North West Transmission Developments Stage 1 (Construction)

Contingent Project Application for Stage 1 Construction

Direct Capex Forecasting Methodology

31 October 2025

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Contents

Figures and tables may not add due to rounding

1 Purpose, structure and scope of this document

1.1 Background

Project Marinus was first identified as an actionable project in the Australian Energy Market Operator's (**AEMO**) Final 2020 Integrated System Plan, published in July 2020.[1] AEMO's Final 2024 Integrated System Plan (**2024 ISP**) reconfirmed the actionable status of Project Marinus with no decision rules and the timing of Stage 1 by June 2030.[2]

Project Marinus comprises two components:

- Marinus Link, which consists of two new 750-megawatt (**MW**) high voltage direct current (**HVDC**) cables (undersea and underground) connecting Victoria and Tasmania with converter stations at each end (otherwise known as Cable 1 and Cable 2); and
- the North West Transmission Developments (**NWTD** or the **Project**), which involves significant upgrades to the existing Tasmanian high voltage alternating current 220 kV transmission network to facilitate the efficient connection and operation of the Marinus Link HVDC cables. The NWTD will be undertaken in two separate stages to support each of Cable 1 and Cable 2.

Each component will be developed and owned by different entities. Marinus Link Pty Ltd (**MLPL**) is responsible for Marinus Link and Tasmanian Networks Pty Ltd (**TasNetworks**) is responsible for the NWTD.

On 10 October 2024, we submitted to the Australian Energy Regulator (**AER**) our NWTD Stage 1 early works contingent project application (**CPA-1**) for costs associated with early works activities undertaken between 1 July 2021 and 30 June 2024[3] and for forecast early works activities expected to be undertaken in 2024-25 and 2025-26. In March 2025, the AER approved our CPA-1 capital expenditure (**capex**) forecast of $151.92 million (real 2023-24). These works are expected to be completed in February 2026.

We have been progressing our early works activities (see section 1.2 of the Principal Application for further information on these activities) and have been keeping the AER and our NWTD Stakeholder Liaison Group updated with our progress as well as the key learnings and outcomes from these activities.

To ensure Marinus Link is able to connect to the Tasmanian transmission system by June 2030, we are required to begin construction and delivery activities in early 2026. These activities have been carefully scoped and resourced through our early works activities to ensure that they are efficient and prudent and will deliver the Project at the lowest sustainable cost. We are seeking the AER's approval for the costs of these construction and delivery activities, which comprise both direct and labour and indirect activities.

[1] AEMO, 2020 ISP, July 2020 p.15. AEMO's references to Marinus Link are references to Project Marinus.
[2] AEMO, 2024 ISP, June 2024, p.62 (in service timing).
[3] Early works activities commenced in 2019-20. However, costs prior to 2021-22 formed a component considered in the sale of MLPL, which occurred in March 2024. These costs were therefore not included in our CPA-1 or Regulatory Asset Base.

1.2 Purpose and scope of this document

This document explains how we have determined our Stage 1 construction and delivery direct capex forecast, including how we verified and validated our forecast direct capex.

This document presents our construction and delivery direct capex forecasting methodology for Stage 1 of the NWTD for AER approval. It forms part of our contingent project application for Stage 1 construction and delivery (**CPA-2** or **Application**) for the Project. It should be read in conjunction with our Principal Application document and other supporting documents, in particular our Labour and Indirect Costs Forecasting Methodology.

This document has been developed in accordance with:

- the actionable Integrated System Plan (**ISP**) framework under the National Electricity Rules (**NER**);
- the AER's Guidance Note for Regulation of actionable ISP projects; and
- TasNetworks' approved Cost Allocation Methodology.

Unless otherwise stated, all forecast capex values in this document are presented in real 2023-24 dollars and include real labour escalation (for labour related costs).

1.3 Structure of this document

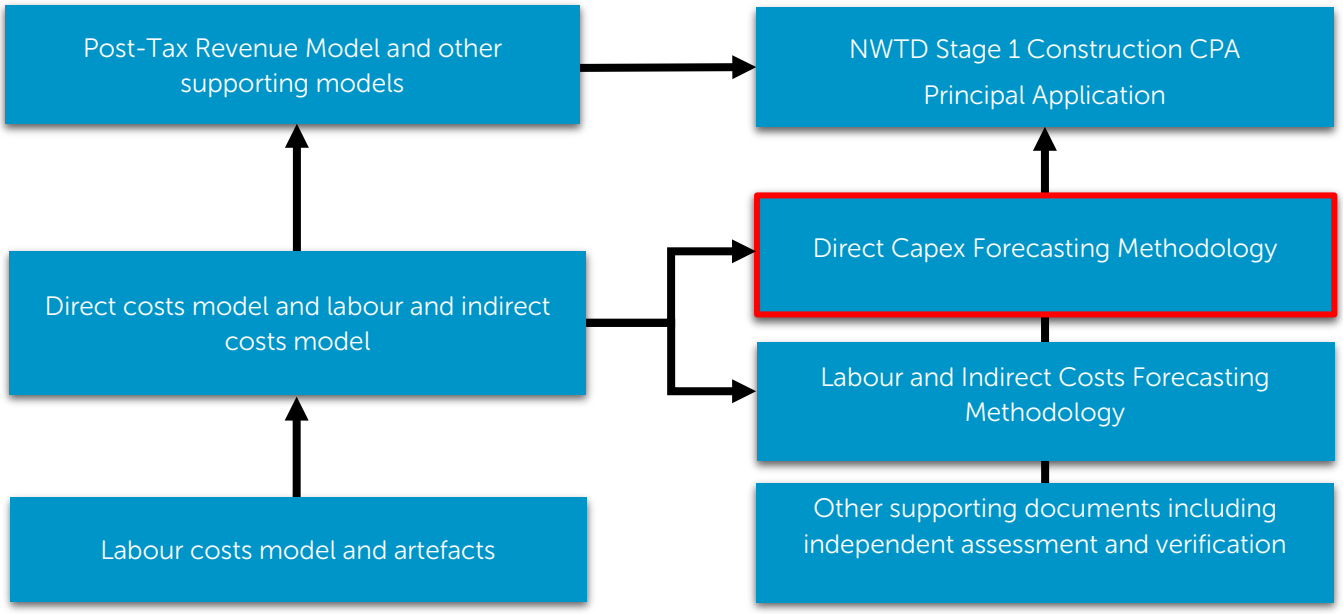
This document is structured as follows:

- Section 2 summarises our forecast Stage 1 construction and delivery capex.
- Section 3 describes the procurement approach for engaging Genus – the Principal Contractor.
- Section 4 explains the engineering, procurement and construction contract and our direct construction capex forecast.
- Section 5 explains our risk and contingency forecast.
- Section 6 explains our land and property direct capex forecast.

1.4 Structure of our Stage 1 construction and delivery application for the NWTD

This document is an attachment to our Stage 1 Application for construction and delivery, which comprises the attachments and models illustrated in Figure 1 as well as other supporting documents and models. This direct capex forecasting methodology document references these attachments, models and other supporting documents and should be read in conjunction with them.

Figure 1 Document structure for NWTD Stage 1 Application for construction and delivery



Attachments and supporting models comprising our Stage 1 construction and delivery Application are also detailed in section 1 of our Principal Application document.

2 Summary of forecast capex

Table 1 shows that TasNetworks' forecast NWTD Stage 1 construction and delivery capex will be $970.90 million over the period 1 July 2025 to 30 June 2030.

This capex is incremental to the capex approved by the AER in its 2024-29 Revenue Determination and its CPA-1 determination for TasNetworks because it relates to activities that are additional to normal business activities and would not be incurred other than for undertaking construction and delivery works for the Project.

Table 1 Summary of capex for NWTD Stage 1 construction and delivery ($ million, real 2023-24)

Stage 1 (construction)	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Direct capex	131.52	310.40	184.38	138.94	77.61	842.86
Labour and indirect costs	20.50	32.59	33.38	32.89	8.69	128.05
Total capex	**152.03**	**342.98**	**217.76**	**171.83**	**86.30**	**970.90**

Our Stage 1 construction and delivery capex, which reflects the bulk of the Project's costs, has been carefully scoped and resourced through our early works activities, which we have been progressing in line with the AER's decisions on our CPA-1 application.

Over 65 per cent of our Stage 1 construction and delivery forecast capex is based on market prices obtained through a competitive tender process to engage our Principal Contractor. We have also relied on pricing from suppliers and independent specialists. Our early works activities have resulted in our Stage 1 construction and delivery capex forecast being in line with an Association for the Advancement of Cost Engineering International (AACE) class 2 cost estimate.

