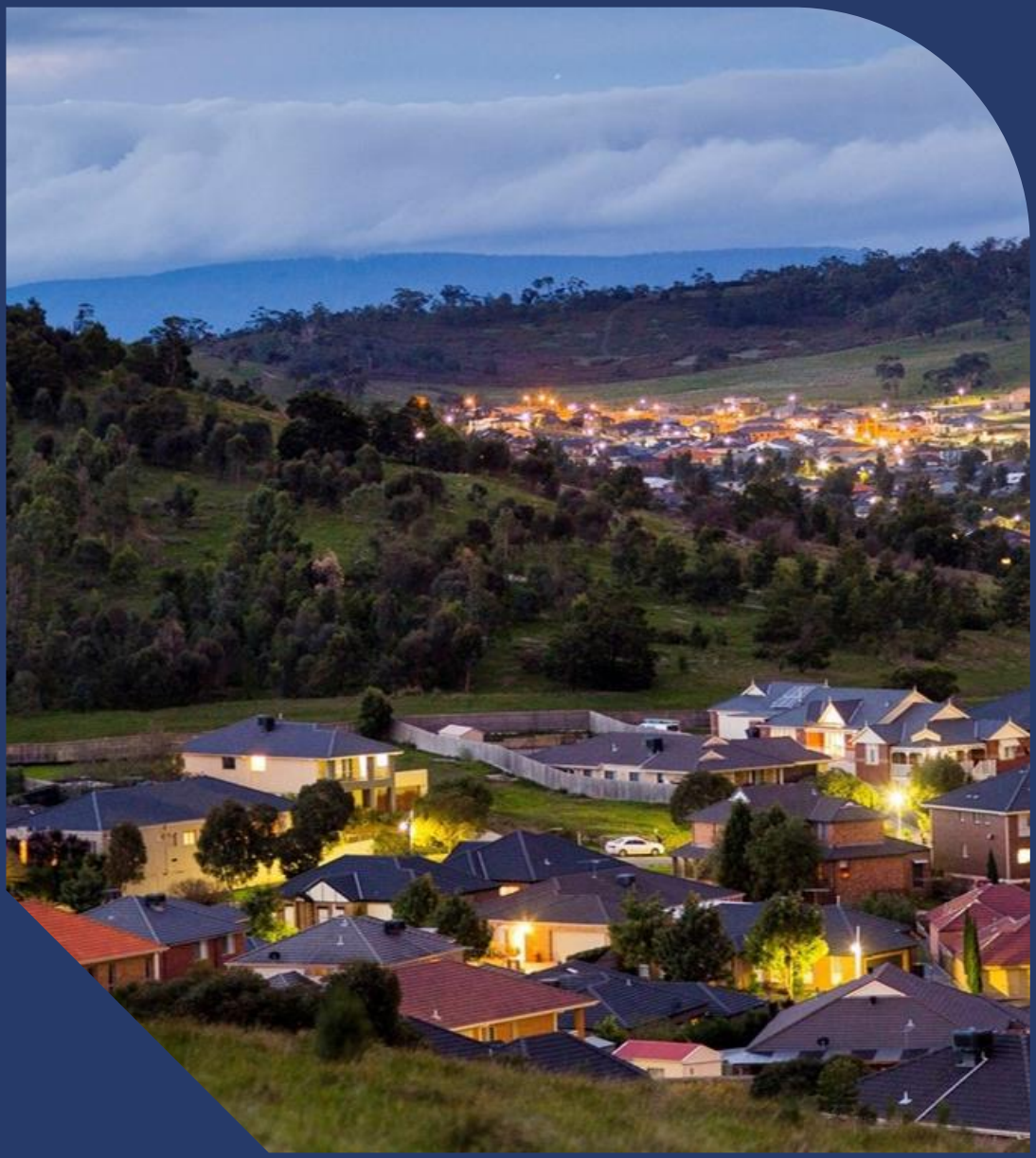
AusNet

Maintaining safe and reliable 250V DC supply systems at nine terminal stations

Regulatory Investment Test for Transmission

Project Specification Consultation Report

Friday, 17 July 2026



AusNet

Table of contents

1. Executive summary

AusNet is initiating this Regulatory Investment Test for Transmission (RIT-T) to evaluate options to maintain safe and reliable 250V direct current (DC) supply systems at nine terminal stations. Publication of this Project Specification Consultation Report (PSCR) represents the first step in the RIT-T process.

Network and asset context

A DC supply system at a terminal station includes a charger, batteries and DC distribution board. The 250V DC supply system provides critical power supply for protection, control and SCADA/telemetry at terminal stations, which are required for the safe and reliable operation of the electricity network.

250V DC supply systems at terminal stations are designed to minimise safety risks and meet network performance requirements to minimise occurrences where the entire terminal station is de-energised (i.e. station black). Thus, AusNet's terminal stations are designed with duplicated 250V DC supply systems (X and Y DC systems) for redundancy purposes.

The deteriorated condition and advanced age of the existing 250V DC systems at the following nine terminal stations poses increasing risk of DC system failure:

- Ballarat Terminal Station (BATS)
- East Rowville Terminal Station (ERTS)
- Malvern Terminal Station (MTS)
- Tyabb Terminal Station (TBTS)
- Altona Terminal Station (ATS)
- Geelong Terminal Station (GTS)
- Keilor Terminal Station (KTS)
- Ringwood Terminal Station (RWTS)
- Wemen Terminal Station (WETS)

For example, the plates in battery cells are currently showing signs of deterioration and battery cells and chargers have failed. If no mitigation measures are deployed in time, failure of duplicated 250V DC systems will result in the loss of protection, control and SCADA functions at a terminal station, which may lead to:

- Station black and widespread outages, which will result in loss of supply to customers and may cause system security issues
- Injury of personnel.

Given the increasing risk of DC systems failure and lack of DC monitoring systems at these nine terminal stations, these 250V DC systems have been prioritised for intervention to reduce the safety and system security risks associated with them.

Identified need - maintain safe and reliable 250V DC systems at nine terminal stations

The identified need is to maintain safe and reliable 250V DC supply systems at BATS, ERTS, MTS, TBTS, ATS, GTS, KTS, RWTS and WETS, in order to meet AusNet's regulatory obligations under the National Electricity Rules (NER) and Victorian Electricity Safety Act 1998 as well as community expectations. This is achieved by addressing the growing safety and system security risks posed by the deteriorated 250V DC supply systems and battery rooms at these nine terminal stations.

Only one credible option has been identified

AusNet has identified a total of six options, in addition to the business as usual (BAU) base case, to address the identified need. One of these options is considered credible with the remaining five options deemed not credible.

AusNet has identified only one technically and commercially credible option that can be implemented in time to meet the identified need. This credible option has been considered with reference to the BAU base case:

- Option 1 – replace deteriorated 250V DC supply systems at the nine terminal stations by 2031

Non-network option is one of the options AusNet does not consider credible to meet the identified need as these deteriorated 250V DC supply systems cannot be retired and non-network options cannot perform the function of the DC supply systems.

Option 1 is the preferred option

Based on our preliminary analysis, Option 1 is the preferred option because it maximises the net economic benefit.

It requires approximately $14.8 million of capital investment with no material change to operating and maintenance costs.

