworks has successfully completed a RIT-T that demonstrates a network investment is the preferred option that provides net market benefits and / or addresses a reliability corrective action 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER.

Project	Combined Proposal Triggers	Amended Triggers
<p>George Town Substation Network Reinforcement</p>	<ol style="list-style-type: none"> 1. TasNetworks demonstrates that customer commitment of additional load to connect to the transmission network in the George Town-Bell Bay area results in: <ul style="list-style-type: none"> • a material increase in the probability of cascading failure, following non-credible contingent events, as defined in clause S5.1.8 of the NER • breaches of minimum network performance requirements under regulation 5 of the Electricity Supply Industry (Network Planning Requirements) Regulations. 2. TasNetworks demonstrates that the solution required to meet the power system security obligations cannot be accommodated within the existing layout of George Town substation. 3. Successful completion of the RIT-T, including a comprehensive assessment of credible options, that demonstrates a network investment is the most efficient option to ensure TasNetworks meets its power system security obligations at George Town under: <ul style="list-style-type: none"> • clause S5.1.8 of the NER • The Electricity Supply Industry (Network Planning Requirements) Regulations. 4. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER 	<ol style="list-style-type: none"> 1. Commitment of at least 210 MW of additional load to connect to the transmission network at George Town substation 2. AER is satisfied that TasNetworks has successfully completed a RIT-T that demonstrates a network investment is the preferred option that provides net market benefits and / or addresses a reliability corrective action 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER.

Project	Combined Proposal Triggers	Amended Triggers
<p>Palmerston to Sheffield Network Upgrade</p>	<ol style="list-style-type: none"> 1. One or both of the following: <ol style="list-style-type: none"> a. Commitment of additional load from one or more customers to connect to the transmission network in the George Town-Bell Bay area b. Commitment of new generation to connect in North West Tasmania or Central Highlands <p>that results in higher power flows on the Palmerston-Sheffield-George Town triangle and causes power flows through the Sheffield–Palmerston transmission corridor to be constrained to maintain network stability.</p> 2. Successful completion of the RIT-T, including a comprehensive assessment of credible options, that demonstrates augmenting power transfer capacity between Sheffield and Palmerston is the preferred option that provides net market benefits and / or addresses a reliability corrective action. 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER. 	<ol style="list-style-type: none"> 1. Commitment of at least 210 MW of additional load to connect to the transmission network at George Town 2. AER is satisfied that TasNetworks has successfully completed a RIT-T that demonstrates augmenting power transfer capacity between Sheffield and Palmerston is the preferred option that provides net market benefits and / or addresses a reliability corrective action 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER.

Project	Combined Proposal Triggers	Amended Triggers
<p>Palmerston to George Town via Hadspen Network Upgrade</p>	<ol style="list-style-type: none"> 1. One or both of the following: <ol style="list-style-type: none"> a. Commitment of additional load from one or more customers with aggregated load above 700 MW to connect to the transmission network in the George Town-Bell Bay area b. Commitment of new generation to connect in North West Tasmania or the Central Highlands <p>that results in higher power flows on the Palmerston-Sheffield-George Town triangle and causes power flows on the Palmerston to George Town via Hadspen 220kV transmission line to be constrained to maintain flows within thermal limits.</p> 2. Successful completion of the RIT-T, including a comprehensive assessment of credible options, that demonstrates upgrading the capacity of the network between Palmerston and George Town via Hadspen is the preferred option that provides positive net market benefits and, or, addresses a reliability corrective action. 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER. 	<p>N/A – Removed.</p>

Project	Combined Proposal Triggers	Amended Triggers
<p>Sheffield to George Town Network Upgrade</p>	<ol style="list-style-type: none"> 1. One or both of the following: <ol style="list-style-type: none"> a. Commitment of additional load from one or more customers with aggregated load above 300 MW to connect to the transmission network in the George Town-Bell Bay area b. Commitment of new generation to connect in North West Tasmania or Central Highlands that results in higher power flows on the Sheffield-George Town-Palmerston triangle and causes power flows between Sheffield and George Town to be constrained to maintain flows within thermal and, or, stability limits. 2. Successful completion of the RIT-T, including a comprehensive assessment of credible options, that demonstrates upgrading the capacity between Sheffield and George Town is the preferred option that provides positive net market benefits and, or, addresses a reliability corrective action. 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER. 	<ol style="list-style-type: none"> 1. Commitment of at least 712 MW of additional load to connect to the transmission network at George Town 2. AER is satisfied that TasNetworks has successfully completed a RIT-T that demonstrates that upgrading the capacity between Sheffield and George Town is the preferred option that provides positive net market benefits and, or, addresses a reliability corrective action 3. TasNetworks’ Board commitment to proceed with the project, subject to the AER amending the revenue determination pursuant to the NER.

Project	Combined Proposal Triggers	Amended Triggers
Waddamana to Palmerston transfer capability upgrade	<ol style="list-style-type: none"> 1. Commitment of new generation in the Central Highlands and / or the southern transmission network that results in power flow through the Waddamana–Palmerston transmission corridor to be constrained to maintain flows within thermal and, or, stability limits. 2. Successful completion of the RIT-T, including a comprehensive assessment of credible options, that demonstrates upgrading the transfer capability of the Waddamana–Palmerston transmission corridor is the option that maximises positive net market benefits. 3. TasNetworks’ board commitment to proceed with the project subject, to the AER amending the revenue determination pursuant to the NER. 	<ol style="list-style-type: none"> 1. Commitment of at least 660 MW of new generation in the Central Highlands REZ 2. AER is satisfied that TasNetworks has successfully completed a RIT-T that demonstrates upgrading the transfer capability of the Waddamana–Palmerston transmission corridor is the preferred option that provides net market benefits and / or addresses a reliability corrective action 3. TasNetworks’ board commitment to proceed with the project subject, to the AER amending the revenue determination pursuant to the NER.

Source: TasNetworks, *TasNetworks-Combined Proposal Attachment 7 - Contingent projects-Jan 23*, 31 January 2023; TasNetworks, *TasNetworks 2024-2029 Contingent Projects - Revised Trigger Events*, email, 11 August 2023.

Shortened forms

Term	Definition
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulatory
AMIPT	Asset Management Improvement Program Transmission
AMIS	Asset Management Information Systems
AMISPT	Asset Management Information System Improvement Program
AMITT	Asset Management Improvement Transmission Enhancements
augex	augmentation expenditure
capex	capital expenditure
CCP27	Consumer Challenge Panel, sub-panel 27
CIRMP	Critical infrastructure risk management program
EAM	enterprise asset management
EMCa	Energy Market Consulting Associates
ICT	Information and communication technologies
InfCore Services	Infrastructure Core Services
ISP	Integrated System Plan
NEL	National Electricity Laws
NEM	National Electricity Market
NEO	National Electricity Objectives
NER	National Electricity Rules
NOCS	Network Operating and Control System
OSS	Operational Support Systems
PIAC	Public Interest Advocacy Centre
RAB	Regulated asset base
repex	replacement expenditure
RCP	Regulatory control period
SOCI	Security of Critical Infrastructure (Act 2018)