Through the delivery of our early works activities, we are confident that our Stage 1 construction and delivery forecast capex in this Application is prudent and efficient and will deliver the Project at the lowest sustainable cost for consumers.

Table 2 summarises our Stage 1 construction and delivery capex by category.

Table 2 Construction and delivery capex by category ($ million, real 2023-24)

Capex category	Direct capex	Labour and indirect costs	Total	% of total
Direct construction	632.43	-	632.43	65.14
Project risks	131.52	-	131.52	13.55
Land and property	78.91	6.23	85.14	8.77
Commercial and procurement	-	12.00	12.00	1.24
Project execution	-	45.74	45.74	4.71
Project management	-	48.20	48.20	4.96
Planning and statutory assessment	-	0.71	0.71	0.07
Community and stakeholder engagement	-	15.16	15.16	1.56
Total capex	**842.86**	**128.05**	**970.90**	**100.00**

Our Stage 1 construction and delivery activities and the associated capex relating to:

- labour and indirect costs are explained in our Labour and Indirect Costs Forecast Methodology; and
- direct capex activities are explained in sections 4 to 6 of this document.

3 Overview of the procurement process for Stage 1

In late 2024, GenusPlus Group Ltd (**Principal Contractor** or **Genus**) was identified as the Principal Contractor for the Project. Following extended contractual negotiations, an engineering, procurement and construction (**EPC**) contract was executed on 23 December 2024.

The EPC contract was broken into two phases, an early contractor involvement (**ECI**) phase which is enabled by a limited notice to proceed (**LNTP**), and a construction phase which is enabled by a notice to proceed (**NTP**). The issuance of the NTP to construction will be subject to several prior conditions being met (i.e. conditions precedent). The contract includes a number of mechanisms which are geared to protect both TasNetworks and consumers' interests in delivering the Project.

3.1 Procurement strategy and rationale

To ensure that the Project is delivered at the lowest sustainable cost to consumers, a highly interactive and competitive procurement process has been undertaken to determine the cost of delivering the Project. The formal tender process involved four phases:

- Phase 1 – market sounding from July 2022 to March 2023, including:
  - Registration of interest from July to August 2022; and
  - Expressions of interest from November 2022 to March 2023.
- Phase 2 – initial Request for proposal (**RFP**) from June 2023 to November 2023.
- Phase 3 – revised RFP from March 2024 to May 2024.
- Phase 4 – evaluation, negotiation and execution from May 2024 to December 2024.

The procurement process was conducted to the highest standard of probity, fairness and equal opportunity to achieve prudent, efficient and reasonable outcomes for consumers, including competitive pricing.

Phases one to three of the procurement process were discussed in CPA-1[4] and will not be repeated in this Application. Phase four[5] of the procurement process and the EPC contract are discussed below.

[4] TasNetworks, NWTD Stage 1 CPA-1 Early Works, October 2024, p. 48 to p.52.
[5] This phase was still in progress at the time CPA-1 was submitted. Further information on this phase has been included for completeness and should be read in conjunction with CPA-1.

Phase 4 – Evaluate revised RFP (May 2024 to November 2024)

As noted in CPA-1, to provide confidence to TasNetworks, the AER and consumers that [redacted] response to the revised RFP was consistent with the lowest sustainable cost, TasNetworks established a facilitated negotiation process [redacted].

[redacted]

During this phase, TasNetworks engaged [redacted], a specialist consultancy for construction and infrastructure development projects, to conduct a Cost Validation Report as the independent owner's estimator and concurrently develop an independent estimate of the delivery cost to help verify and validate the AACE class 2 cost estimate determined through the ECI process.

[redacted] found that the lump sum price for the ECI phase and guaranteed maximum price (GMP) for the construction phase were both considered reasonable and compared favourably with the [redacted] independent estimate and industry benchmarking. [redacted]

Upon determining the preferred Principal Contractor, TasNetworks entered contract negotiations with Genus. Contract negotiations commenced in late 2024 and concluded on 23 December 2024 when Genus was formally engaged as Principal Contractor to lead the engineering, procurement and construction of the Project.

4 Construction and delivery

This section explains the EPC contract and details the construction and delivery capex that will be undertaken by the Principal Contractor.

We note that the EPC contract was executed during the AER's assessment of CPA-1 and we provided the contract and various pieces of information to the AER as part of that assessment process. The section below should be read in conjunction with our CPA-1 information request responses.

4.1 EPC contract

The form of the contract is a modified EPC contract with an ECI phase. Pricing is open book with a gain share mechanism based on the difference between the final agreed GMP and actual costs, capped at a percentage of the total margin. TasNetworks' decision to adopt this form of the contract was for reasons including, but not limited to:

- market feedback and industry best practice;
- engineering considerations concerning separation of design and procurement responsibilities, which may introduce inefficiencies and significant risk;
- the need to align procurement with final design requirements;
- the Principal Contractor's superior supply chain management capabilities; and
- efficient risk transfer from TasNetworks to the Principal Contractor under the EPC contract.

This approach ensures cost-effective, timely, and integrated project delivery while mitigating procurement-related risks. The Principal Contractor is better positioned to handle the complexities of procurement, allowing TasNetworks to concentrate on strategic oversight, regulatory compliance, stakeholder management, and overall project governance.

The EPC contract includes various critical mechanisms to incentivise the Principal Contractor to be prudent and efficient, ensuring that the Project is delivered at the lowest sustainable cost for consumers.

Staged delivery model

Although the EPC contract is broken into two phases (ECI and construction), [redacted] During the ECI phase, the procurement of long lead time items (**LLI**) will also occur. The financial commitment for these items will be made via subsequent early works agreements.

The staged contract delivery model was considered the most appropriate option for the Project and provides the benefits set out in Table 3 below.

Table 3 Benefits of staged delivery model

Benefit	Description
Contractor risk appetite	Contractors are reluctant to take on work on traditional terms such as lump sum contracts due to an increased demand for services during the renewable energy transition, impacts experienced during the COVID-19 pandemic and the high risk of cost and time overruns associated with complex linear infrastructure projects. The ECI phase provides the opportunity to mitigate risk and develop more reliable pricing.
Risk mitigation	The ECI phase provides the opportunity to refine scope, develop the design, optimise solutions, more effectively identify project-specific risks and implement appropriate mitigation strategies.
Cost certainty	A more mature design is able to be developed during the ECI phase resulting in increased cost certainty when commencing construction and when submitting a construction phase contingent project application (**CPA**).
Alignment with revenue recovery process and timing	The model is closely aligned with the staged revenue recovery process. The ECI and construction phases enable costs to be developed in alignment with the early works CPA and the construction CPA, respectively. The model also enables the revenue recovery process to commence earlier (as opposed to a lump sum contract model) via an early works CPA.
Early procurement	Procurement of LLI during the ECI phase is critical to maintaining the project schedule and mitigating the risk of delay (including the risk of delaying Marinus Link) through accessing equipment specifications for design and securing supply chain availability.

Guaranteed Maximum Price

The pricing methodology within Genus' submission required the submission of an original guaranteed maximum price (**OGMP**) which comprises three components: fixed minimum construction price; margin; and maximum risk price. These components were documented in the EPC contract at execution.

During the ECI phase, the OGMP components are refined and adjusted within the overall OGMP. The EPC contract requires that the final GMP submission is below the OGMP. [redacted]

The EPC contract does not allow the OGMP to be adjusted during the ECI phase as it operates as a maximum price within which the Principal Contractor is measured when the GMP is submitted. Any adjustments made during the ECI phase are isolated and the adjustment is made to the GMP submitted at the end of the ECI phase. Adjustments to the GMP may include:

- a positive or negative variation order issued by TasNetworks, such as;
  - a scope change;
  - costs associated with a latent condition; or

- costs associated with special contamination;

- a reduction in the value of provisional sum work;
- an LNTP activity change (for example, removal of LNTP - Stage 2 Design and associated LNTP fee);
- foreign exchange rate movement associated with materials and equipment procured in foreign currencies (specifically U.S Dollars, Euros or Chinese Yuan); or
- commodity price movement relating to copper, aluminium and steel.

The use a of GMP provides necessary protections to TasNetworks and consumers by providing appropriate cost certainty and ensures TasNetworks has ultimate oversight over the final agreed construction price.

Gain-share mechanism

At the conclusion of the defect liability period, if the total of actual costs and margin is less than the GMP (at construction phase commencement), the resulting cost saving will be shared between TasNetworks and the Principal Contractor at a [redacted] ratio, respectively.

The final gain share payable is also subject to achievement of a minimum score based on a set of agreed key performance indicators and measures (annexure 18 of the EPC contract) as well as other relevant clauses.