Option 1 scope entails replacing the deteriorated 250V DC supply systems with AusNet's current modern standard equivalent equipment and essential fireproofing upgrades to the battery rooms at BATS, ERTS, MTS, TBTS, ATS, GTS, KTS, RWTS and WETS. It includes the replacement of both 250V X and Y battery banks and chargers at these nine terminal stations. The project will commence in 2027 and is anticipated to be completed by 2031.

Submissions and next steps

AusNet welcomes written submissions on this PSCR by 9th October 2026[1]. All submissions must be emailed to rittconsultations@ausnetservices.com.au with "Maintaining safe and reliable DC systems" in the subject field.

Submissions will be published on AusNet's and Australian Energy Market Operator's (AEMO's) websites. If you do not wish for your submission to be published, please clearly stipulate this at the time of lodging your submission.

As set out in section 9.3 of this report, AusNet expects to benefit from an exemption from the requirement to publish a Project Assessment Draft Report (PADR) because AusNet expects clause 5.16.4(z1) of the NER to be satisfied. Thus, following the conclusion of the PSCR report consultation period, AusNet will, have regard to any submissions received on this report, prepare and publish the Project Assessment Conclusion Report (PACR) around November 2026.

[1] Consultation period is 12 weeks as per NER clause 5.16.4(g)

2. Introduction

AusNet is initiating this Regulatory Investment Test for Transmission (RIT-T) to evaluate options to maintain safe and reliable 250V DC supply systems at the following nine terminal stations:

- Ballarat Terminal Station (BATS)
- East Rowville Terminal Station (ERTS)
- Malvern Terminal Station (MTS)
- Tyabb Terminal Station (TBTS)
- Altona Terminal Station (ATS)
- Geelong Terminal Station (GTS)
- Keilor Terminal Station (KTS)
- Ringwood Terminal Station (RWTS)
- Wemen Terminal Station (WETS)

The purpose of the RIT-T is to identify the credible option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the National Electricity Market (NEM) (i.e. the preferred option).

Publication of this Project Specification Consultation Report (PSCR) represents the first step in the RIT-T process in accordance with clause 5.16 of the National Electricity Rules (NER) and section 4.2 of the RIT-T Application Guidelines as demonstrated in Appendix A.

This document describes:

- the identified need AusNet is seeking to address, including the key assumptions used in identifying this need;
- the credible network options that could address the identified need;
- the technical characteristics required of any non-network option to address the identified need;
- the materiality of each class of market benefit considered under the RIT-T framework.

3. Background

This section provides an overview of the need for investment to maintain safe and reliable 250V DC supply systems at nine terminal stations. It highlights the criticality of 250V DC supply systems and the deteriorated condition of aged 250V DC systems at these nine terminal stations.

3.1. Criticality of 250V DC supply systems to safety and network performance

3.1.1. The importance of 250V DC supply system at terminal stations

A DC supply system at a terminal station includes a charger, batteries and DC distribution board. The 250V DC supply system provides critical power supply for protection, control and SCADA/telemetry at terminal stations, which are required for the safe and reliable operation of the electricity network.

3.1.2. 250V DC supply systems at terminal stations are designed to meet safety and network performance obligations

250V DC supply systems at terminal stations are designed to minimise occurrences where the entire terminal station is de-energised (i.e. station black).

250V DC supply systems are designed to meet the Electricity Safety Act 1998

250V DC supply system failures could potentially pose safety risks to personnel should protection relays fail to operate and clear faults as required. Thus, 250V DC supply systems at terminal stations are designed to minimise as far as practicable safety hazards and risks to people in accordance with the Electricity Safety Act 1998.

250V DC supply systems are designed to support compliance with NER and Australian Energy Market Operator (AEMO) protection and control requirements

Under clause schedule 5.1.2.1(d) of the National Electricity Rules (NER), AusNet must ensure that protection systems for lines at a voltage above 66kV, including associated intertripping schemes, are maintained so they remain available at all times except for short periods (not greater than eight hours) while the planned maintenance of one of the duplicated protection systems is being carried out. In the event of an unplanned outage of one of the duplicated protection systems, AEMO's power system security guidelines[2] requires the protection system to be repaired within 24 hours.

The 250V DC supply systems are essential to meeting these protection requirements because they provide the power supply for the protection, control and SCADA systems at terminal stations. If a 250V DC system fails and cannot be restored within the required timeframe, the affected primary equipment may need to be disconnected because it is no longer adequately protected, subject to AEMO's direction. If both duplicated 250V DC systems fail, this may result in a station black.

Further, AusNet's agreement with AEMO on protection and control requirements requires substations and terminal stations to include duplicated and physically segregated X and Y DC batteries and chargers with sufficient capacity to support the station DC services for up to 10 hours.

For these reasons, AusNet's terminal stations are designed with duplicated 250V DC supply systems (X and Y DC systems), to provide redundancy and support safe and reliable operation of the network.

3.2. Deteriorated 250V DC systems at these nine terminal stations are posing growing network and safety risks

The existing deteriorated 250V DC systems at BATS, ERTS, MTS, TBTS, ATS, GTS, KTS, RWTS and WETS have been prioritised for intervention based on age, type, condition and criticality of the terminal station. The key drivers of DC systems' health are the health of its batteries and chargers.

3.2.1. Age of batteries and chargers are increasing asset failure risks

The 250V batteries and chargers at these nine terminal stations have exceeded or are approaching the suppliers recommended service life of 15 years and 20 years respectively.

[2] AEMO, Power System Security Guidelines, December 2025, page 25, SO_OP_3715 - Power System Security Guidelines

Given the age of these batteries at these nine terminal stations, the batteries have lost their original capacity and may not meet the 10 hours capacity requirements by AEMO.

Further, the risk of X and Y batteries and chargers failing at the same time or within a short period of each other is heightened by their similar advanced age. The failure of both 250V DC systems may result in station black.

3.2.2. Obsolete battery and charger type and their deteriorated condition are increasing asset failure risks

The deteriorated 250V DC batteries and chargers at these nine terminal stations are obsolete and no longer supported by manufacturers with limited spare components.

The existing batteries at these terminal stations are the legacy standard of flooded cell vented lead acid battery type, which require regular maintenance and produces highly flammable hydrogen gas that needs to be vented to prevent an explosion. These batteries require regular top up of lead acid to maintain its functionality. Lead acid top up maintenance activity could expose our personnel to safety hazards from manual handling and exposure to toxic substances.

The deteriorated condition of the batteries at these terminal stations could not be accurately monitored over time through routine maintenance testing. Battery capacity tests were not performed due to the likelihood of not being able to restore the battery to full charge, given the advanced age of the batteries. Further, they do not have monitoring systems to flag potential issues that could lead to asset failure and subsequently station black or costly emergency temporary replacements.

The existing batteries and chargers at these terminal stations are showing signs of deterioration as evidenced by the recent nine defects and failures shown in Table 1.

Table 1: Recent defects and failures at the nine terminal stations

Year	Number of defects and failures	Deteriorated 250V DC system asset
2016	1	Battery charger failed
2020	1	Battery charger failed
2023	1	Battery charger failed
2024	4	Battery cells and battery charger failed. Battery charger overheating and becoming live.
2026	2	Battery charger failed. Battery cells found to be deteriorated during routine maintenance.

Most of the battery charger failures at these terminal stations were due to failure of its cards, which were addressed by replacing the charger card. However, spare charger cards have been exhausted, which will make future charger repairs within 24 hours challenging.