Open-book approach

The EPC contract includes robust open book audit provisions that allow TasNetworks to audit, verify, and assess any costs claimed by the Principal Contractor in relation to scope changes, ECI activities, EPC and subcontractor pricing, risk and contingency allowances, and margin (profit and overheads). These rights extend to the Principal Contractor's internal records, including timesheets, supplier pricing, and other cost build-ups, that must be made available throughout delivery and for a minimum of seven years post-completion. This framework ensures that all project costs are transparent, market-aligned, and capable of verification against actuals or benchmarks, providing a critical consumer protection mechanism in the delivery of the Project.

In accordance with the EPC contract, TasNetworks will prepare and implement an audit plan during the ECI phase. This plan will outline the proposed audit scope, timing, and methods, and will be developed in consultation with Principal Contractor to ensure reasonable access requirements and minimise disruption. The plan will support TasNetworks' obligations to validate any payment claims on an open book basis and ensure costs proposed for inclusion are prudent, efficient, and justified in accordance with the NER.

Contractor Procurement

Another key mechanism within the EPC contract allows TasNetworks to request and review the procurement process and documentation for the procurement of any goods or services procured by the Principal Contractor or any of its subcontractors.

The Principal Contractor was also required to submit a Tasmanian Industry Participation Plan outlining their procurement methodologies to ensure opportunity for local participation and a fair process. TasNetworks has also reviewed and provided feedback on Genus' Procurement Plan for the Project.

4.2 Direct construction capex

The forecast direct construction capex is set out in Table 4. This primarily relates to Principal Contractor costs under the EPC contract (that were either agreed prior to contract execution or via subsequent variations).

Table 4 Direct construction capex ($ million, real 2023-24)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Transmission lines	[redacted]					
Substations						
Contractor indirect costs						
Contractor margin fee						
Contractor risk and contingency						
Contractor provisional sum						
Transmission lines - variations						
Substations - variations						
Other construction costs						
Total	**68.99**	**289.28**	**165.53**	**106.70**	**1.92**	**632.43**

Principal Contractor - Variations

The Principal Contractor will be responsible for all transmission lines and substation works. This includes all works covered by the EPC contract executed in December 2024 and subsequent variations proposed by the Principal Contractor that TasNetworks intends to accept.

Table 5 shows the transmission lines variations that TasNetworks intends to accept at the time of writing.

Table 5 Principal Contractor – transmission lines variations ($ million, real 2023-24)

Variation	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Sheffield-Burnie towers to poles						
Clear insulators						
Total						

Table 6 shows the substations variations that TasNetworks intends to accept at the time of writing.

Table 6 Principal Contractor – substations variations ($ million, real 2023-24)

Variation	2025-26	2026-27	2027-28	2028-29	2029-30	Total
IEC 61850 protection scheme - Sheffield						
IEC 61850 protection scheme - Heybridge						
SCADA standards update						
Substation gateway works						
Total						

Towers to poles

The original scope agreed with the Principal Contractor provides for construction of the on-alignment sections of the new TL538 Sheffield–Burnie (SH–BU) overhead transmission line (OHTL) using steel lattice towers. This was to be undertaken during a single, three-month planned outage and cutover of the existing TL504 SH–BU OHTL.

This variation will result in the construction of these on-alignment sections using steel dual-pole structures instead of lattice towers. This approach will enable construction to occur under a program of shorter day outages on the existing TL504, allowing the line to remain in service outside of those outage windows.

The variation is linked to the sequencing impacts from the decision to stage Project Marinus. The original plan was to construct TL538 on the existing TL504 alignment after the inland Sheffield–Staverton–Hampshire Hills–Burnie route was completed. This would have enabled TL504 to be fully de-energised and removed before TL538 construction commenced. However, following the decision to stage Project Marinus and prioritise the coastal route, TL538 now needs to be constructed while TL504 remains in service. A re-design of the alignment has allowed the majority of TL538 to be built off the existing corridor, but approximately 25 constrained locations still require construction directly on the TL504 alignment.

The decision to adopt the dual-pole solution provides clear and multi-faceted benefits:

- system and customer benefits – the revised approach will allow [redacted] to generate unconstrained outside outage windows, whereas under the original scope output would have been heavily constrained for up to three months. It also ensures continuity of optical fibre ground wire services for commercial customers.
- return to service delay – the revised approach allows a significant reduction in return to service time of the existing TL504. This allows an acceptable timeline of response to credible contingency events that may occur during outages.
- program flexibility – shorter day outages will provide greater resilience to weather and other scheduling risks. In contrast, the original scope required a three-month continuous outage and the Principal Contractor subsequently advised that a second three-month outage would likely be required, further compounding system and reputational risks.
- constructability – the dual-pole structure solution will resolve constructability challenges by allowing both the existing TL504 and the new TL538 to co-exist safely within the corridor until the new line is ready for energisation.
- reputational protection – the revised approach will avoid lengthy outages and associated constraints on generation, reinforcing TasNetworks' reliability commitments to customers.

In summary, the variation represents a more optimal solution developed through the ECI phase. It will maintain supply reliability, improve program deliverability and address key constructability challenges, whilst mitigating reputational and customer impacts inherent in the original outage-based approach.

Clear insulators

The original scope agreed with the Principal Contractor specifies procurement and installation of TasNetworks' standard glass disc insulators with a dark silicon coating. This variation will result in the procurement and installation of TasNetworks' standard glass disc insulators without the dark silicon coating.

This variation will result in visual impact improvements and cost and maintenance efficiencies.

TasNetworks had a landscape and visual impact analysis report prepared based on the proposed route. This report identified that uncoated clear glass disc insulators would reduce visual impact when viewed against the sky. While dark silicon-coated insulators were originally specified for use in forested areas to mitigate contrast, the analysis concluded that clear insulators are more appropriate in open and skyline-dominated landscapes.

The use of uncoated insulators will also result in lower upfront (capital cost) and ongoing costs (operating and maintenance costs) and are more widely used across TasNetworks' network, which will simplify procurement, spares management and maintenance practices.

IEC 61850 protection scheme – Sheffield & Heybridge

The original scope agreed with the Principal Contractor was based on the use of a conventional protection and control system. This approach relied on hardwired copper signal exchange between electronic devices and operational equipment. It is noted that both Palmerston and Burnie substations already had IEC 61850 protection schemes included within their tender pricing from the Principal Contractor, making them part of the existing baseline scope.

This variation will introduce an IEC 61850-based protection scheme for the bays and merging units at the Sheffield substation that the Project is directly adding or amending. Bays not affected by the Project will retain their conventional protection schemes, leaving future projects responsible for progressively upgrading them over time.

The decision to adopt IEC 61850 at Sheffield and Heybridge was made internally by TasNetworks during the tender period. However, in order to avoid delays to the tendering process, it was agreed that the change would be communicated to the Principal Contractor post-tender. A specification amendment was issued the day after EPC contract execution in December 2024, and the Principal Contractor subsequently formalised the change by submitting a notice of variation in May 2025.

The variation will:

- enable a consistent and standardised design across Palmerston, Burnie, Sheffield and Heybridge substations, in line with IEC 61850, which aligns both with broader industry standards and with TasNetworks' business strategy;
- reduce commissioning risks at Sheffield by removing the need for copper wiring modifications;
- provide sustainability benefits by reducing copper wiring which will make a significant contribution towards the Project achieving a Bronze Infrastructure Sustainability Council rating;
- lower future capex and operating costs through reduced copper cabling; and
- reduce the requirement for spares by standardising devices across the Project.

SCADA standards update

The original scope agreed with the Principal Contractor was defined at the time of tender and contract execution, when TasNetworks' Standards for 61850 SCADA Protection and Automation were based on Version 2.0.

This variation will update these Standards to Version 3.0, which addresses technical issues and enhances the implementation of 61850 technology. Key changes introduced in Version 3.0 include:

- installation of an engineering computer to support local site operations and maintenance;
- introduction of a new 'simulation' mode for protection relays, enabling in-service testing; and

- capability to bypass faulted merging unit devices in redundant connection circuits (e.g. double breaker and breaker-and-half schemes), aligning TasNetworks with broader industry practice.

This variation will enable local operation of equipment, remote access and in service testing, and enhance network security.

The variation will:

- enable local operation of 220 kV equipment, noting without this variation NWTD sites will be left without a local human-machine interface and engineering computer (which is a material operational deficiency);
- enable remote fault and engineering access of NWTD sites, reducing response times and enhancing operational flexibility;
- enable in service testing of protection systems (through a simulation mode), significantly reducing the need for outages during maintenance; and
- enhance network security for complex switching schemes by providing the ability to bypass faulted merging units.

Substation gateway works

The original scope agreed with the Principal Contractor excluded substation gateway modification and associated testing works. These works would involve programming the terminal units or gateway devices, which aggregate and transmit alarms, controls and indications between the substations and the Network Operations Control System.

This variation will add these works to the Principal Contractor's scope.

The variation will reduce risk to project delivery and commissioning milestones, as having the work delivered by the Principal Contractor will ensure they are delivered in a timely and coordinated matter given that the Project cannot be commissioned without this gateway modification and testing activities being completed.

Other construction costs

Table 7 shows other construction costs TasNetworks expects to incur throughout the construction and delivery phase of the Project.

Table 7 Other construction costs ($ million, real 2023-24)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Heybridge bulk earthworks	[redacted]					
Excavation in rock						
Assurance of supply						
Property management plan works						
Contaminated material						
Unassigned scope items						
Total						

Heybridge bulk earthworks

The Heybridge site will house the Marinus Link convertor station and the TasNetworks Heybridge switching station, therefore forming the interface between Marinus Link and the Tasmanian transmission system.

Appropriate management of this site interface will be critical to ensuring both projects (Marinus Link and the NWTD) can be delivered safely, on time and on budget. [redacted]

This is a prudent and efficient approach and will reduce the likelihood of any site interface issues [redacted]

Excavation in rock

A provision has been made for excavation in rock. Geotechnical investigations are ongoing, but it has been considered prudent to allow a provision for some excavation to be in rock as the Principal Contractor has made minimal provisions for this activity.

[redacted]

This provision has been allowed for based on third party experience from other large-scale transmission and infrastructure projects, where unexpected subsurface conditions have frequently resulted in significant cost and schedule impacts when adequate provisions were not made. Similar projects have shown that even with comprehensive geotechnical investigations, it is not possible to fully eliminate uncertainty regarding rock conditions.

Assurance of supply

An allowance has been included for works required to successfully deliver the outage program, recognising the need to maintain continuity of supply and minimise network reliability risks during construction. This allowance covers costs such as the hire of diesel generators to provide temporary power supply during planned outages.

This provision will be critical in ensuring outages can be delivered safely and reliably without impacting customers or network operations. System studies have demonstrated the need to install diesel generation (or take other counter measures), as peak loads in North-West Tasmania exceed firm limits. Diesel generation or alternative technical solutions are required to reduce overall loading on substations and maintain assets under existing firm supply limits. Beyond generator hire, this provision will also cover associated activities such as installation and management, mobilisation and demobilisation, and testing to ensure readiness prior to outages commencing.

Experience from other major transmission and substation upgrade projects demonstrates that the use of temporary generation is a common and often essential measure. Without a provision for assurance of supply, projects are exposed to significant risks including the inability to meet outage windows, increased likelihood of unplanned interruptions, or delays to commissioning activities. In addition to project risk there is also a risk that load shedding will be required during peak periods to prevent cascading failure of assets during a credible contingency.

Although the Project has achieved significant network reliability de-risking during the ECI phase via the change of methodology for construction of TL538 (see towers to poles variation), the risk will not be eliminated entirely by the towers to poles change. By proactively making this provision, the Project maintains flexibility to adapt to outage constraints and further mitigate reliability risk to manageable levels. This provision supports the safe and timely delivery of the Project and mitigates potential reputational and financial impacts associated with supply interruptions.

Property management plan works

As advised by [redacted], a provision has been made for works that will be required to be undertaken by the Principal Contractor in accordance with landholder property management plans (**PMP**).

Subject to landholder negotiations, each PMP will include provisions for property specific work to facilitate safe passage of the construction works whilst maintain ongoing property access and operations. It is

anticipated PMP scopes will include works like installation of gates, fencing, cattle grids and wheel washes, and alterations to existing driveways.

Of the impacted properties, it is assumed that [redacted] of the properties will require some or all of the works noted above. [redacted]

Contaminated material

A provision of has been made for the safe disposal of contaminated material. Site investigations are ongoing, but it has been considered prudent to allow a provision for the safe disposal of contaminated material as the Principal Contractor has made no provisions for this activity.

[redacted]

This provision has been allowed for based on standard industry practice and reflects the extent and quality of site investigations to date and the project scale/cut volume (with a large cut volume magnifying the risk exposure). Site investigations to date have involved sampling but, the full extent of site contamination across all substation sites won't be known until civil works are undertaken.

It is noted that the Heybridge site was formerly the location of a paint pigment (titanium dioxide) factory (operating between 1949 to 1996 and demolished in 1998), a fire station and areas where fire training activities occurred (from the mid-1980s to approximately 2010).[6]

There are known contaminants on the site associated with the former paint factory, including naturally occurring radioactive materials, consisting of uranium, thorium and their decay products that occur at various concentrations in the titanium ore used at the site. The fire training activities also included the use of Per- and Poly-fluoroalkyl substances containing aqueous film forming foams.

[redacted] this contaminated material allowance will cover the safe disposal of any contaminated cut uncovered in the detailed earthworks undertaken by the Principal Contractor (along with the bulk earthworks undertaken by the Principal Contractor on other substation sites).

[6] MLPL, Supplement to Environmental Impact Statement - Heybridge Converter Station, p.53.

Unassigned scope items

Several scope items have been identified through the project development process but have not yet been formally allocated to the Principal Contractor. These represent activities that remain essential for successful project delivery that currently sit outside the defined contractual boundaries. The current list of unassigned scope items is shown in Table 8.

Table 8 Unassigned scope items ($ million, real 2023-24)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
NWTD and Marinus link conductor connection						
Burnie substation - storage shed works						
Transformer relocation - Palmerston to St Leonards						
OPGW cutovers and outages						
Recovery and return of Palmerston equipment to storage						
Relocation of 22kV UG cables at Palmerston						
Additional 220kV poles required at Sheffield						
Sheffield miscellaneous works						
Burnie substation - security camera relocation						
Total						

NWTD and Marinus link conductor connection

This item covers the provision of a high-capacity conductor connection between the NWTD infrastructure and the Marinus Link interconnector interface point. The link is a critical element in enabling power transfer between the Tasmanian transmission network and the new Marinus Link assets, supporting future network capacity, system strength and interconnection objectives.

The works will:

- provide a physical conductor connection between the Heybridge switching station (TasNetworks asset) and the Heybridge convertor station (MLPL asset);
- ensure appropriate electrical clearances, terminations and interface hardware to meet network design and safety standards; and
- support operational readiness of the Marinus interconnector by ensuring seamless integration with TasNetworks transmission assets.

This scope item is fundamental to the functional outcome of the Project, as it enables the new network assets to deliver their intended system benefits once Marinus Link is commissioned.

Burnie substation - storage shed works

As part of the NWTD works, the existing spares storage shed at Burnie substation will be demolished to make way for new infrastructure. The existing facility is currently used to store strategic extra high voltage (EHV) and transmission line spares, tools, and associated materials critical to network reliability. A replacement facility will be constructed to meet operational requirements, consisting of:

- a new EHV substation spares shed located within the substation's secure perimeter;
- a new transmission line spares shed, which may be positioned either within or adjacent to the substation fence line; and
- relocation of the existing weather station (~30 m south) to enable optimal shed placement.

Transformer relocation - Palmerston to St Leonards

This scope item covers the relocation of a spare 110/22 kV transformer from Palmerston substation to St Leonards substation. The transformer is currently held as a strategic spare and will be redeployed to support network reliability and capacity requirements in the northern region.

The works will involve the relocation process, including:

- disassembly of the transformer at Palmerston; and
- loading, heavy transport and offloading at St Leonards.

Optical ground wire (OPGW) cutovers and outages

These works will ensure continuity of critical fibre communications during network reconfiguration and construction activities, including integration with third-party infrastructure (notably the TasGas fibre network).

The scope includes:

- splicing and interconnection of new and existing OPGW fibre to TasGas fibre infrastructure;
- planned cutovers to transfer services onto new fibre circuits; and
- management of communications services during outage windows to maintain system reliability and compliance.

These activities will ensure that protection, SCADA and operational communications remain uninterrupted throughout project delivery and network transition periods.

Recovery and return of equipment to Palmerston

This item covers the recovery, dismantling and return to storage of existing substation equipment at Palmerston substation that will no longer be required following the Project. Certain components of the existing 110 kV and 220 kV yard will remain serviceable and are valuable as strategic network spares.

The works will include:

- dismantling, removal and transportation of circuit voltage transformers, disconnectors (side-by-side and end-to-end), circuit breakers (CB), and associated support structures;
- handling and packaging of components for secure storage at TasNetworks facilities; and
- preservation of equipment condition to ensure suitability for future redeployment or spare parts use.