3.2.3. Criticality of terminal station heightens the consequences of DC system failure

Failure of both DC systems at terminal stations could potentially result in station black, which will result in loss of supply to many customers. Station black impact is higher for terminal stations with higher load. Given the large load supplied by ERTS, it is considered a critical terminal station due to the higher station black consequences of DC system failures. Station black likelihood and impact will also increase at ATS and KTS because of future increases in load at these terminal stations, which the existing 250V DC systems have not been designed to supply.

3.2.4. Deteriorated battery rooms are posing additional asset failure and safety risks

Further, the existing separate X and Y battery rooms are in deteriorated condition. As new batteries will be installed in these existing rooms, all these battery rooms are to be upgraded to comply with AS 2676 and AS 3011 and design standards referenced in AusNet's Electricity Safety Management Schemes (ESMS), particularly the two hour fire rating

requirements. If a fire starts in the battery room, it may spread to other parts of the control building and damage critical equipment such as protection and control relays.

4. Identified need

This section sets out the identified need for investment and the underpinning assumptions.

4.1. Description of the identified need

The deteriorated condition of the existing 250V DC systems and battery rooms at BATS, ERTS, MTS, TBTS, ATS, GTS, KTS, RWTS and WETS poses increasing risk of failure. If no mitigation measures are deployed in time, failure of duplicated 250V DC systems will result in the loss of protection, control and SCADA functions at a terminal station, which may lead to:

- Station black and widespread outages, which will result in loss of supply to customers and may cause system security issues
- Injury of personnel.

Given the increasing risk of DC systems failure and lack of DC monitoring systems at these nine terminal stations, these 250V DC systems have been prioritised for intervention to reduce the safety and system security risks associated with them.

Thus, the identified need is to maintain safe and reliable 250V DC supply systems at these nine terminal stations to meet AusNet's regulatory obligations under the NER and Victorian Electricity Safety Act 1998 as well as community expectations. This is achieved by addressing the growing safety and system security risks posed by the deteriorated 250V DC supply systems and battery rooms at these nine terminal stations.

4.2. Assumptions underpinning the identified need

The identified need is underpinned by several assumptions, including the risk of asset failure, the likelihood of the relevant consequences, and several assumptions adopted from the latest AEMO's Inputs Assumptions and Scenarios Report (IASR). These assumptions are outlined below.

4.2.1. Probability of failure

The probability of failure for 250V batteries is based on the Weibull function parameters set out in Table 2 and age of the batteries.

Table 2: Weibull parameters for batteries

DC system component	Weibull η parameter	Weibull β parameter
Batteries	26	3

The mean time to replace any failed DC supply system component is 24 hours.

4.2.2. Supply risks

The involuntary load shedding supply risk (i.e. station black risk) only eventuates when both DC systems fail within the mean time to replace period. This has been quantified based on the probability of failure of both DC systems and cost of consequence of station black.

The failure of both DC systems is calculated as the conditional probability a DC system fails within the 24 hours mean time to replace the other failed DC system (i.e. both DC systems fail within 24 hours of each other).

The cost of consequence of station black was calculated based on the average load supplied by the terminal station and the Value of Customer Reliability (VCR)[3] at these terminal stations. This is consistent with the AER's estimate of VCR and the 2025 Transmission Connection Planning Report (TCPR).

4.2.3. Health and safety risks

The Electricity Safety Act 1998[4] requires AusNet to design, construct, operate, maintain, and decommission the network to minimise hazards and risks to the safety of any person as far as practicable or until the costs become disproportionate to the benefits from managing those risks. This requires AusNet to minimise the safety risks posed by deteriorated 250V DC systems at these terminal stations to as far as practicable.

3 In dollar terms, the Value of Customer Reliability (VCR) represents a customer's willingness to pay for the reliable supply of electricity.
4 Victorian State Government, Victorian Legislation and Parliamentary Documents, "Energy Safe Act 1998"

While AusNet recognises the safety risk costs associated with 250V DC system failure, we have conservatively neglected safety risk costs as supply risks and financial risks are the predominate risks, given the low likelihood of personnel being present when both DC systems fail.

4.2.4. Financial risks

There is an ongoing need for the transmission services provided at these nine terminal stations and emergency asset replacement would be required to continue the service should an asset fail.

In the event of 250V DC supply system failure at these nine terminal stations, AusNet has conservatively assumed only the DC supply system will require emergency unplanned replacement and other non-DC assets do not require repair nor replacement.

AusNet has also conservatively assumed the emergency unplanned asset replacement cost is the same as planned replacement cost even though unplanned replacement costs are typically higher than planned replacement costs. The failure rate weighted unplanned asset replacement risk cost has been included in the economic assessment.

4.2.5. Environmental risks

AusNet is not expecting any environmental risks associated with 250V DC system failure as there is no oil leaks nor greenhouse gas emissions from Sulphur Hexafluoride (SF_6) leaks.

5. Credible options

This section sets out the potential credible options that have been considered to meet the identified need, including:

- the technical characteristics of each option;
- the estimated construction time and commissioning date;
- the total indicative capital and operating and maintenance costs
- whether the credible option is likely to have a material inter-regional impact.

AusNet has identified a total of six options, in addition to the business as usual (BAU) base case, to address the identified need. One of these options is considered credible with the remaining five options deemed not credible.

AusNet has identified only one technically and commercially credible options that can be implemented in time to meet the identified need. This credible option has been considered with reference to the BAU base case:

- Option 1 – replace deteriorated 250V DC supply systems at the nine terminal stations by 2031

For all options, AusNet expects operating and maintenance costs will not materially change from the base case.

AusNet has also identified five options that are not considered credible as outlined in section 5.3. These options are excluded from the economic option assessment.

All costs are shown in real 2026 dollars unless otherwise stated.

5.1. Base case: BAU

Under the base case, AusNet will not undertake any proactive capital investment to remediate the deteriorated 250V DC supply systems and the existing maintenance program will continue with assets replaced upon failure at these nine terminal stations.

AusNet does not consider the base case as a credible option due to the growing network risks associated with the base case and the lack of spare components. However, it is an appropriate reference point for estimating the net benefits of each credible option. All costs and benefits of each credible option are compared against those of the base case.

5.2. Option 1: Replace deteriorated 250V DC supply systems at the nine terminal stations by 2031

Option 1 entails replacing the deteriorated 250V DC supply systems and essential fireproofing upgrades to the battery rooms at BATS, ERTS, MTS, TBTS, ATS, GTS, KTS, RWTS and WETS.

The project includes the replacement of both 250V X and Y battery banks and chargers at these nine terminal stations sequentially. The replacement battery systems will use absorbed glass mat (AGM) type valve-regulated lead-acid (VRLA) sealed batteries to reduce hydrogen generation, acid leakage risk and will include a battery monitoring system to remotely monitor individual battery cell voltages. These new batteries will be suitable for capacity testing.

Construction is expected to commence in 2027 and be completed by 2031.

The estimated total capital cost of this option is $14.8 million. The main capital expenditure elements are:

- Design and studies $0.83 million
- Internal labour $3.29 million
- Materials $3.16 million
- Plant and equipment $0.49 million
- Contracts $4.62 million
- Other, including overheads and finance charges $2.41 million

5.3. Options considered but determined to be non-credible

AusNet has considered the following additional options and has deemed them as not credible due to the reasons outlined below.