The works will ensure asset value is retained, future procurement costs are reduced and will support ongoing network reliability by maintaining a pool of critical spare components.

Relocation of 22 kV UG cables at Palmerston

This item covers the relocation of existing 22 kV underground cables currently routed between the 220 kV and 110 kV yards at Palmerston substation. The existing cable routes conflict with the revised substation layout and new equipment footprints, necessitating rerouting to maintain operational integrity, safety and compliance with clearance standards.

The works will include:

- location and removal of existing 22 kV underground cables;
- excavation, trenching and backfilling for new cable routes;
- supply and installation of additional conductor as required for the new route length; and
- termination, reconnection and testing of relocated cables.

The works will ensure that 22 kV distribution infrastructure is appropriately integrated with the redeveloped substation configuration without compromising reliability or network standards.

Additional 220kV poles required at Sheffield

This item covers the supply and installation of two additional 220 kV support poles at Sheffield substation, required as part of the revised substation layout and connection design. The additional poles are necessary to resolve clearance conflicts and facilitate safe integration of new infrastructure associated with the Project.

The works will include:

- supply and installation of one 220 kV pole to avoid conductor crossing over the new 22 kV switch house;
- supply and installation of a second 220 kV pole to enable the double CB configuration for Generator Transformer 1; and
- associated civil works for pole foundations and minor conductor realignment as part of installation.

These works are required to maintain compliance with TasNetworks' design and safety standards and ensure adequate mechanical and electrical clearances within the modified substation layout.

Sheffield miscellaneous works

This item covers a range of minor but essential works at Sheffield substation identified during design development and site coordination that fall outside the primary Principal Contractor scope and other

unassigned scope items noted above. Although individually small in scale, these activities are necessary to ensure safe, compliant and reliable operation of the substation and to optimise asset performance.

The works will include:

- replacement of the current transformer on bay K196 due to sulfur hexafluoride (SF_6) gas leakage (one phase);
- use of a diagonal isolator on bay AD1 to eliminate the need for a conductor overpass pole;
- modification of CB spring charge control logic, including interlocking to stagger spring charge motors and updates to spring charge fail logic within bay controllers; and
- installation of a new manual sliding gate on the western perimeter of the substation (without fob access) to improve site access and maintenance logistics.

Each of these tasks addresses site-specific issues discovered during project development and is necessary for long-term maintainability, safety and operational efficiency.

Burnie substation - security camera relocation

This item covers the relocation of an existing security camera at Burnie substation to a new location adjacent to the SH–BU 220 kV transmission line bay. The relocation is required to maintain appropriate site surveillance coverage and ensure that camera positioning remains effective following reconfiguration of substation infrastructure associated with the Project.

The works will include:

- isolation and disconnection of the existing camera and associated cabling;
- relocation of the camera mounting structure to the new designated position;
- reconnection, testing, and recommissioning of the camera system; and
- alignment and verification of coverage to meet site security and operational monitoring requirements.

5 Project risks

5.1 Overview

The NWTD is a high voltage, large scale transmission project with significant delivery challenges driven by time critical activities, specialised technical design and construction methods, remote work locations, limited sector resources, unknown terrain, unknown ground conditions, high level of landowners easements, and complex community interactions.

These delivery challenges are the subject of the key risks identified by the delivery team and in delivery partner risk discussions.

Cost allowances are made for direct project costs and not consequential strategic, operational, or reputational damage. Schedule consequences are quantified and modelled through probabilistic estimates which provides a method to simulate risk consequence and model suitable schedule allowances.

Risk ownership is managed in accordance with the Risk Management Strategy and Risk Management Plan and overall responsibility sits with the Project Director. However, streams of activity are delegated to key leads. Accordingly, Risk Cohorts have been established and aligned with Risk Owners and Control Owners as follows:

- Contract Management and Project Management;
- Engineering;
- Land Access and Acquisition;
- Stakeholders and Communications; and
- Planning and Environment.

5.2 Context

The AER's Guidance Note for the Regulation of actionable ISP projects states that it can accept a project risk allowance for a contingent project where:

- residual risks have been identified; and
- the associated cost estimates of the residual risk are efficient, i.e. the consequential cost is adjusted to reflect the likelihood of occurrence.

To inform its assessment, the AER requires a comprehensive and transparent explanation of how the risks have been identified and costed, including:

- risk identification, i.e. clearly identifying the risk events; and
- risk cost assessment, i.e. estimating the potential cost impacts, the likelihood of occurrence, the consequential costs and any mitigation/management strategies.

5.3 Risk allowance

Table 9 shows the quantified risk and contingency allowance for the Project.

Table 9 Risk Allowance NWTD Stage 1 construction and delivery ($ million, real 2023-24)

% (P)	Contingent Allowance	Schedule Allowance	Risk and Contingency Allowance (P50)	Management Reserve (P80)	Total Risk Allowance
P50	56.36	75.16	131.52	-	131.52
P80	76.73	99.33	131.52	44.54	176.06

Table 10 and Table 11 provide details of the key or most significant risks driving the quantum of the risk and contingency allowance. A detailed explanation of all risks is provided in the separate Risk and Contingency Report provided as a supporting artefact with this Application.

Table 10 Risk Allowance – Key Risks Contingent Allowance

Rank	Reference[7]	Risk Description
1	C016 C041 C079	Third party design and construction
2	P124 P184	Comply with engineering design standards Threat of missing scope
3	C036 C082 C082a	Transmission lines scope
4	P164	Sustainability/climate goals
5	C052	Existing assets (incompatible or end of life)
6	C006	Foundation bearing capacity less than assumed
7	C061 C066	Additional scope for Heybridge Switching station – civil/earthworks Substations and Heybridge Switching Station scope increase
8	P004 P162	Owners team resourcing

[7] Project risk reference as per Risk and Contingency Report.

Table 11 Risk Allowance – Key Risks Schedule Allowance

Rank	Reference[8]	Risk Description
1	P180	Planning approval processes
2	P157 P063	Planning approval processes
3	C016 C041 C079	Third party design and construction
4	CO14	Landowners refuse access during construction
5	P166 C063 P165	Network constraints -single circuit dependency Network constraints – cancelled outages

An independent review of the risk qualification and quantification was undertaken by [redacted] through attendance of risk workshops and ongoing discussions with TasNetworks. [redacted] considered that:

- TasNetworks had managed and mitigated contingency duplication between the Principal Contractor and TasNetworks;
- the risk assessment methodology contained in the TasNetworks Risk and Contingency Report is both consistent with industry practice and prudent for the nature and scope of the NWTD and the 30 per cent design gate update;
- the supporting descriptions in the Risk and Contingency Report were prudent and commensurate for the 30 per cent design gate submission; and
- the process used for qualifying and quantifying schedule risk analysis is prudent and consistent with industry practice and commensurate for the 30 per cent design gate interim review.

The risk and contingency allowance was also considered by GHD Advisory (**GHD**) as part of their independent engineering verification and assessment of the Stage 1 construction and delivery capex provided with this Application. GHD found that the risk allowance was reasonable when benchmarked against comparable projects.

5.4 Quantified Risk Assessment

Risk Cost Quantum and Probability

Risk is represented as impacts exceeding minimum cost or time (baseline). Probability Values are represented as P50, and P80 values – e.g. P50 represents the project cost to provide a 50 per cent level

[8] Project risk reference as per Risk and Contingency Report.

of confidence in the outcomes; there is a 50 per cent likelihood that the final project cost will not exceed the expected values provided.

Risk cost quantum referred to as **Risk and Contingency** – is an amount up to P50 added to a base estimate to allow for items, conditions, or events for which the state, occurrence, or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs.

Risk cost quantum referred to as **Management Reserve** – is an amount in excess of P50, up to P80 added to a base estimate to allow for items, conditions, or events for which the state, occurrence, or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs. The Management Reserve is not included in the Risk and Contingency to be considered as part of this Application.

Methodology

All NWTD risk assessments use similar risk processes which comply with ISO 31000:2018 - guidelines on managing risk and ISO 310010:2019 – guidelines for quantifying risk.

In quantifying risk, TasNetworks has used the Australian Government, Dept of Infrastructure, Supplementary Guidance Note 3A – Probabilistic Contingency Estimation V2.0 Nov 2023 and AER Guidance on Risk in ISP Projects (Guidance Note for the Regulation of actionable ISP projects, March 2021 - Chapter 2.6).

TasNetworks has used subject matter experts, stream leads, consultants and the broader team inputs during workshops and discussions to complete this structured risk assessment. The risk assessment process establishes inter-relationship of the project's objectives, project estimate, contracted risk and the commercial risk.