- Non-network solution – AusNet does not consider there is any credible non-network options to meet the identified need as these deteriorated 250V DC supply systems cannot be retired and non-network options cannot perform the function of the DC supply systems.

- Increase maintenance of the deteriorated 250V DC systems – Increasing maintenance will not address the underlying inherent asset condition outlined in section 3.2. Hence, AusNet considers increasing maintenance is not a technically credible option to address the identified need.
- Repair the deteriorated 250V DC systems – While emergency replacement of failed components of the DC system will provide an additional service life of up to 1.5 years, it will need to be eventually replaced by a modern equivalent component. No manufacturer support and lack of spare components for these obsolete assets renders repair as not a technically credible option to address the identified need.
- Piecemeal replacement of the 250V DC system – While piecemeal replacement of DC assets will reduce the risk posed by the asset (for example, chargers), it does not address the deteriorated condition of other assets within the DC system (for example, batteries) that could cause the DC system to fail. Further, there may be compatibility and manufacturer warranty issues with this piecemeal replacement approach. Hence, it is not a technically credible option to address the identified need.
- Deferring the replacement of the 250V DC system beyond 2031 – Given the deteriorated condition of these 250V DC systems and the continued loss of battery capacity, deferring the replacement of the DC systems is not a credible option to meet the identified need in time. Further, delaying the replacement increases the safety and network security risks as well as hinders AusNet's ability to comply with NER and AEMO requirements for the performance of DC systems.

5.4. No material inter-network impact is expected

The proposed DC supply system replacements at the nine terminal stations will not change the transmission network configuration and none of the network options considered are likely to have a material inter-network impact. A 'material inter-network impact' is defined in the NER as:

> "A material impact on another Transmission Network Service Provider's network, which may include (without limitation): (a) the imposition of power transfer constraints within another Transmission Network Service Provider's network; or (b) an adverse impact on the quality of supply in another Transmission Network Service Provider's network."

5.5. Community engagement

AusNet recognises that effective and proactive engagement with landholders, communities and stakeholders is essential to informing robust planning outcomes under the RIT-T and maintaining community trust in network development.

We are committed to undertaking engagement that is early, transparent, and proportionate to the scale and potential impact of the credible options under assessment, and that supports improved decision-making by incorporating local knowledge, stakeholder concerns and community values.

AusNet seeks to engage early in the RIT-T process, wherever practicable, to build awareness and understanding of the need for the project, identify potential landholder and community impacts associated with credible options, and incorporate local knowledge into option design and refinement. This early engagement also enables AusNet to identify opportunities to avoid, minimise or mitigate impacts, and to inform realistic assumptions relating to project costs, constructability, timing, and delivery risks. In doing so, early engagement supports more informed options assessment and reduces the risk of delays arising from unforeseen stakeholder concerns or approvals constraints.

Community engagement impact assessments

The level of engagement will be proportionate to the likely impacts of the preferred option:

Higher impact projects (e.g. new lines, major rebuilds, significant changes to infrastructure):

- structured stakeholder and community engagement programs may be implemented
- a dedicated Community and Stakeholder Engagement Plan may be developed
- engagement will inform option refinement prior to finalisation of the RIT-T Project Assessment Conclusions Report (PACR)
- engagement outcomes may influence timing, design, mitigation measures, and delivery strategy

Lower impact projects (e.g. like-for-like replacements, minor upgrades):

- engagement will typically focus on directly affected landholders
- engagement will occur closer to delivery to manage access and minimise disruption
- practical mitigation measures will be agreed where required (e.g. timing of works, access routes, biosecurity requirements)

Minimal to no impact projects (e.g. works within existing terminal stations or on AusNet-owned land with minimal interface):

- engagement is generally limited to internal stakeholders and, where necessary, targeted notification of relevant external parties
- broader community or landholder engagement is not typically required due to the contained nature of works
- communication may be undertaken to inform nearby stakeholders of planned activities where there is potential for minor or indirect impacts (e.g. noise or increased traffic)
- standard operational procedures are applied to manage any risks, with a focus on minimising disruption and maintaining safe and efficient delivery

Landholder engagement considerations

Where projects require access to private land, AusNet will engage directly with landholders to understand property specific constraints and operational requirements and work collaboratively to minimise disruption to farming, business or residential activities. Clear points of contact will be provided to support timely engagement and issues resolution. Where appropriate, project specific engagement plans or procedures will be developed to guide delivery partners, contractors, including requirements relating to property access protocols, biosecurity measures, environmental protections, and communication requirements.

Project specific:
All proposed works are expected to be contained within existing terminal station sites, with most activities occurring inside the control buildings. Some minor activities may occur outside the control buildings but within the terminal station boundary.

Based on the current scope, AusNet considers that the credible option assessed under this RIT-T is unlikely to result in material impacts to landholders, local communities or other external stakeholders. The works are expected to be undertaken within existing operational terminal station sites and will not materially alter the visual, environmental or land use footprint of the assets. Most activities are expected to occur inside existing control buildings, with any minor external activities remaining within terminal station boundaries.

On this basis, broad community engagement is not proposed for the purposes of this RIT-T assessment. Any minor construction-related impacts, if identified during detailed planning, will be managed through standard site controls and targeted notification or coordination with directly affected stakeholders where appropriate.

Terminal station engagement assessment

Terminal station	Site and works context	External interface	Engagement considerations	Proposed engagement approach
Ballarat Terminal Station (BATS)	BATS is an existing operational terminal station. Proposed works are expected to be contained within the existing terminal station site, with most activities occurring inside control buildings and battery room areas. Some minor activities may occur outside the control buildings but will remain within the terminal station boundary.	Limited external interface is expected. Potential interfaces may include adjacent or nearby landholders, local roads, operational access routes and service providers.	Based on the current scope, AusNet does not expect the works to generate material noise, dust, traffic or other impacts for nearby neighbourhoods. Any minor construction-related impacts, if identified during detailed planning, are likely to relate to access, deliveries or short-term site activity and will be managed through standard site controls.	Broader community engagement is not expected to be required. Engagement should be limited to internal coordination and targeted notification of directly affected stakeholders where detailed planning identifies a need.
East Rowville Terminal Station (ERTS)	ERTS is an existing operational terminal station in a developed metropolitan setting. Proposed works are expected to be contained within the existing terminal	Potential external interfaces may include nearby residents, local businesses, local roads, service providers and relevant authorities where access or	The works are not expected to materially change the visual, environmental or land use footprint of the site and are not expected to generate material	Targeted communication may be undertaken where appropriate, particularly if access, deliveries or temporary activities could affect nearby stakeholders. Broad

Terminal station	Site and works context	External interface	Engagement considerations	Proposed engagement approach
	station site, with most activities occurring inside control buildings. Some minor activities may occur outside control buildings but will remain within the terminal station boundary.	minor construction logistics require coordination.	neighbourhood impacts. Any minor construction-related impacts, if identified during detailed planning, will be managed through standard site controls.	community engagement is not expected to be necessary for the RIT-T option assessment.
Malvern Terminal Station (MTS)	MTS is located within a highly developed urban environment. Proposed works are expected to be contained within the existing terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside the control buildings but will remain within the terminal station boundary.	Potential external interfaces may include nearby residents, businesses, local council, road users, pedestrians and service providers.	Given the urban setting, consideration should be given during detailed planning to whether any minor activity outside control buildings could be noticeable beyond the site boundary. However, based on the current scope, material noise, dust, traffic or other neighbourhood impacts are not expected.	Engagement should be proportionate and targeted. Broader community engagement is not expected to be required, but targeted notification may be appropriate if detailed planning identifies temporary access or construction-related effects.
Tyabb Terminal Station (TBTS)	TBTS is an existing terminal station in a semi-rural or peri-urban context. Proposed works are expected to be contained within the terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside the control buildings but will remain within the terminal station boundary.	Potential external interfaces may include adjacent landholders, nearby residents, local roads, service providers and emergency services where access routes are used.	The works are not expected to materially affect nearby landholders or communities. Any minor impacts, if identified during detailed planning, are likely to relate to access, deliveries or short-term construction activity within the site boundary.	Engagement should focus on targeted notification only where required. Broader community or landholder engagement is unlikely to be necessary unless access or delivery planning identifies a direct stakeholder interface.
Altona Terminal Station (ATS)	ATS is located within an established industrial and infrastructure setting. Proposed works are expected to remain within the existing terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside control buildings but will	Potential interfaces may include nearby industrial or commercial landholders, freight and transport users, service providers, local council and road authorities.	The works are not expected to generate material off-site impacts. Any minor construction-related matters are expected to be limited to access, deliveries or coordination with nearby industrial operations and will be managed through standard site controls.	Targeted engagement with directly affected businesses, service providers or authorities may occur if required by delivery planning. Broad community engagement is not expected to be necessary.

Terminal station	Site and works context	External interface	Engagement considerations	Proposed engagement approach
	remain within the terminal station boundary.			
Geelong Terminal Station (GTS)	GTS is an existing operational terminal station within a regional urban or industrial context. Proposed works are expected to be contained within the established terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside control buildings but will remain within the terminal station boundary.	Potential external interfaces may include nearby businesses, residents in the broader vicinity, local roads, service providers and emergency services.	The proposed works are not expected to materially change the site's visual, environmental or land use footprint, nor generate material noise, dust, traffic or other impacts for nearby neighbourhoods. Minor construction-related impacts, if identified, will be managed through standard controls.	Targeted notification may be undertaken where appropriate, particularly if access or deliveries are expected to have a temporary interface with nearby stakeholders. Broader engagement is not expected to be required.
Keilor Terminal Station (KTS)	KTS is an established operational terminal station in a metropolitan or peri-urban setting. Proposed works are expected to occur within the existing terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside control buildings but will remain within the terminal station boundary.	Potential external interfaces may include nearby residents, businesses, local roads, service providers and relevant authorities.	The works are not expected to materially affect nearby neighbourhoods or change the existing land use or visual footprint. Any minor construction-related impacts identified during detailed planning are expected to be manageable through standard site controls and targeted notification where appropriate.	Engagement should be limited to internal operational coordination and targeted external notification only where a direct stakeholder interface is identified. Broad community engagement is not anticipated.
Ringwood Terminal Station (RWTS)	RWTS is an existing terminal station in an established suburban environment. Proposed works are expected to be contained within the operational terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside control buildings but will remain within the terminal station boundary.	Potential external interfaces may include nearby residents, local businesses, pedestrians, road users, service providers and local authorities.	Given the suburban setting, consideration should be given during detailed planning to whether any temporary activity could be noticeable outside the site boundary. However, based on the current scope, material off-site impacts are not expected. Any minor impacts will be managed through standard site controls.	Targeted notification may be appropriate if detailed planning identifies temporary access, delivery or site activity impacts. Broader community engagement is unlikely to be required.

Terminal station	Site and works context	External interface	Engagement considerations	Proposed engagement approach
Wemen Terminal Station (WETS)	WETS is an existing operational terminal station in a rural or remote regional context. Proposed works are expected to be contained within the terminal station site, with most activities occurring inside control buildings. Some minor activities may occur outside control buildings but will remain within the terminal station boundary.	Potential external interfaces may include adjacent or nearby landholders, local roads, service providers and emergency services where access routes are used.	The works are expected to have limited external interface and are not expected to generate material impacts for nearby landholders or communities. Any minor access or delivery-related matters, if identified during planning, will be managed through standard site controls and targeted notification.	Engagement should be limited to direct notification or coordination with affected landholders or authorities where required. Broader community engagement is not expected to be necessary.

6. Non-network options

As outlined in section 5.3, AusNet does not consider any non-network solutions to be commercially nor technically feasible to meet the identified need for this RIT-T. This is because deteriorated DC supply systems cannot be retired as the function of these assets are required for the safe and reliable operation of the electricity network. Further, non-network options cannot perform the function of the DC supply systems, given the high resilience and reliability requirements by the NER and AEMO to supply critical protection, control and SCADA functions, including a minimum 10 hour capacity duration.

Notwithstanding, AusNet remains open to any non-network proponent that would like to discuss non-network alternatives to meet the identified need.

7. Economic assessment approach

This section outlines AusNet's approach to assessing the net economic benefit of each credible option against the Do Nothing/BAU base case (i.e. cost benefit analysis) and optimal timing of investment in accordance with AER's RIT-T guidelines[5] and industry practice application note for asset replacement planning[6]. Optimal timing of an investment option is the year when the annual benefit from implementing the option exceeds its annualised investment cost.

The economic net present value (NPV) assessment of credible options has been based on:

- Key assessment parameters in section 7.1
- Risks set out in section 4.2
- Materiality of each class of market benefits under the RIT-T in section 7.2
- Estimated option cost in section 7.3

Sensitivity testing and scenarios analysis have been used to address uncertainty in the cost benefit assessment of credible options as set out in sections 7.3 and 7.5.

7.1. Key assessment parameters

15 year assessment period

Consistent with AER's RIT-T application guidelines[7], AusNet undertook a cost-benefit analysis to evaluate and rank the net economic benefits of all credible options over a 15 year assessment period. This period takes into account the size, complexity and the expected asset life of the credible options, particularly the battery service life of 15 years.

AusNet has conservatively neglected the inclusion of terminal values to capture remaining asset life, where capital components of credible options have asset lives that extend beyond the end of the assessment period. This approach is conservative because the inclusion of terminal values will reduce the total capital expenditure in the assessment period, which will have the effect of increasing the NPV.

AEMO's 7 per cent real pre-tax discount rates has been used

A real pre-tax discount rate of 7.0 per cent has been adopted as the central assumption for the NPV analysis, which is consistent with AEMO's latest Inputs, Assumptions and Scenarios Report (IASR)[8].

7.2. Material classes of market benefits

NER clause 5.15A.2(b)(4) sets out the classes of market benefits that must be considered in a RIT-T. As per NER clause 5.15A.2(b)(6), all classes of market benefit must be considered in the RIT-T unless the RIT-T proponent is able to provide reasons why a particular class of market benefit is unlikely to materially affect the outcome of the assessment of the credible options or the estimated cost of undertaking the analysis to quantify the market benefit is likely to be disproportionate to the scale, size and potential benefits of each credible option.

Table 3 outlines AusNet's assessment of each of the market benefits listed in NER clause 5.15A.2(b)(4) for the credible options. Only material classes of market benefits will be included in the economic assessment of credible options.