Identified risk (within each assessment) of the project is paired with proposed controls and likely occurrences probabilities assessed against a consequence profile (optimistic, most likely, pessimistic) that informs an allowance set modelled and simulated as a collective in lieu of a risk-by-risk allowance.

The methodology in summary is:

- review the risk register for completeness:
  - review of the risks and risk causes;
  - risk context assigned, known existing and proposed risk controls noted; and
  - risk owners assigned (relevant to who is best placed to manage the risk);
- allocate each risk to a responsible entity;
- add quantum estimates to the risk register for:
  - estimated costs;
  - likelihoods; and
  - risk costs (optimistic, most likely, pessimistic);
- run a quantitative risk analysis (**QRA**) using Monte Carlo simulation; and
- finalisation of risk register, QRA and preparation of the Risk and Contingency Report.

Risk Cost Modelling

The project risk model provides a risk-adjusted estimate that quantitatively accounts for the most likely effect of the project's risks. The risk model comprises two separate models which generate the cost and time risk outputs.

The modelling includes an iterative process in assessing each risk to maintain integrity and accuracy ensuring minimal:

- overlap;
- duplication of risk contingency; and
- overstatement of cost risk impacts.

Each risk was reviewed and assessed for likelihood as well as the expected cost impact based on experience from similar projects, internal and external subject matter expert experience, estimates, and other supporting project information.

For each risk, a 'base estimate' was determined using the best available cost inputs. In terms of delay costs, the maximum daily delay rate from the estimate is used. The allowance is used to calculate the estimate for the 'likely outcome' value which is the basis of the QRA.

To derive the cost impact and define risk factor distributions, the approach implements the '3-point cost estimate' process which is a standard and robust project estimating methodology. This technique uses three figures that are produced initially for every distribution that is required, based on prior experience and/or an estimate. The three 'points' were categorised as follows:

- low cost if realised (or optimistic scenario), which represents cost value based on the best-case scenario;
- most likely cost if realised (or realistic estimate), which represents the most realistic cost value; and
- high cost if realised (or pessimistic scenario), which represents the cost value if unfavourable conditions are experienced.

Figure 2 below shows the relationship between the estimate inputs. The inputs used for individual risks are detailed in the Risk and Contingency Report provided with this Application.

Figure 2 Assessment of quantitative variation

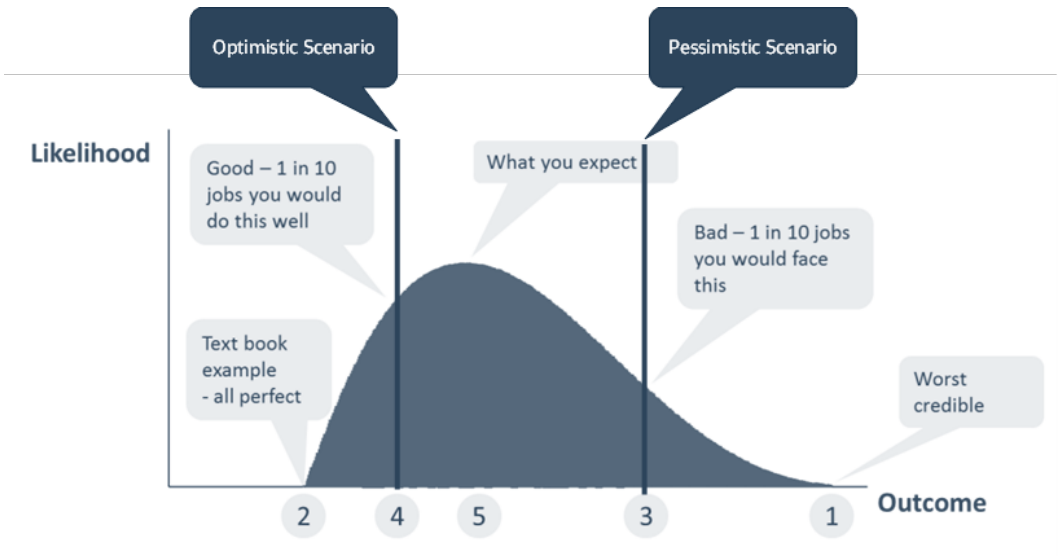


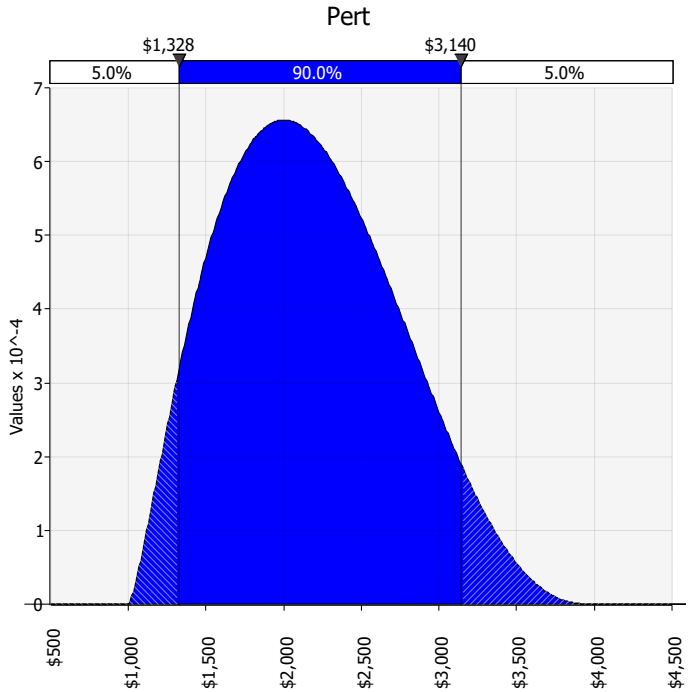
Table 12 shows the how distributions have been applied to project risks utilising the most appropriate continuous distribution.

Table 12 Risk distributions

Severity of Outcome	Continuous Distributions	Description
Lower and upper limits are known (bound)	Pert	When both lower and upper limits can be determined. The $ Values are the boundaries.
Bound (known) lower, unbounded upper (unless truncated)	LogNormAlt	When the low outcome cost expected from 1 in 20 projects can be determined, yet the upper is unknown. Upper limit can be bound (cut off) via truncation functions. E.g. the cost could be borne by the company up to this amount prior use of insurance.
Lower and upper values may be exceeded in extreme cases	Trigen	When both lower and upper limits can be exceeded, to a limit, in a small number of instances. The $ Values are a truncation of the bounds.

Figure 3 shows a graphic depiction of the distribution for Pert when both lower and upper limits can be determined (noting the values in the graphic are for illustrative purposes and do not relate to the Project). The $ Values are the boundaries.

Figure 3 Pert distribution



Modelling adopted a stochastic approach to determine risk allowance from a project-specific and accurate model of the volatility and variability of the possible impact that the risks will have on the expected project cost estimate. This approach is a bottom-up method based on the specific 'characteristics' (or risks) of the project using Monte Carlo analysis. The output from this process has enabled TasNetworks to identify a risk allowance profile that forms part of the overall project cost estimate whilst also providing a probability-weighted calculation of anticipated project costs.

The Monte Carlo analysis statistical technique uses risk management best practice, repeated random sampling and statistical modelling of multiple probability distributions of the inputs to computer model probability distributions.

The analysis commences with software randomly selecting a value from each of the risk ranges in accordance with the three-point distribution used to represent the risk. The process iterates with the sum from each iteration producing an output distribution of the likely cost outcomes as if the project was delivered many times. 10,000 iterations are deemed sufficient to generate a risk allowance based on a plausible output of risk outcomes. In this instance, the outcome of this analysis was a probability distribution curve of expected costs, which was used to determine the level of risk allowance.

6 Land and property

This section details the nature and scope of the land and property direct capex activities for the construction and delivery phase of the Project and explains the associated actual and forecast capex.

Table 13 shows that the Stage 1 construction and delivery land and property direct capex is $78.91 million.

Table 13 Land and property – direct capex ($ million, real 2023-24)

Land and property	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Total	**42.20**	**4.21**	**1.94**	**15.33**	**15.23**	**78.91**

6.1 Nature and scope of land and property

Land and property activities relate to land acquisition and providing support to landholders. Key land and property activities include:

- exercising each Option under the Licence and Easement Option Agreements (**LEOA**) entered with landholders to secure construction access and ongoing easements;
- [redacted]
- payment of compensation as assessed in accordance with the *Land Acquisition Act 1993* (Tas);
- securing distribution easements, right of way easements and laydown and brake and winch sites;
- land survey field work and plan preparation to support the registration of easements;
- preparation of formal documentation required to register easements on title; and
- ongoing landholder management and support.