Table 3: Analysis of market benefits

Class of Market Benefit	Analysis
(i) changes in fuel consumption arising through different patterns of generation dispatch;	The credible option is not expected to materially affect the costs of generation dispatch. Further, the estimated cost of undertaking the analysis to quantify the changes in costs of generation dispatch is likely to be disproportionate to the scale, size and potential benefits of the credible option.
(ii) changes in voluntary load curtailment;	The credible option will not affect voluntary load curtailment.

[5] AER, Regulatory investment test for transmission application guidelines, November 2024, Current RIT-T application guidelines | Australian Energy Regulator (AER)
[6] AER, Industry practice application note on asset replacement planning, July 2024, Industry practice application note for asset replacement planning | Australian Energy Regulator (AER)
7 AER, Regulatory investment test for transmission application guidelines, November 2024, Current RIT-T application guidelines | Australian Energy Regulator (AER), page 64
[8] AEMO, 2025 Inputs, Assumptions and Scenarios Report, August 2025, table 31, page 158, 2025-inputs-assumptions-and-scenarios-report.pdf

Class of Market Benefit	Analysis
(iii) changes in involuntary load shedding with the market benefit to be considered using a reasonable forecast of the value of electricity to consumers;	The credible option will reduce involuntary load shedding due to asset failure. Our approach to estimating this market benefit is described in section 4.2.
(iv) changes in costs for parties, other than the RIT-T proponent, due to differences in: *(A) the timing of new plant;* *(B) capital costs; and* *(C) the operating and maintenance costs;*	The credible option is not expected to change costs for parties, other than AusNet.
(v) differences in the timing of expenditure;	There is not expected to be any difference in timing of expenditure
(vi) changes in network losses;	The credible option will not result in changes to electrical energy losses.
(vii) changes in ancillary services costs	The credible option will not have any impact on ancillary service costs.
(viii) change in Australia's greenhouse gas emissions	The credible option will not have a material impact on Australia's greenhouse gas emissions as there will be immaterial changes in direct emissions from generation and no emissions from sulphur hexafluoride (SF_6).
(ix) competition benefits	The credible option will not provide any competition benefits.
(x) any additional option value (where this value has not already been included in the other classes of market benefits) gained or foregone from implementing the credible option with respect to the likely future investment needs of the National Electricity Market;	There will be no impact on the option value in respect of the likely future investment needs of the NEM.
(xi) any other class of market benefit determined to be relevant by the AER.	There are no other classes of market benefit that are relevant to the credible options.

7.3. Approach to estimating option costs

The costs for each option have been calculated by AusNet's cost estimation team based on recent similar project costs and scope. This cost estimation methodology best reflects actual project costs.

The costs have been estimated based on the following inputs and assumptions:

- Battery room floors are adequately load/weight rated
- No Factory Acceptance Testing is required for the batteries and battery chargers.

AusNet estimates actual costs are expected to be within +/-30 per cent of the central capital cost estimate. All cost estimates are in real 2026 dollars.

The cost estimates include direct cost, overheads and financing charges. However, they do not include:

- cost escalation for materials
- contingency allowance
- social licence costs as they are not expected to be material for this RIT-T
- operating and maintenance costs as they are not expected to be material for this RIT-T.

7.4. Sensitivity analysis

The robustness of the investment decision and the optimal timing of the preferred option have been tested by a sensitivity analysis. It has been assessed against the central estimate by varying each variable while holding all other variables constant.

Table 4 sets out the key assumptions varied as part of the sensitivity analysis for this PSCR. It sets out the upper and lower bounds of the range of values for each of these variables.

Table 4: Key assumptions varied in sensitivity analysis

Variable	Lower bound estimate	Central (most likely) estimate	Upper bound estimate
VCR	75% of central estimate	Latest AER published VCR	125% of central estimate
Asset probability of failure	75% of central estimate	Assed failure rate	125% of central estimate
Option capital cost	70% of central cost estimate	Central cost estimate	130% of central cost estimate
Real pre-tax discount rate[9]	3.0%	7.0%	10%

There is some level of uncertainty in the cost estimates, given the early stage of the project. Hence, AusNet has included cost estimates as one of the variables in the sensitivity analysis with the lower and upper bound based on the cost estimation expected accuracy of +/- 30 per cent.

Discount rates are subject to change, given the current economic climate. Hence, AusNet has included discount rate as one of the variables in the sensitivity analysis with the lower, central and upper bound pre-tax real discount rates based on AEMO's 2025 IASR.

7.5. Reasonable scenarios

NER clause 5.15A.2(b)(1) requires a RIT-T cost benefit analysis to include an assessment of reasonable scenarios of future supply and demand if each credible option were implemented compared to the situation where no option is implemented.

AEMO's Integrated System Plan (ISP) scenarios are not relevant to this RIT-T

The RIT-T must include any of the AEMO Integrated System Plan (ISP) scenarios from the most recent AEMO's Inputs, Assumptions and Scenarios (IASR) that are relevant unless:[10]

- the RIT–T proponent demonstrates why it is necessary to vary, omit or add a reasonable scenario to what was in the most recent IASR
- the new or varied reasonable scenarios are consistent with the requirements for reasonable scenarios set out in the RIT–T instrument.

AusNet considers the current ISP scenarios are not relevant to this RIT-T because they predominately relate to wholesale market benefits, which are not relevant to this RIT-T.

Three reasonable scenarios have been used in this RIT-T in accordance with AER's RIT-T requirements

The AER's RIT-T application guidelines states the number and choice of reasonable scenarios must be proportional to the scale and likely impact of the credible options, and the choice of reasonable scenarios must reflect any variables or parameters that are likely to affect the ranking or sign of the net economic benefit of any credible option.[11]

In accordance with the above RIT-T application guidelines, AusNet have developed three reasonable scenarios that are relevant to this RIT-T:

- central scenario – represents the most likely outcome. It adopts the central estimate for each variable in the economic assessment
- low benefits and high cost scenario – represent a pessimistic scenario where the lower bound of potential benefits are achieved with the upper bound of capital cost
- high benefits and low cost scenario – represent an optimistic scenario where the higher bound of potential benefits are realised with the lower bound of capital cost

Table 5 summarises the key assumptions for each of these scenarios based on the upper and lower bounds of each variable shown in Table 4.

[9] All discount rates as recommended in the AEMO 2025 Inputs, Assumptions and Scenarios Report (IASR), table 31, page 158, 2025-inputs-assumptions-and-scenarios-report.pdf
[10] AER, Regulatory investment test for transmission application guidelines, November 2024, page 43
[11] AER, Regulatory investment test for transmission application guidelines, November 2024, page 44

All three scenarios are weighted equally (33.3%) as there is nothing to suggest an alternate weighting would be more appropriate.

Table 5: Summary of key assumptions for each scenario

Variable	Low benefits and high cost scenario	Central (most likely) scenario	High benefits and low cost scenario
VCR	75% of central estimate	Latest AER published VCR	125% of central estimate
Asset probability of failure	75% of central estimate	Assed failure rate	125% of central estimate
Option capital cost	130% of estimated cost	Estimated cost	70% of estimated cost
Real pre-tax discount rate[12]	10%	7.0%	3.0%

After identifying the preferred option, AusNet undertook a threshold analysis to determine the boundary values for discount rate and VCR which will change the RIT-T outcome (i.e. the preferred option changes).

[12] All discount rates as recommended in the AEMO 2025 Inputs, Assumptions and Scenarios Report (IASR)

8. Economic assessment of credible options

This section presents the results of the economic cost benefit analysis to determine the preferred option. It compares the costs and benefits of the credible options to the 'do nothing'/BAU base case. Benefits of the credible option are represented by a reduction in costs or risks compared to the 'do nothing'/BAU base case.

All costs are shown in real 2026 dollars unless otherwise stated.

8.1. Central estimates NPV results

Table 6 summarises the present value of the net economic benefits of each credible option relative to the 'do nothing'/BAU base case.

Table 6 shows Option 1 has a positive NPV of $53 million with an optimal timing of 2027. As the 2027 optimal timing is not a deliverable timeframe, AusNet proposes to retain the 2031 delivery timeframe.

Table 6: Net economic benefits relative to base case for the central estimates ($ million, PV)

Option	Option capital cost	Option operating expenditure	Benefit	NPV of net economic benefits	Optimal timing	Option ranking
Option 1 - Replace deteriorated 250V DC supply systems at the nine terminal stations by 2031	12.1	-	65.1	53.0	2027	1

8.2. Sensitivity analysis results

Table 7 shows the net economic benefit of each credible option for each sensitivity analysis set out in Table 4.

As shown in Table 7, Option 1 has a positive NPV for all sensitivity analysis with optimal timing either in 2027 or 2028. This demonstrates the robustness of the investment and proposed timing of Option 1.

Table 7: Net economic benefits relative to base case for each sensitivity analysis ($ million, PV)

Sensitivity analysis	Option 1 NPV	Option 1 optimal timing
Central case	53.0	2027
Low VCR	38.1	2028
High VCR	67.9	2027
Low probability of failure	36.7	2028
High probability of failure	69.3	2027
Low option capital cost	56.6	2027
High option capital cost	49.4	2028
Low discount rate	78.6	2027
High discount rate	40.1	2028

8.3. Scenario analysis results

As set out in section 7.5, all three scenarios are weighted equally (33.3%) to determine the option's expected net economic benefit. Table 8 summarises the present value of the net economic benefits for each credible option across the three scenarios and the weighted net economic benefits of each credible option.

As evidenced by Table 8, Option 1 provides a positive weighted NPV of $66.7 million.

Table 8: Net economic benefits relative to base case for the three scenarios ($ million, PV)

Option	Low benefits and high cost scenario	Central (most likely) scenario	High benefits and low cost scenario	Weighted NPV	Option ranking
Option 1	15.1	53.0	131.9	66.7	1

8.4. Threshold analysis results

AusNet has undertaken a threshold analysis to identify whether a change in the discount rate or VCR would change the RIT-T outcome. It entailed solving for the discount rate or VCR that would result in Option 1 not being the preferred option. The results suggest that there is no reasonable discount rate nor VCR that would change the RIT-T outcome.

9. Draft conclusions and next steps

9.1. Preferred option

Based on our preliminary analysis, Option 1 is the preferred option as per clause 5.15A.2(b)(12) of the NER because it is the credible option that maximises the present value of net economic benefit.

Scope of preferred option

Option 1 entails replacing the deteriorated 250V DC supply systems and essential fireproofing upgrades to the battery rooms at BATS, ERTS, MTS, TBTS, ATS, GTS, KTS, RWTS and WETS.

It includes the replacement of both 250V X and Y battery banks and chargers at these nine terminal stations sequentially. The replacement battery systems will use absorbed glass mat (AGM) type valve-regulated lead-acid (VRLA) sealed batteries to reduce hydrogen generation, acid leakage risk and will include a battery monitoring system to remotely monitor individual battery cell voltages. These new batteries will be suitable for capacity testing.

Timing of the preferred option

Construction will commence in 2027 and is anticipated to be completed by 2031.

Capital and operating costs of the preferred option

It requires approximately $14.8 million of capital investment with no material change to operating and maintenance costs.

9.2. Submissions

AusNet invites written submissions, on the matters set out in this report, from Registered Participants, AEMO, interested parties, non-network providers and those registered on our demand-side engagement register.

All submissions and enquiries must be emailed to rittconsultations@ausnetservices.com.au with "Maintaining safe and reliable DC systems" in the subject field.

Submissions are to be provided by 9th October 2026. Submissions will be published on AusNet's and AEMO's websites. If you do not wish for your submission to be published, please clearly stipulate this at the time of lodging your submission.

9.3. Next stage of RIT-T process

AusNet expects to benefit from an exemption from the requirement to publish a Project Assessment Draft Report (PADR) as AusNet expects that the following preconditions in clause 5.16.4(z1) of the NER will be satisfied:

- the preferred option, Option 1, has a capital cost of less than $54 million, which is the cost threshold amount determined by the AER in November 2024;[13]
- the PSCR identifies the preferred option and explains our reasons for selecting it;
- all credible options will not have a material class of market benefits for the purpose of the RIT-T, apart from changes in involuntary load shedding; and
- in the expectation that submissions to this PSCR do not identify any additional credible options that could deliver a material market benefit.

Following the conclusion of the PSCR report consultation period, AusNet will, have regard to any submissions received on this report, prepare and publish the Project Assessment Conclusions Report (PACR) which will include:

- A summary of, and commentary on, submissions received on the PSCR;
- A detailed market benefit assessment of the proposed credible options to address the identified need;
- Identification of the proposed preferred option to meet the identified need.

AusNet expects to publish the PACR around November 2026.

[13] AER, 2024 cost thresholds review for the Regulatory Investment Test, 12 November 2024, Final determination | Australian Energy Regulator (AER)

Appendix A – Compliance with the RIT-T requirements

Table 9 demonstrates that this PCSR complies with the requirements of clause 5.16.4(b) of the NER version 250 and section 4.2 of the RIT-T Application Guidelines.

Table 9: Compliance with the RIT-T requirements in the NER

NER clause	Requirement	Section(s) in this PSCR
5.16.4(b)	A RIT-T proponent must prepare a report (the project specification consultation report), which must include:	-
	(1) a description of the identified need	Section 4.1
	(2) the assumptions used in identifying the identified need (including, in the case of proposed reliability corrective action, why the RIT-T proponent considers reliability corrective action is necessary);	Section 4.2
	(3) the technical characteristics of the identified need that a non-network option would be required to deliver, such as: (i) the size of load reduction or additional supply; (ii) location; and (iii) operating profile	Section 6
	(4) if applicable, reference to any discussion on the description of the identified need or the credible options in respect of that identified need in the most recent Integrated System Plan;	Not applicable
	(5) a description of all credible options of which the RIT-T proponent is aware that address the identified need, which may include, without limitation, alternative transmission options, interconnectors, generation, system strength services, demand side management, market network services or other network options;	Section 5
	(6) for each credible option identified in accordance with subparagraph (5), information about: (i) the technical characteristics of the credible option; (ii) whether the credible option is reasonably likely to have a material inter-network impact; (iii) the classes of market benefits that the RIT-T proponent considers are likely not to be material in accordance with clause 5.15A.2(b)(6), together with reasons of why the RIT-T proponent considers that these classes of market benefits are not likely to be material; (iv) the estimated construction timetable and commissioning date; and (v) to the extent practicable, the total indicative capital and operating and maintenance costs.	Section 5 and 7.2
5.16.4(z1)	Exemption from drafting a project assessment draft report for RIT-T projects without material market benefits	-