6.2 Land access and land and easement acquisition process and approach

TasNetworks' land access and acquisition practices and compensation framework are contemporary, fair and equitable and are consistent with the:

- *Land Acquisition Act 1993* (Tas) (**LAA**);
- *Electricity Supply Industry Act 1995* (Tas) (**ESIA**); and
- *Major Infrastructure Development Approvals Act 1999* (Tas) (**MIDAA**).

The LAA is the key legislation governing the acquisition of land. It specifies:

- how land is to be purchased;
- how easements are to be acquired;
- what the acquiring authority must do to purchase the land or acquire the easement;

- landholders' responsibilities after being formally notified that the land is required;
- how the compensation for the land or easement is determined; and
- the timeframe in which all of this happens.

The ESIA outlines the regulation and licensing of electricity entities in Tasmania.

The MIDAA provides a process to assess long linear projects including transmission lines and details when compensation is incurred because of a notified corridor being declared.

TasNetworks adheres to its overarching landholder engagement guiding principles in undertaking all its activities, including those for the Project. These have been informed by the Energy Charter's *Better Practice Social Licence Guideline* principles.[9] These guiding principles are:

- respect landholders, their rights and interests;
- be open, honest and respectful in negotiations;
- offer fair and reasonable compensation;
- be proactive and timely in engaging landholders and their representatives;
- behave responsibly and respectfully when accessing properties;
- minimise disruption to business/farming/lifestyle activities and disturbance to properties;
- comply with applicable laws, regulations and guidelines;
- voluntarily acquire land and easements;
- assist in all negotiations;
- treat landholders equitably; and
- works with landholders to address their needs and reasonable requests.

Every landholder impacted by the Project is assigned a dedicated land agent who is always contactable. This approach has enabled TasNetworks to actively identify potential impacts associated with the construction and operation of the proposed transmission lines and work with landholders to minimise impacts wherever possible. Land agents will continue to support landholders, respond to queries and concerns, and liaise between the contractor and the landholder throughout the construction phase.

Phases of land access and easement acquisition

- Phase 1: complete voluntary transmission easement acquisition process
- Phase 2: complete voluntary acquisition process for other land and easements
- [redacted]

Phases 1 and 2 will be undertaken concurrently, with phase 3 to follow [redacted]

[9] The Energy Charter, Better Practice Social Licence Guideline.

Phase 1: complete voluntary transmission easement acquisition process

Stage 1 of the Project requires the acquisition of easements for approximately 130 km of transmission lines between the Palmerston and Burnie substations via the Sheffield substation and Heybridge spur. There are 339 private landholder parcels impacted by the proposed transmission line easement within the Project route. Of these 339 private landholder parcels, 203 require new easements (i.e. the existing easement requires extension), with the remaining 136 private landholder parcels having infrastructure replaced within the existing easement footprint.

For greenfield properties where new easements are required, removing duplicate landholders (i.e. landholders who own multiple parcels) from the 203 private landholder parcels results in 142 individual landholders being impacted by the proposed transmission line easement. TasNetworks has therefore been required to negotiate and seek to enter into a LEOA and PMP with 142 landholders for the purpose of securing construction access and ongoing easement rights.

For brownfield properties where new easements are not required, removing duplicate landholders from the 136 private parcels results in 129 landholders being impacted by the proposed transmission infrastructure. Given no new easement is required, these landholders will not be required to enter a LEOA but will be required to enter a PMP.

Land Acquisition Act valuations

During the early works period, TasNetworks arranged for its valuer Jones Lang LaSalle (**JLL**) to undertake valuation assessments for all greenfield and brownfield properties located on the Stage 1 alignment.

For greenfield properties where a new easement is to be acquired, JLL undertook an on-ground valuation assessment in accordance with the requirements set out under the LAA. [redacted]

Forestry valuations

Following the exercise of the Option for commercial forestry properties, TasNetworks will arrange for final tree crop valuations to be carried out to inform compensation payable to these landholders. These valuations will be completed by either [redacted] or [redacted]

Exercise of Option under LEOA

Following TasNetworks successfully meeting all financial close criteria, TasNetworks will exercise all Options secured under the Stage 1 LEOAs by issuing an Exercise Notice to landholders. Under the current project pathway, it is intended that Options will be exercised in March 2026.

Payment of initial compensation instalment

Under the LEOA, exercising the Option triggers the obligation to pay landholders the initial compensation instalment. [redacted]

Land surveys and registration of easements

As part of the electricity infrastructure easement registration process, it is necessary for TasNetworks to obtain land survey plans to detail the location of the infrastructure on the property in a form registerable by the Tasmanian Land Titles Office (**LTO**).

Across the Project there are 471 parcels that will require a survey to be undertaken, comprised of 339 private landholder parcels (271 landholders) and 132 public landholder parcels (11 authorities).

[redacted]

Following the survey being completed and infrastructure being constructed, TasNetworks will arrange for the easement to be registered on the property title.

Payment of compensation balance

Following the registration of the easement, TasNetworks will pay landholders the balance of the assessed compensation in accordance with the LEOA. [redacted]

Removal of caveats

Over the course of the early works period, TasNetworks expects to lodge up to 142 caveats. Caveats are lodged against impacted property titles following entry into each Option Agreement.

In accordance with the terms of the Option Agreement, following registration of the easement TasNetworks will withdraw the caveat from the title which will occur during the construction and delivery phase.

Phase 2: complete voluntary acquisition process for other land and easements

Stage 1 of the Project requires the relocation of overhead distribution assets and the acquisition of corresponding easements along with the acquisition of right of way easements to secure access to construction sites. Due to upgrades to the Sheffield substation, additional land bordering the existing substation must be acquired to facilitate the proposed works. Additionally, there is also a requirement to secure laydown and brake and winch site access to support construction activities.

Distribution and right of way easements

To facilitate construction across the Stage 1 alignment, distribution overhead lines on 52 private landholder parcels need to be relocated. This has required TasNetworks to enter into agreements with these landholders to obtain new easements to allow ongoing access to and maintenance of these assets. TasNetworks has arranged for its valuer JLL to undertake valuation assessments for these properties located on the Stage 1 alignment.

Across the NWTD Stage 1 alignment, there are 32 parcels in total hosting access tracks only where there is no transmission infrastructure proposed. Of these 32 parcels, 14 are not connected to landholders who host infrastructure therefore requiring a separate agreement. TasNetworks has arranged for its valuer JLL to undertake valuation assessments for these properties located on the Stage 1 alignment.

Distribution and right of way easement acquisition will occur by way of an easement deed and registration of easements will occur once infrastructure has been built. Compensation will be paid following the registration of the easement on the title.

Acquisition of these easements will broadly follow the same process as the acquisition of transmission easements.

Substation land acquisition

[redacted]

Laydown areas

Based on current design, a total of [redacted] laydown areas outside the proposed licence and easement areas will be required to facilitate construction with [redacted] on the Palmerston to Sheffield alignment and [redacted] on the Sheffield to Burnie alignment. These laydown areas will be used by TasNetworks' contractor to store materials for the duration of the construction period.

Land use will be secured through a licence agreement, with compensation paid at the time the agreement is entered into.

Brake and winch sites

Where possible, brake and winch sites have been positioned within proposed licence and easement areas. Based on current design, there are an additional [redacted] brake and winch sites required outside the proposed licence and easement areas.

Land use will be secured through a licence agreement, with compensation paid at the time the agreement is entered into.

Phase 3: [redacted]

[redacted]

[redacted]

Compensation to landholders

There are several measures to compensate landholders for land acquisition/use [redacted]

- easement acquisition compensation – paid in accordance with the LAA to compensate landholders in respect of the acquisition of transmission, distribution and right of way easements;
- licence agreement compensation – paid to compensate landholders for access to laydown areas and brake and winch sites. Professional advice fees of [redacted] will also be paid per agreement to reimburse landholders reasonable costs associated with legal and valuation advice to assist them with understanding and assessing the agreement; and

[redacted]

Strategic Benefit Payments

Over the course of the early works phase, TasNetworks has worked with shareholders, landholders and the Tasmanian Farmers and Graziers Association to determine a suitable Strategic Benefit Payment (**SBP**). Discussions with these parties have ensured that the SBP amount recognises the impacts transmission infrastructure will have on landholders, provides them with an appropriate and ongoing share of the benefit realised by Tasmania and is cognisant of the impacts of the SBP on electricity consumers.

After several years of consultation and discussions, the Tasmanian Government announced the Tasmanian Strategic Benefit Payment scheme on 29 October 2025.[10] The scheme will result in eligible landholders being paid an SBP amount of $200,000 per km (in real terms).