NER clause	Requirement	Section(s) in this PSCR
	A RIT-T proponent is exempt from paragraphs (j) to (s) if:	
	(1) the estimated capital cost of the proposed preferred option is less than $35 million (as varied in accordance with a cost threshold determination); On 12 November 2024, AER in its latest RIT cost threshold review has determined the cost threshold to be $54 million.[14]	Section 5.2 and 9.3
	(2) the relevant Network Service Provider has identified in its project specification consultation report; (i) its proposed preferred option; (ii) its reasons for the proposed preferred option; and (iii) that its RIT-T project has the benefit of this exemption;	Section 9.1 and 9.3
	(3) the RIT-T proponent considers, in accordance with clause 5.15A.2(b)(6), that the proposed preferred option and any other credible option in respect of the identified need will not have a material market benefit for the classes of market benefit specified in clause 5.15A.2(b)(4) except those classes specified in clauses 5.15A.2(b)(4)(ii) and (iii), and has stated this in its project specification consultation report; and	Section 7.2 and 9.3
	(4) the RIT-T proponent forms the view that no submissions were received on the project specification consultation report which identified additional credible options that could deliver a material market benefit.	Section 9.3

In addition, Table 10 demonstrates that this PCSR complies with the binding requirements and considerations in Table 9 of Appendix C.2 of the AER's RIT-T guidelines published in November 2024.

Table 10: Compliance with the binding requirements and considerations in AER's RIT-T guidelines

RIT-T guideline section	Provision	Section(s) in this PSCR
3.5	**Valuing costs** In the RIT-T, costs are the present value of a credible option's direct costs. These must include the following classes of costs: • Costs incurred in constructing or providing the credible option. • Operating and maintenance costs over the credible option's operating life. For clarity, a consequence of this is that, if the modelling period is shorter than the life of the credible option, the RIT-T proponent would incorporate the operating and maintenance costs (if any) for the remaining years of the credible option into the terminal value. • Costs of complying with relevant laws, regulations and administrative requirements (see section 3.5.1).	Section 5.2, 7.3 and 8.1
3.5.3	**Social licence** The RIT-T proponent is required to provide the basis for any social licence costs in their RIT-T reports, and may choose to refer to best practice from a reputable, independent and verifiable source.	Section 7.3

[14] AER, 2024 cost thresholds review for the Regulatory Investment Test, 12 November 2024, Final determination | Australian Energy Regulator (AER)

RIT-T guideline section	Provision	Section(s) in this PSCR
3.5A	**Cost estimation** Accordingly, for each credible option, a RIT-T proponent must specify, to the extent practicable and in a manner which is fit for purpose for that stage of the RIT-T: • all key inputs and assumptions adopted in deriving the cost estimate • a breakdown of the main components of the cost estimate • the methodologies and processes applied in deriving the cost estimate (e.g. market testing, unit costs from recent projects, and engineering-based cost estimates) • the reasons in support of the key inputs and assumptions adopted and methodologies and processes applied • the level of any contingency allowance that have been included in the cost estimate, and the reasons for that level of contingency allowance (see section 3.9.4)	Section 5 and 7.3
3.5A.1	**Cost estimation accuracy** Where the estimated capital costs of the preferred option exceeds $100 million (as varied in accordance with a cost threshold determination as contemplated by clause 5.16.4(k)(10)(i) of the NER), a RIT T proponent is must in a RIT T application: • outline the process it has applied, or intends to apply, to ensure that the estimated costs are accurate to the extent practicable having regard to the purpose of that stage of the RIT T, and • for all credible options (including the preferred option), either: – apply the cost estimate classification system published by the Association for the Advancement of Cost Engineering (AACE), or – if it does not apply the AACE cost estimate classification system, identify the alternative cost estimation system or cost estimation arrangements it intends to apply, and provide reasons to explain why applying that alternative system or arrangements is more appropriate or suitable than applying the AACE cost estimate classification system in producing an accurate cost estimate. This requirement does not apply where the preferred option or credible option relates to a program of works, but where no individual component of that program has an estimated capital cost in excess of $100 million (as varied in accordance with a cost threshold determination as contemplated by clause 5.16.4(k)(10)(i) of the NER)	Not applicable
3.6	**Market benefit classes** RIT-T proponents are required to apply classes of market benefits consistently across all credible options.	Section 7.2
3.7.3	**Categories of market benefits** Where calculating the benefit from changes in Australia's greenhouse gas emissions, a RIT-T proponent is required to: • include the following emissions scopes, unless the change relative to the base case can be demonstrated to be immaterial to the RIT outcome: – direct emissions from generation – direct emissions other than from generation, e.g. sulphur hexafluoride • estimate the change in annual emissions (once identified in accordance with this Guideline) between the base case and the	Section 7.2

RIT-T guideline section	Provision	Section(s) in this PSCR
	credible option, and multiplying this change by the annual VER to arrive at the annual benefit from changes in Australia's greenhouse gas emissions	
3.8.2	**Testing sensitivities to select reasonable scenarios** Where the estimated capital cost of the preferred option exceeds $100 million (as varied in accordance with a cost threshold determination as contemplated by clause 5.16.4(k)(10)(i) of the NER), a RIT T proponent is required to undertake sensitivity analysis on all credible options by varying one or more inputs and/or assumptions. We also encourage all RIT T proponents, where the estimated capital costs of the preferred option is less than $100 million, to consider undertaking sensitivity analysis as well.	Sections 7.4, 7.5, 8.2, 8.3 and 8.4
3.11	**Externalities** RIT-T proponents should exclude costs or benefits that arise but are incidental to parties' electricity consumption from its analysis, with the exception of changes in Australia's greenhouse gas emissions.	Not applicable
3.11.2	**Concessional finance agreements** Where a concessional finance agreement is included, the RIT-T proponent is required to provide sufficient detail about the concessional finance agreement such that it can articulate how the value of the concession is to or would be shared with consumers.	Not applicable
4.1	**Consumer and non-network engagement** RIT-T proponents are required to describe in each RIT-T report: • how they have engaged with local landowners, local council, local community members, local environmental groups or traditional owners and sought to address any relevant concerns identified through this engagement • how they plan to engage with these stakeholder groups, or • why this project does not require community engagement	Section 5.5
4.3	**Project Assessment Draft Report (PADR)** The RIT-T proponent must prepare the PADR within 12 months after the consultation period on the consultation report or a longer period agreed to by the AER in writing. The RIT-T proponent is required to hold a meeting discussing the content of the PADR if at least two relevant parties request a meeting.	Not applicable
A.8	**Changes in Australia's greenhouse gas emissions** Where emissions beyond CO_2 are changed by a credible option, the RIT-T proponent is required to convert alternative forms of emissions to CO_2-e.	Not applicable

AusNet Services

Level 31
2 Southbank Boulevard
Southbank VIC 3006
T +613 9695 6000
F +613 9695 6666
Locked Bag 14051 Melbourne City Mail Centre Melbourne VIC 8001
www.AusNetservices.com.au

Follow us on

@AusNetServices
@AusNetServices
@AusNet.Services.Energy

AusNet