As noted in section 5 of the Principal Application, the SBP will not be payable until our next regulatory control period due to asset commissioning aligning with the end of our current regulatory control period. Therefore, the incremental operating expenditure (**opex**) associated with the SBP will be submitted as an opex step change through our R29 Revenue Reset.

[10] Premier of Tasmania, Tasmanian farmers to benefit from hosting Project Marinus, 29 October 2025.

6.3 Forecast capex

Table 14 shows that TasNetworks' forecast land and property direct capex is $78.91 million.

Table 14 Forecast land and property direct capex ($ million, real 2023-24)

Land and property	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Easement acquisition compensation	[redacted]					65.16
Other direct costs associated with easement acquisition						13.74
Total	**42.20**	**4.21**	**1.94**	**15.33**	**15.23**	**78.91**

Direct activities

TasNetworks' forecast direct capex relates to:

- $61.45 million for compensation payable to landholders for the acquisition of easements. This compensation has been assessed by JLL in accordance with the LAA and covers market value compensation, injurious affection compensation, disturbance compensation and MIDAA allowance. This comprises:
  - [redacted] for Palmerston to Sheffield transmission easements; plus
  - [redacted] for Sheffield to Burnie transmission easements; plus
  - [redacted] for Burnie to Heybridge transmission easements; plus
  - [redacted] for right of way easements; plus
  - [redacted] for distribution easements; plus
  - [redacted] for Sheffield to Farrell transmission easements (due to the Sheffield substation works);
- $3.71 million for additional compensation payable to landholders for the acquisition of easements. This covers compensation that is expected to be payable to certain landholders as negotiations are finalised and updated valuations are received. This comprises:
  - [redacted] for Palmerston to Sheffield transmission easements; plus
  - [redacted] for Sheffield to Burnie transmission easements; plus
  - [redacted] for Burnie to Heybridge transmission easements;
- [redacted] to prepare the Plans of Survey in a form registerable by the LTO and liaise with the LTO to facilitate the registration of Plans of Survey. This comprises:
  - [redacted] for surveys relating to transmission easements; plus
  - [redacted] for surveys relating to distribution easements; plus
  - [redacted] for surveys relating to right of way easements;

- [redacted] to provide legal support during the construction phase [redacted] This comprises:
  - [redacted] This will include assistance with facilitating the registration of easements, assessment of claims for damages and disturbance lodged by landholders, preparation for and attendance at court proceedings in respect of compensation claims for injurious affection from the imposition of a notified corridor, assistance with the preparation of a SBP payment policy and the provision of legal advice with respect to matters arising; plus
  - [redacted]
- [redacted] Forecast capex is calculated as:
  - 271 landholders x [redacted];
- $1.56 million for duty payable to the State Revenue Office upon acquisition of easements. This compensation has been assessed by JLL in accordance with the *Duties Act 2001* (Tas). This comprises:
  - [redacted] for duty on Palmerston to Sheffield transmission easements; plus
  - [redacted] for duty on Sheffield to Burnie transmission easements; plus
  - [redacted] for duty on Burnie to Heybridge transmission easements; plus
  - [redacted] for duty on distribution and right of way easements;
- [redacted] Based on advice from JLL, we have estimated [redacted] per landholder. Forecast capex is calculated as:
  - [redacted];
- [redacted] to provide valuation support during the construction phase [redacted] This comprises:
  - [redacted] and the provision of general valuation advice with respect to matters arising; plus
  - [redacted]
- [redacted] for compensation and professional fees payable to landholders to secure a licence agreement over brake and winch sites. This comprises;
  - [redacted] for compensation; plus
  - [redacted] for professional fees [redacted]);

- $0.47 million for title registration fees payable to the LTO. This will cover fees for land title dealings and plans. This comprises:
  - $0.34 million for transmission easements (calculated as 171 registrations x $1,959 = $0.34 million); plus
  - $0.10 million for distribution easements (calculated as 53 registrations x $1,959 = $0.10 million); plus
  - $0.03 million for right of way easements (calculated as 14 registrations x $1,959 = $0.03 million);
- [redacted] for tree crop compensation payable to forestry landholders. This comprises:
  - [redacted] based on the assessment provided by [redacted]; plus
  - [redacted] based on the assessment provided by [redacted];
- [redacted] for professional fees payable to landholders to secure easement agreements over distribution and right of way easements. This comprises:
  - [redacted] for distribution easement landholders; plus
  - [redacted] for right of way easement landholders;
- [redacted] for compensation and professional fees payable to landholders to secure a licence agreement over laydown areas. This comprises:
  - [redacted] for compensation; plus
  - [redacted] for professional fees [redacted]);
- [redacted] for Valuer General fees estimated to be incurred [redacted]
- [redacted] for costs associated with the acquisition of a parcel of land and the realignment of an existing easement, both bordering the Sheffield substation. Costs include all acquisition costs and compensation payable to the landholder for the land/easement acquisition. This comprises:
  - [redacted] for land purchase compensation; plus
  - [redacted] to prepare the Plans of Survey for the easement realignment; plus
  - [redacted] for landholder option fees; plus
  - [redacted] for landholder professional fees; plus
  - [redacted] for duty and title registration fees;
- $0.03 million for LTO caveat withdrawal fees. Following registration of the easement, TasNetworks will withdraw the caveat on each transmission, distribution and right of way easement acquired for the Project. The LTO caveat withdrawal fee for 2023-24 was $152.19 per lodgement. Forecast capex is calculated as:
  - transmission easements: 142 landholders x $152.19 = $0.02 million; plus
  - distribution easements: 52 landholders x $152.19 = $0.008 million; plus
  - right of way easements: 13 landholders x $152.19 = $0.002 million;
- [redacted] to a complete tree crop valuation to inform compensation payable to one of the forestry landholders;

- $0.01 million for caveat lodgement fees payable to the LTO. These fees relate to TasNetworks caveats on titles to protect the rights secured under the distribution and right of way easement agreements. The LTO caveat lodgement fee for 2023-24 was $188.68 per lodgement. Forecast capex is calculated as:
  - distribution easements: 52 landholders x $188.68 = $0.01 million; plus
  - right of way easements: 13 landholders x $188.68 = $0.002 million;
- [redacted] to complete tree crop valuations to inform compensation payable to the remaining forestry landholders.

Appendix A – Glossary

Abbreviation/Acronym	Definition
2024 ISP	The Australian Energy Market Operator's Final 2024 Integrated System Plan
AACE	Association for the Advancement of Cost Engineering International
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Application	This contingent project application for construction and delivery costs associated with Stage 1 of the North West Transmission Developments
Capex	Capital expenditure
CB	Circuit breaker
CPA	Contingent project application
CPA-1	TasNetworks' contingent project application for early works costs associated with Stage 1 of the North West Transmission Developments
CPA-2	TasNetworks' contingent project application for construction and delivery costs associated with Stage 1 of the North West Transmission Developments
ECI	Early contractor involvement
EHV	Extra high voltage
EPC	Engineering, procurement and construction
ESIA	*Electricity Supply Industry Act 1995* (Tas)
EWEA	*Electricity Wayleaves and Easement Act 2000* (Tas)
Genus	GenusPlus Group Ltd
GHD	GHD Advisory
GMP	Guaranteed maximum price

Abbreviation/Acronym	Definition
HVDC	High voltage direct current
[redacted]	[redacted]
ISP	Integrated System Plan
JLL	Jones Lang LaSalle
km	Kilometre
kV	Kilovolt
LAA	*Land Acquisition Act 1993* (Tas)
LEOA	Licence and Easement Option Agreements
LLI	Long lead time items
LNTP	Limited notice to proceed
LTO	Tasmanian Land Titles Office
m	Metre
MIDAA	*Major Infrastructure Development Approvals Act 1999* (Tas)
MLPL	Marinus Link Pty Ltd
MW	Megawatt
NER	National Electricity Rules
NTP	Notice to proceed
[redacted]	[redacted]
NWTD	North West Transmission Developments
OGMP	Original guaranteed maximum price
OHTL	Overhead transmission line
Opex	Operating expenditure
OPGW	Optical ground wire
PMP	Property management plan

Abbreviation/Acronym	Definition
Principal Contractor	GenusPlus Group Ltd
Project	North West Transmission Developments
QRA	Quantitative risk analysis
RFP	Request for proposal
SBP	Strategic Benefit Payment
SF_6	Sulfur hexafluoride
SH-BU	Sheffield–Burnie
TasNetworks	Tasmanian Networks Pty Ltd
[redacted]	[redacted]
U.S	United States

www.tasnetworks.com.au